

REPORT NUMBER: 214-CAL-06-02

**SAFETY COMPLIANCE TESTING FOR FMVSS 214
SIDE IMPACT PROTECTION
INDICANT**

**KIA MOTORS CORPORATION
2006 KIA SEDONA
MPV**

NHTSA NUMBER: C60512

**PREPARED BY:
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Test Date: March 08, 2006

FINAL REPORT

**PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
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ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
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16. Abstract A 55/28 km/h 90° Moving Deformable Barrier FMVSS 214 Indicant side impact was conducted on the subject 2006 Kia Sedona MPV to obtain new car assessment and research data indicant of FMVSS No. 214D performance. The test was conducted at the Calspan Corporation Transportation Sciences Center in Buffalo, New York, on March 08, 2006. The impact velocity of the Moving Deformable Barrier (MDB) was 62.28 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 289 mm at level 2. The test vehicle's occupant performance is as follows: <table style="margin-left: auto; margin-right: auto; border: none;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>DRIVER</u></th> <th style="text-align: center;"><u>PASS.</u></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib (LUR) Accel., g</td> <td style="text-align: center;">36.8</td> <td style="text-align: center;">29.1</td> </tr> <tr> <td>Left Lower Rib (LLR) Accel., g</td> <td style="text-align: center;">24.2</td> <td style="text-align: center;">38.3</td> </tr> <tr> <td>Lower Spine (T₁₂) Accel., g</td> <td style="text-align: center;">24.5</td> <td style="text-align: center;">33.7</td> </tr> <tr> <td>Thoracic Trauma Index (TTI)</td> <td style="text-align: center;">31</td> <td style="text-align: center;">36</td> </tr> <tr> <td>Pelvis (PEV) Accel., g</td> <td style="text-align: center;">28</td> <td style="text-align: center;">86</td> </tr> <tr> <td>HIC</td> <td style="text-align: center;">35.4</td> <td style="text-align: center;">98.6</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	36.8	29.1	Left Lower Rib (LLR) Accel., g	24.2	38.3	Lower Spine (T ₁₂) Accel., g	24.5	33.7	Thoracic Trauma Index (TTI)	31	36	Pelvis (PEV) Accel., g	28	86	HIC	35.4	98.6
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17. Key Words Compliance Testing Side Impact Protection FMVSS 214 Side Impact Dummy (SID)		18. Distribution Statement <u>Copies of this report are available from:</u> National Highway Traffic Safety Administration Technical Reference Division (TIS) Room 5108 (NPO-230) 400 Seventh St., S.W. Washington, D.C. 20590 Telephone No. (202) 366-4946																						
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SECTION 1

PURPOSE AND TEST PROCEDURE

PURPOSE

This side impact test is part of the FMVSS 214 Side Impact Protection Compliance Test Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-02-D-01114. The purpose of this indicant test was to evaluate side impact protection in a 2006 Kia Sedona MPV when tested at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-06, dated July 26, 2001).

SECTION 2

SUMMARY OF FMVSS 214 INDICANT SIDE IMPACT TEST

This Side Impact Protection Indicant Test was performed at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-06, dated July 26, 2001).

A model year 2006 Kia Sedona MPV was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 62.28 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 2275.5 kg and the test weight of the MDB was 1362.5 kg. The test was conducted at the Calspan Corporation Transportation Sciences Center on March 08, 2006.

One (1) real-time motion picture camera and nine (9) 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 289 mm at level 2, 1350 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	35.4	38.3	74.3	31	28
Passenger	98.6	48.8	84.8	36	86

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:	2006 Kia Sedona	NHTSA No.	C60512
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	March 08, 2006

TEST VEHICLE INFORMATION AND VEHICLE OPTIONS

Make	Kia Motors Corporation	Driver Front Airbag	Yes
Model	Sedona	Driver Side Curtain Airbag	Yes
Body Style	MPV	Driver Side Torso Airbag	Yes
NHTSA No.	C60512	Driver Pretensioners	Yes
VIN	KNDMB233666020661	Driver Load Limiters	Yes
Color	Blue/Gray	Driver Power Seats	No
Engine Disp.(L)	3.8	Rear Pass. Side Curtain Airbag	Yes
Engine Cylinders	6	Rear Pass. Side Torso Airbag	No
Engine Placement	Lateral	Rear Pass. Pretensioners	No
Transmission Type	Automatic	Rear Pass. Load Limiters	No
Transmission Speeds	5	Rear Pass. Power Seats	No
Final Drive	Front	Tilt Wheel	Yes
Air Conditioning	Yes	Anti-lock Brakes	Yes
Power Steering	Yes	Traction Control	Yes
Power Brakes	Yes	Power Windows	Yes
Delivery Date	02/20/2006	Power Door Locks	Yes
Odometer Reading (km)	66	Automatic Door Locks (ADL)	No
Dealer	West-Herr Kia, 5140 Camp Road, Hamburg, NY 14075	Owner's Manual Details Instructions on Disabling ADLs	NA

DATA FROM CERTIFICATION LABEL

Manufactured By	Kia Motors Corporation	GVWR (kg)	2675
Date of Manufacture	10/05	GAWR Front (kg)	1360
		GAWR Rear (kg)	1390

VEHICLE CAPACITY DATA

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bucket		
Number Of Occupants	2	2	3	7
Capacity Wt. (VCW) (kg)				525
Cargo Wt. (RCLW) (kg)				48.7

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

Test Vehicle:	2006 Kia Sedona	NHTSA No.	C60512
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	March 08, 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	608.5	450.0		665.5	541.5		654.5	534.5	
Right	kg	594.5	418.5		596.0	482.0		610.0	476.5	
Ratio	%	58.1	41.9		55.2	44.8		55.6	44.4	
Totals	kg	1203.0	868.5	2071.5	1261.5	1023.5	2285.0	1264.5	1011.0	2275.5

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	2071.5
Weight of 2 P572E ATDs (81.2 kg each)	kg	162.4
Rated Cargo/Luggage Weight (RCLW)	kg	48.7
Calculated Vehicle Target Weight (TVTW)	kg	2282.6

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

Weight of Ballast (including instrumentation package and cameras): 41.6 kg

TEST VEHICLE ATTITUDES

	Units	LF	RF	LR	RR
As Delivered	mm	799	802	799	797
Fully Loaded	mm	787	777	795	779
As Tested	mm	789	781	795	780

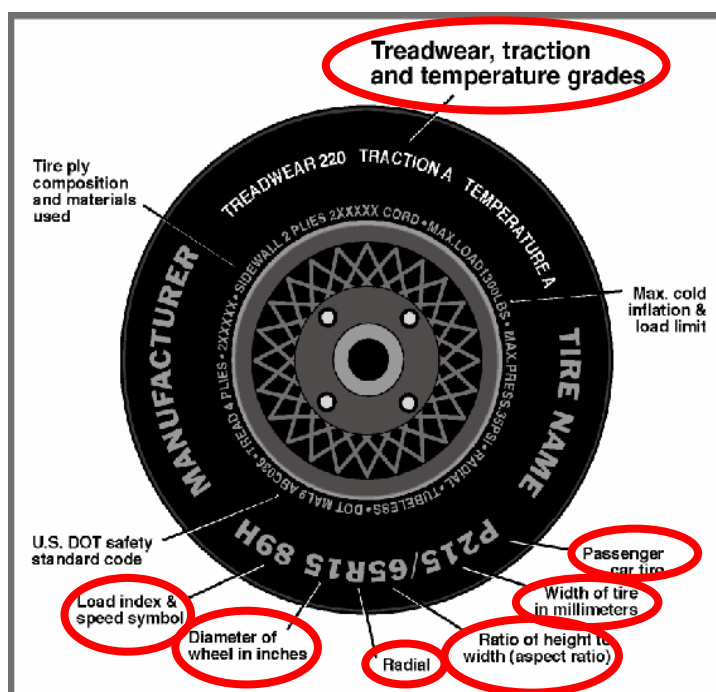
TEST VEHICLE VERTICAL IMPACT LINE AND CG

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	3020
Target Impact Point Aft of Front Axle	mm	570
Actual Impact Point Aft of Front Axle	mm	564
As Tested CG (aft of front axle)	mm	1342

DATA SHEET NO. 2

TEST VEHICLE TIRE INFORMATION

Test Vehicle:	2006 Kia Sedona	NHTSA No.	C60512
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	March 08, 2006



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	300	300
Cold / Test Pressure (kPa)	240	240
Recommended Tire Size	P225/70R16	P225/70R16
Tire Size on Vehicle	P225/70R16	P225/70R16
Tire Manufacturer	Hankook	Hankook
Tire Name	Optimo H418	Optimo H418
Tire Type	P	P
Tire Width (mm)	225	225
Ratio of Height to Width (aspect ratio)	70	70
Radial	R	R
Wheel Diameter	16	16
Load Index & Speed Symbol	102T	102T
Treadwear	400	400
Traction Grade	A	A
Temperature Grade	A	A

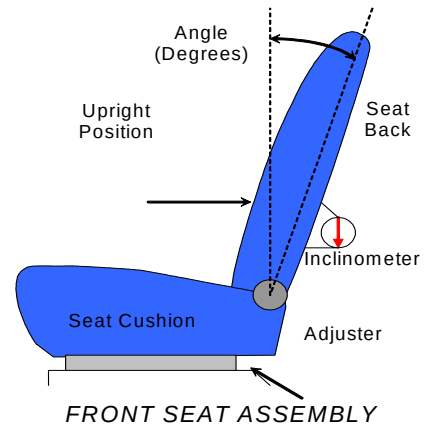
DATA SHEET NO. 3

TEST VEHICLE INFORMATION

Test Vehicle:	2006 Kia Sedona	NHTSA No.	C60512
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	March 08, 2006

NORMAL DESIGN RIDING POSITION

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

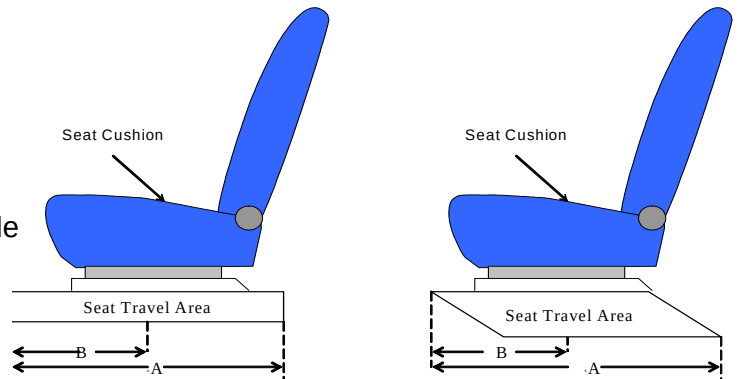


SEAT BACK POSITION

	Driver Seat	Rear Seat
Test Detent (forward-most detent defined as 0)	NA	NA
Angle (deg. from forward-most locking position)	20	12
Alternative Measurements to Verify Test Position	23° on plastic back cover 90-200 mm below top	20° from rearmost locking 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)	226	160
Test Position (B) (mm)	116	80
Test Detent (forward-most detent defined as 0)	11	8
Total Number of Detents (including 0)	23	17

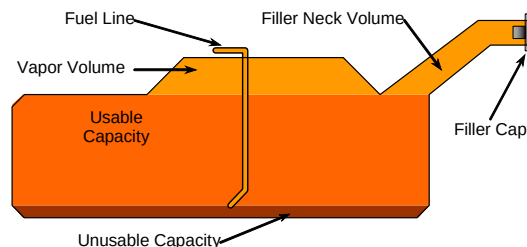
DATA SHEET NO. 3 (CONTINUED)

TEST VEHICLE INFORMATION

Test Vehicle:	2006 Kia Sedona	NHTSA No.	C60512
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	March 08, 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

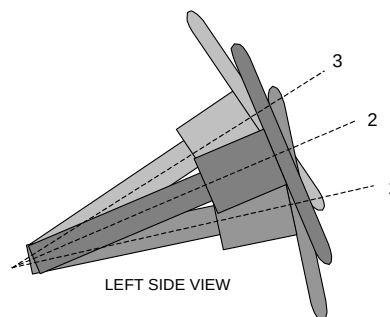
FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard" Fuel Tank	80.0
Usable Capacity of "Optional" Fuel Tank	NA
Stoddard Used For Test (92%-94% of Fuel Tank Usable Capacity)	65.5 *

* During pre-test vehicle preparation, it was discovered that gasoline and/or stoddard would spill from a fuel vapor filter box located inside the left rear quarter panel near the top of the fuel filler tube while fuel was being pumped into the tank. The test was performed at the COTR's discretion with 65.5 liters of stoddard installed. The phenomenon was reproduced following the test and was witnessed by the COTR. No stoddard spilled from the vehicle during the impact or during any phase of the static rollover test.

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	34.9	8
Geometric Center Position No. 2 *	NA	25.7	4
Uppermost Position No. 3	NA	16.5	0

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

Test Vehicle:	2006 Kia Sedona	NHTSA No.	C60512
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	March 08, 2006

MDB SPECIFICATIONS

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

MDB WEIGHTS

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

MDB SPEED AND IMPACT ANGLE DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	62.28
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	62.28

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

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	6 mm forward
Vertical Offset	mm	+/-20	2 mm above

DATA SHEET NO. 5
POST TEST OBSERVATIONS

Test Vehicle:	2006 Kia Sedona	NHTSA No.	C60512
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	March 08, 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; Back of head to head restraint	Top of head to side header trim; Side of head to side curtain airbag
Upper Torso Contact	Left arm to side torso airbag	Left arm to door trim
Lower Torso Contact	Pelvis to side torso airbag	Pelvis to door trim
Left Knee Contact	Left knee to door trim	Left knee to door trim
Right Knee Contact	Right knee to left knee	Right knee to door trim

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 sliding door window broke during the event.
Other Notable Effects	None

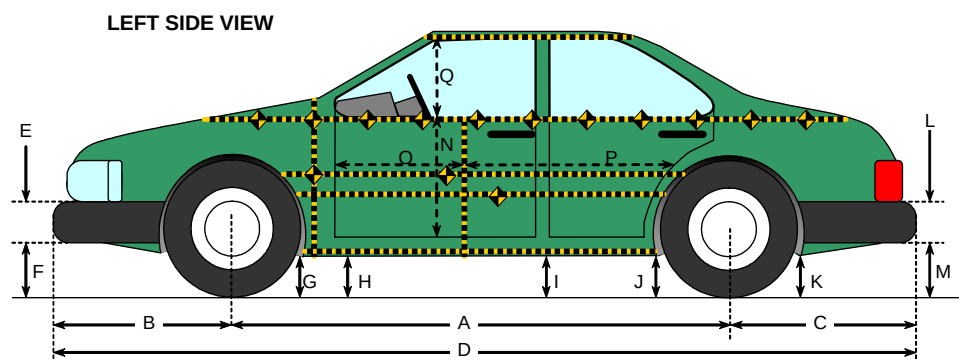
SUPPLEMENTAL RESTRAINT INFORMATION

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

DATA SHEET NO. 6

VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle:	2006 Kia Sedona	NHTSA No.	C60512
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	March 08, 2006



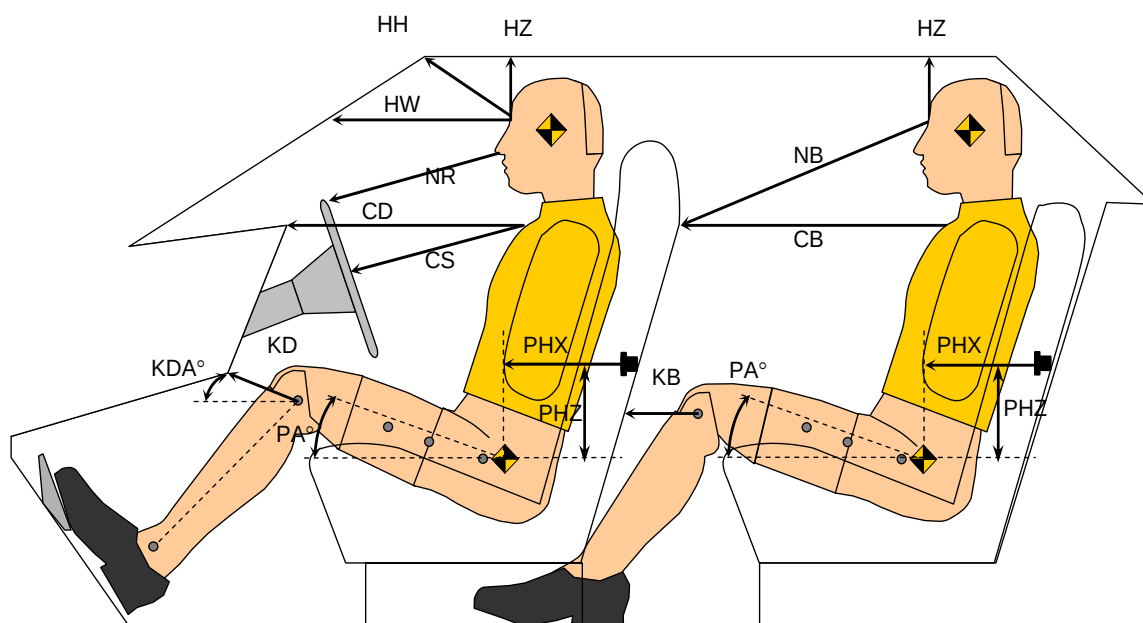
All Measurements in mm

Code	Measurement Description	Pre-Test (delivered)	Pre-Test (as tested)	Post-Test (as tested)	Difference
A	Wheelbase	3019	3020	3015	5
B	Front Axle to FSOV	968	967	978	-11
C	Rear Axle to RSOV	1148	1148	1138	10
D	Total Length at Centerline	5135	5135	5131	4
E	Front Bumper Thickness	342	342	343	-1
F	Front Bumper Bottom to Ground	258	253	273	-20
G	Sill Height at Front Wheel Well	247	230	246	-16
H	Sill Height at Front Door Leading Edge	255	237	262	-25
I	Sill Height at "B" Pillar	261	240	268	-28
J1	Sill Height at Rear Wheel Well	249	223	246	-23
J2	Pinch Weld Height at Rear Wheel Well	270	244	271	-27
K	Sill Height Aft of Rear Wheel Well	293	264	281	-17
L	Rear Bumper Thickness	348	348	348	0
M	Rear Bumper Bottom to Ground	325	297	313	-16
N	Sill Height to Window Bottom Sill	804	804	715	89
O	Front Door Leading Edge to Impact CL	863	863	729	134
P	Rear Door Trailing Edge to Impact CL	1145	1145	1158	-13
Q	Front Window Opening	563	563	559	4
R	Right Side Length	5038	5038	5035	3
S	Left Side Length	5035	5035	5032	3
T	Vehicle Width at "B" Post	1950	1950	1864	86

DATA SHEET NO. 7

SID/HIII LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle:	2006 Kia Sedona	NHTSA No.	C60512
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	March 08, 2006

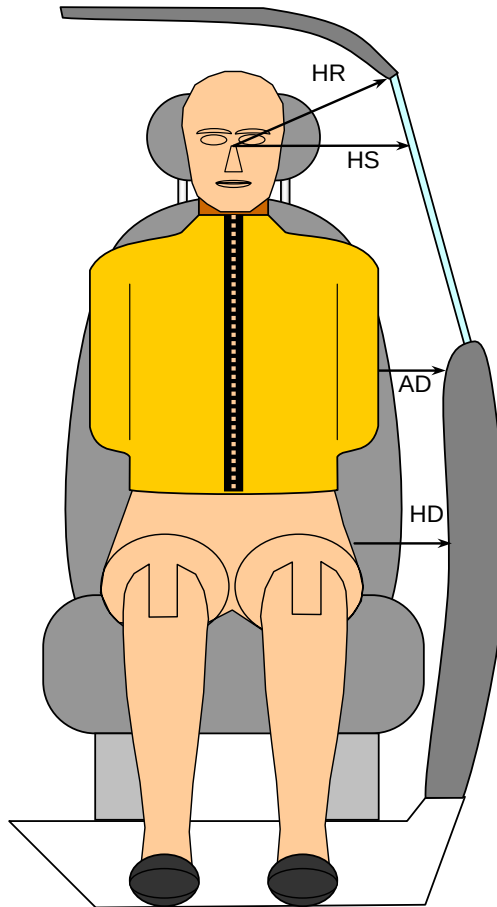


Driver Code	Pass. Code	Measurement Description	Driver S/N 269		Passenger S/N 270	
			Length(mm)	Angle(°)	Length(mm)	Angle(°)
HH		Head to Header	440			
HW		Head to Windshield	742			
HZ	HZ	Head to Roof	202		199	
NR	NB	Nose to Rim/Nose to Seatback	477		676	
CD	CB	Chest to Dash or Seatback	567		597	
CS		Chest to Steering Wheel	294			
KDL	KBL	Left Knee to Dash or Seatback	143	19	260	25
KDR	KBR	Right Knee to Dash or Seatback	149	19	245	20
PA	PA	Pelvic Angle		24.1		23.3
PHX	PHX	H-Point to Striker (X-Axis)	219		300	
PHZ	PHZ	H-Point to Striker (Z-Axis)	83		129	

DATA SHEET NO. 8

SID/HIII LATERAL CLEARANCE DIMENSIONS

Test Vehicle:	2006 Kia Sedona	NHTSA No.	C60512
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	March 08, 2006

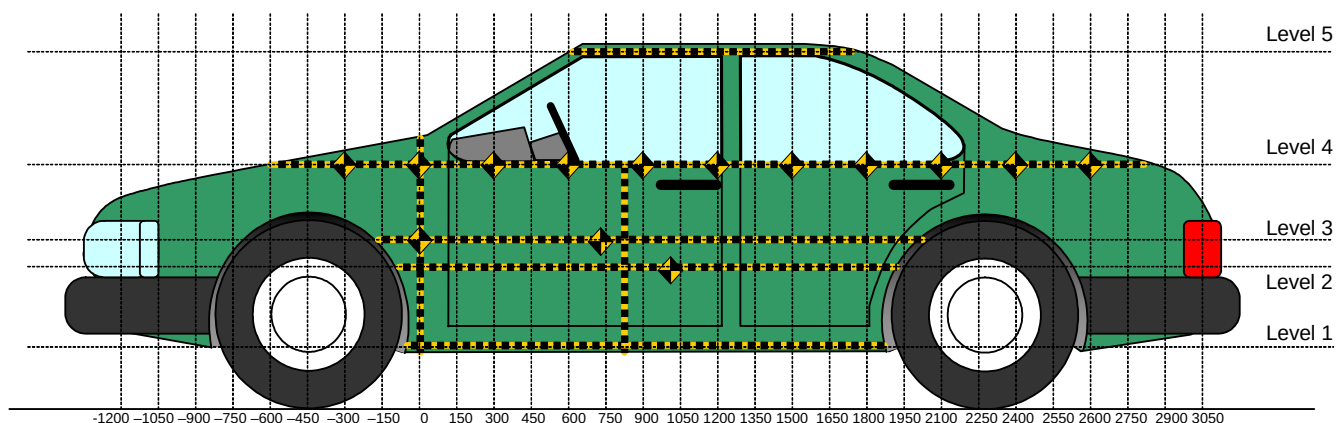


FRONT VIEW OF DUMMY

Code	Measurement Description	Units	Driver S/N 269	Passenger S/N 270
HR	Head to Side Header	mm	195	172
HS	Head to Side Window	mm	326	345
AD ₁	Arm to Door (at upper rib level)	mm	192	215
AD ₂	Arm to Door (at lower rib level)	mm	133	190
HD	H-Point to Door	mm	164	267

DATA SHEET NO. 9
VEHICLE SIDE MEASUREMENTS

Test Vehicle:	2006 Kia Sedona	NHTSA No.	C60512
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	March 08, 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	16	268	600
2	Occupant H-Point	289	723	1350
3	Mid Door	245	622	1050
4	Window Sill	236	993	1200
5	Window	26	1649	1050
	Maximum Penetration	289		

DATA SHEET NO. 10

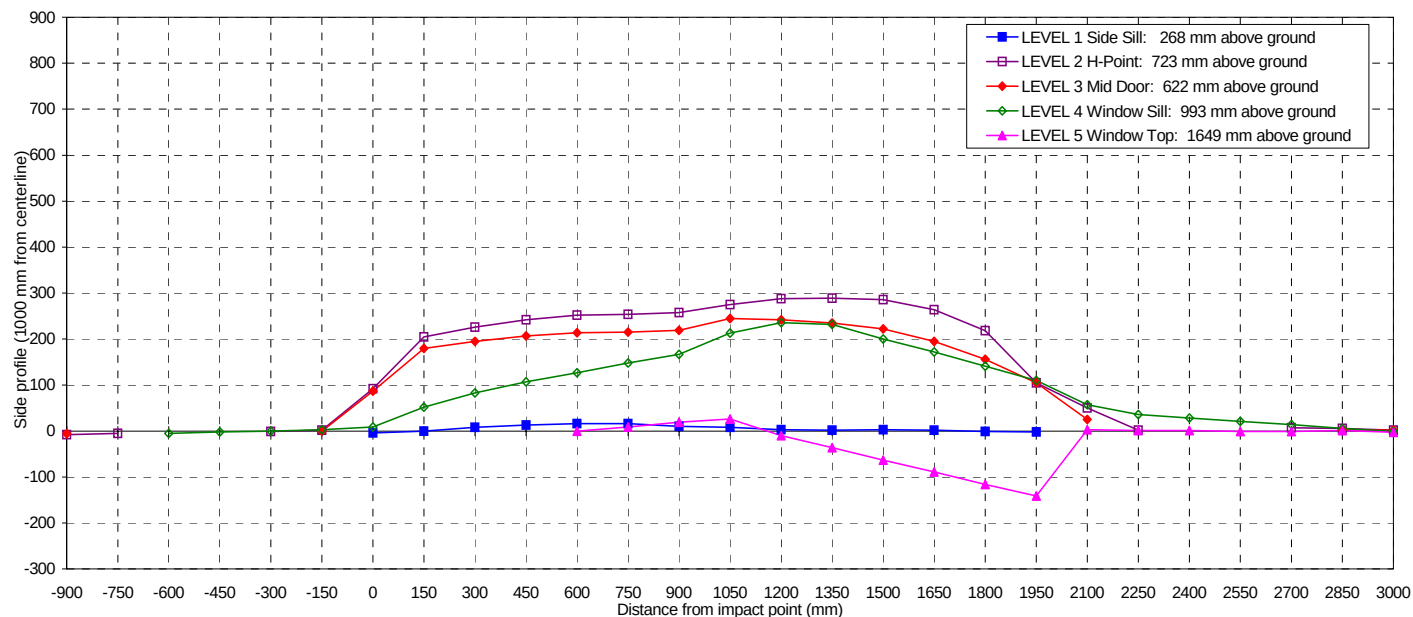
VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2006 Kia Sedona

NHTSA No. C60512

Test Program: FMVSS 214 Indicant Side Impact

Test Date: March 08, 2006



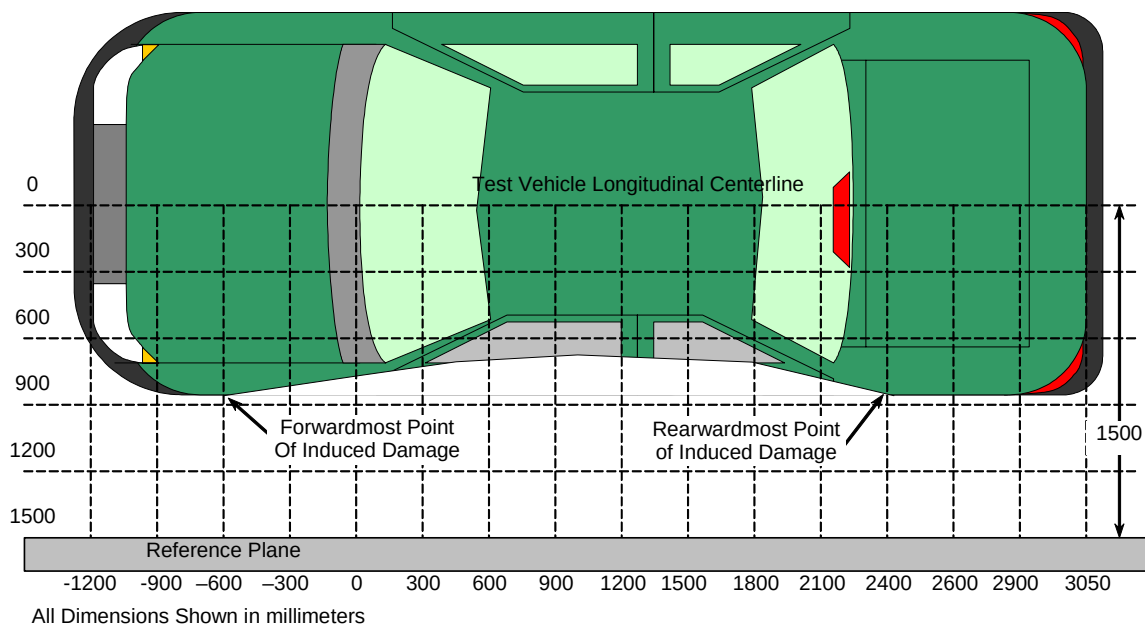
NOTE: All dimensions are in millimeters with a tolerance of ± 3 mm

			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	268	PRE	--	--	--	--	--	--	99	101	101	102	101	101	104	104	105	106	104	109	109	113	--	--	--	--	--	--	--		
SIDE		POST	--	--	--	--	--	--	95	101	109	115	117	117	114	112	108	108	107	111	108	111	--	--	--	--	--	--			
SILL		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	-4	0	8	13	16	16	10	8	3	2	3	2	-1	-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
LEVEL 2	723	PRE	76	27	--	--	25	30	31	30	29	27	26	25	24	24	25	26	27	28	30	32	31	25	--	--	26	44	71		
H		POST	68	22	--	--	24	32	123	235	255	269	278	279	282	299	313	315	313	292	248	137	81	27	--	--	33	50	73		
POINT		CRUSH	-8	-5	N/A	N/A	-1	2	92	205	226	242	252	254	258	275	288	289	286	264	218	105	50	2	N/A	N/A	7	6	2		
LEVEL 3	622	PRE	45	--	--	--	--	27	35	33	32	31	30	30	30	31	31	32	33	34	36	39	31	--	--	--	--	31	62		
MID		POST	39	--	--	--	--	27	122	213	227	238	244	245	249	276	273	267	255	229	192	144	56	--	--	--	--	34	64		
DOOR		CRUSH	-6	N/A	N/A	N/A	N/A	0	87	180	195	207	214	215	219	245	242	235	222	195	156	105	25	N/A	N/A	N/A	N/A	3	2		
LEVEL 4	993	PRE	--	--	148	124	103	82	67	55	49	45	42	39	39	41	38	35	35	36	37	39	41	43	47	52	58	67	79		
WINDOW		POST	--	--	143	122	103	85	76	107	132	152	169	187	206	254	274	267	235	208	178	149	98	79	75	73	72	73	78		
SILL		CRUSH	N/A	N/A	-5	-2	0	3	9	52	83	107	127	148	167	213	236	232	200	172	141	110	57	36	28	21	14	6	-1		
LEVEL 5	1649	PRE	--	--	--	--	--	--	--	--	--	--	356	328	323	321	321	318	317	316	316	317	317	319	323	330	338	346	380		
WINDOW		POST	--	--	--	--	--	--	--	--	--	--	356	337	342	347	311	282	254	227	200	176	320	320	324	329	337	347	377		
TOP		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	9	19	26	-10	-36	-63	-89	-116	-141	3	1	1	-1	-1	1	-3		

DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle:	2006 Kia Sedona	NHTSA No.	C60512
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	March 08, 2006



TOP VIEW

DAMAGE PROFILE DISTANCES

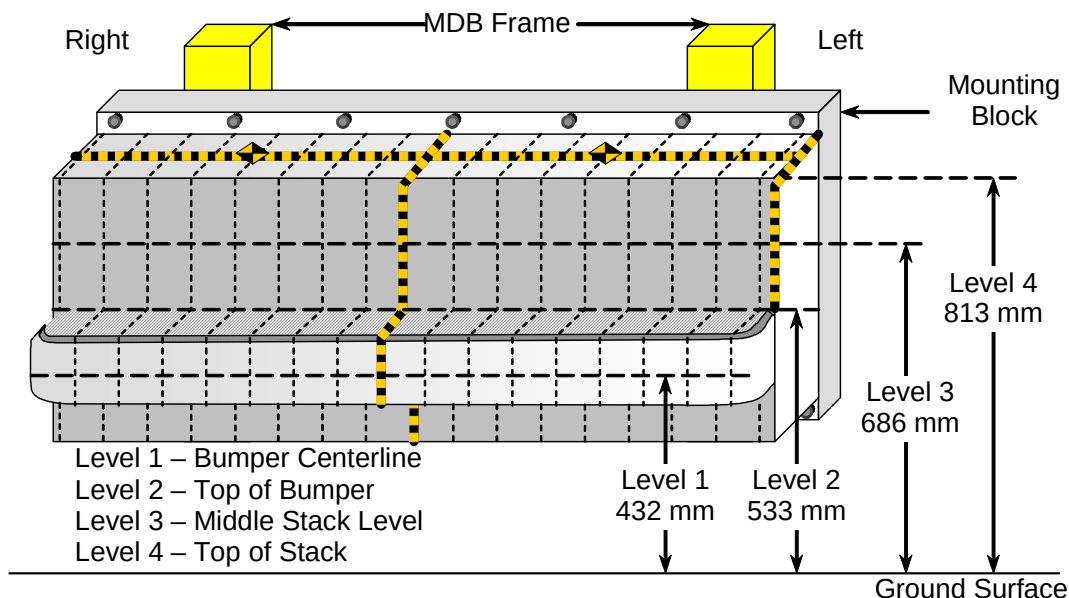
DPD	Distance from Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max Static Crush (mm)
1 (LR)	2850	723	44	50	6
2	2250	993	43	79	36
3	1650	723	28	292	264
4	1050	723	24	299	275
5	450	723	27	269	242
6 (LF)	-150	993	82	85	3

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

DATA SHEET NO. 12

DEFORMABLE BARRIER HONEYCOMB FACE STATIC CRUSH

Test Vehicle:	2006 Kia Sedona	NHTSA No.	C60512
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	March 08, 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	675	649	628	626	624	623	629	638	654	646	649	652	658	672	688	708	729		
		CRUSH	56	30	9	7	5	4	10	19	35	27	30	33	39	53	69	89	110		
LEVEL 3 MID LEVEL	686	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619		
		POST	715	686	666	647	643	644	646	662	665	653	645	642	640	644	651	664	682		
		CRUSH	96	67	47	28	24	25	27	43	46	34	26	23	21	25	32	45	63		
LEVEL 2 TOP BUMPER	533	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619		
		POST	761	753	748	744	741	742	738	731	727	721	721	716	710	708	705	701	701		
		CRUSH	142	134	129	125	122	123	119	112	108	102	102	97	91	89	86	82	82		
LEVEL 1 MID BUMPER	432	PRE	535	519	518	518	518	518	518	518	518	518	518	518	518	518	518	519	535		
		POST	775	768	761	755	753	753	748	743	739	734	728	726	721	717	711	707	713		
		CRUSH	240	249	243	237	235	235	230	225	221	216	210	208	203	199	193	188	178		

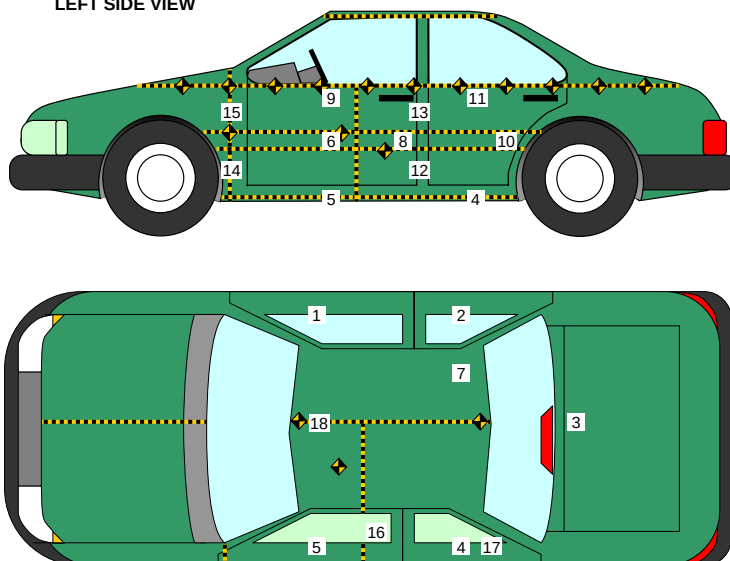
*Heights measured above ground level.

DATA SHEET NO. 13

VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle:	2006 Kia Sedona	NHTSA No.	C60512
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	March 08, 2006

LEFT SIDE VIEW



Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Right Sill at Front Seat	3401	715	-399
2	Right Sill at Rear Seat	2259	720	-458
3	Rear Floorpan Above Axle	895	82	-457
4	Left Sill at Rear Door	2299	-712	-445
5	Left Sill at Front Door	3347	-715	-388
6	Left Front Door C/L**	-	-	-
7	Rear Occupant Compartment	2452	-497	-454
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	2691	-762	-495
13	Left Middle B-Post	2645	-756	-1039
14	Left Lower A-Post	3617	-739	-453
15	Left Middle A-Post	3674	-725	-1160
16	Front Seat Track	2787	-622	-518
17	Rear Seat Track or Structure	1710	-620	-593
18	Vehicle CG	2950	-34	-422

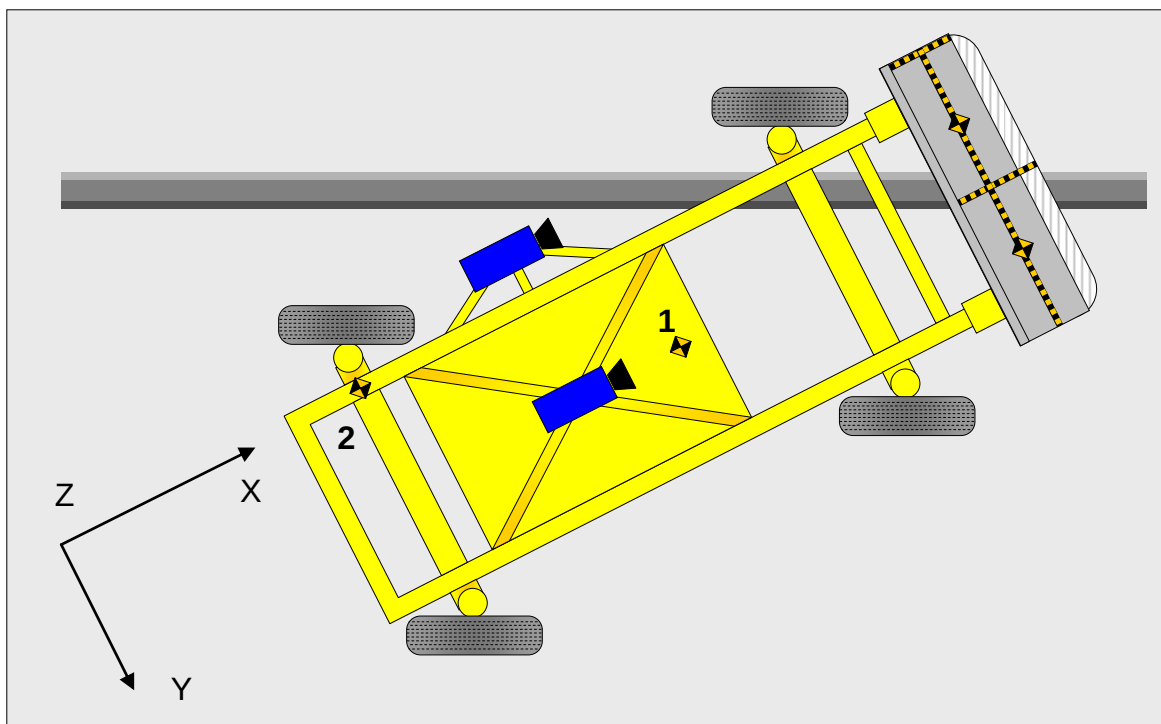
Reference Points X - Test Vehicle Rear Bumper (+ forward)
 Y - Test Vehicle Centerline (+ to right)
 Z - Ground Plane (+ down)

** Accelerometer was not requested by the COTR.

DATA SHEET NO. 14

MDB ACCELEROMETER LOCATIONS

Test Vehicle:	2006 Kia Sedona	NHTSA No.	C60512
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	March 08, 2006



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

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

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

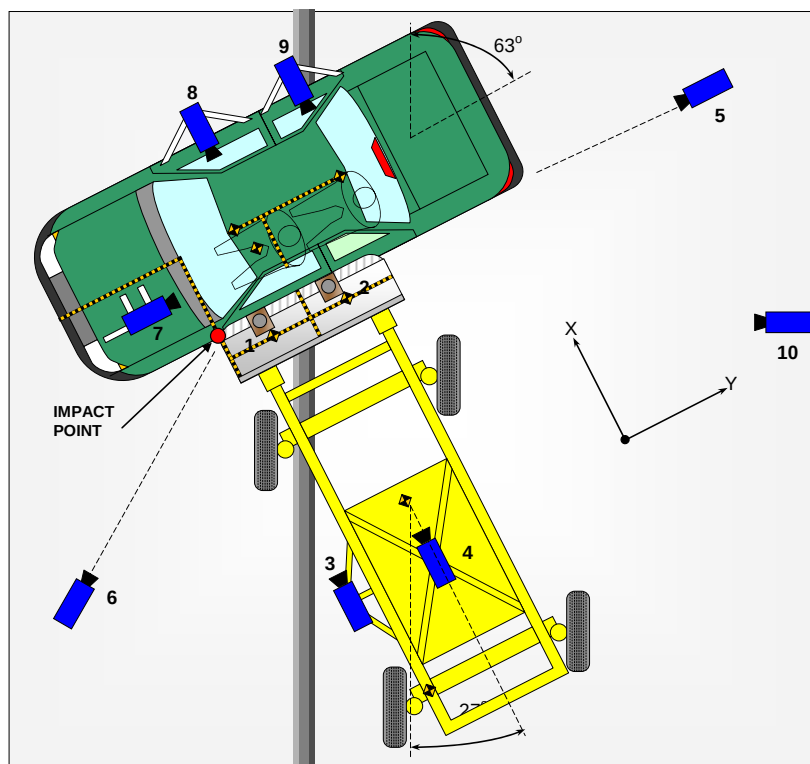
Test Vehicle:	2006 Kia Sedona	NHTSA No.	C60512
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	March 08, 2006

	Elements	Pre-Test (mm)
1	Total Length	5135
2	Total Width	1950
3	Bumper Top Height	596
4	Bumper Bottom Height	249
5	Longitudinal Member Top Height	595
6	Distance between Longitudinal Members	1150
7	Longitudinal Member Width	60
8	Engine Top Height	973
9	Engine Bottom Height	249
10	Engine and gearbox width	870
11	Front bumper-engine distance	462
12	Front shock absorber fixing height	989
13	Bonnet leading edge height	788
14	Front shock absorber fixing width	1392
15	Front bumper – front axle distance	977
16	Front axle – a pillar distance	969
17	A-pillar – B-pillar distance	942
18	B-Pillar – rear axle distance	1545
19	B-pillar – C-pillar distance	1035
20	Roof sill bottom height	1629
21	Roof sill top height	1738
22	Floor sill bottom height	263
23	Floor sill top height	378

DATA SHEET NO. 16

HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle:	2006 Kia Sedona	NHTSA No.	C60512
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	March 08, 2006



No.	Camera View	Location (mm)			Angle (deg)	Lens (mm)	Film Speed (fps)
		X	Y	Z			
1	Overhead Close-up	72	812	-4880	-90	8	500
2	Overhead Overall	195	855	-4880	-90	28	500
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	80	11277	-1090	-2	25	500
6	Left Side, Ground Level, Overall	-2180	-1925	-1090	-5	28	500
7	Vehicle Onboard Front SID/HIII, Front	500	-745	-1387	-2	25	1000
8	Vehicle Onboard Front SID/HIII, Side	1910	630	-1185	-5	12.5	1000
9	Vehicle Onboard Rear SID/HIII, Side	1872	1668	-1235	-6	12.5	1000
10	Real Time Coverage						30

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

DATA SHEET NO. 17
SUMMARY OF FMVSS 301 DATA

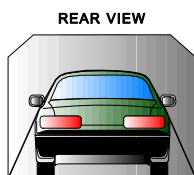
Test Vehicle:	2006 Kia Sedona	NHTSA No.	C60512
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	March 08, 2006

FUEL SYSTEM INTEGRITY POST IMPACT DATA

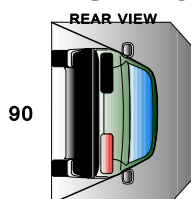
Time Interval	FMVSS 301 Maximum Allowable Spillage	Spillage (g)
Impact Until Motion Ceases	28 g	0
First Five Minutes Following Impact	142 g	0
Next 25 Minutes	28 g / 1 minute	0

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

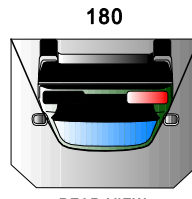
STATIC ROLLOVER DATA



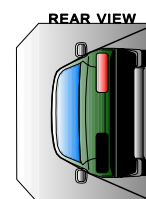
0/360



90



REAR VIEW



270

Rollover Stage	Rotation Time (spec. 1 -3 min)				FMVSS 301 Hold Time		Total Time				Next Whole Minute Interval	
0° - 90°	1	minutes	7	seconds	5	minutes	6	minutes	7	seconds	7	minutes
90° - 180°	1	minutes	5	seconds	5	minutes	6	minutes	5	seconds	7	minutes
180°-270°	1	minutes	2	seconds	5	minutes	6	minutes	2	seconds	7	minutes
270°-360°	1	minutes	9	seconds	5	minutes	6	minutes	9	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	-
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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Figure A-1: As Received Left Front $\frac{3}{4}$ View



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



Figure A-3: Vehicle Certification Label

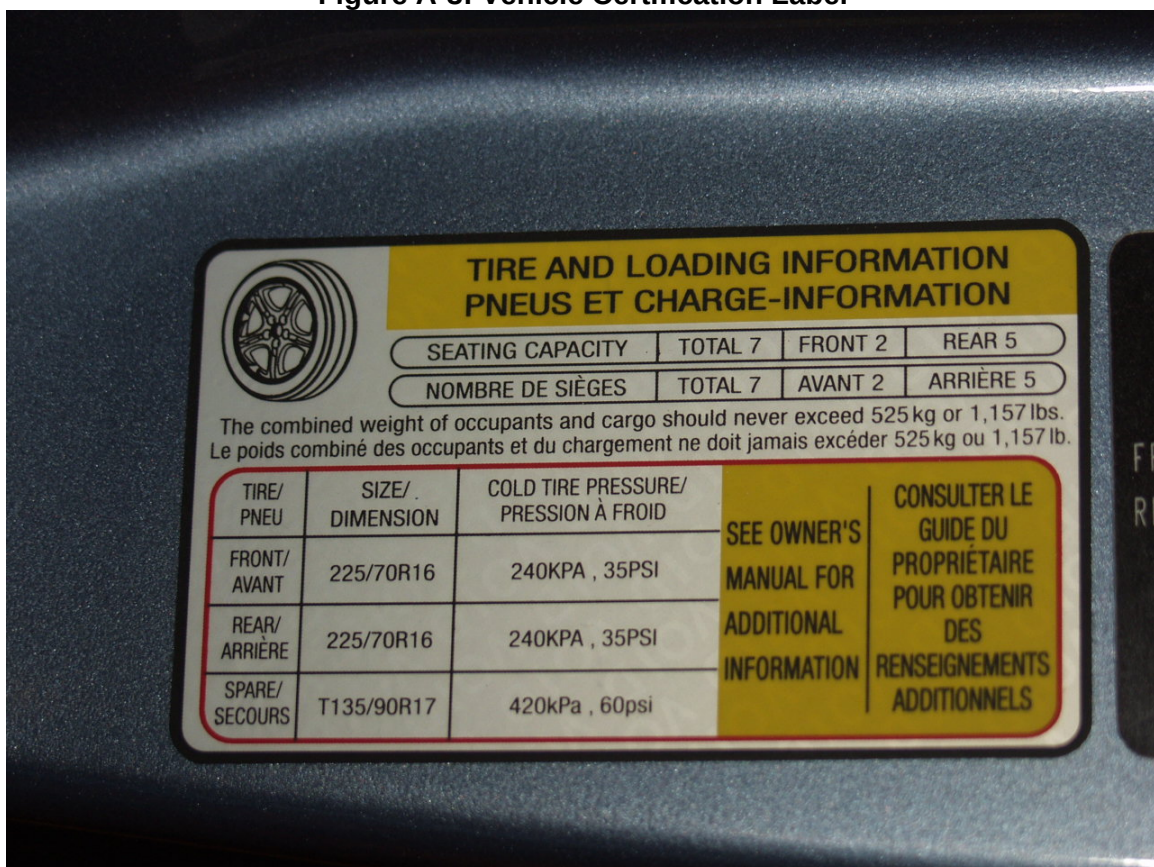


Figure A-4: Vehicle Tire Placard Label



Figure A-5: Pre-Test Front View



Figure A-6: Post-Test Front View



Figure A-7: Pre-Test Left Front $\frac{3}{4}$ View



Figure A-8: Post-Test Left Front $\frac{3}{4}$ View



Figure A-9: Pre-Test Left Side View



Figure A-10: Post-Test Left Side View



Figure A-11: Pre-Test Left Rear $\frac{3}{4}$ View



Figure A-12: Post-Test Left Rear $\frac{3}{4}$ View



Figure A-13: Pre-Test Rear View



Figure A-14: Post-Test Rear View



Figure A-15: Pre-Test Right Rear $\frac{3}{4}$ View



Figure A-16: Post-Test Right Rear $\frac{3}{4}$ View



Figure A-17: Pre-Test Right Side View



Figure A-18: Post-Test Right Side View



Figure A-19: Pre-Test Right Front $\frac{3}{4}$ View



Figure A-20: Post-Test Right Front $\frac{3}{4}$ View



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



Figure A-50: Post-Test Left Rear $\frac{3}{4}$ View of Left Side Doors



Figure A-51: Rollover 90 Degrees

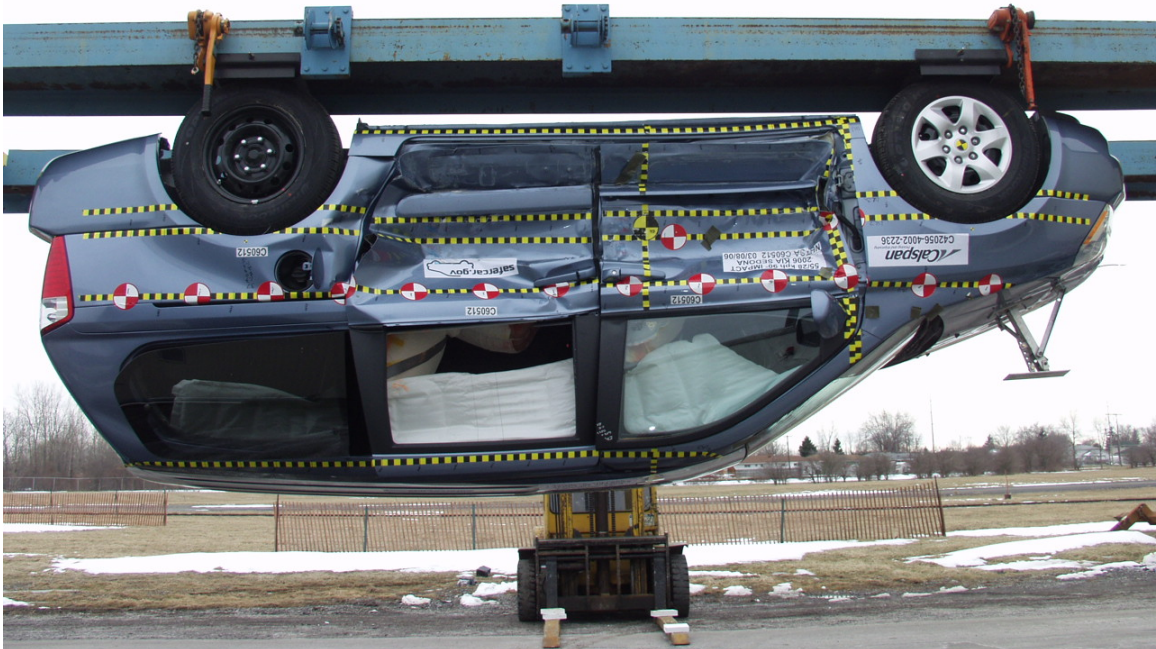


Figure A-52: Rollover 180 Degrees



Figure A-53: Rollover 270 Degrees

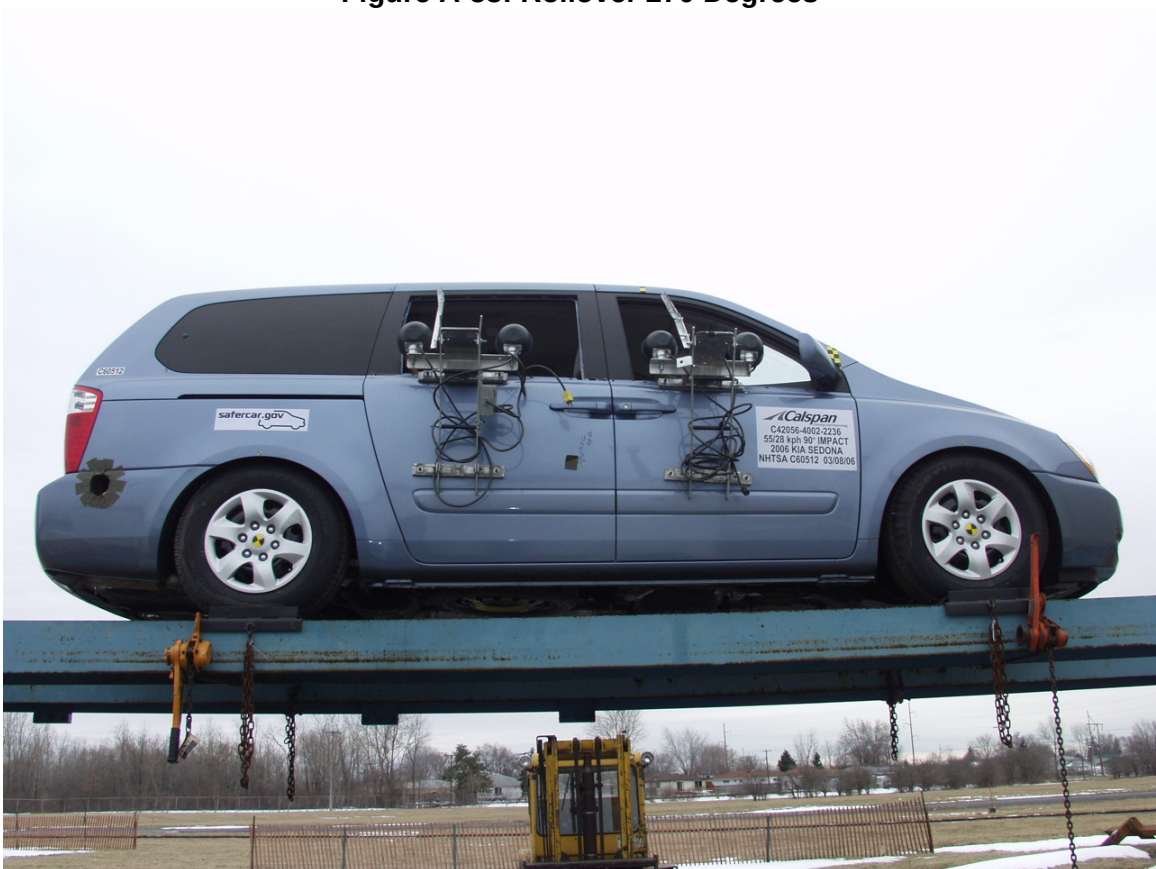


Figure A-54: Rollover 360 Degrees



Figure A-55: Impact Photo

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

DATA CHANNEL FILTER CLASS SUMMARY

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

DATA CHANNEL TITLE KEY

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

TABLE OF DATA PLOTS

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

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

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

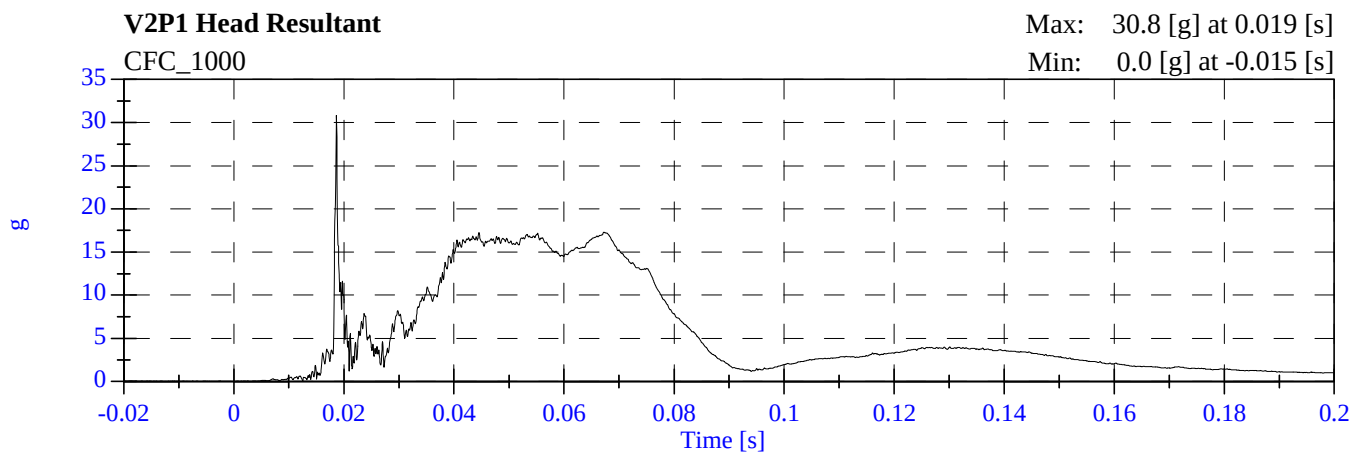
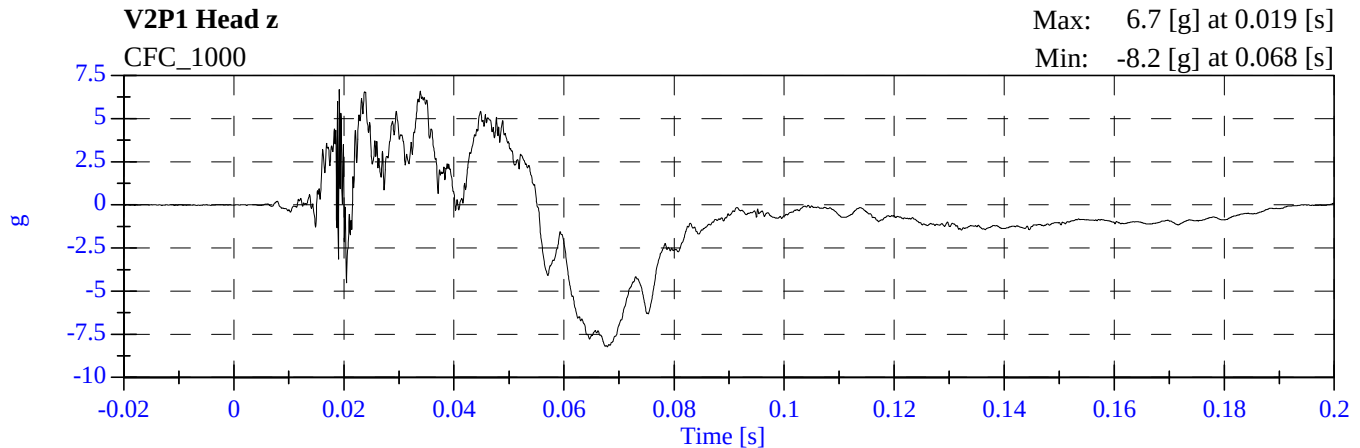
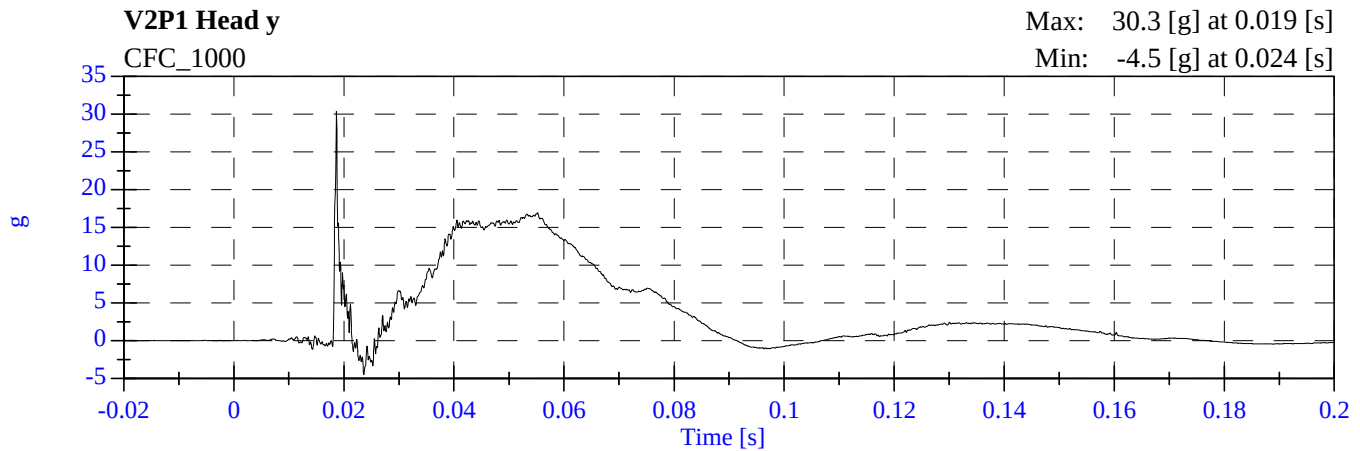
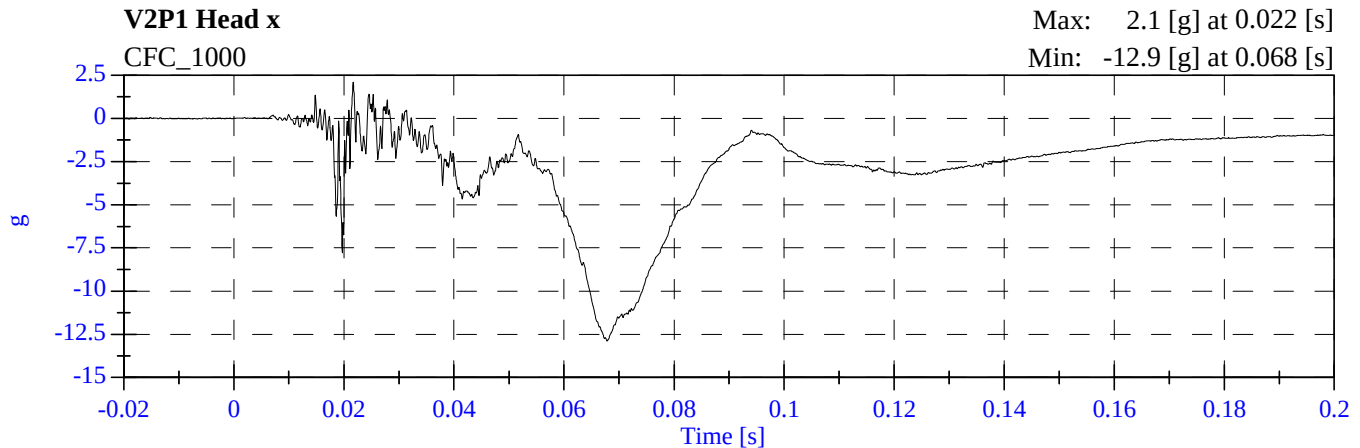
TEST NOTES

The following channel anomalies occurred:

V2A13 Left Middle B Post Ay -> Questionable Data After 14 ms
V2A18 Target CG Az -> Channel Opened

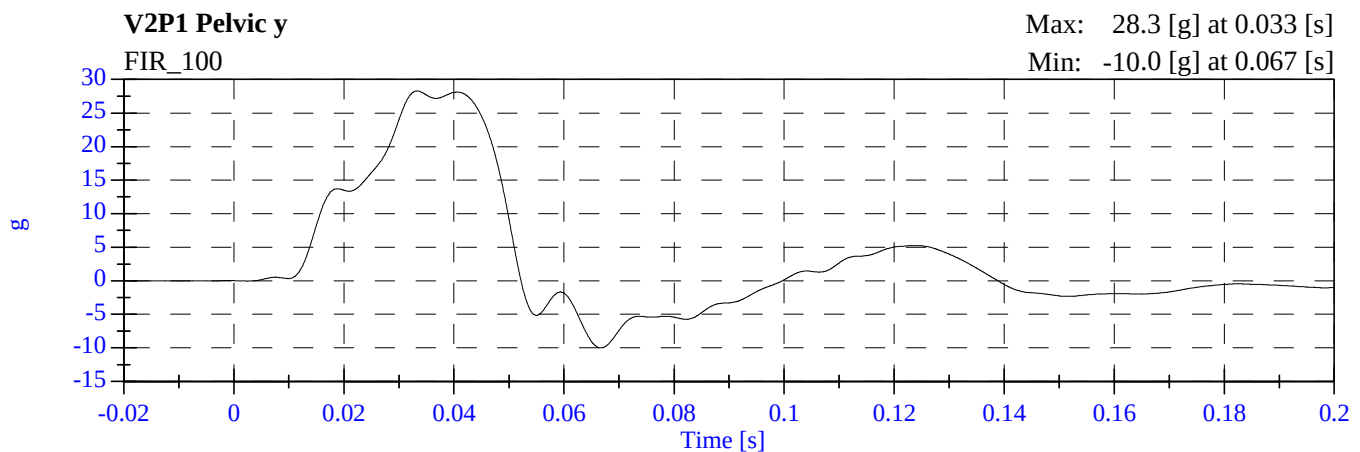
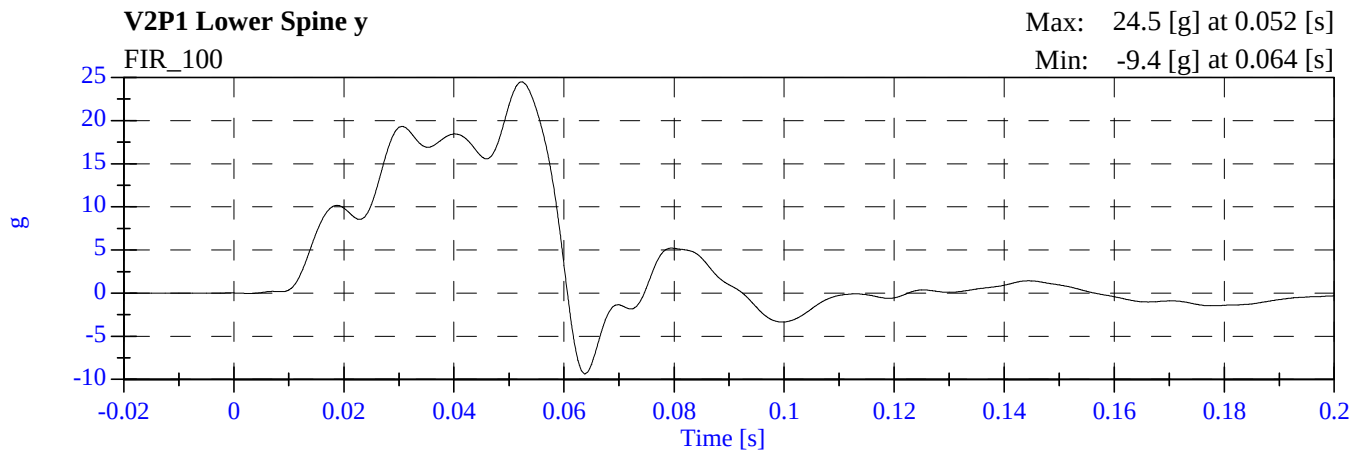
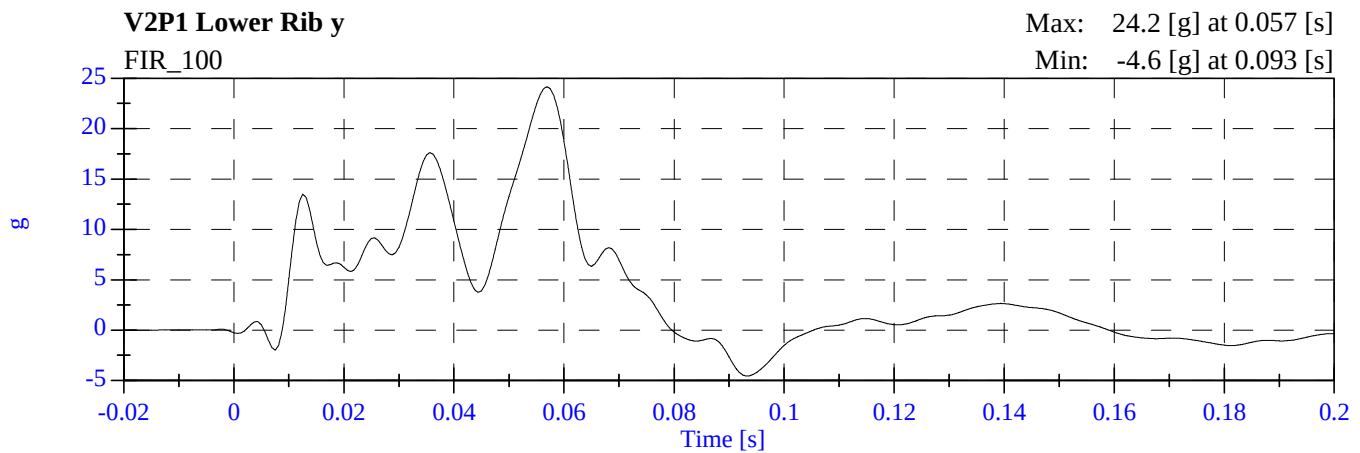
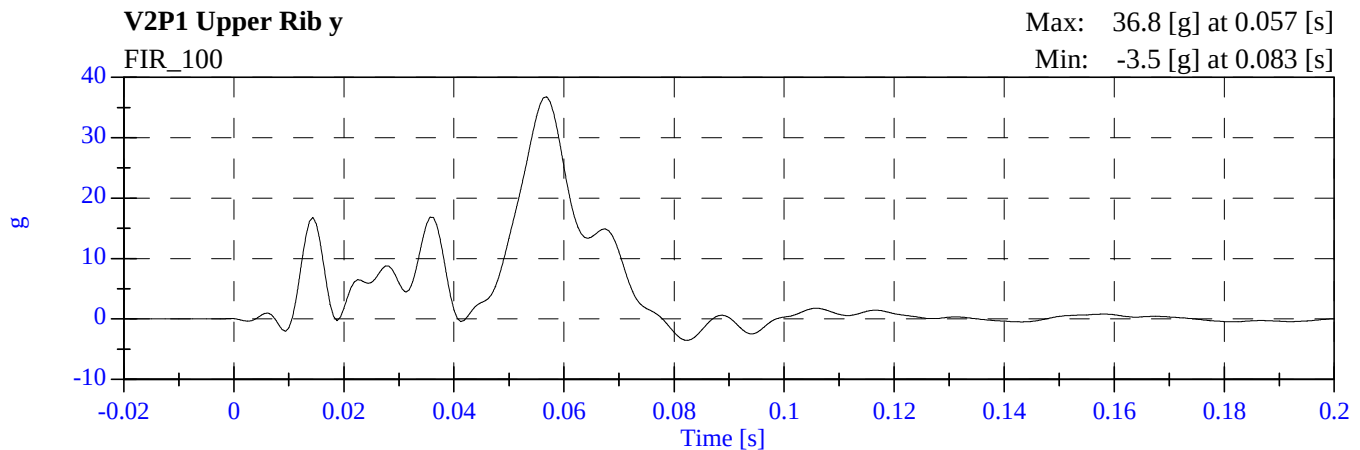
2006 FMVSS 214D Indicant Test 2 - 2006 Kia Sedona

C60512 - March 08, 2006



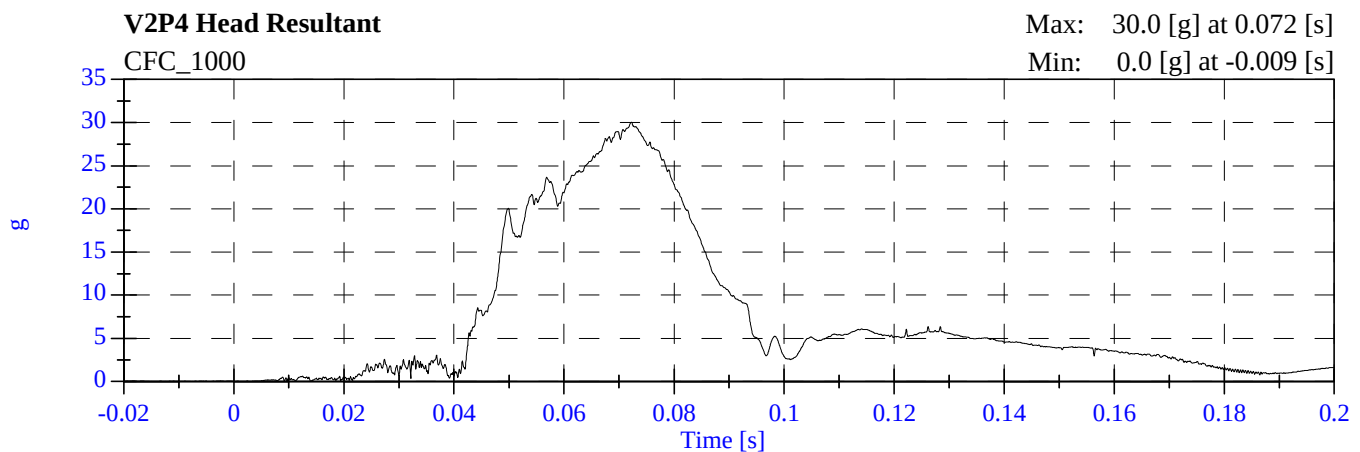
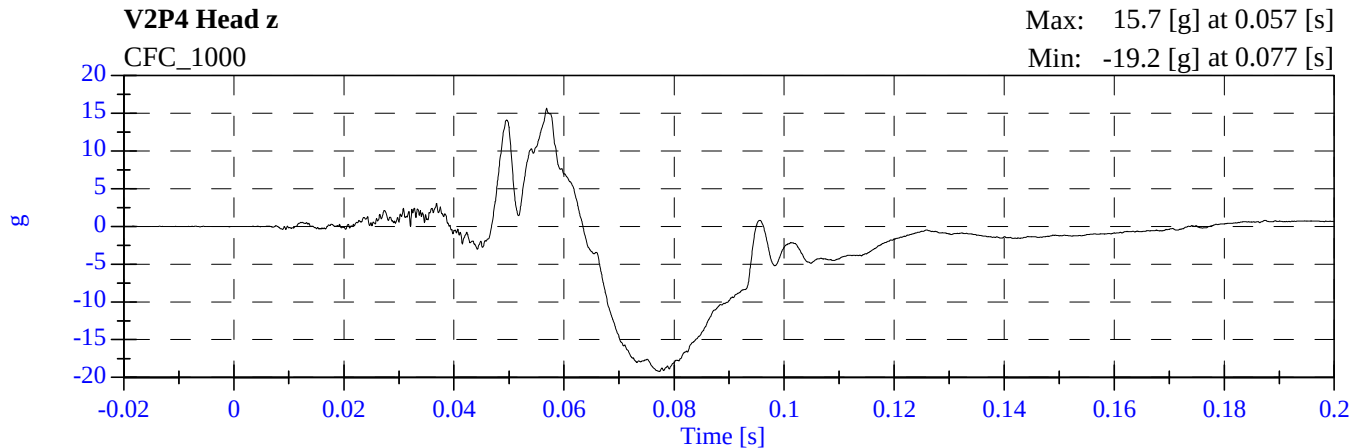
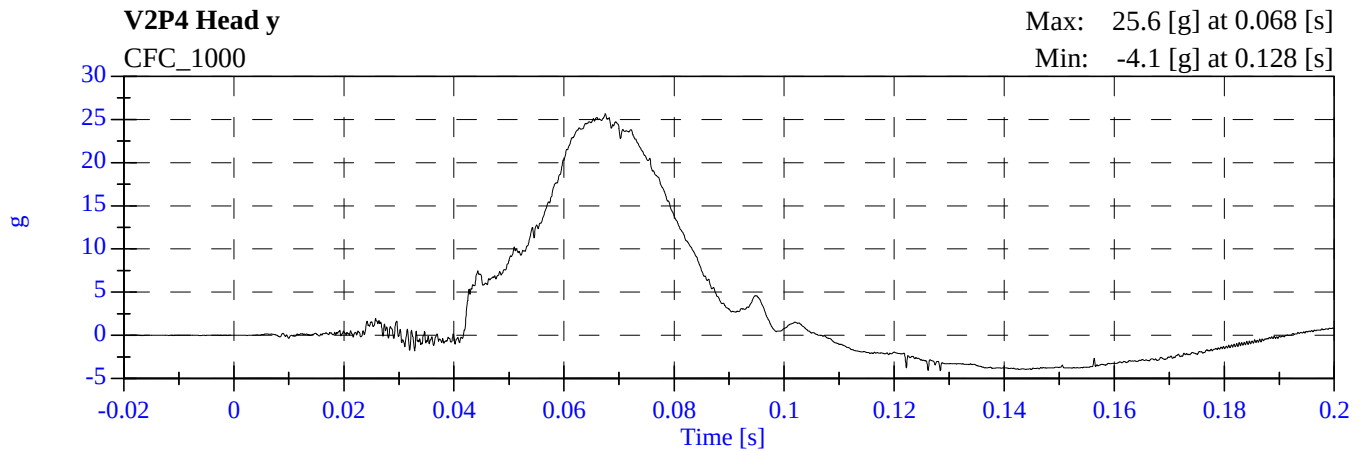
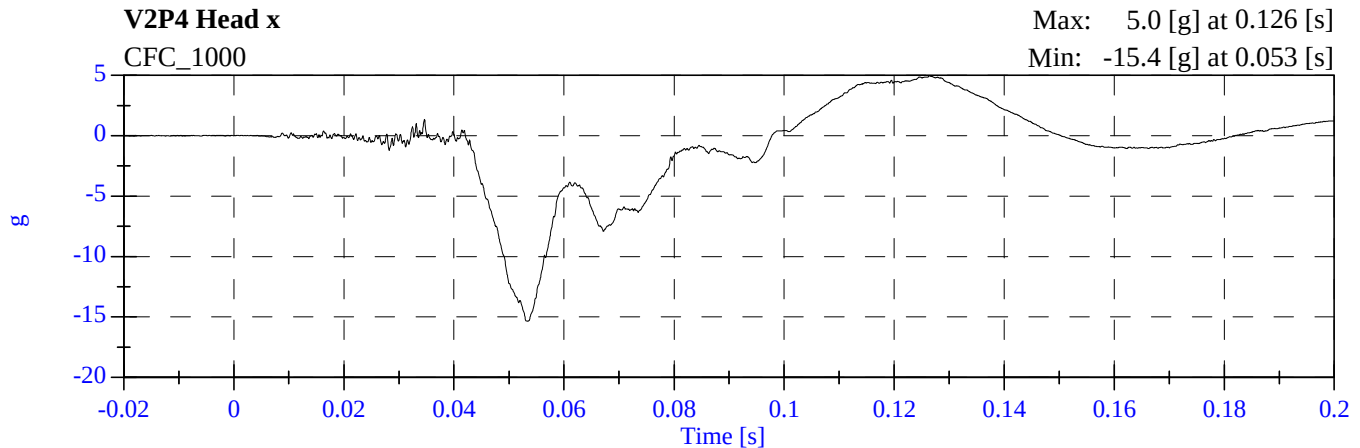
2006 FMVSS 214D Indicant Test 2 - 2006 Kia Sedona

C60512 - March 08, 2006



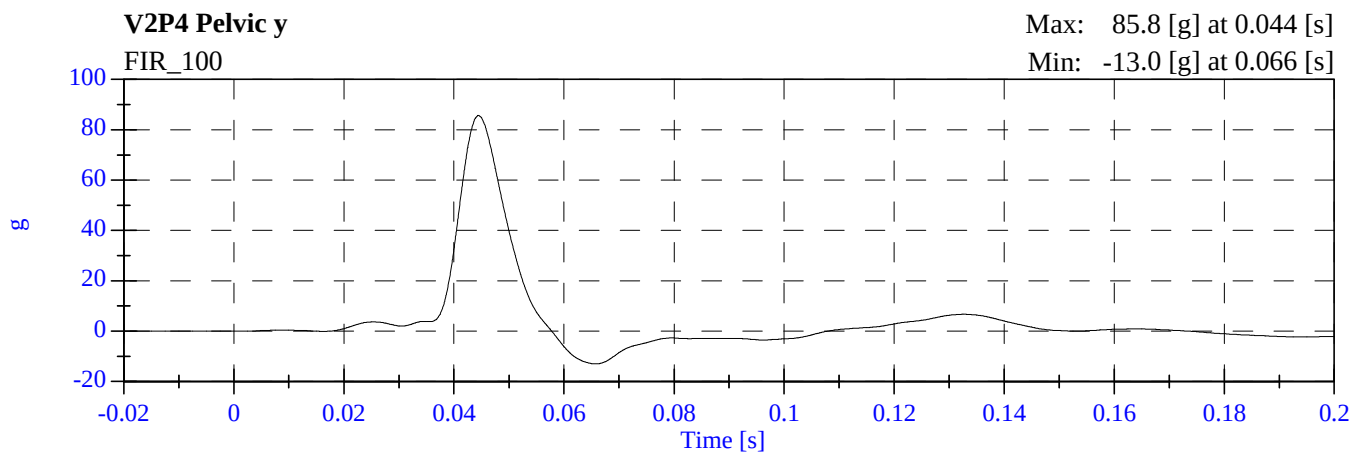
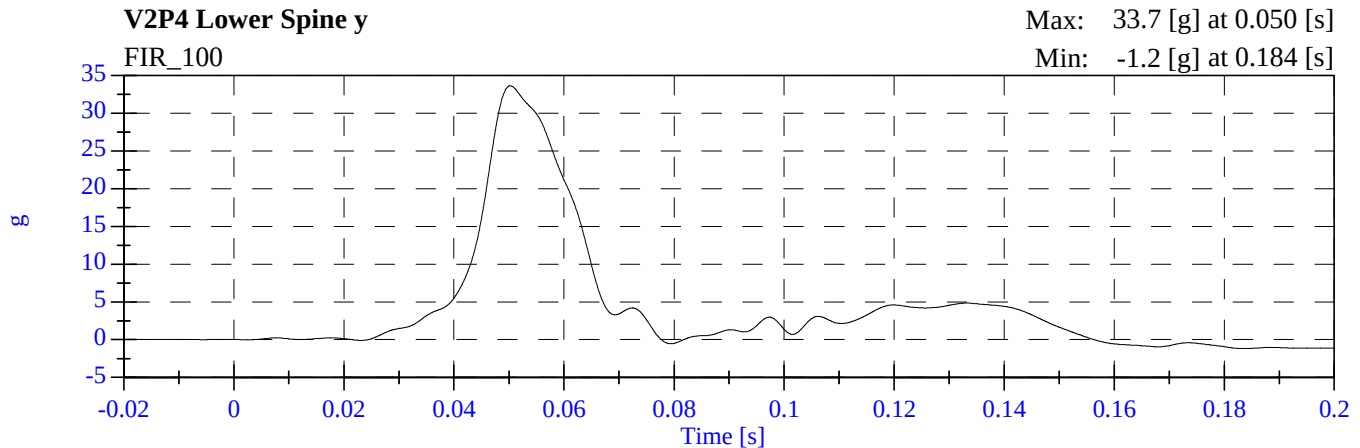
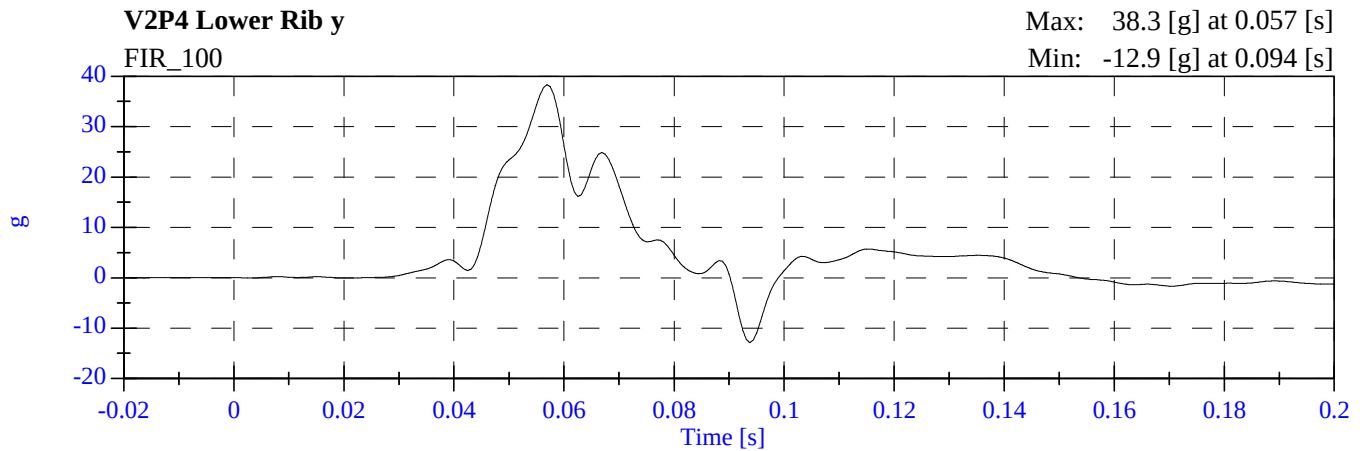
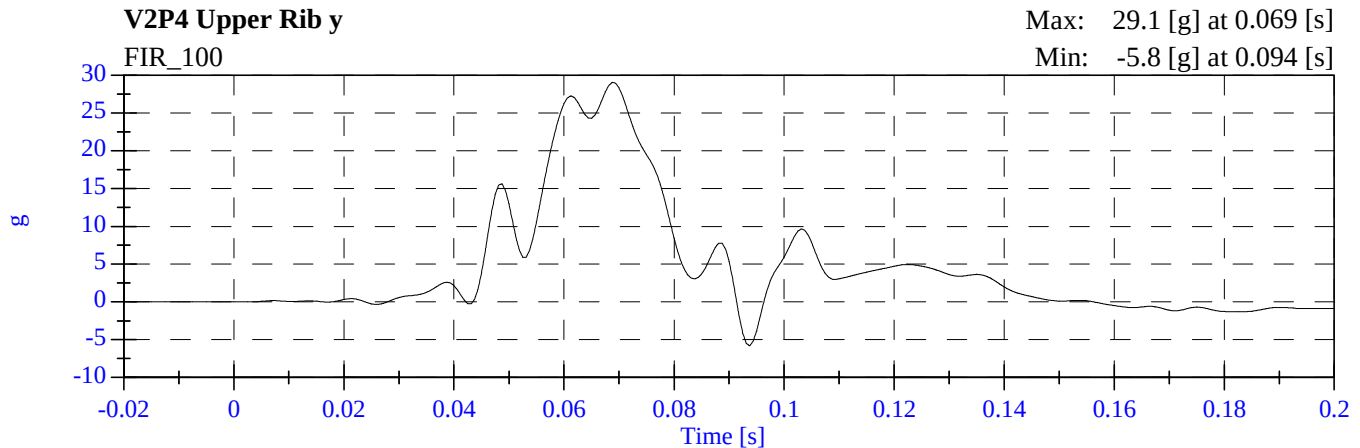
2006 FMVSS 214D Indicant Test 2 - 2006 Kia Sedona

C60512 - March 08, 2006



2006 FMVSS 214D Indicant Test 2 - 2006 Kia Sedona

C60512 - March 08, 2006



APPENDIX C

DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID H3 PRE & POST TEST CALIBRATION

CONFIGURED FOR LEFT SIDE IMPACT

Date: October 5, 2005; February 24, 2006

Sequential Test Number:

1.1; 1.2

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	899	899	899	899
RH- Rib Height (mm)	501 - 521	503	505	504	505
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	234	234	234	236
KV- Knee Pivot from Back Line (mm)	511 - 526	518	516	514	516
SW- Knee Pivot to Floor (mm)	490 - 505	495	495	495	495
HW- Hip Width (mm)	356 - 391	381	381	382	384
THORAX IMPACTS					
TEMPERATURE (C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	35.0	42.0	33.0	42.0
PROBE SPEED (m/s)	4.27 - 4.33	4.30	4.29	4.29	4.29
UPPER RIB (g's)	37 - 46	41.15	39.10	37.95	37.80
LOWER RIB (g's)	37 - 46	39.72	38.40	37.55	37.40
LOWER SPINE (g's)	15 - 22	20.37	19.26	19.45	19.80
PELVIS IMPACT					
TEMPERATURE (C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	35.0	42.0	33.0	42.0
PROBE SPEED (m/s)	4.27 - 4.33	4.30	4.27	4.27	4.29
PELVIS (g's)	40 - 60	47.87	55.97	44.57	50.65

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: October 5, 2005	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: October 5, 2005 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 – 909	899
RH- Rib Height (mm)	502 – 520	503
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	495
HW- Hip Width (mm)	356 - 391	381

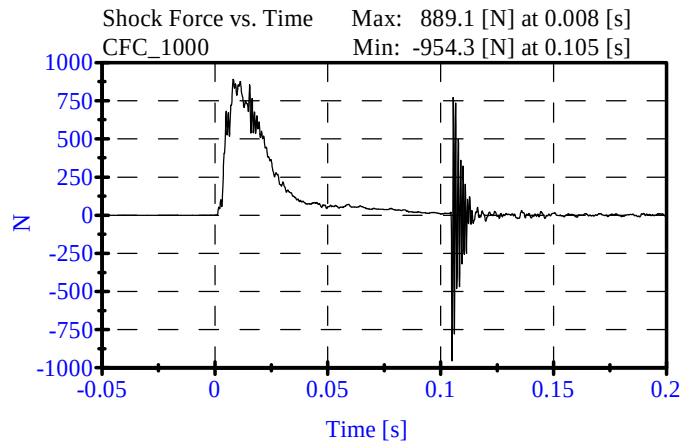
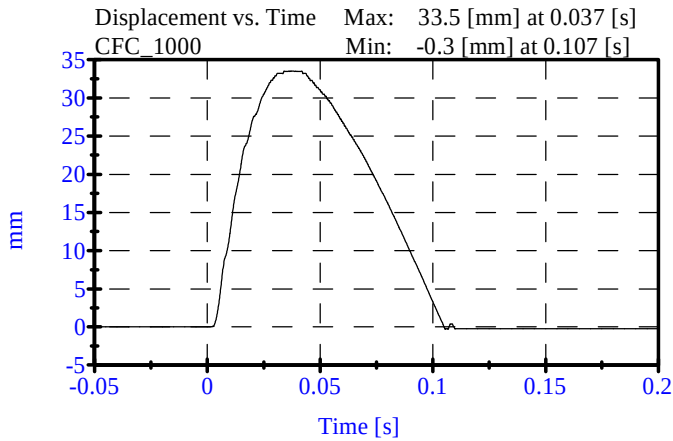
REMARKS: None

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

ATD Serial No: 269
Date: 09-29-05

Sequential Test Number: 1 File: 269SL6 09-29-05
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
Displacement:	30.00-35.00 mm	33.51 mm	Passed
Maximum Force:	836.00-1125.00 N	889.08 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: 09-29-05

Sequential Test Number: 1 File: 269SM 09-29-05

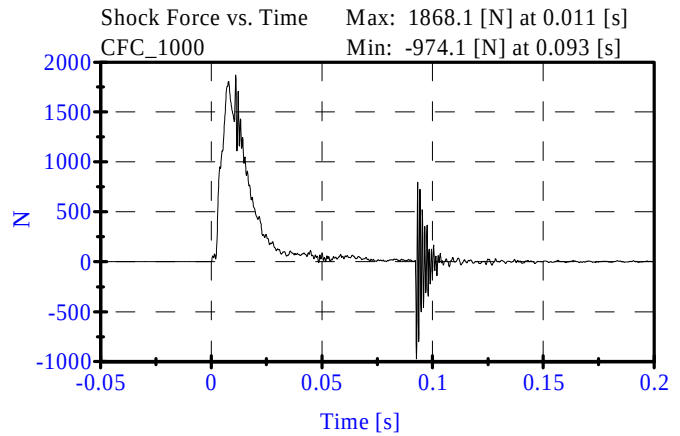
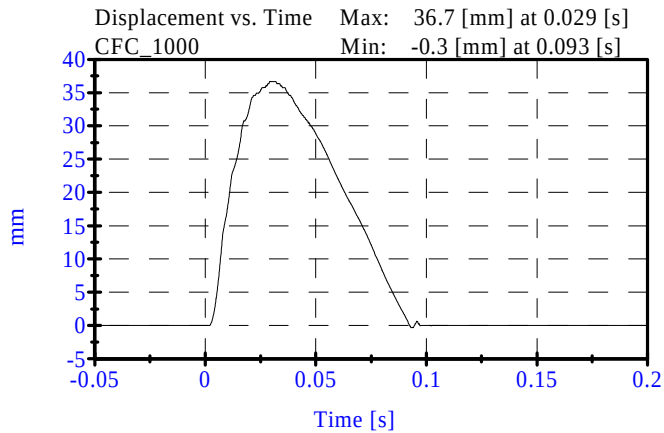
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Displacement:	32.00-37.00 mm	36.68 mm	Passed
Maximum Force:	1730.00-2099.00 N	1868.14 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

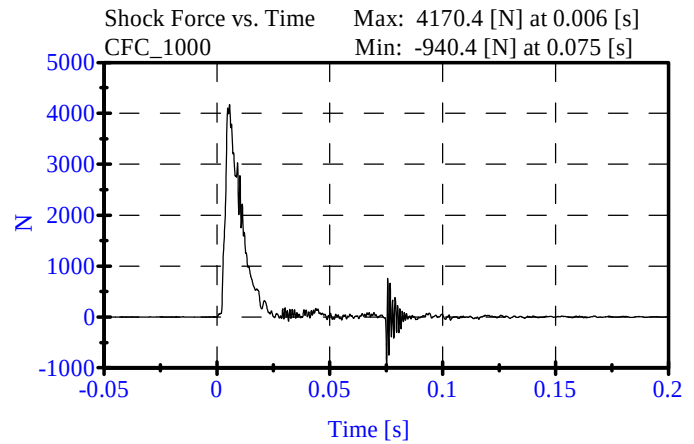
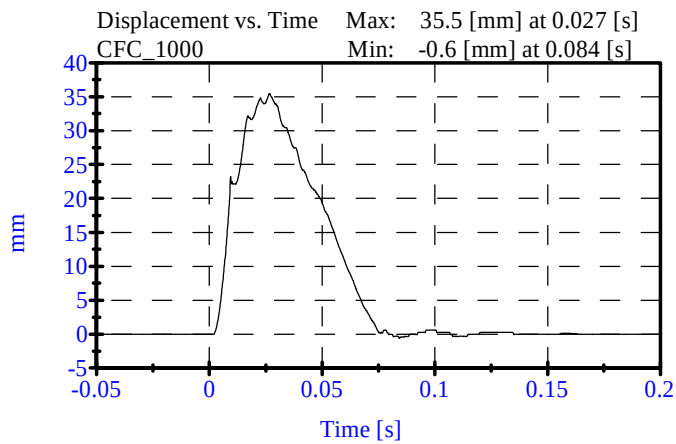
ATD Serial No: 269

Date: 09-29-05

Sequential Test Number: 1 File: 269SH2 09-29-05

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Displacement:	33.00-40.00 mm	35.46 mm	Passed
Maximum Force:	3741.00-4448.00 N	4170.44 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	269		
Damper Setting:	5		

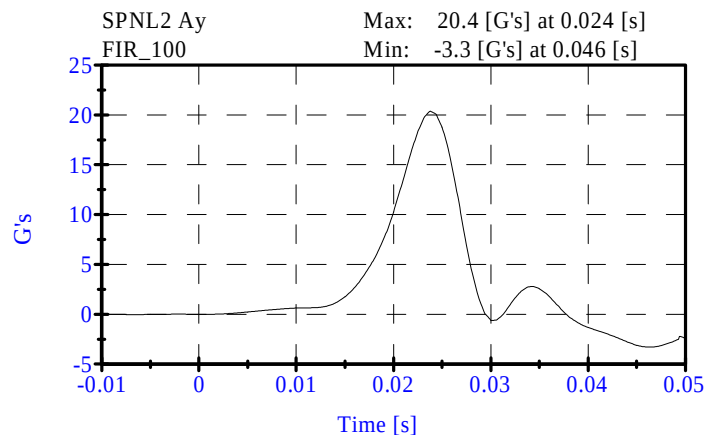
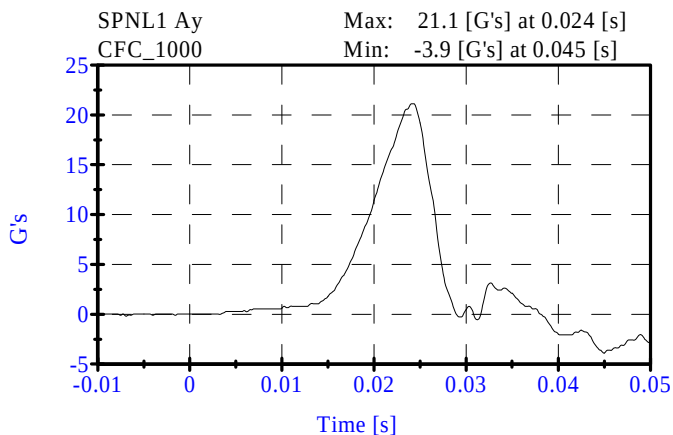
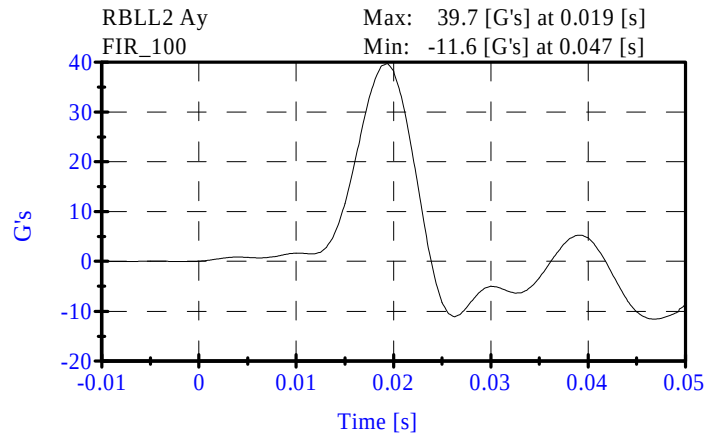
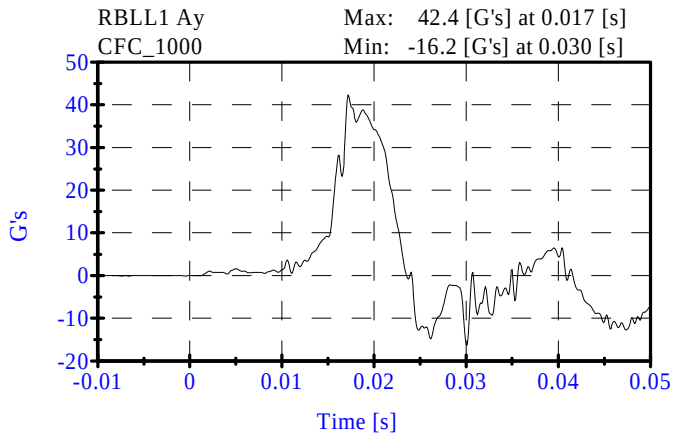
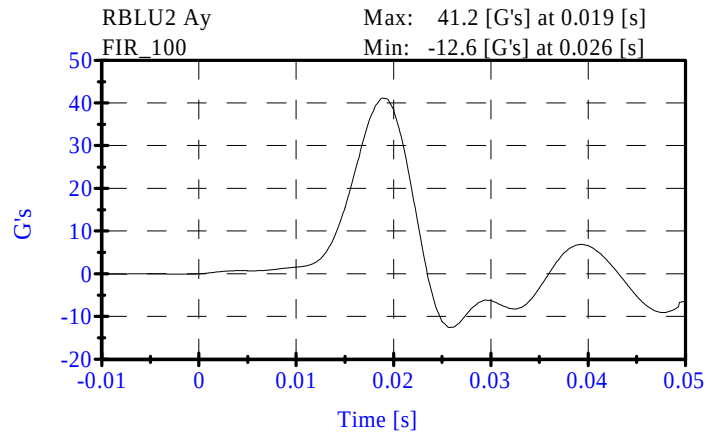
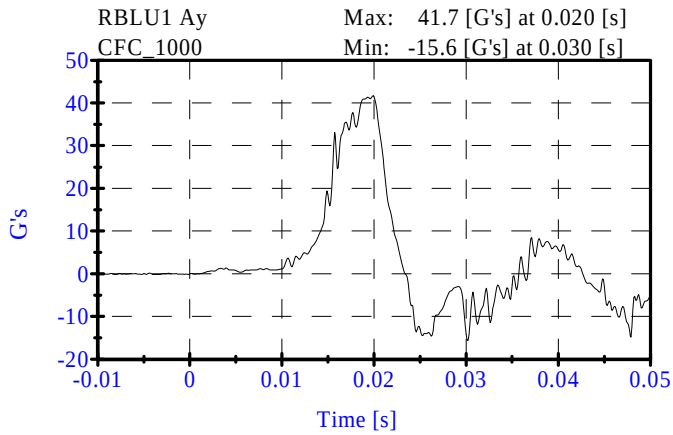


Thorax Impact
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 09-30-05

Sequential Test Number: 1 File: 269T2 09-30-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.30 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	41.15 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	39.72 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	20.37 G's	Passed



Pelvic Impact

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

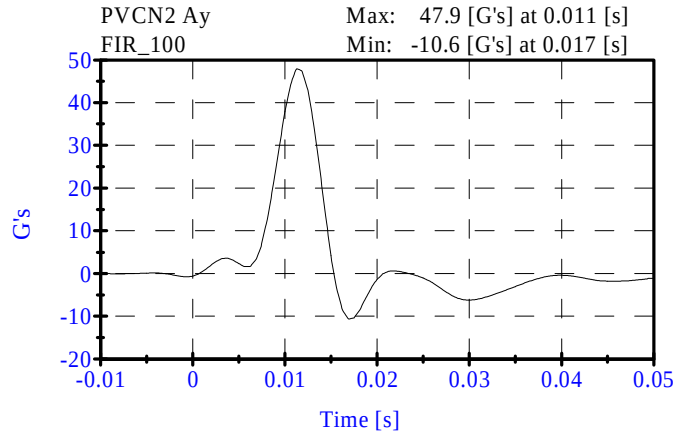
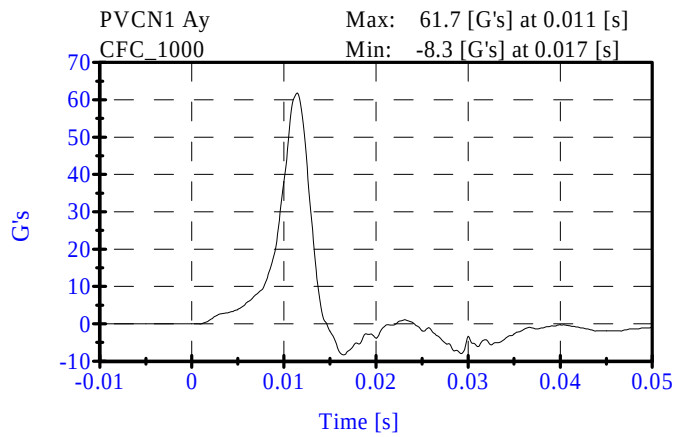
ATD Serial No: 269

Date: 09-30-05

Sequential Test Number: 1 File: 269P 09-30-05

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.30 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	47.87 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.3 ms	Passed



Head Drop

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

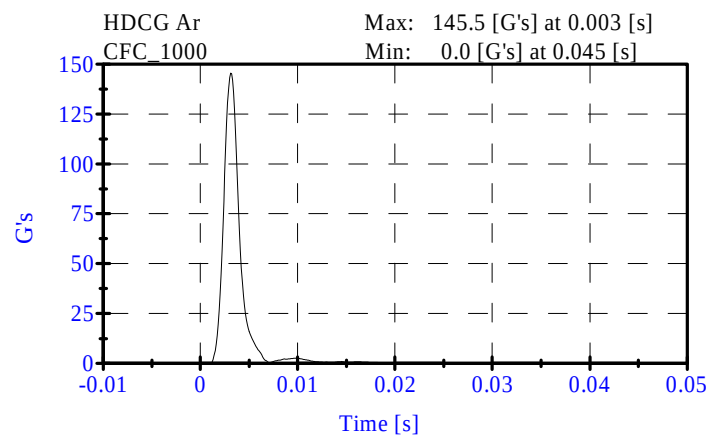
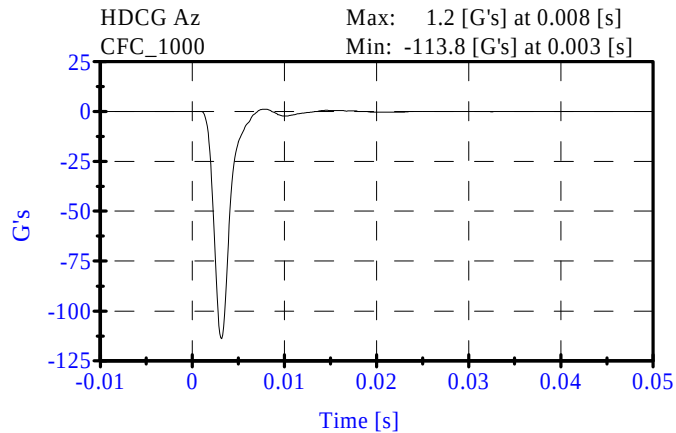
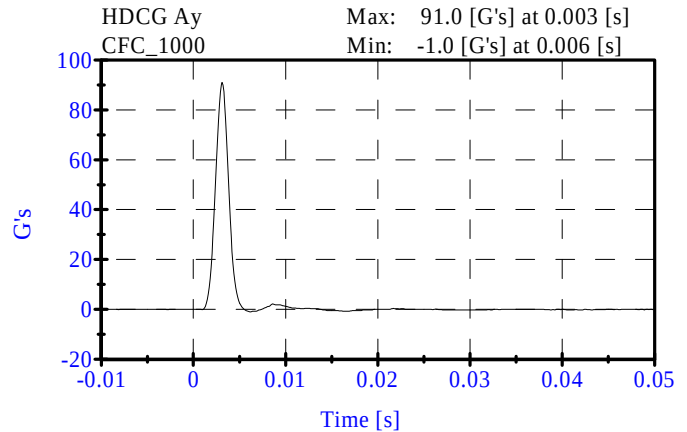
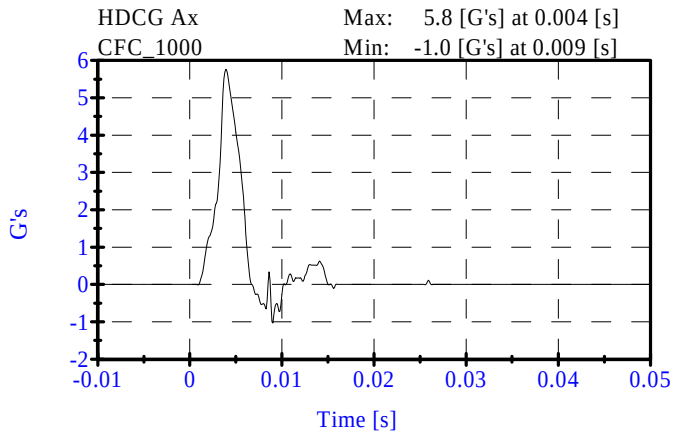
ATD Serial No: 269

Date: 09-26-05

Sequential Test Number: 1 File: 269H 09-26-05

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 %	44.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	145.46 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	5.76 Gs	Passed
Curve PerCent NonModal:	< 15%	1.85 %	Passed



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

ATD Serial No: 269

Date: 09-26-05

Sequential Test Number: 1 File: 269N 09-26-05

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 %	40.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.01 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.15 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.47 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.49 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.54 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	71.14 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	59.00 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	85.20 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	55.80 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	10.10 ms	Passed

Neck Test
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

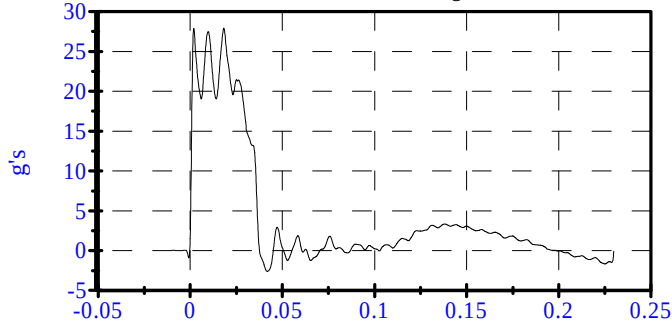
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Date: 09-26-05

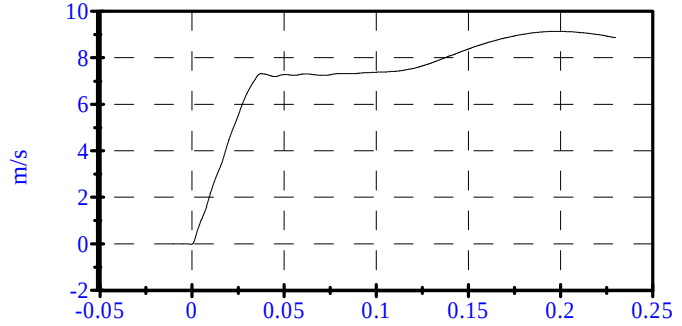
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Laboratory Technician: B. Swiecicki

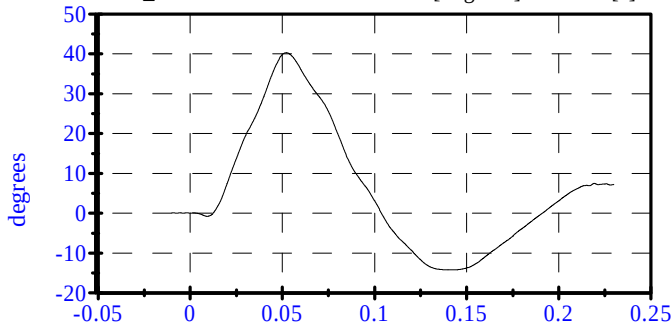
Pend Ax
CFC_180
Max: 27.9 [g's] at 0.018 [s]
Min: -2.6 [g's] at 0.042 [s]



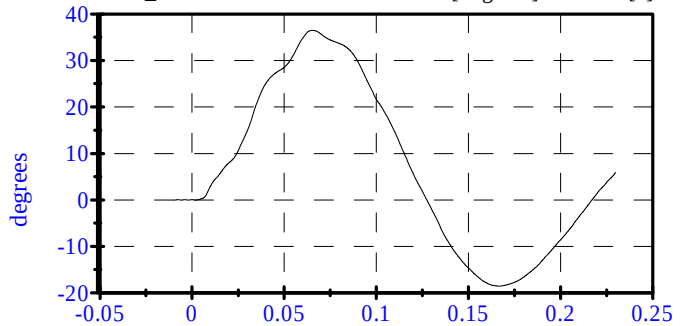
Pend Vx
CFC_180
Max: 9.1 [m/s] at 0.198 [s]
Min: -0.0 [m/s] at -0.000 [s]



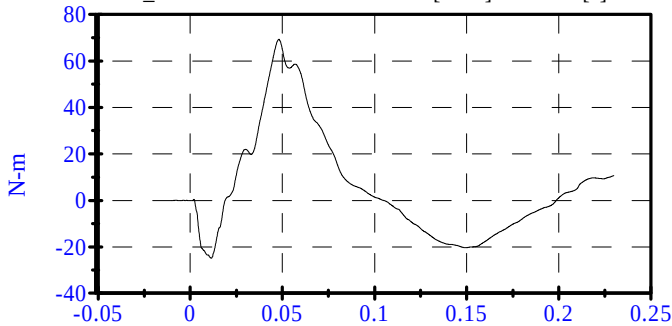
Head Rot
CFC_180
Max: 40.2 [degrees] at 0.052 [s]
Min: -14.3 [degrees] at 0.143 [s]



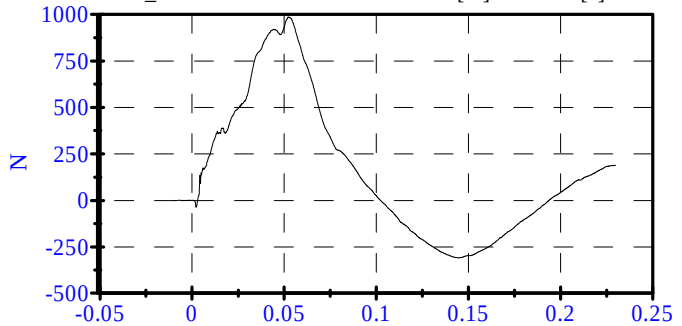
Arm Rot
CFC_180
Max: 36.5 [degrees] at 0.066 [s]
Min: -18.5 [degrees] at 0.167 [s]



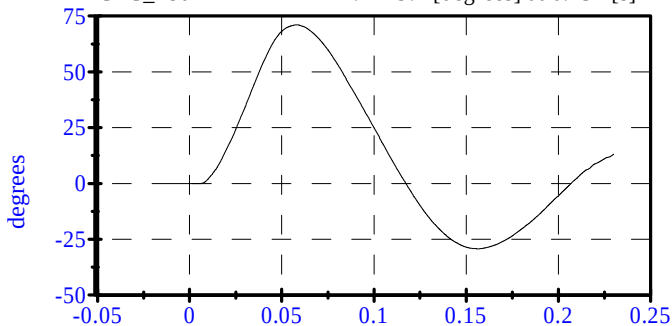
Neck Mx
CFC_600
Max: 69.3 [N-m] at 0.048 [s]
Min: -24.9 [N-m] at 0.011 [s]



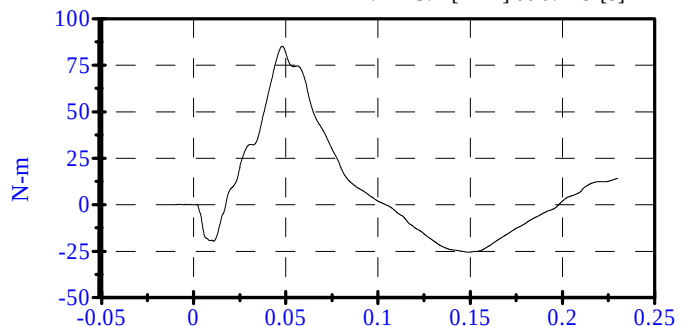
Neck Fy
CFC_1000
Max: 985.0 [N] at 0.053 [s]
Min: -308.6 [N] at 0.145 [s]



Tot Rot
CFC_180
Max: 71.1 [degrees] at 0.058 [s]
Min: -29.2 [degrees] at 0.157 [s]



Mocx
Max: 85.2 [N-m] at 0.048 [s]
Min: -25.7 [N-m] at 0.149 [s]



Abdomen Test

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269

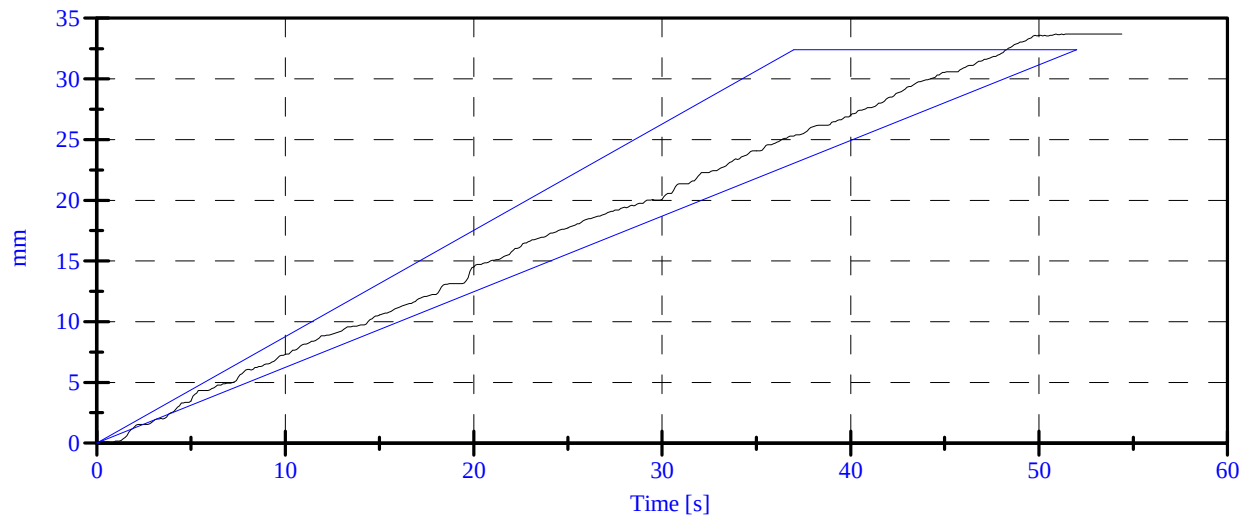
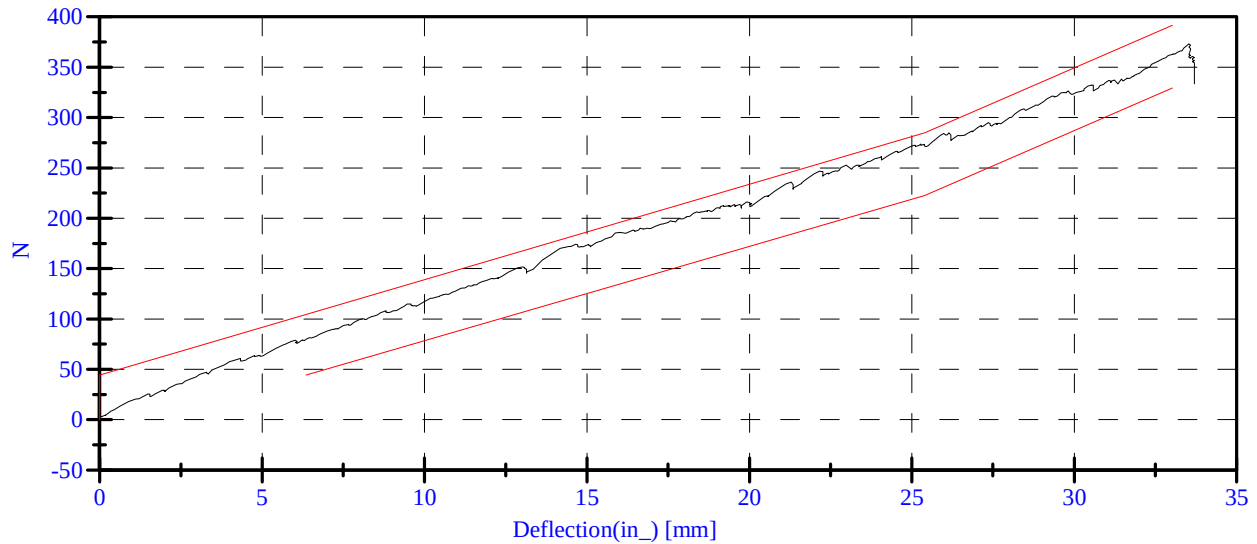
Date: 10-05-05

Sequential Test Number: 1 File: 269ab 10-05-05

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 %	30.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	151.59 N	Passed
Force at 19.05 mm :	162.98-220.99 N	210.68 N	Passed
Force at 25.40 mm :	221.97-280.02 N	273.38 N	Passed
Force at 33.02 mm :	324.99-391.00 N	362.56 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269

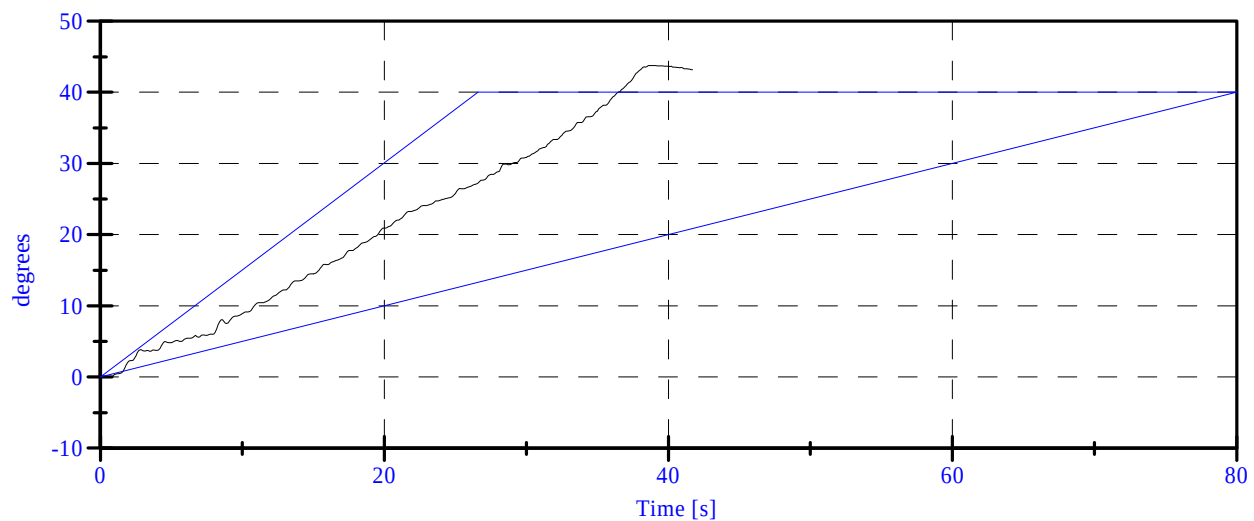
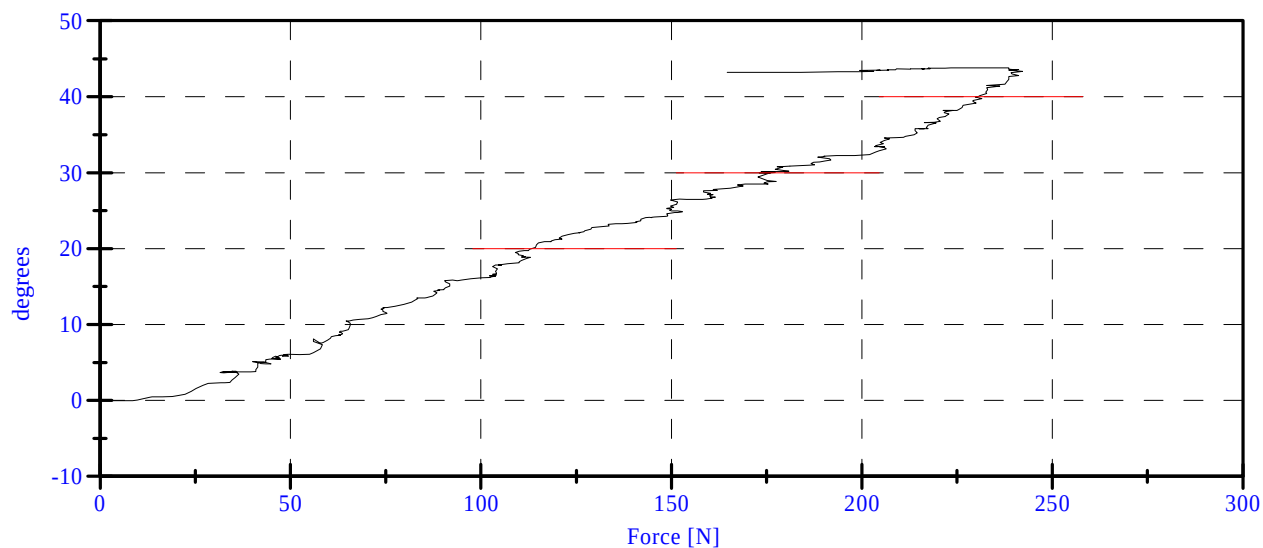
Date: 10-05-05

Sequential Test Number: 1 File: 269Spine 10-05-05

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	9.80 N	Passed
Force at 20 Deg:	97.86-151.24 N	112.69 N	Passed
Force at 30 Deg:	151.24-204.62 N	177.20 N	Passed
Force at 40 Deg:	204.62-258.00 N	230.73 N	Passed
Return Angle	12 Deg Max	2.04 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: October 5, 2005 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: 1.2
Date: February 24, 2006	Laboratory Technician: B. Swiecicki

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

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 1.2
Date: February 24, 2006 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	899
RH- Rib Height (mm)	502 - 520	504
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	514
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	382

REMARKS: None

Shock Impact - Low (3.05 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

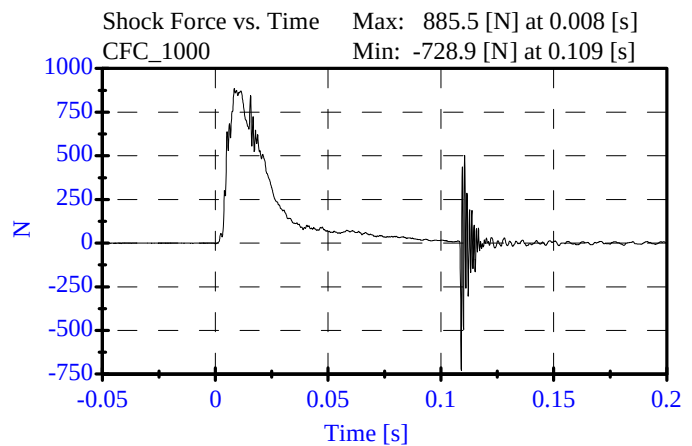
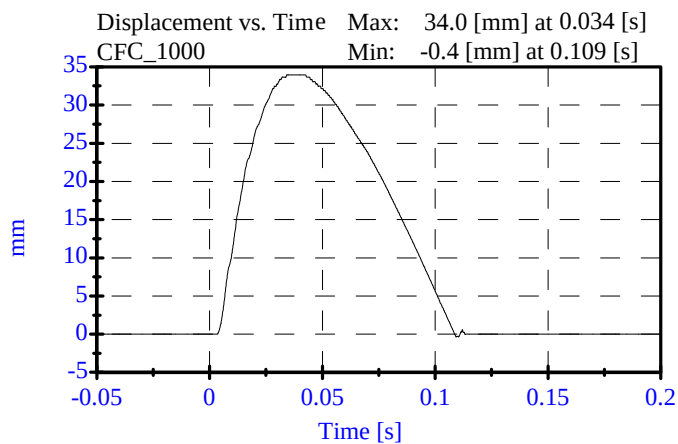
ATD Serial No: 270

Date: 09-29-05

Sequential Test Number: 1 File: 270SL1 09-29-05

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
Displacement:	30.00-35.00 mm	34.00 mm	Passed
Maximum Force:	836.00-1125.00 N	885.47 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	270		
Damper Setting:	5		



Shock - Med (4.27 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270

Date: 09-29-05

Sequential Test Number: 1 File: 270SM1 09-29-05

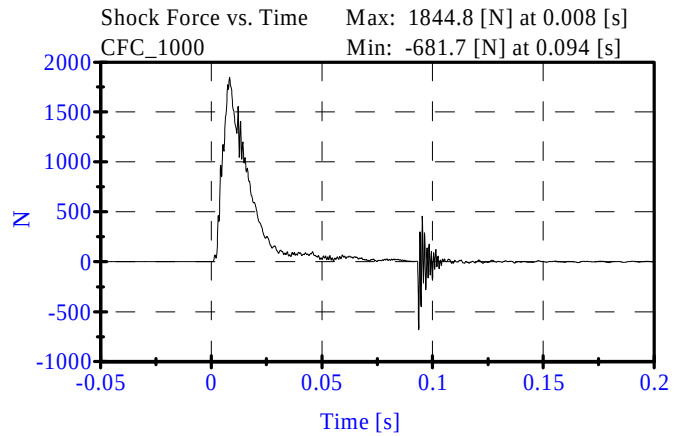
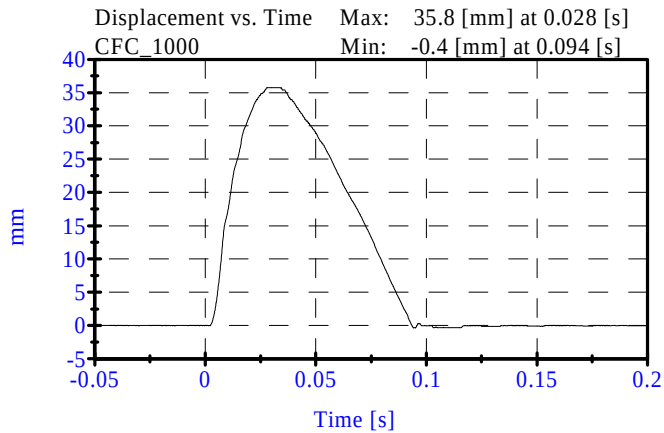
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Displacement:	32.00-37.00 mm	35.76 mm	Passed
Maximum Force:	1730.00-2099.00 N	1844.81 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

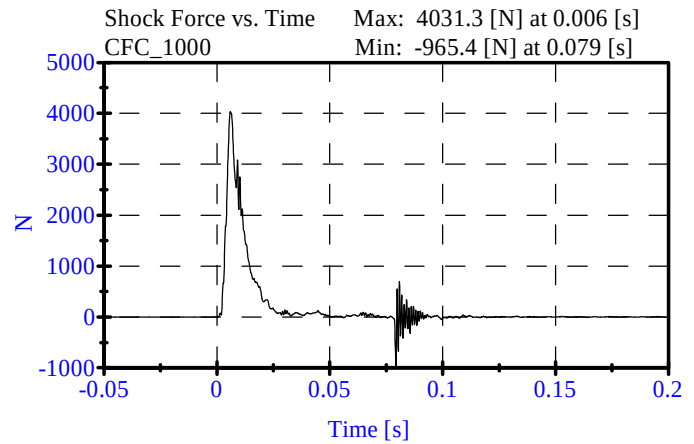
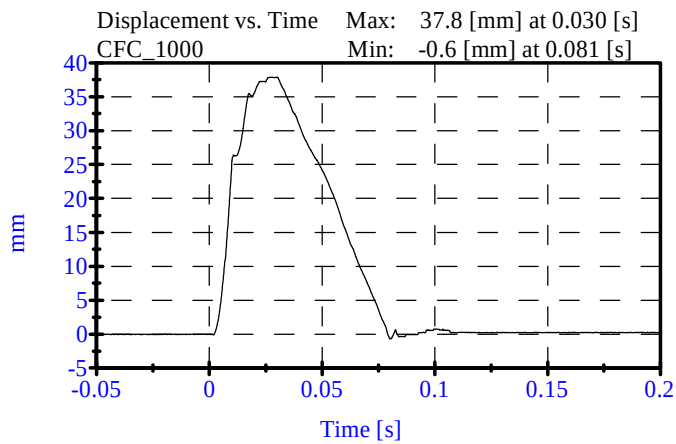
ATD Serial No: 270

Date: 09-29-05

Sequential Test Number: 1 File: 270SH 09-29-05

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
Displacement:	33.00-40.00 mm	37.82 mm	Passed
Maximum Force:	3741.00-4448.00 N	4031.26 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	270		
Damper Setting:	5		



Thorax Impact

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

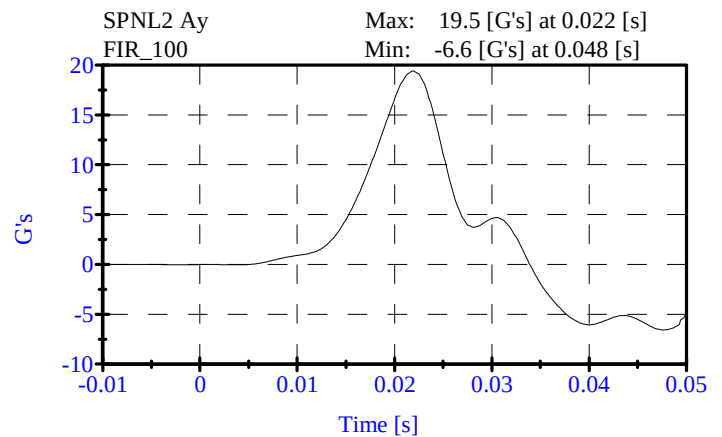
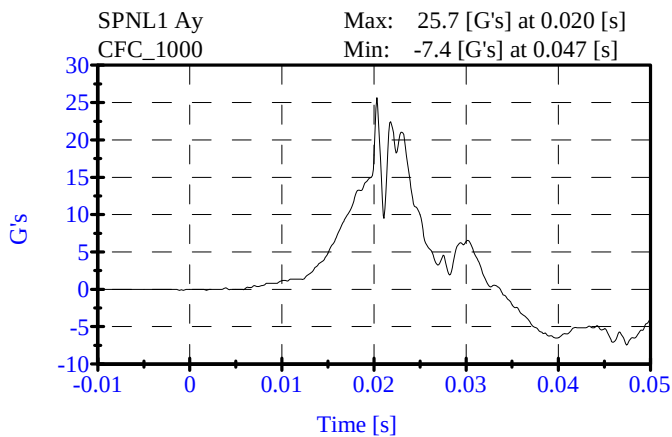
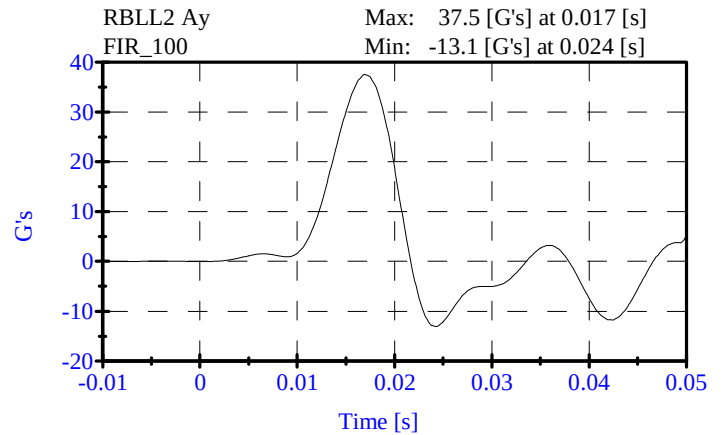
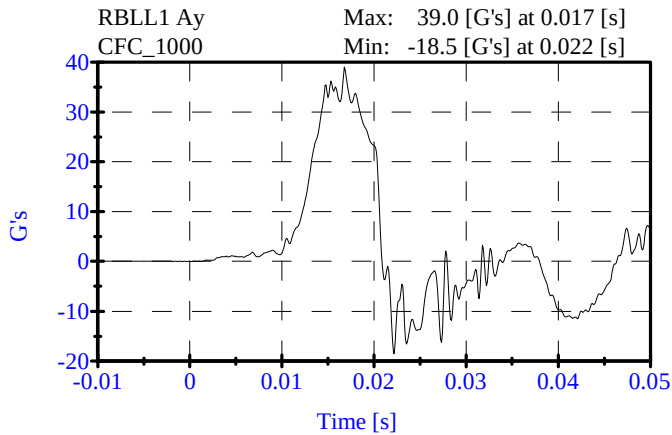
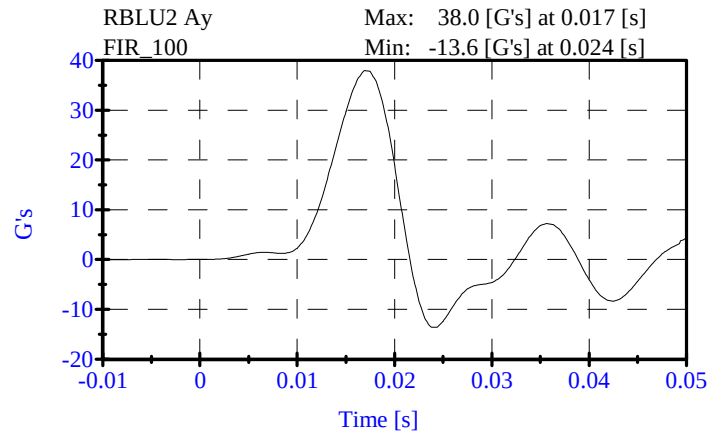
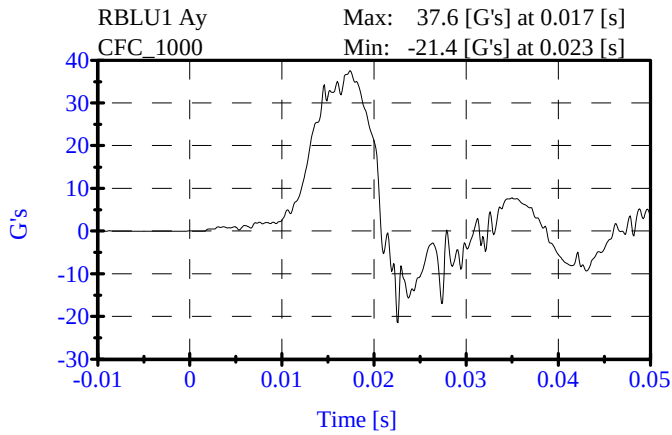
ATD Serial No: 270

Date: 02-23-06

Sequential Test Number: 1 File: 270T 02-23-06

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.29 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	37.95 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	37.55 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	19.45 G's	Passed



Pelvic Impact

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

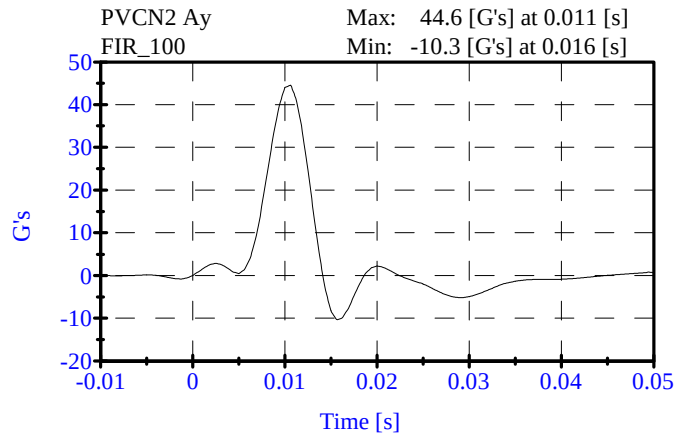
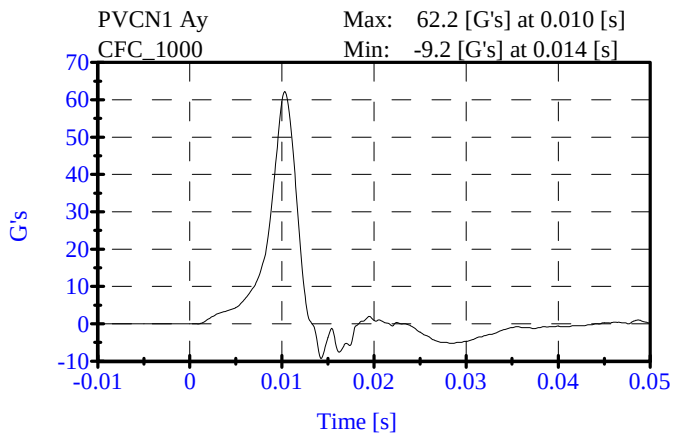
ATD Serial No: 270

Date: 02-23-06

Sequential Test Number: 1 File: 270P 02-23-06

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	4.27 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	44.57 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.0 ms	Passed



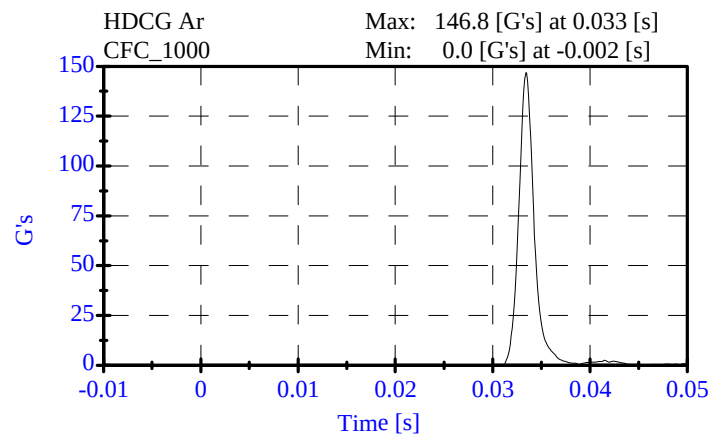
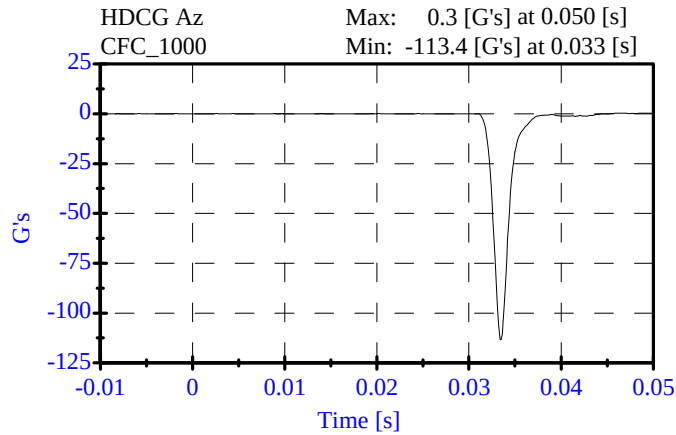
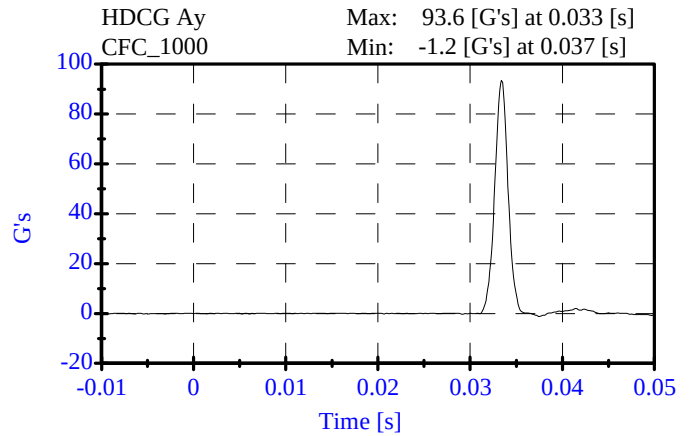
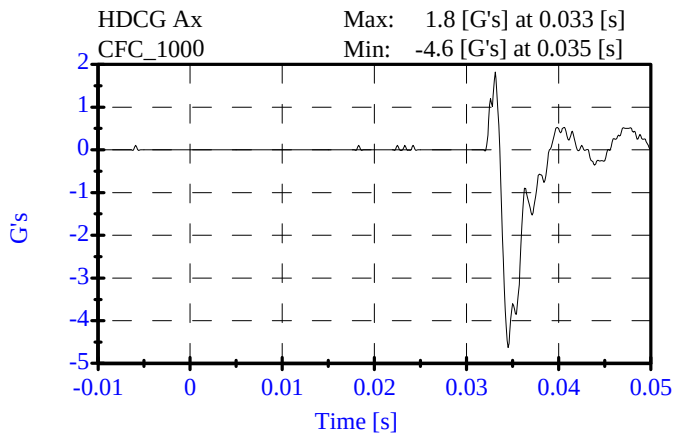
Head Drop PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 02-22-06

Sequential Test Number: 1 File: 270H1 02-22-06
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 %	30.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	146.83 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	1.82 Gs	Passed
Curve PerCent NonModal:	< 15%	1.70 %	Passed



Neck Test
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 02-22-06

Sequential Test Number: 1 File: 270N 02-22-06
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 %	30.00 %	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	2.23 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.68 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.72 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.59 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	69.01 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	59.50 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	87.69 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	52.10 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	9.00 ms	Passed

Neck Test
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

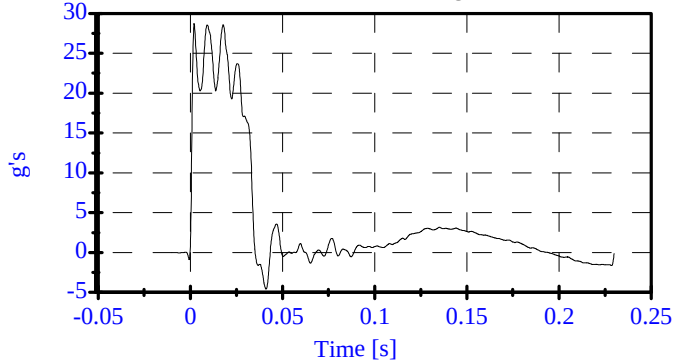
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Date: 02-22-06

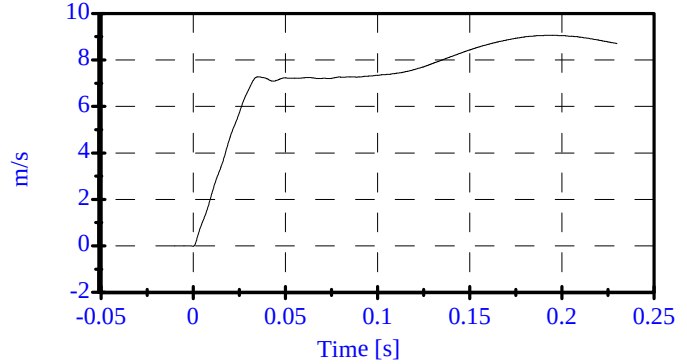
Sequential Test Number: 1 File: 270N 02-22-06

Laboratory Technician: B. Swiecicki

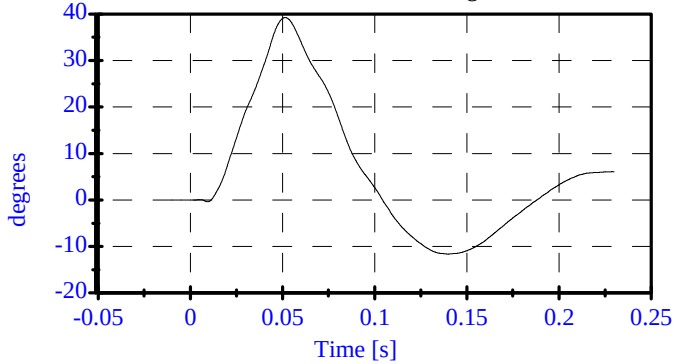
Pend Ax
CFC_180
Max: 28.7 [g's] at 0.002 [s]
Min: -4.6 [g's] at 0.041 [s]



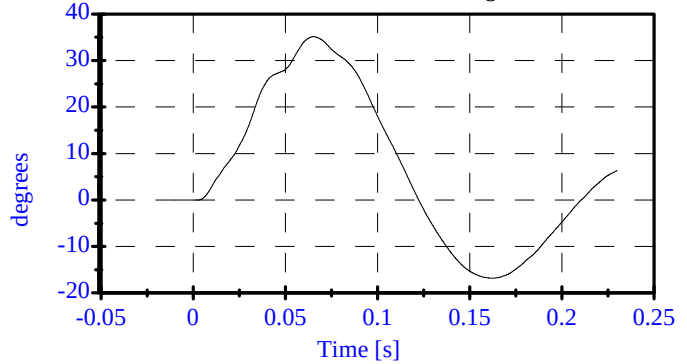
Pend Vx
CFC_180
Max: 9.1 [m/s] at 0.194 [s]
Min: -0.0 [m/s] at -0.000 [s]



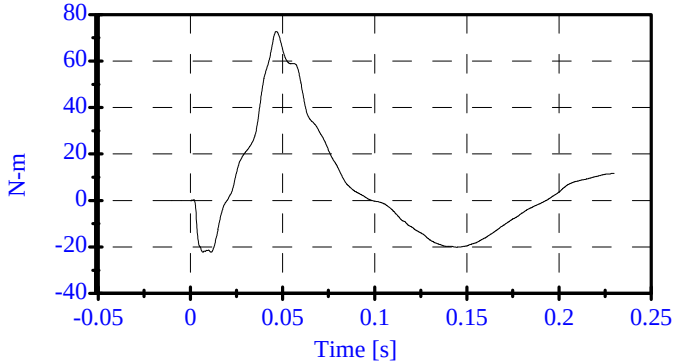
Head Rot
CFC_180
Max: 39.2 [degrees] at 0.051 [s]
Min: -11.6 [degrees] at 0.140 [s]



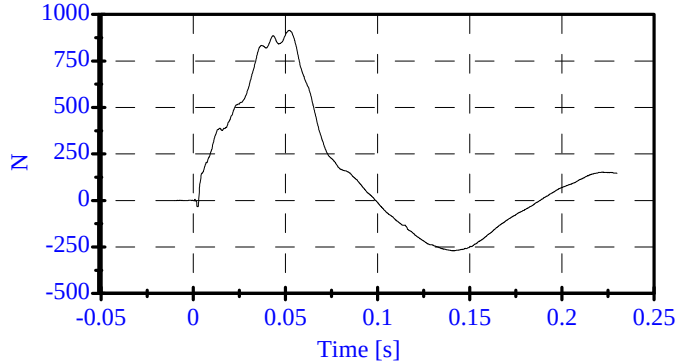
Arm Rot
CFC_180
Max: 35.1 [degrees] at 0.065 [s]
Min: -16.8 [degrees] at 0.162 [s]



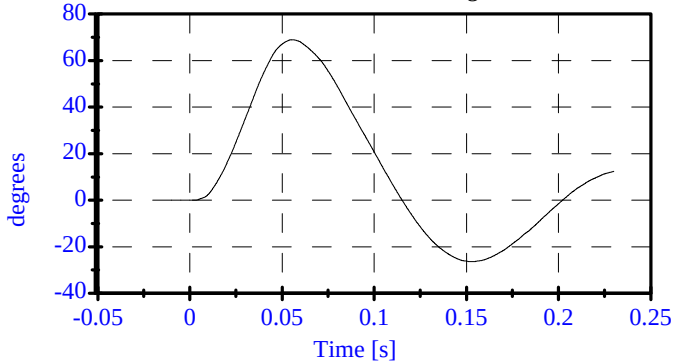
Neck Mx
CFC_600
Max: 72.7 [N-m] at 0.047 [s]
Min: -22.3 [N-m] at 0.007 [s]



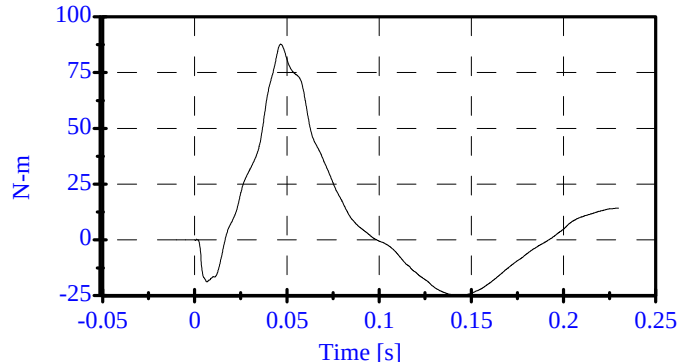
Neck Fy
CFC_1000
Max: 914.0 [N] at 0.052 [s]
Min: -271.7 [N] at 0.141 [s]



Tot Rot
CFC_180
Max: 69.0 [degrees] at 0.056 [s]
Min: -26.4 [degrees] at 0.153 [s]



MOCX
Max: 87.7 [N-m] at 0.047 [s]
Min: -24.9 [N-m] at 0.145 [s]



Abdomen Test

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270

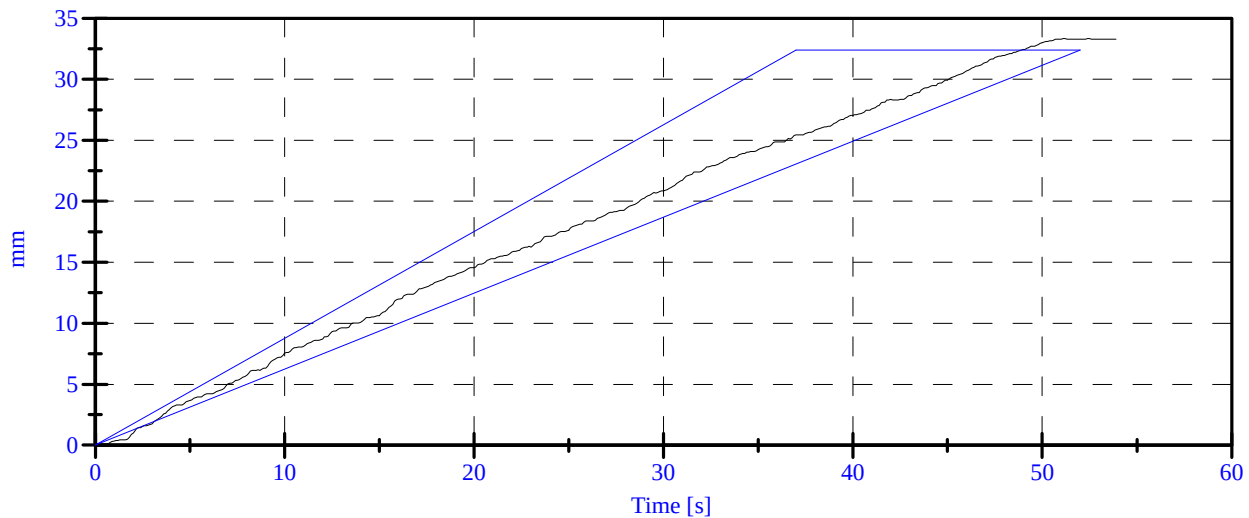
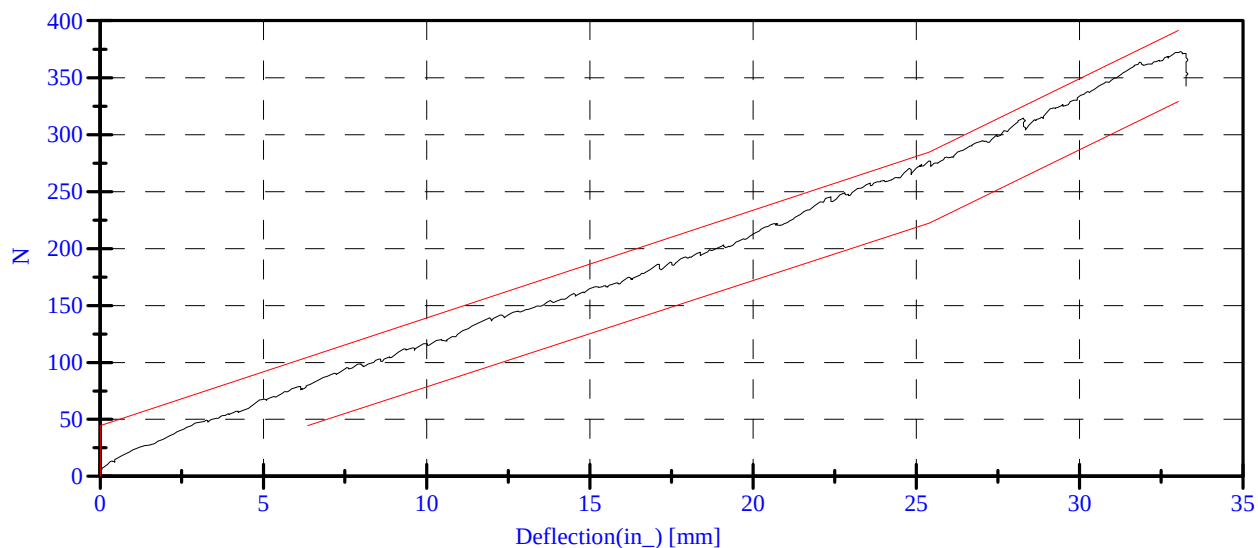
Date: 02-24-06

Sequential Test Number: 1 File: 270AB 02-24-06

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	145.43 N	Passed
Force at 19.05 mm :	162.98-220.99 N	202.34 N	Passed
Force at 25.40 mm :	221.97-280.02 N	277.01 N	Passed
Force at 33.02 mm :	324.99-391.00 N	371.98 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270

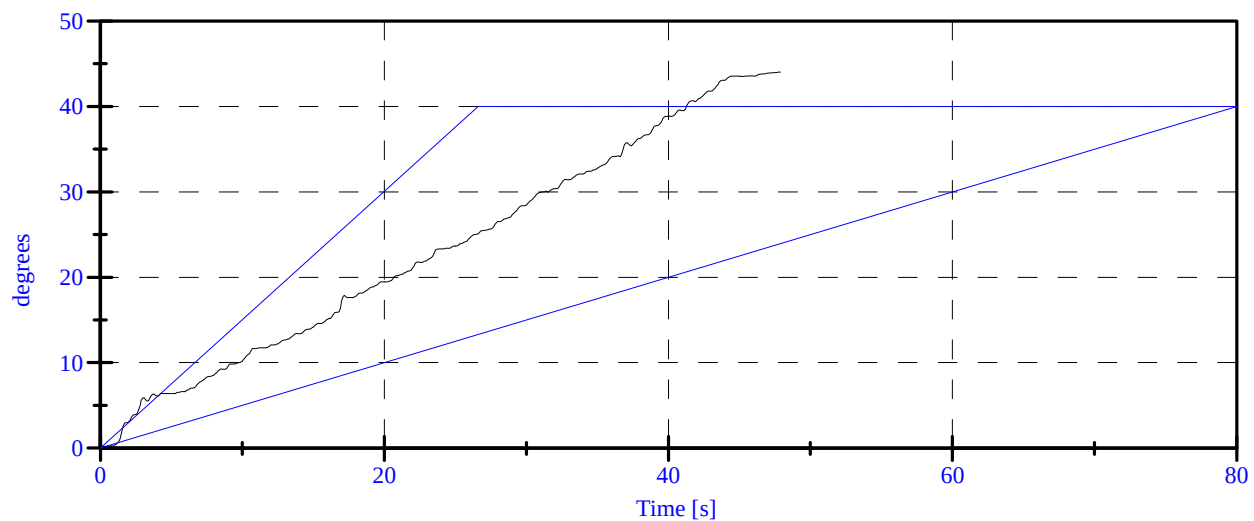
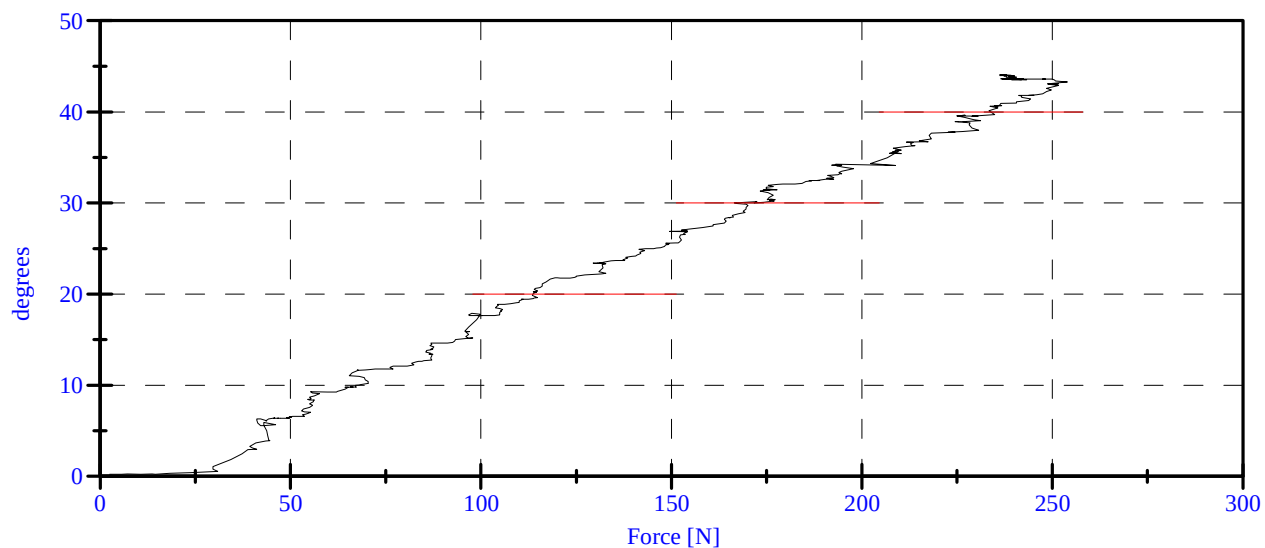
Date: 02-24-06

Sequential Test Number: 1 File: 270SP 02-24-06

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	2.49 N	Passed
Force at 20 Deg:	97.86-151.24 N	113.74 N	Passed
Force at 30 Deg:	151.24-204.62 N	166.49 N	Passed
Force at 40 Deg:	204.62-258.00 N	233.35 N	Passed
Return Angle	12 Deg Max	4.44 deg	Passed

LUMBAR SPINE FLEXION TEST



PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 1.2
 Date: February 24, 2006 Laboratory Technician: B. Swiecicki

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

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 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: March 16, 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: March 16, 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	381

REMARKS: None

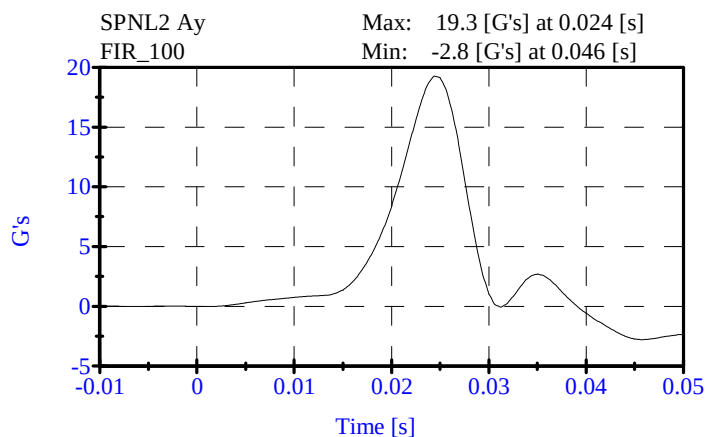
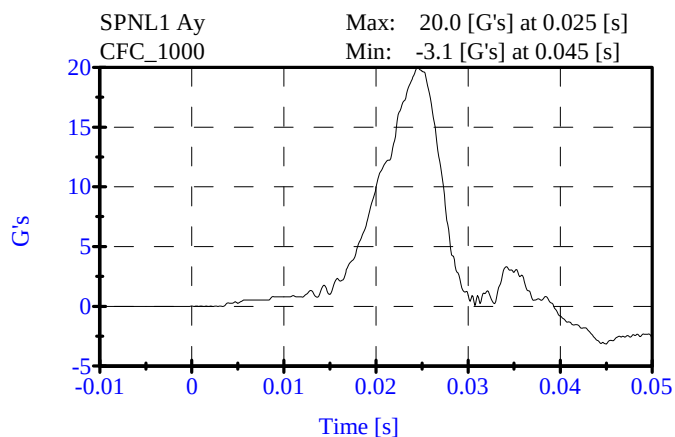
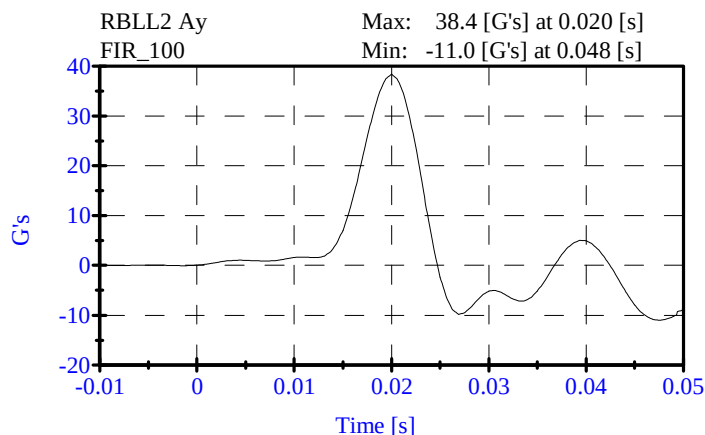
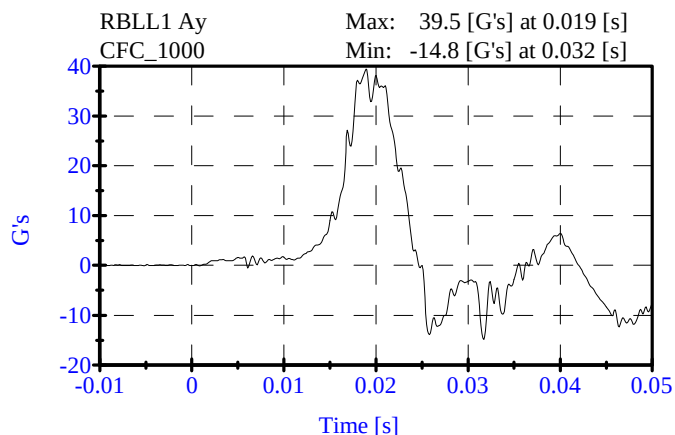
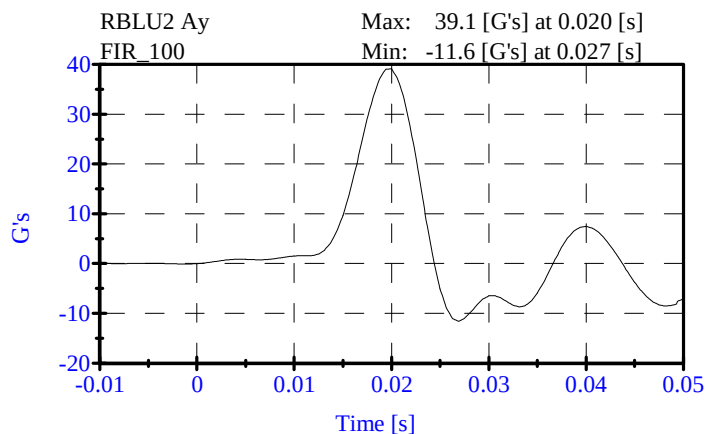
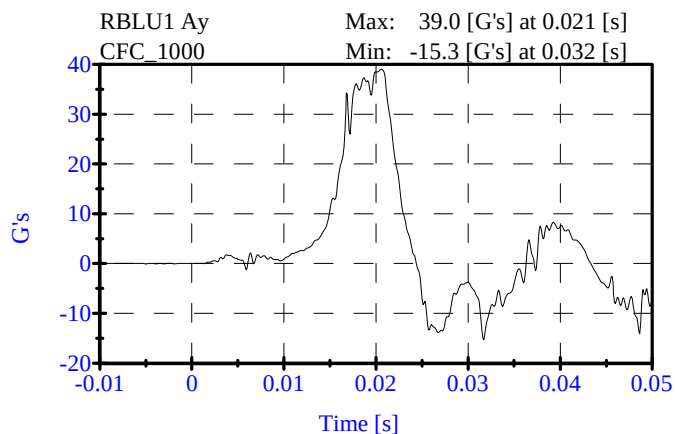
Thorax Impact **POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 03-16-06

Sequential Test Number: 1 File: 269T 03-16-06
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	42.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.29 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	39.10 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	38.40 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	19.26 G's	Passed



Pelvic Impact

POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

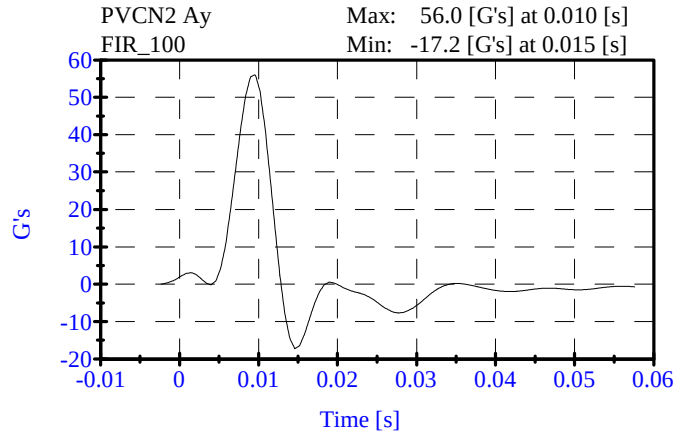
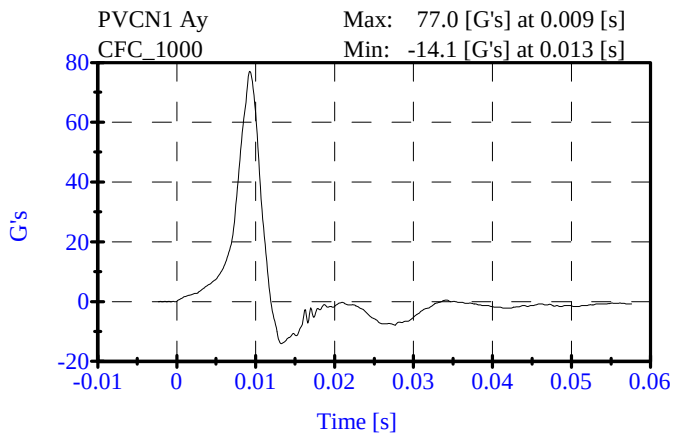
ATD Serial No: 269

Date: 03-16-06

Sequential Test Number: 1 File: 269P 03-16-06

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 %	42.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.27 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	55.97 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.4 ms	Passed



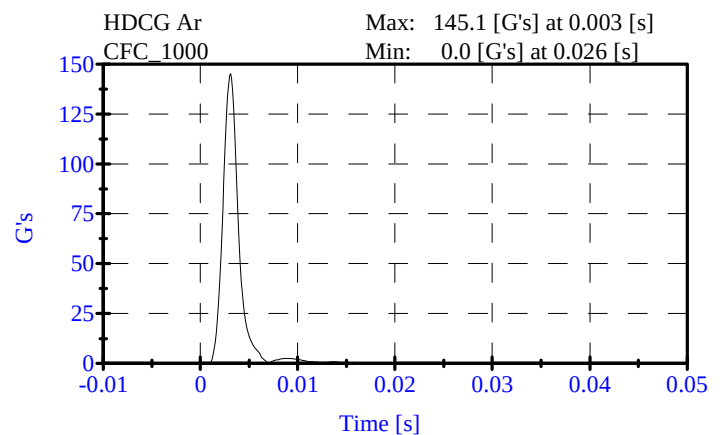
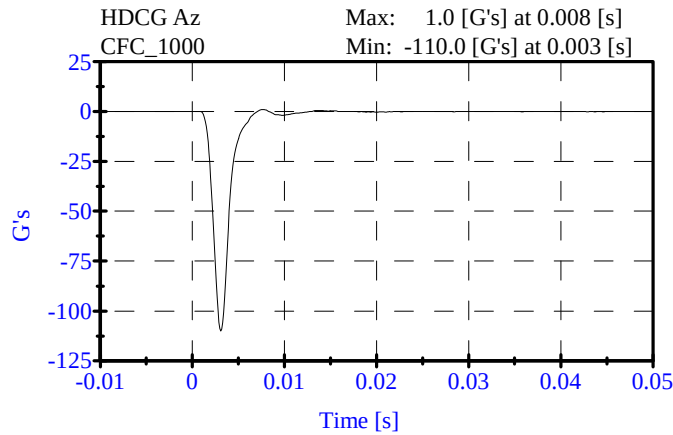
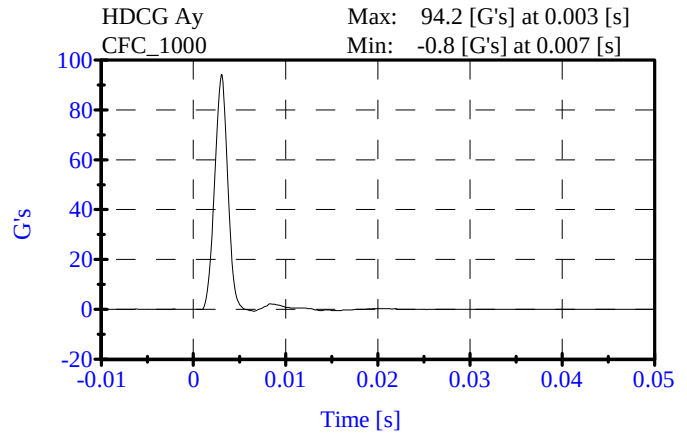
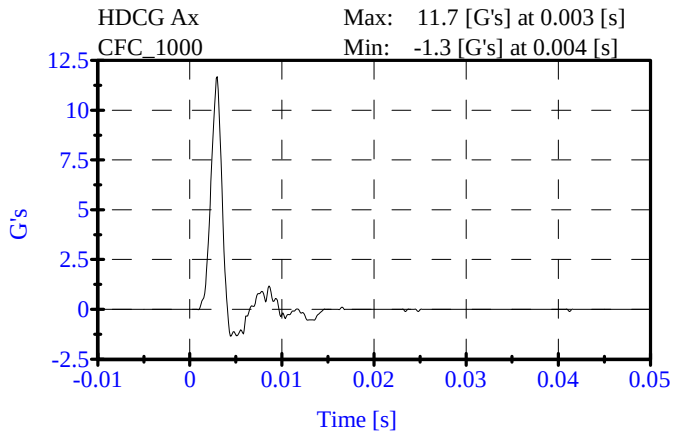
Head Drop **POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 03-14-06

Sequential Test Number: 1 File: 269H 03-14-06
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	145.15 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	11.68 Gs	Passed
Curve PerCent NonModal:	< 15%	1.77 %	Passed



Neck Test
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 03-15-06

Sequential Test Number: 1 File: 269N 03-15-06
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	6.98 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.19 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.58 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.60 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.45 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	68.15 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	59.80 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	84.90 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	51.40 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	8.10 ms	Passed

Neck Test
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

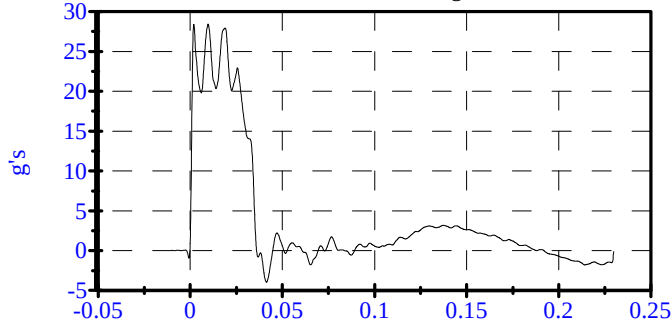
ATD Serial No: 269

Date: 03-15-06

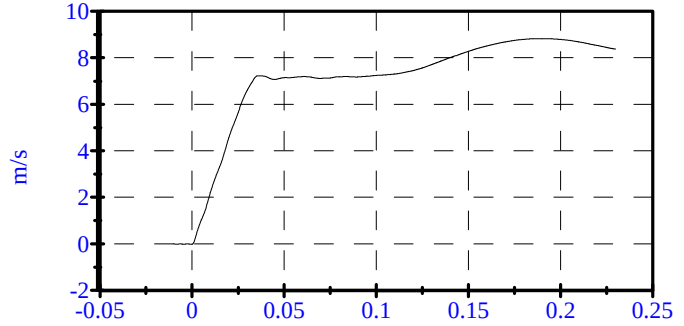
Sequential Test Number: 1 File: 269N 03-15-06

Laboratory Technician: B. Swiecicki

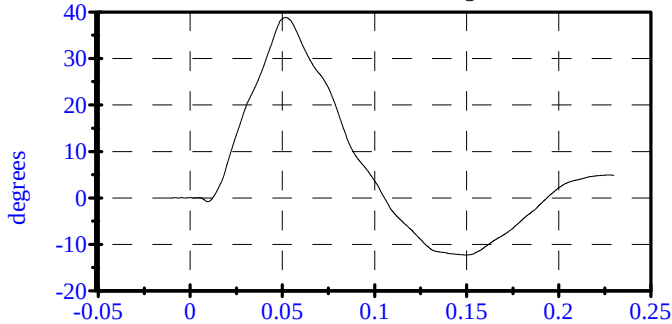
Pend Ax
CFC_180
Max: 28.4 [g's] at 0.010 [s]
Min: -4.0 [g's] at 0.041 [s]



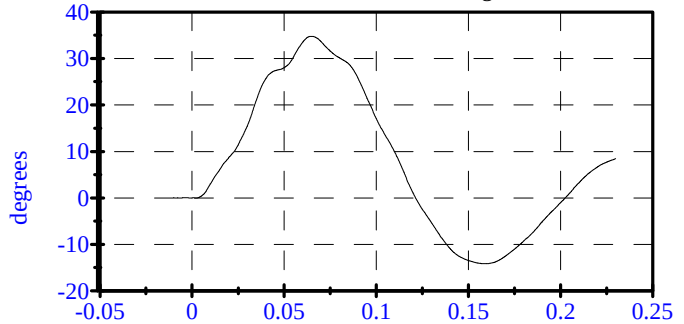
Pend Vx
CFC_180
Max: 8.8 [m/s] at 0.192 [s]
Min: -0.0 [m/s] at -0.000 [s]



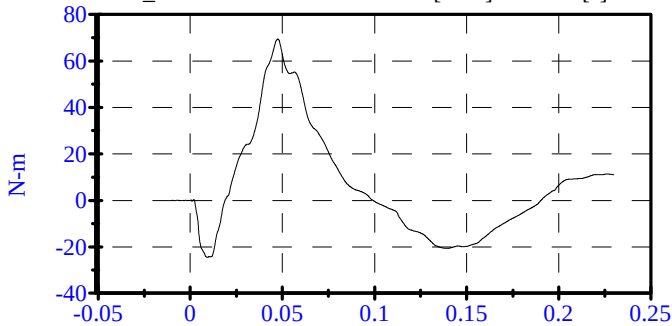
Head Rot
CFC_180
Max: 38.8 [degrees] at 0.052 [s]
Min: -12.3 [degrees] at 0.149 [s]



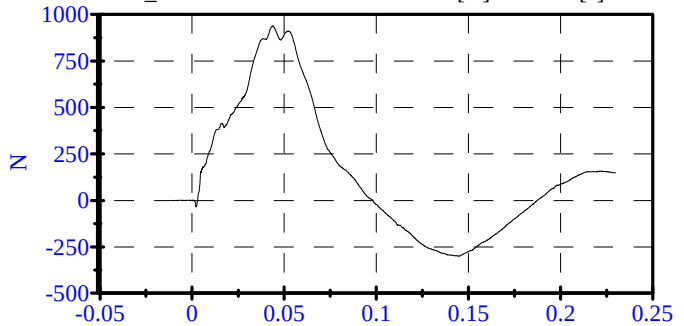
Arm Rot
CFC_180
Max: 34.8 [degrees] at 0.065 [s]
Min: -14.1 [degrees] at 0.159 [s]



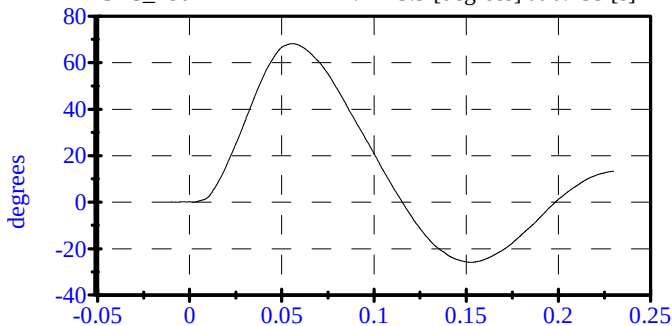
Neck Mx
CFC_600
Max: 69.5 [N-m] at 0.048 [s]
Min: -24.5 [N-m] at 0.010 [s]



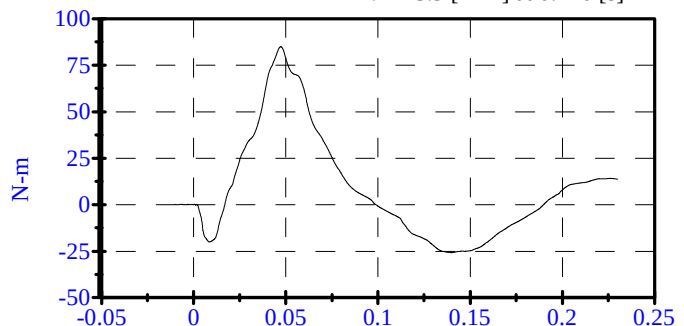
Neck Fy
CFC_1000
Max: 937.6 [N] at 0.044 [s]
Min: -299.4 [N] at 0.145 [s]



Tot Rot
CFC_180
Max: 68.1 [degrees] at 0.056 [s]
Min: -25.9 [degrees] at 0.153 [s]



Mocx
Max: 84.9 [N-m] at 0.047 [s]
Min: -25.9 [N-m] at 0.140 [s]



Abdomen Test

POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269

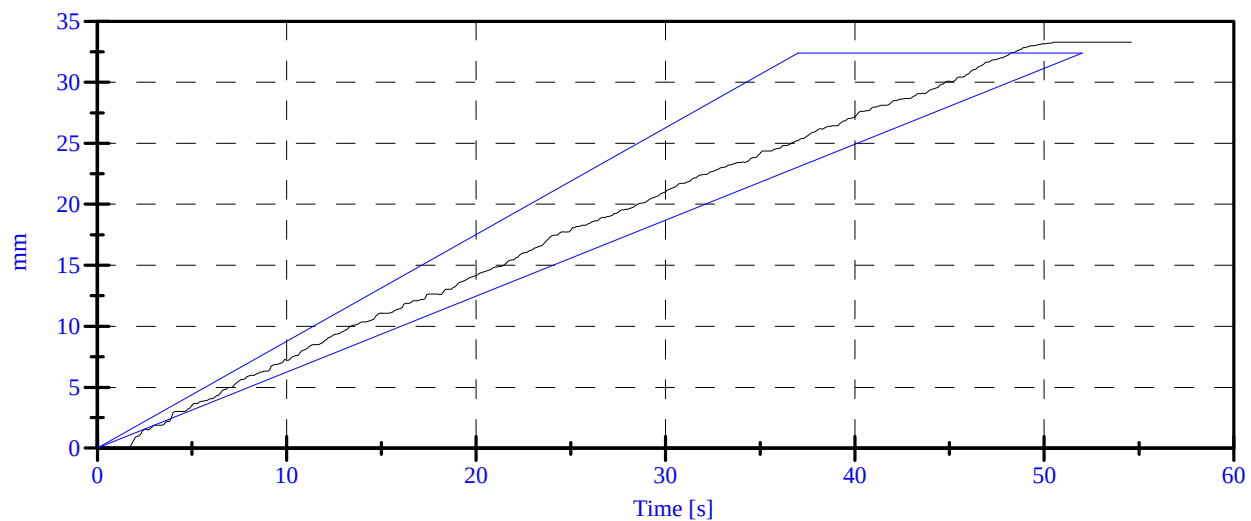
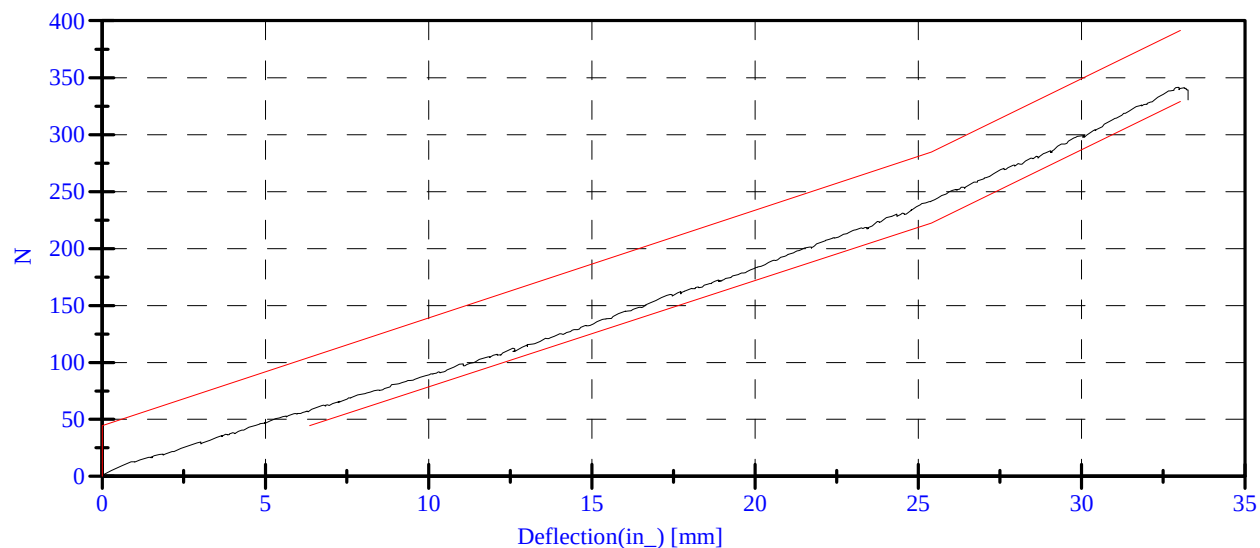
Date: 03-16-06

Sequential Test Number: 1 File: 269ab 03-16-06

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 %	40.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	115.22 N	Passed
Force at 19.05 mm :	162.98-220.99 N	172.80 N	Passed
Force at 25.40 mm :	221.97-280.02 N	241.17 N	Passed
Force at 33.02 mm :	324.99-391.00 N	340.62 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine

POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269

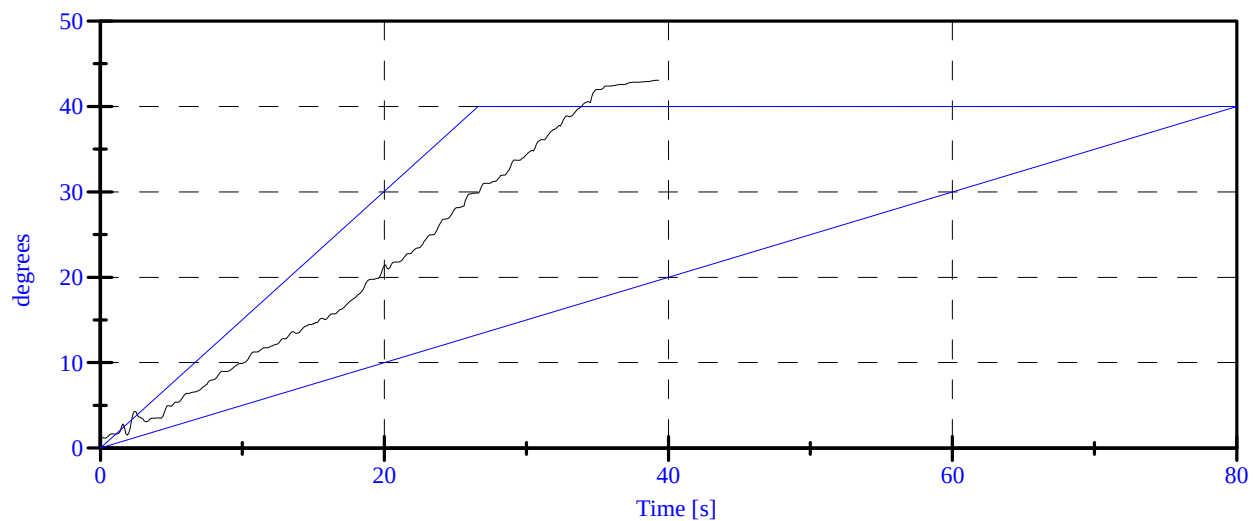
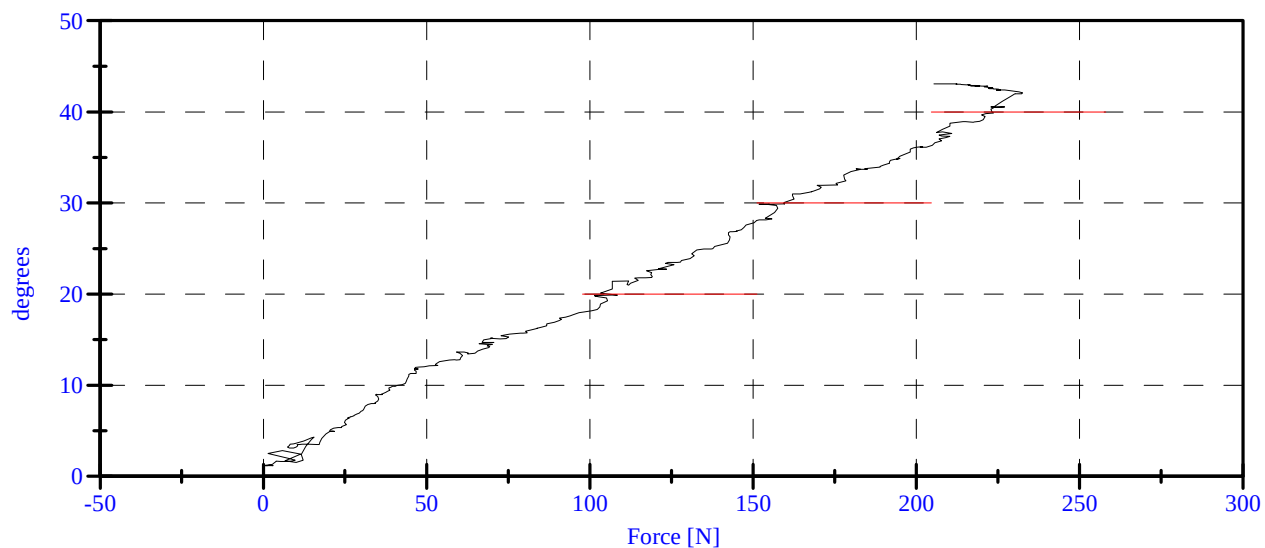
Date: 03-16-06

Sequential Test Number: 1 File: 269sp 03-16-06

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 %	40.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	0.66 N	Passed
Force at 20 Deg:	97.86-151.24 N	106.42 N	Passed
Force at 30 Deg:	151.24-204.62 N	159.44 N	Passed
Force at 40 Deg:	204.62-258.00 N	223.16 N	Passed
Return Angle	12 Deg Max	2.62 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: March 16, 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: 1.3
Date: March 16, 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: 1.3
Date: March 16, 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	236
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	384

REMARKS: None

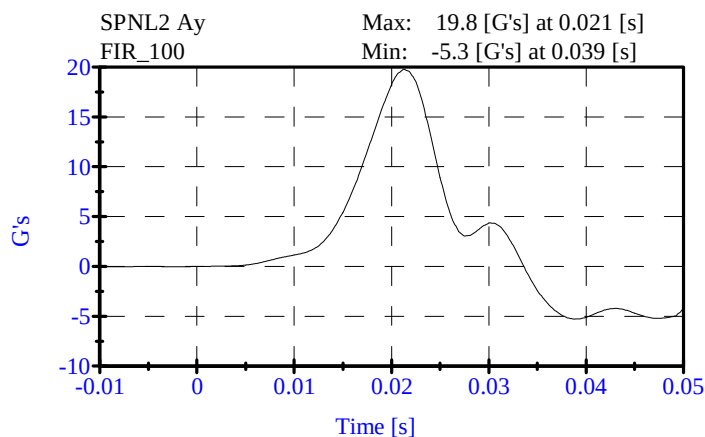
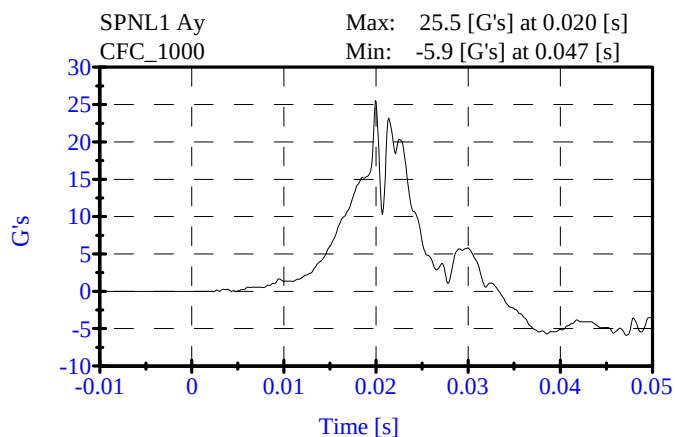
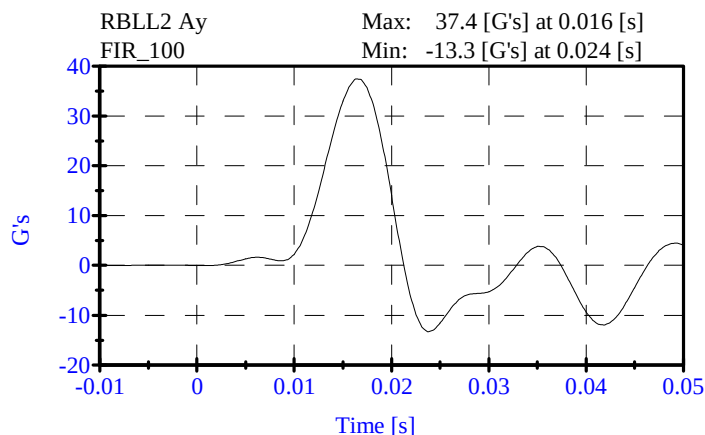
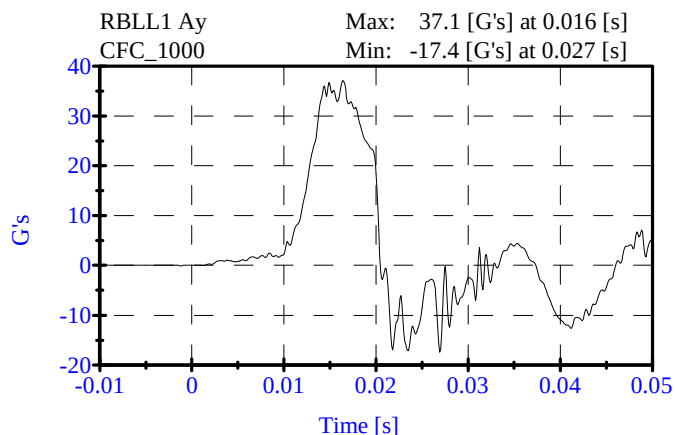
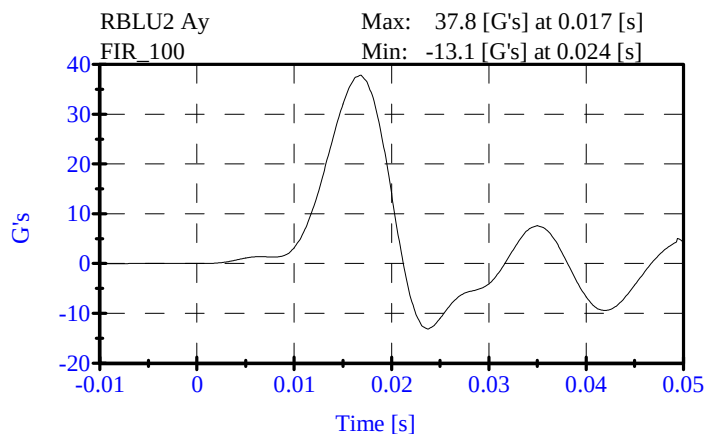
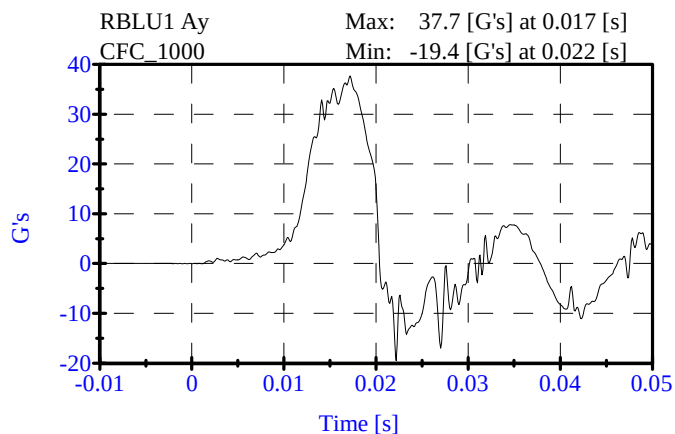
Thorax Impact POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 03-16-06

Sequential Test Number: 1 File: 270T 03-16-06
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	42.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.29 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	37.80 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	37.40 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	19.80 G's	Passed



Pelvic Impact

POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

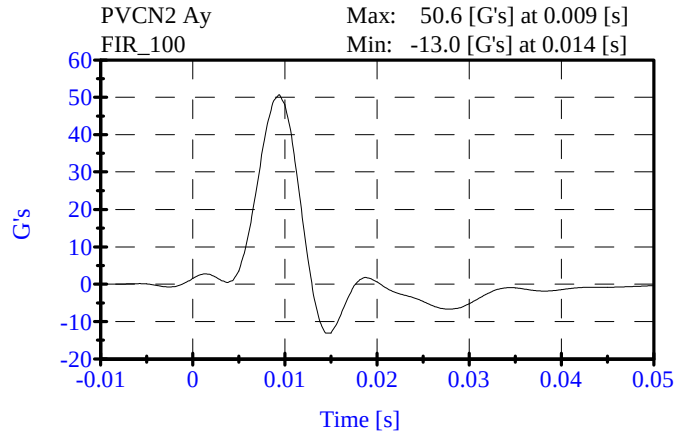
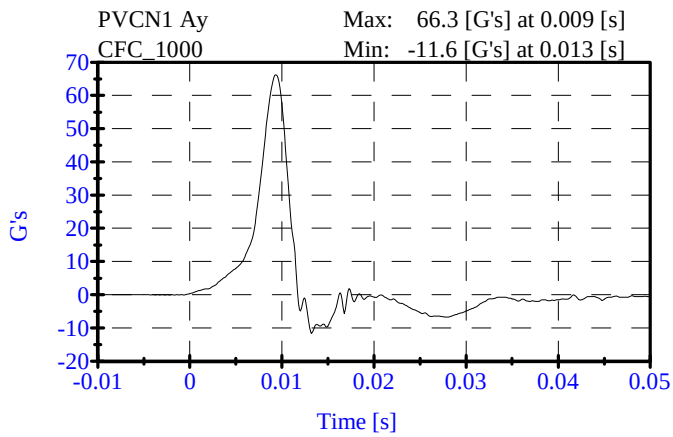
ATD Serial No: 270

Date: 03-16-06

Sequential Test Number: 1 File: 270P 03-16-06

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 %	42.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.29 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	50.65 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.3 ms	Passed



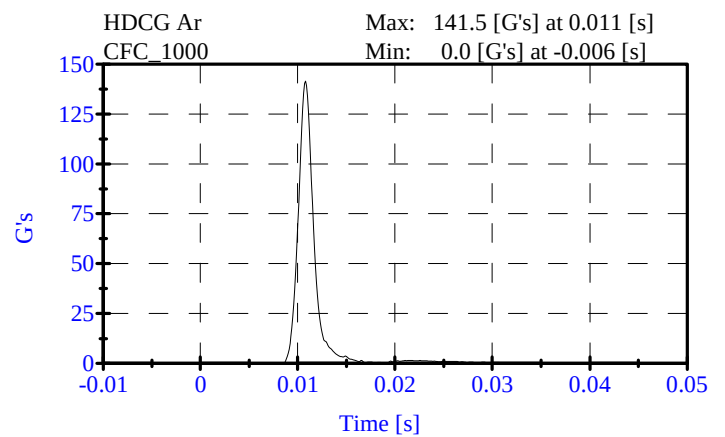
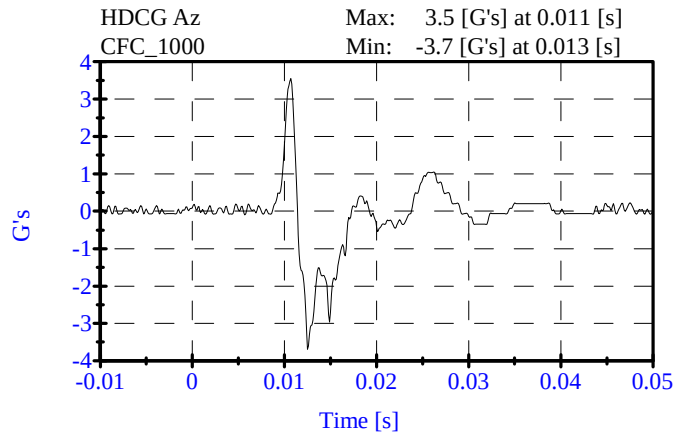
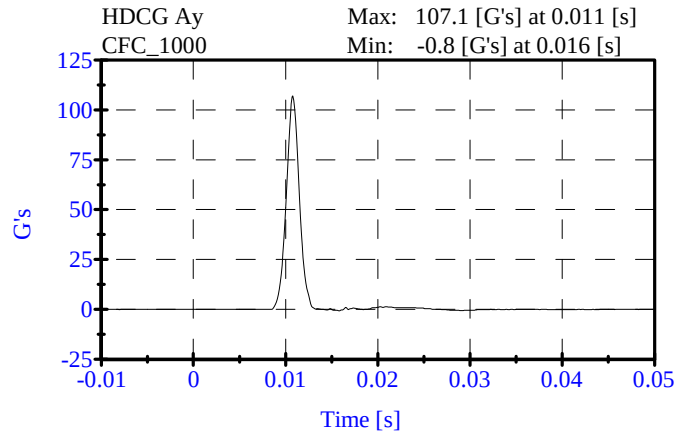
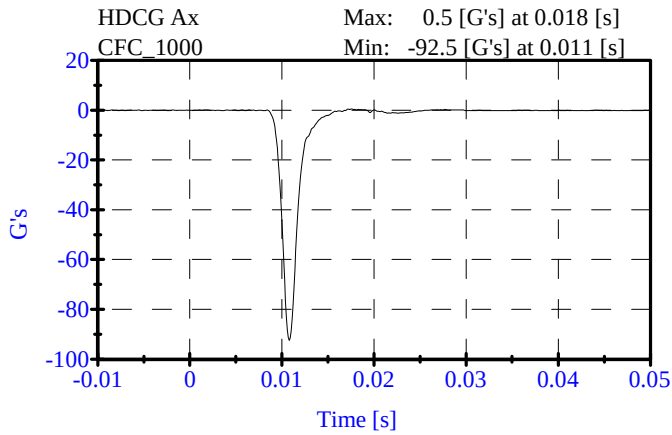
Head Drop POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 03-13-06

Sequential Test Number: 1 File: 270H 03-13-06
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 %	38.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	141.54 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	0.52 Gs	Passed
Curve PerCent NonModal:	< 15%	2.60 %	Passed



Neck Test
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 03-14-06

Sequential Test Number: 1 File: 270N 03-14-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	6.99 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.22 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.58 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.57 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.50 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	67.39 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	86.86 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	50.20 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	7.50 ms	Passed

Neck Test
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

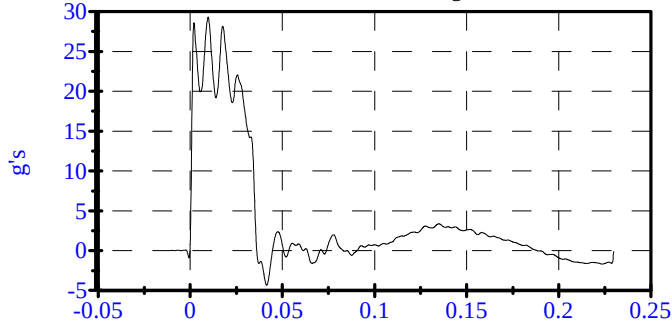
ATD Serial No: 270

Date: 03-14-06

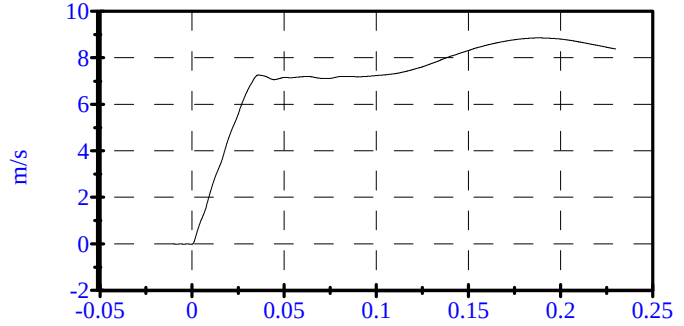
Sequential Test Number: 1 File: 270N 03-14-06

Laboratory Technician: B. Swiecicki

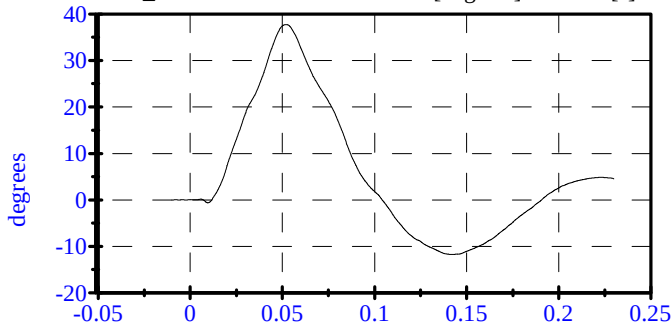
Pend Ax
CFC_180
Max: 29.3 [g's] at 0.010 [s]
Min: -4.4 [g's] at 0.041 [s]



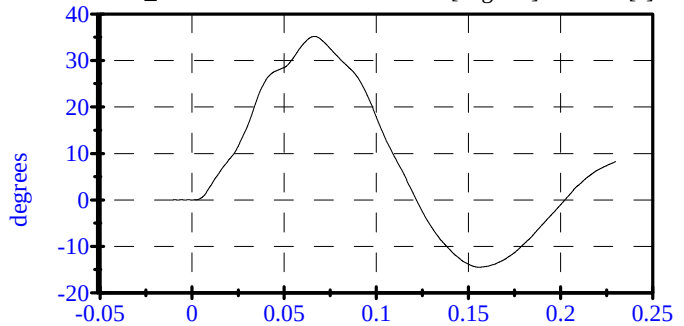
Pend Vx
CFC_180
Max: 8.9 [m/s] at 0.188 [s]
Min: -0.0 [m/s] at -0.000 [s]



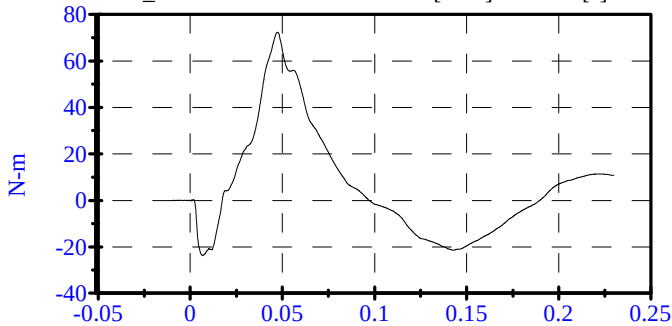
Head Rot
CFC_180
Max: 37.7 [degrees] at 0.052 [s]
Min: -11.7 [degrees] at 0.142 [s]



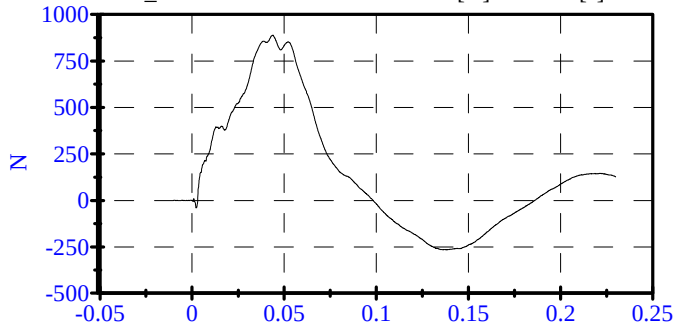
Arm Rot
CFC_180
Max: 35.1 [degrees] at 0.067 [s]
Min: -14.4 [degrees] at 0.156 [s]



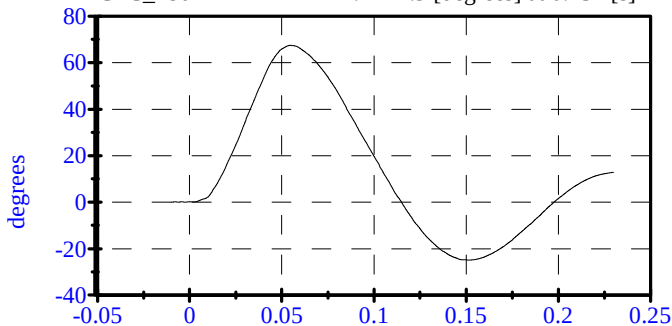
Neck Mx
CFC_600
Max: 72.3 [N-m] at 0.047 [s]
Min: -23.7 [N-m] at 0.007 [s]



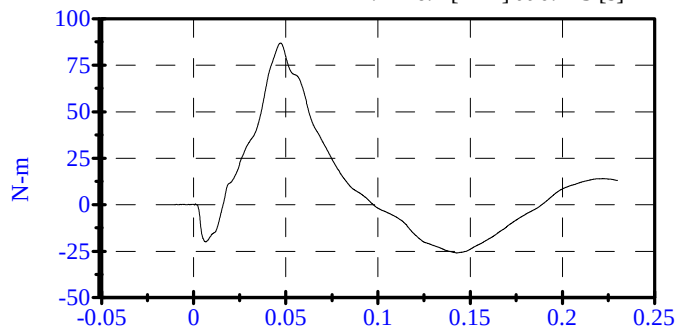
Neck Fy
CFC_1000
Max: 888.6 [N] at 0.044 [s]
Min: -266.2 [N] at 0.139 [s]



Tot Rot
CFC_180
Max: 67.4 [degrees] at 0.055 [s]
Min: -24.9 [degrees] at 0.152 [s]



Mocx
Max: 86.9 [N-m] at 0.047 [s]
Min: -26.1 [N-m] at 0.143 [s]



Abdomen Test

POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270

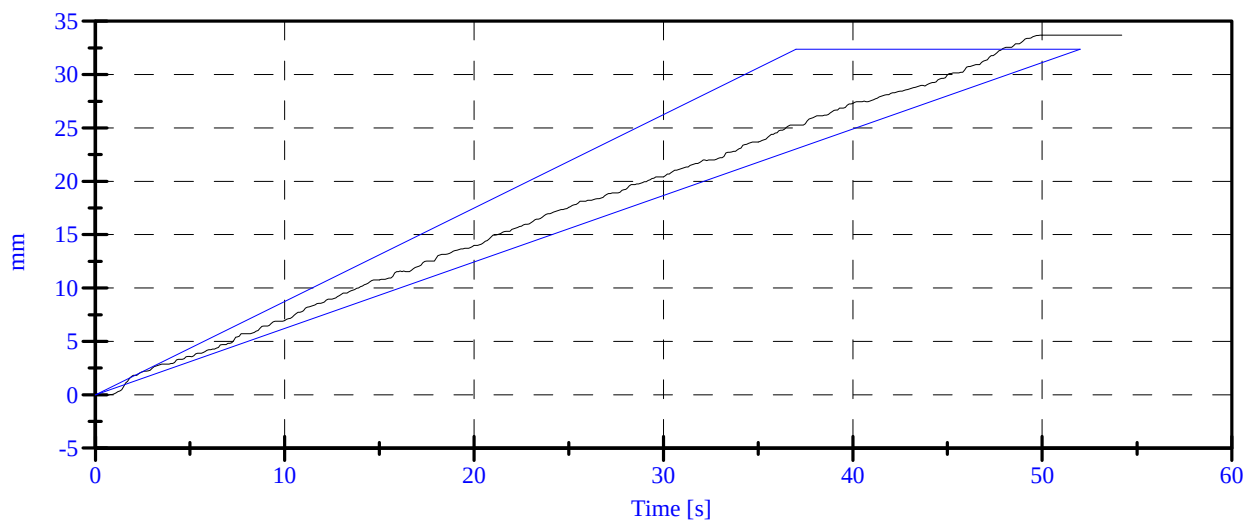
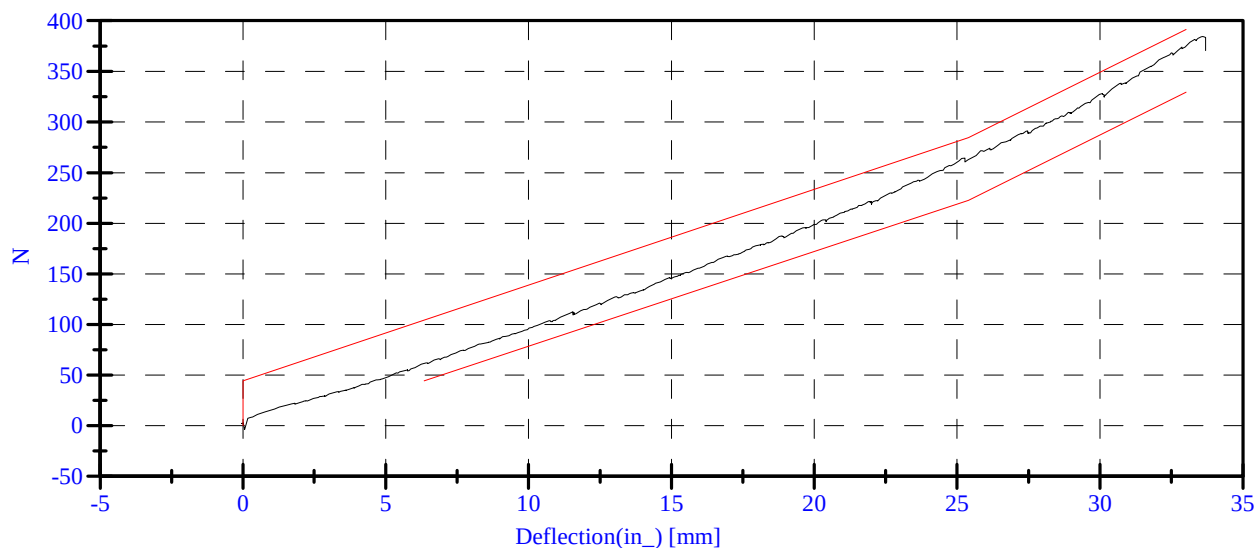
Date: 03-16-06

Sequential Test Number: 1 File: 270ab 03-16-06

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 %	40.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	127.30 N	Passed
Force at 19.05 mm :	162.98-220.99 N	186.39 N	Passed
Force at 25.40 mm :	221.97-280.02 N	262.87 N	Passed
Force at 33.02 mm :	324.99-391.00 N	373.79 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine

POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270

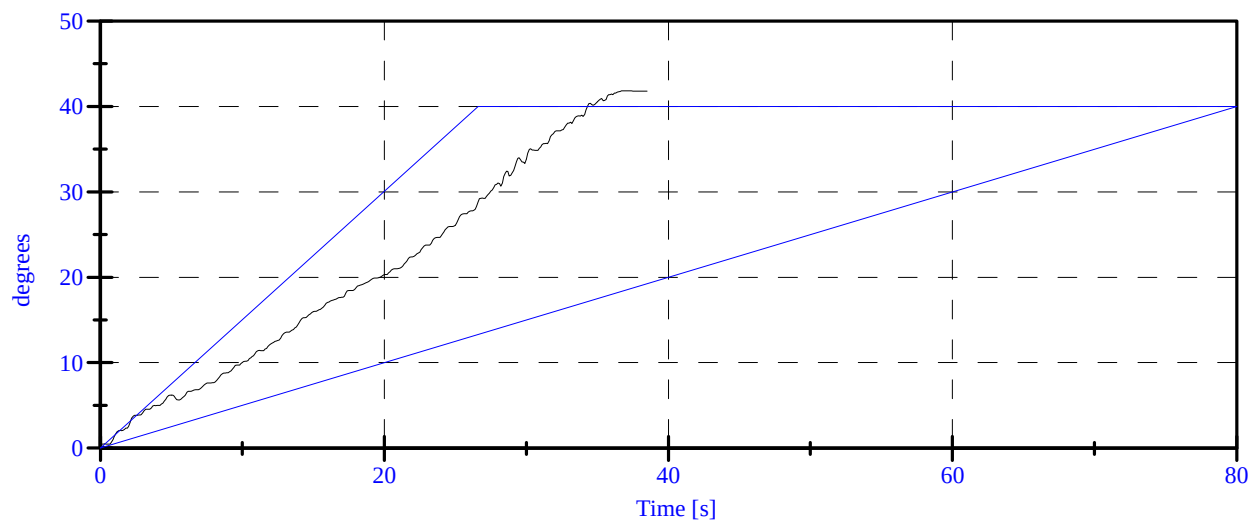
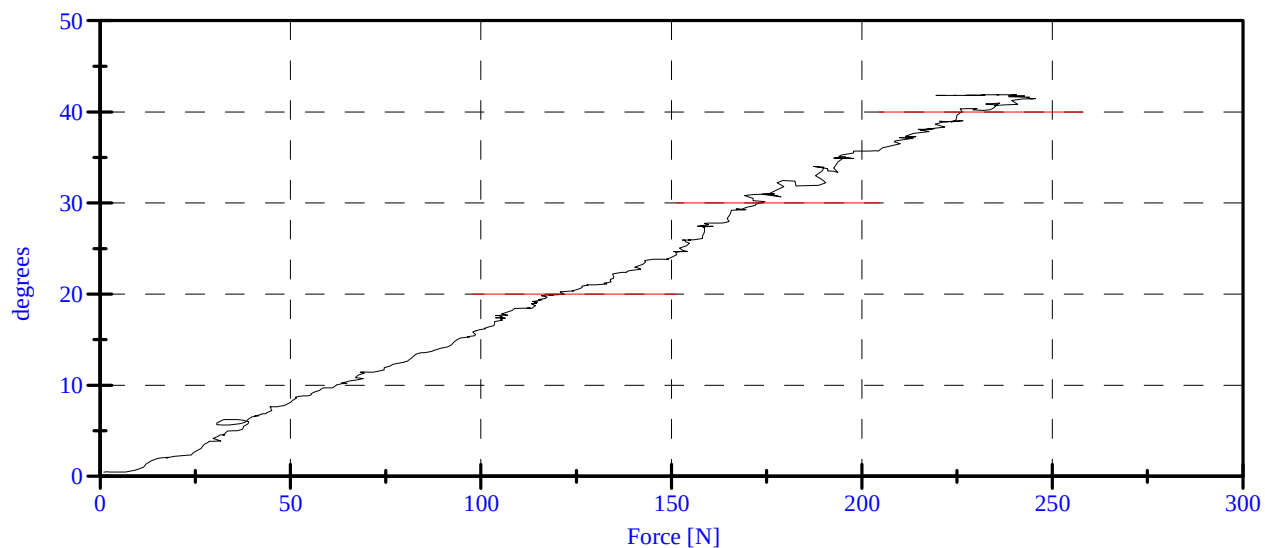
Date: 03-16-06

Sequential Test Number: 1 File: 270sp 03-16-06

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 %	40.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	0.92 N	Passed
Force at 20 Deg:	97.86-151.24 N	121.83 N	Passed
Force at 30 Deg:	151.24-204.62 N	174.59 N	Passed
Force at 40 Deg:	204.62-258.00 N	226.29 N	Passed
Return Angle	12 Deg Max	4.13 deg	Passed

LUMBAR SPINE FLEXION TEST



POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

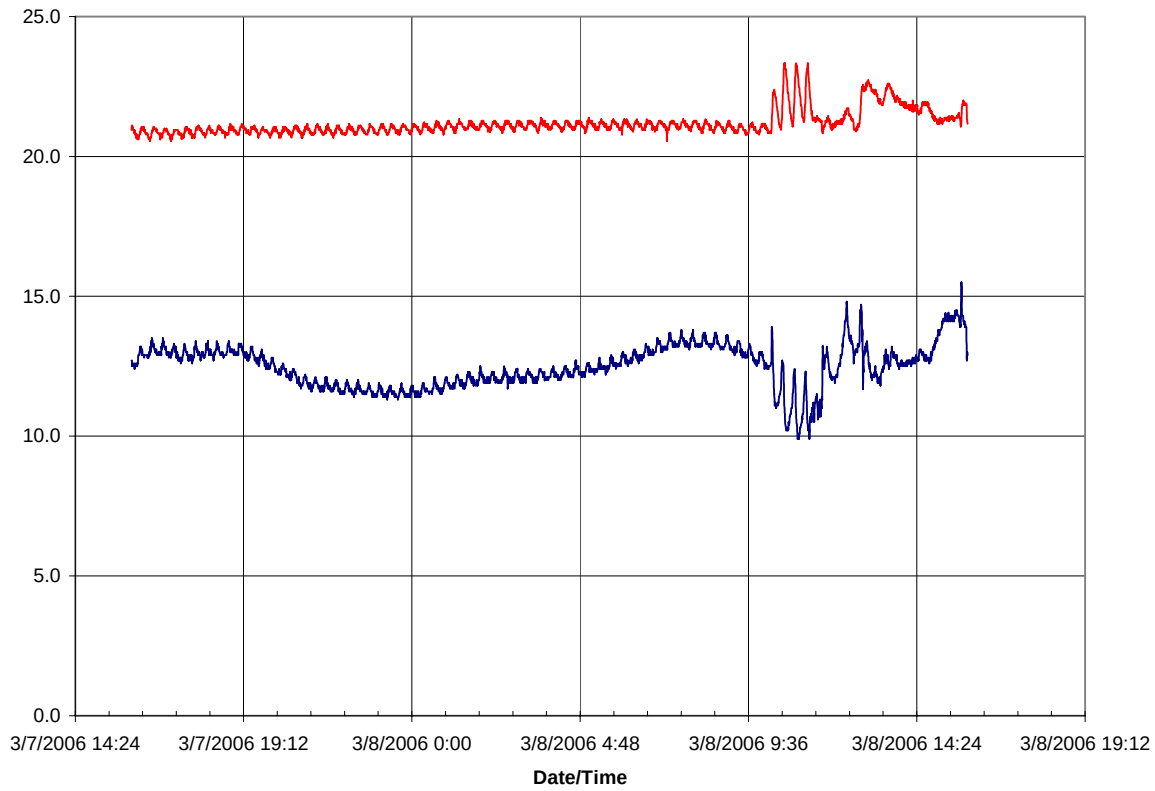
SID H3 Serial No.: 270 Sequential Test Number: 1.3
 Date: March 16, 2006 Laboratory Technician: B. Swiecicki

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

Kia Sedona C60512 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	13-Jan-06
HEAD AY	AC-P17236	ENDEVCO	13-Jan-06
HEAD AZ	AC-P16597	ENDEVCO	13-Jan-06
UPPER NECK FX	LC-442FX	DENTON	27-Jun-05
UPPER NECK FY	LC-442FY	DENTON	27-Jun-05
UPPER NECK FZ	LC-442FZ	DENTON	27-Jun-05
UPPER NECK MX	LC-442MX	DENTON	27-Jun-05
UPPER NECK MY	LC-442MY	DENTON	27-Jun-05
UPPER NECK MZ	LC-442MZ	DENTON	27-Jun-05
UPPER RIB	AC-P39731	ENDEVCO	13-Jan-06
LOWER RIB	AC-P38896	ENDEVCO	13-Jan-06
LOWER SPINE	AC-P38188	ENDEVCO	13-Jan-06
PELVIS	AC-P38132	ENDEVCO	13-Jan-06
UPPER RIB REDUNDANT	AC-P39740	ENDEVCO	13-Jan-06
LOWER RIB REDUNDANT	AC-P35786	ENDEVCO	13-Jan-06
LOWER SPINE REDUNDANT	AC-P38216	ENDEVCO	13-Jan-06
PELVIS REDUNDANT	AC-P35757	ENDEVCO	13-Jan-06

	REAR SID/HIII NO.: 270		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P35812	ENDEVCO	16-Jan-06
HEAD AY	AC-P18739	ENDEVCO	16-Jan-06
HEAD AZ	AC-P19212	ENDEVCO	16-Jan-06
UPPER NECK FX	LC-1629FX	DENTON	27-Jun-05
UPPER NECK FY	LC-1629FY	DENTON	27-Jun-05
UPPER NECK FZ	LC-1629FZ	DENTON	27-Jun-05
UPPER NECK MX	LC-1629MX	DENTON	27-Jun-05
UPPER NECK MY	LC-1629MY	DENTON	27-Jun-05
UPPER NECK MZ	LC-1629MZ	DENTON	27-Jun-05
UPPER RIB	AC-P18558	ENDEVCO	16-Jan-06
LOWER RIB	AC-P18537	ENDEVCO	16-Jan-06
LOWER SPINE	AC-P18639	ENDEVCO	16-Jan-06
PELVIS	AC-P21171	ENDEVCO	16-Jan-06
UPPER RIB REDUNDANT	AC-P18516	ENDEVCO	16-Jan-06
LOWER RIB REDUNDANT	AC-P19222	ENDEVCO	16-Jan-06
LOWER SPINE REDUNDANT	AC-P18663	ENDEVCO	16-Jan-06
PELVIS REDUNDANT	AC-P22639	ENDEVCO	16-Jan-06

REMARKS: None

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

VEHICLE AND MDB INSTRUMENTATION

	VEHICLE AND MDB INSTRUMENTS		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
RIGHT FRONT SILL (X)	AC-P16625	ENDEVCO	21-Dec-05
RIGHT FRONT SILL (Y)	AC-J33843	ENDEVCO	21-Dec-05
RIGHT FRONT SILL (Z)	AC-P23178	ENDEVCO	21-Dec-05
RIGHT REAR SILL (X)	AC-P23161	ENDEVCO	19-Dec-05
RIGHT REAR SILL (Y)	AC-P19111	ENDEVCO	19-Dec-05
RIGHT REAR SILL (Z)	AC-P24011	ENDEVCO	19-Dec-05
REAR FLOORPAN ABOVE AXLE (X)	AC-J31020	ENDEVCO	16-Feb-06
REAR FLOORPAN ABOVE AXLE (Y)	AC-J31101	ENDEVCO	16-Feb-06
REAR FLOORPAN ABOVE AXLE (Z)	AC-J31059	ENDEVCO	16-Feb-06
LEFT REAR SILL (Y)	AC-P19253	ENDEVCO	19-Dec-05
LEFT FRONT SILL (Y)	AC-9440-039	GS SENSORS	17-Oct-05
LEFT FRONT DOOR CENTERLINE (Y)	-	-	-
RIGHT REAR SEAT OCCUPANT COMP. (Y)	AC-8086-047	ICS	13-Oct-05
MID REAR OF LEFT FRONT DOOR (Y)	-	-	-
LEFT FRONT DOOR UPPER C/L (Y)	-	-	-
MID REAR OF LEFT REAR DOOR (Y)	-	-	-
LEFT REAR DOOR UPPER C/L (Y)	-	-	-
LOWER LEFT B- PILLAR (Y)	AC-P23174	ENDEVCO	19-Dec-05
MIDDLE LEFT B-PILLAR (Y)	AC-P16616	ENDEVCO	19-Dec-05
LOWER LEFT A-PILLAR (Y)	AC-P16843	ENDEVCO	7-Dec-05
UPPER LEFT A-PILLAR (Y)	AC-P18718	ENDEVCO	18-Sep-05
FRONT SEAT TRACK (Y)	AC-P16676	ENDEVCO	7-Dec-05
REAR SEAT TRACK (Y)	AC-P23137	ENDEVCO	10-Oct-05
VEHICLE CG (X)	AC-J32838	ENDEVCO	21-Dec-05
VEHICLE CG (Y)	AC-P23358	ENDEVCO	21-Dec-05
VEHICLE CG (Z)	AC-J32143	ENDEVCO	21-Dec-05
MDB CG (X)	AC-C16433	ENDEVCO	8-Dec-05
MDB CG (Y)	AC-C16416	ENDEVCO	8-Dec-05
MDB CG (Z)	AC-C16499	ENDEVCO	8-Dec-05
MDB REAR FRAME MEMBER (X)	AC-C14948	ENDEVCO	8-Dec-05
MDB REAR FRAME MEMBER (Y)	AC-C16680	ENDEVCO	8-Dec-05

REMARKS: None