

**REPORT NUMBER: 214-CAL-07-04**

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

**DAIMLERCHRYSLER  
2007 DODGE NITRO  
MPV**

**NHTSA NUMBER: C70304**

**PREPARED BY:  
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**Test Date: November 21, 2006**

**FINAL REPORT**

**PREPARED FOR:  
U.S. DEPARTMENT OF TRANSPORTATION  
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION  
ENFORCEMENT  
OFFICE OF VEHICLE SAFETY COMPLIANCE  
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### Technical Report Documentation Page

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<b>15. Supplementary Notes</b>																								
<b>16. Abstract</b> <p>A 55/28 km/h 90° Moving Deformable Barrier FMVSS 214 Indicant side impact was conducted on the subject 2007 Dodge Nitro 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 November 21, 2006. The impact velocity of the Moving Deformable Barrier (MDB) was 61.32 km/h, and the ambient temperature at the struck side (driver side) of the vehicle was 22.0°C. The target vehicle's maximum post test static crush was 256 mm at level 2. The test vehicle's occupant performance is as follows:</p> <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"></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;">27.2</td> <td style="text-align: center;">37.1</td> </tr> <tr> <td>Left Lower Rib (LLR) Accel., g</td> <td style="text-align: center;">38.1</td> <td style="text-align: center;">31.8</td> </tr> <tr> <td>Lower Spine (T<sub>12</sub>) Accel., g</td> <td style="text-align: center;">40.2</td> <td style="text-align: center;">32.2</td> </tr> <tr> <td>Thoracic Trauma Index (TTI)</td> <td style="text-align: center;">39</td> <td style="text-align: center;">35</td> </tr> <tr> <td>Pelvis (PEV) Accel., g</td> <td style="text-align: center;">58</td> <td style="text-align: center;">38</td> </tr> <tr> <td>HIC</td> <td style="text-align: center;">39.7</td> <td style="text-align: center;">103.7</td> </tr> </tbody> </table> <p>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.</p>					<u>DRIVER</u>	<u>PASS.</u>	Left Upper Rib (LUR) Accel., g	27.2	37.1	Left Lower Rib (LLR) Accel., g	38.1	31.8	Lower Spine (T <sub>12</sub> ) Accel., g	40.2	32.2	Thoracic Trauma Index (TTI)	39	35	Pelvis (PEV) Accel., g	58	38	HIC	39.7	103.7
	<u>DRIVER</u>	<u>PASS.</u>																						
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HIC	39.7	103.7																						
<b>17. Key Words</b> Compliance Testing Side Impact Protection FMVSS 214 Side Impact Dummy (SID)		<b>18. Distribution Statement</b> <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 2007 Dodge Nitro 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 2007 Dodge Nitro MPV was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 61.32 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 2103.0 kg and the test weight of the MDB was 1362.5 kg. The test was conducted at the Calspan Corporation Transportation Sciences Center on November 21, 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/HIII's) can be found in Appendix A.

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

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

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

#### 2.2 GENERAL COMMENTS

The test vehicle sustained a maximum static crush of 256 mm at level 2, 1200 mm rearward of the left vertical impact point. The driver and passenger SID/HIII's, Serial Nos. 906 and 905 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 <sub>1</sub>	T <sub>2</sub>	TTI (G's)	Peak Pelvis (G's)
Driver	39.7	35.9	71.9	39	58
Passenger	103.7	55.6	88.7	35	38

**SUPPLEMENTAL RESTRAINT INFORMATION**

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

The test instrumentation data listed in Appendix B can be found on the NHTSA website:  
[www.nhtsa.dot.gov](http://www.nhtsa.dot.gov).

**DATA SHEET NO. 1**

**GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2007 Dodge Nitro NHTSA No. C70304  
 Test Program: FMVSS 214 Indicant Side Impact Test Date: November 21, 2006

**TEST VEHICLE INFORMATION AND VEHICLE OPTIONS**

Make	DaimlerChrysler	Driver Front Airbag	Yes
Model	Nitro	Driver Side Curtain Airbag	Yes
Body Style	MPV	Driver Side Torso Airbag	No
NHTSA No.	C70304	Driver Pretensioners	Yes
VIN	1D8GU28KX7W503855	Driver Load Limiters	Yes
Color	Red	Driver Power Seats	No
Engine Disp.(L)	3.7	Rear Pass. Side Curtain Airbag	Yes
Engine Cylinders	6	Rear Pass. Side Torso Airbag	No
Engine Placement	Longitudinal	Rear Pass. Pretensioners	No
Transmission Type	Automatic	Rear Pass. Load Limiters	No
Transmission Speeds	4	Rear Pass. Power Seats	NA
Final Drive	4 Wheel	Tilt Wheel	Yes
Air Conditioning	Yes	Anti-lock Brakes	Yes
Power Steering	Yes	Traction Control	Yes
Power Brakes	Yes	Power Windows	Yes
Delivery Date	10/18/2006	Power Door Locks	Yes
Odometer Reading (km)	79	Automatic Door Locks (ADL)	Yes
Dealer	West-Herr Dodge LLC., 3551 Southwestern Blvd., Orchard Park, NY 14127	Owner's Manual Details Instructions on Disabling ADLs	Yes

**DATA FROM CERTIFICATION LABEL**

Manufactured By	DaimlerChrysler	GVWR (kg)	2541
		GAWR Front (kg)	1248
Date of Manufacture	9-06	GAWR Rear (kg)	1429

**VEHICLE CAPACITY DATA**

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench		
Number Of Occupants	2	3		5
Capacity Wt. (VCW) (kg)				430
Cargo Wt. (RCLW) (kg)				89.8



**DATA SHEET NO. 1 (continued)**

**GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2007 Dodge Nitro NHTSA No. C70304  
 Test Program: FMVSS 214 Indicant Side Impact Test Date: November 21, 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	504.0	455.0		560.0	569.0		572.0	544.0	
Right	kg	486.0	413.0		480.0	504.0		501.0	486.0	
Ratio	%	53.3	46.7		49.2	50.8		51.0	49.0	
Totals	kg	990.0	868.0	1858.0	1040.0	1073.0	2113.0	1073.0	1030.0	2103.0

**TARGET TEST WEIGHT CALCULATION**

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1858.0
Weight of 2 P572E ATDs (81.2 kg each)	kg	162.4
Rated Cargo/Luggage Weight (RCLW)	kg	89.8
Calculated Vehicle Target Weight (TVTW)	kg	2110.2

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

Weight of Ballast (including instrumentation package and cameras): 82.6 kg

**TEST VEHICLE ATTITUDES**

	Units	LF	RF	LR	RR
As Delivered	mm	833	857	841	866
Fully Loaded	mm	824	823	838	837
As Tested	mm	824	826	838	845

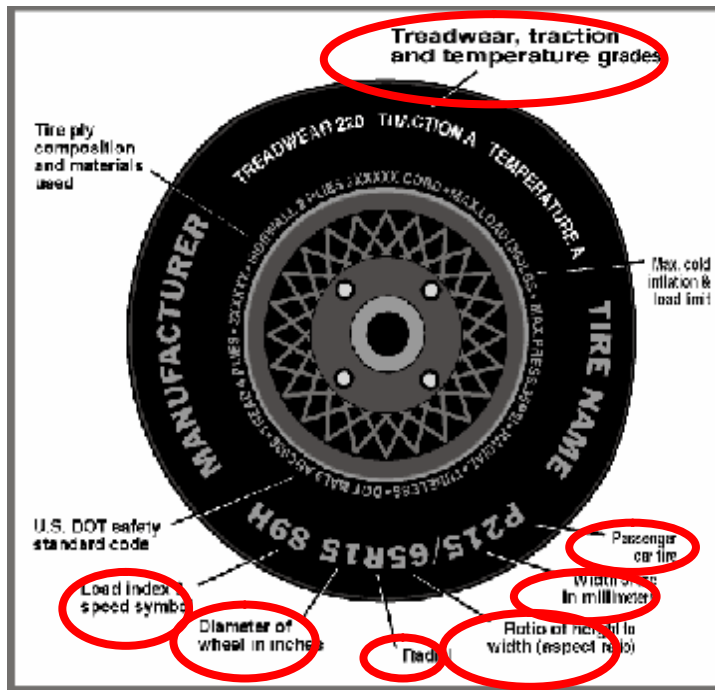
**TEST VEHICLE VERTICAL IMPACT LINE AND CG**

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2765
Target Impact Point Aft of Front Axle	mm	443
Actual Impact Point Aft of Front Axle	mm	420
As Tested CG (aft of front axle)	mm	1354

## DATA SHEET NO. 2

### TEST VEHICLE TIRE INFORMATION

Test Vehicle:	2007 Dodge Nitro	NHTSA No.	C70304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	November 21, 2006



#### DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	300	300
Cold / Test Pressure (kPa)	228	228
Recommended Tire Size	P225/75R16	P225/75R16
Tire Size on Vehicle	P225/75R16	P225/75R16
Tire Manufacturer	Goodyear	Goodyear
Tire Name	Wrangler	Wrangler
Tire Type	P	P
Tire Width (mm)	225	225
Ratio of Height to Width (aspect ratio)	75	75
Radial	R	R
Wheel Diameter	16	16
Load Index & Speed Symbol	104S	104S
Treadwear	340	340
Traction Grade	B	B
Temperature Grade	B	B

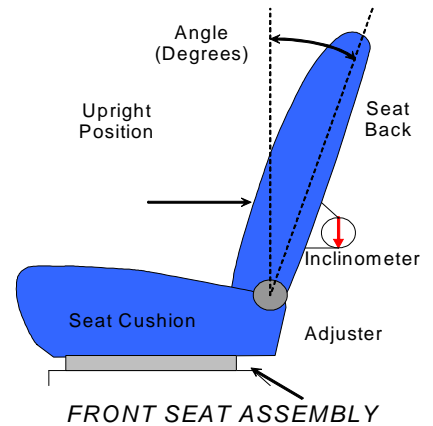
**DATA SHEET NO. 3**

**TEST VEHICLE INFORMATION**

Test Vehicle: 2007 Dodge Nitro NHTSA No. C70304  
 Test Program: FMVSS 214 Indicant Side Impact Test Date: November 21, 2006

**NORMAL DESIGN RIDING POSITION**

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

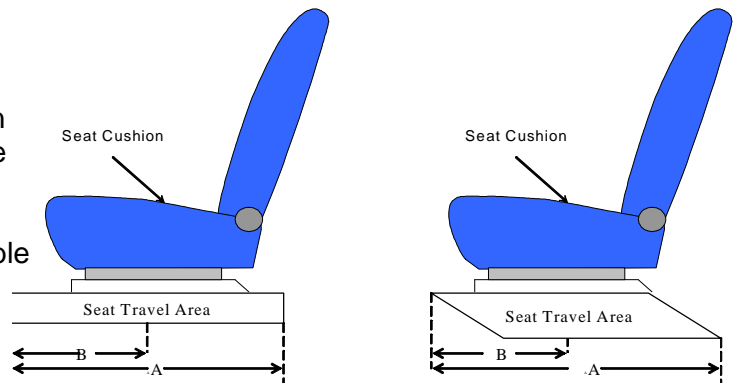


**SEAT BACK POSITION**

	Driver Seat	Rear Seat
Test Detent (forward-most detent defined as 0)	Detent 9	Detent 0
Angle (deg. from forward-most locking position)	17	0
Alternative Measurements to Verify Test Position	Seat back frame 23.5° back from vertical	NA

**SEAT FORE/AFT POSITIONS**

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



**SEAT FORE/AFT POSITION**

	Driver Seat	Rear Seat
Total Fore/Aft Travel (A) (mm)	230	N/A
Test Position (B) (mm)	122	N/A
Test Detent (forward-most detent defined as 0)	12	N/A
Total Number of Detents (including 0)	24	N/A

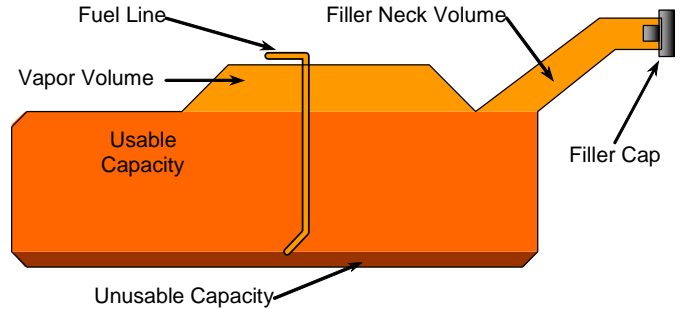
**DATA SHEET NO. 3 (CONTINUED)**

**TEST VEHICLE INFORMATION**

Test Vehicle: 2007 Dodge Nitro NHTSA No. C70304  
 Test Program: FMVSS 214 Indicant Side Impact Test Date: November 21, 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.



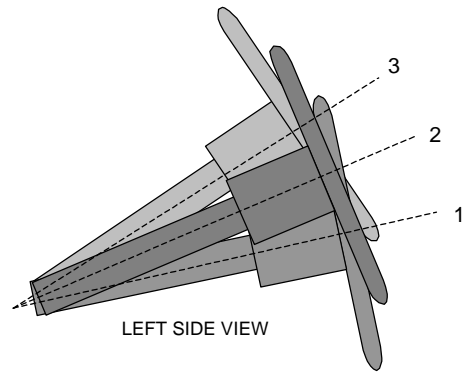
VEHICLE FUEL TANK ASSEMBLY

**FUEL TANK CAPACITY**

	Liters
Usable Capacity of "Standard" Fuel Tank	73.82
Usable Capacity of "Optional" Fuel Tank	N/A
Stoddard Used For Test (92%-94% of Fuel Tank Usable Capacity)	68.14

**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	N/A	19.9	N/A
Geometric Center Position No. 2 *	N/A	23.0	N/A
Uppermost Position No. 3	N/A	26.1	N/A

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

Test Vehicle:	2007 Dodge Nitro	NHTSA No.	C70304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	November 21, 2006

**MDB SPECIFICATIONS**

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

**MDB WEIGHTS**

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

**MDB SPEED AND IMPACT ANGLE DATA**

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	61.34
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	61.34

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

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	23 mm forward
Vertical Offset	mm	+/-20	5 mm below

**DATA SHEET NO. 5**

**POST TEST OBSERVATIONS**

Test Vehicle: 2007 Dodge Nitro NHTSA No. C70304  
 Test Program: FMVSS 214 Indicant Side Impact Test Date: November 21, 2006

**TEST DUMMY INFORMATION AND CONTACT POINTS**

Description	Front Seat SID/HIII	Rear Seat SID/HIII
Dummy Type / Serial No.	SID/HIII / 906	SID/HIII / 905
Head Contact	Top of head to roof liner; Side of head to side curtain airbag	Top of head to roof liner; Side of head to side curtain airbag
Upper Torso Contact	Arm to door trim above arm rest	Arm to door trim above arm rest
Lower Torso Contact	Pelvis to door trim below arm rest	Pelvis to door trim below arm rest
Left Knee Contact	Knee to door trim forward of arm rest	Knee to door trim forward of arm rest
Right Knee Contact	Right knee to left knee	Right knee to left knee

**POST TEST DOOR OPENING AND SEAT TRACK INFORMATION**

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

**POST TEST STRUCTURAL OBSERVATIONS**

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	No Separation
Sill Separation	None
Windshield Damage	Left edge of the windshield cracked during the impact
Window Damage	None
Other Notable Effects	None

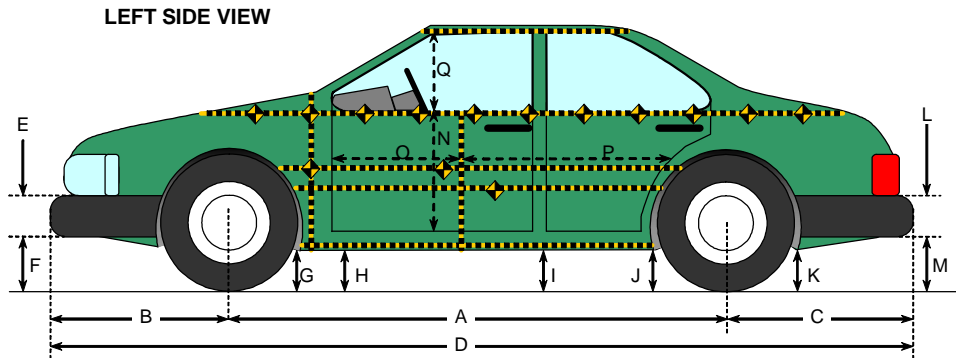
**SUPPLEMENTAL RESTRAINT INFORMATION**

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

**DATA SHEET NO. 6**

**VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS**

Test Vehicle:	2007 Dodge Nitro	NHTSA No.:	C70304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	November 21, 2006



All Measurements in mm

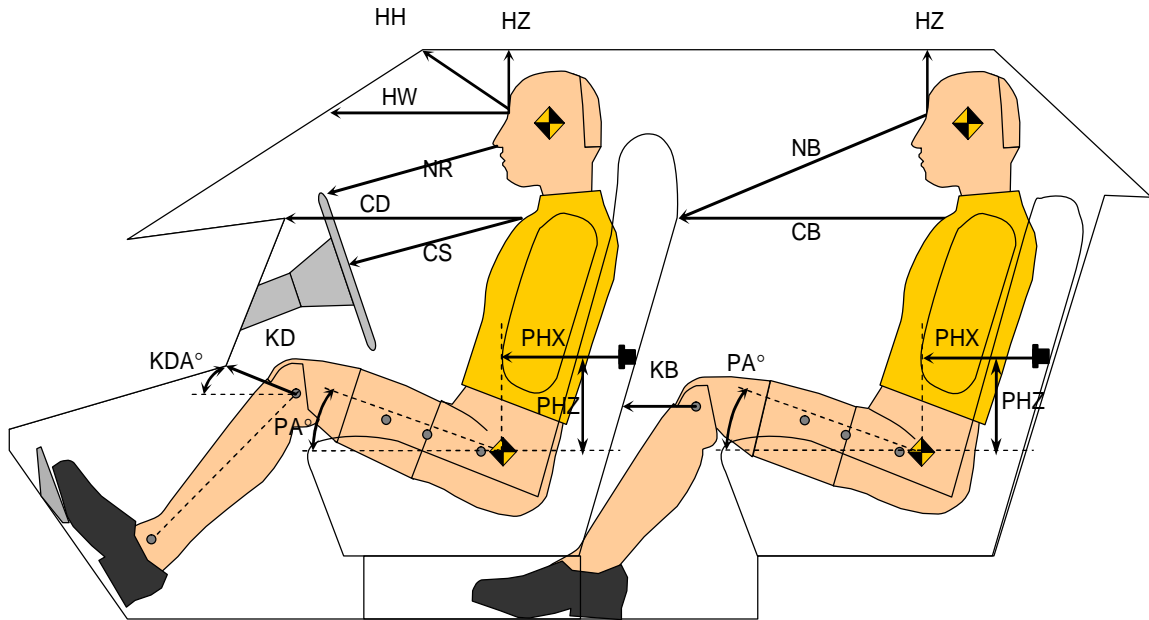
Code	Measurement Description	Pre-Test (delivered)	Pre-Test (as tested)	Post-Test (as tested)	Difference
A	Wheelbase	2764	2765	2732	33
B	Front Axle to FSOV	697	695	713	-18
C	Rear Axle to RSOV	1058	1059	1071	-12
D	Total Length at Centerline*	4519	4519	4516	3
E	Front Bumper Thickness	381	381	381	0
F	Front Bumper Bottom to Ground	255	256	275	-19
G	Sill Height at Front Wheel Well	224	211	245	-34
H	Sill Height at Front Door Leading Edge	340	326	352	-26
I	Sill Height at "B" Pillar	350	321	315	6
J1	Sill Height at Rear Wheel Well	348	315	360	-45
J2	Pinch Weld Height at Rear Wheel Well	238	205	251	-46
K	Sill Height Aft of Rear Wheel Well	370	330	334	-4
L	Rear Bumper Thickness	257	257	257	0
M	Rear Bumper Bottom to Ground	468	426	433	-7
N	Sill Height to Window Bottom Sill	762	762	752	10
O	Front Door Leading Edge to Impact CL	643	643	638	5
P	Rear Door Trailing Edge to Impact CL	1293	1293	1144	149
Q	Front Window Opening	384	384	384	0
R	Right Side Length	4490	4490	4492	-2
S	Left Side Length	4490	4490	4479	11
T	Vehicle Width at "B" Post	1776	1776	1593	183

\*The maximum vehicle length is 4543 mm at the left and right longitudinal frame members.

## DATA SHEET NO. 7

### SID/HIII LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle:	2007 Dodge Nitro	NHTSA No.:	C70304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	November 21, 2006



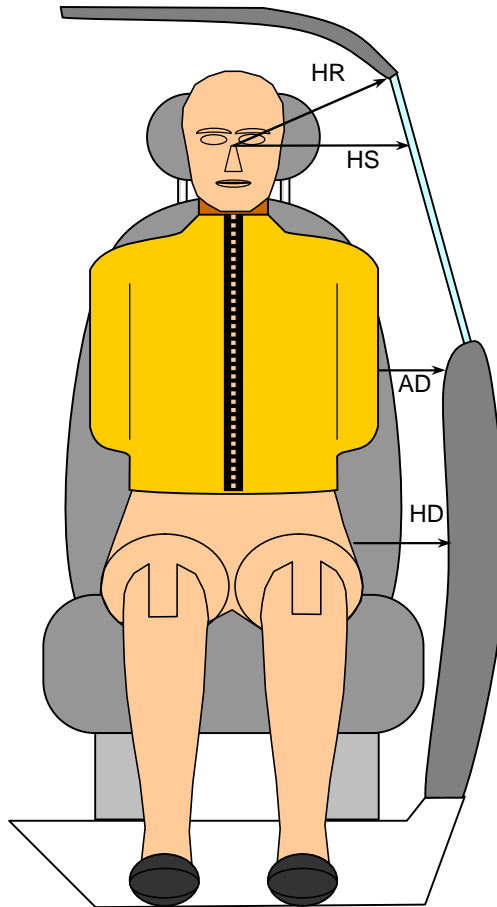
Driver Code	Pass. Code	Measurement Description	Driver S/N 906		Passenger S/N 905	
			Length(mm)	Angle(°)	Length(mm)	Angle(°)
HH		Head to Header	449			
HW		Head to Windshield	624			
HZ	HZ	Head to Roof	228		234	
NR	NB	Nose to Rim/Nose to Seatback	463		610	
CD	CB	Chest to Dash or Seatback	574		560	
CS		Chest to Steering Wheel	304			
KDL	KBL	Left Knee to Dash or Seatback	149	11.0	230	17.0
KDR	KBR	Right Knee to Dash or Seatback	156	15.0	224	17.0
PA	PA	Pelvic Angle		23.6		23.4
PHX	PHX	H-Point to Striker (X-Axis)	243		234	
PHZ	PHZ	H-Point to Striker (Z-Axis)	116		240	



**DATA SHEET NO. 8**

**SID/HIII LATERAL CLEARANCE DIMENSIONS**

Test Vehicle: 2007 Dodge Nitro NHTSA No. C70304  
 Test Program: FMVSS 214 Indicant Side Impact Test Date: November 21, 2006



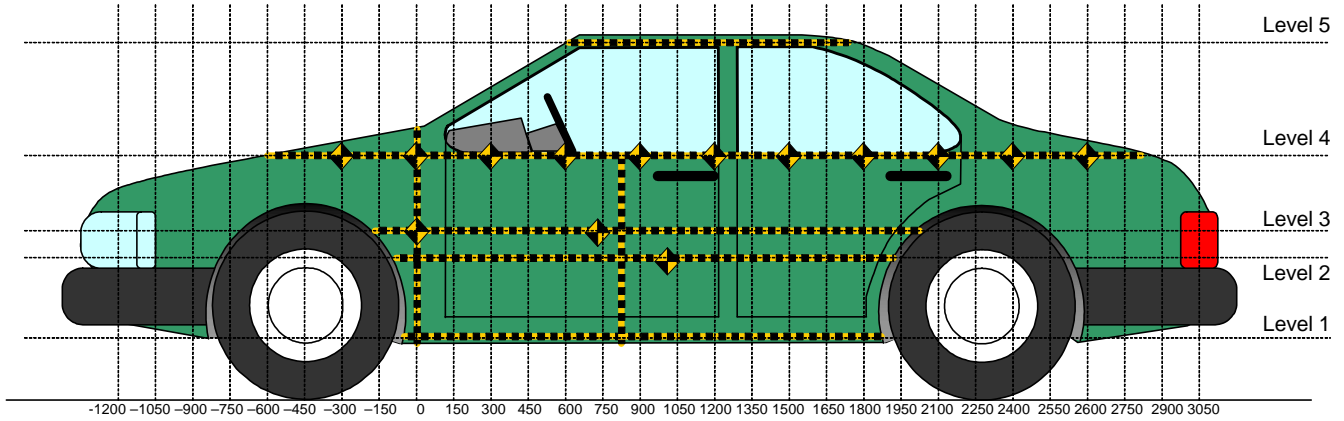
*FRONT VIEW OF DUMMY*

Code	Measurement Description	Units	Driver S/N 906	Passenger S/N 905
HR	Head to Side Header	mm	200	245
HS	Head to Side Window	mm	342	391
AD <sub>1</sub>	Arm to Door (at upper rib level)	mm	91	114
AD <sub>2</sub>	Arm to Door (at lower rib level)	mm	125	108
HD	H-Point to Door	mm	183	166

**DATA SHEET NO. 9**

**VEHICLE SIDE MEASUREMENTS**

Test Vehicle: 2007 Dodge Nitro NHTSA No. C70304  
 Test Program: FMVSS 214 Indicant Side Impact Test Date: November 21, 2006



All Measurements Shown in mm

**LEFT SIDE VIEW**

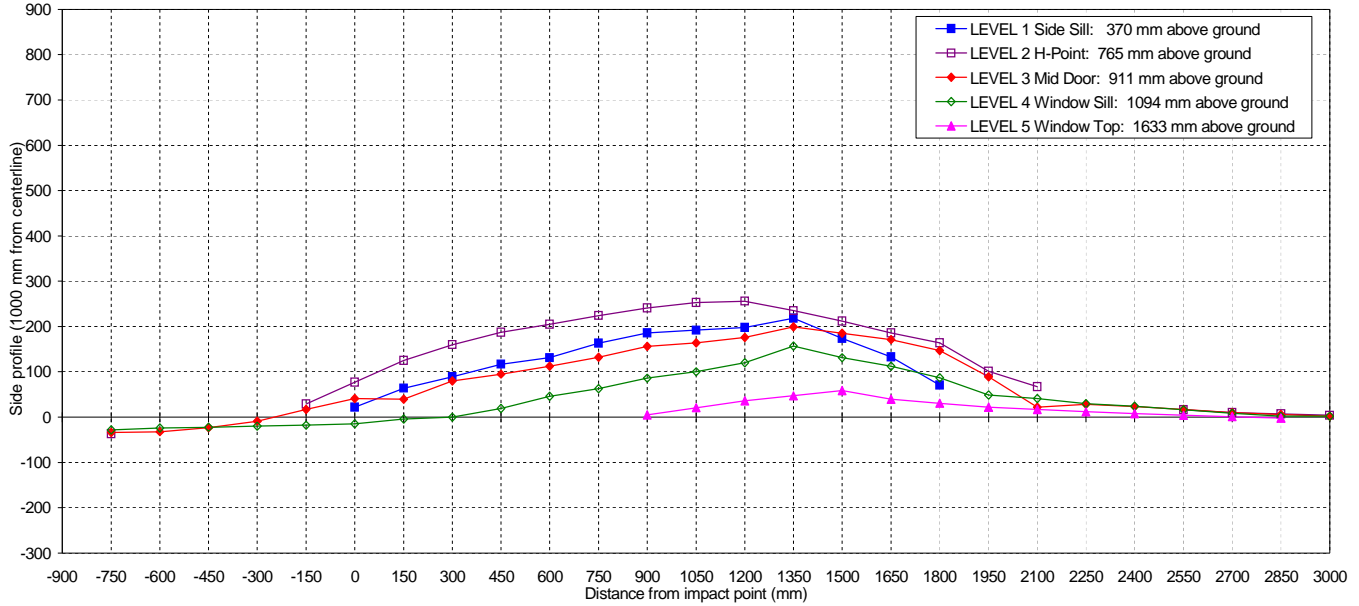
Measurements are taken with vehicle in the as tested condition.  
 Measurements along the vertical 750 mm.  
 All measurements below in mm.

Level	Measurement Description	Maximum Exterior Static Crush	Height Above Ground	Distance From Impact
1	Sill Top	218	370	1350
2	Occupant H-Point	256	765	1200
3	Mid Door	199	911	1350
4	Window Sill	157	1094	1350
5	Window	59	1633	1500
	Maximum Penetration	256		

# DATA SHEET NO. 10

## VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2007 Dodge Nitro NHTSA No. C70304  
 Test Program: FMVSS 214 Indicant Side Impact Test Date: November 21, 2006



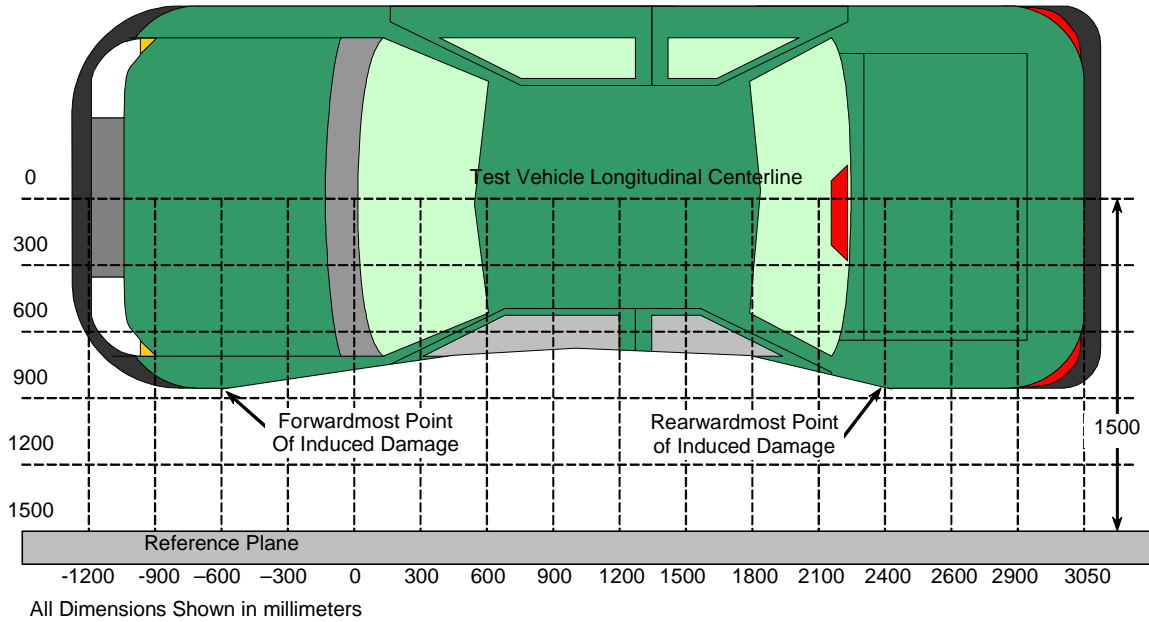
NOTE: All dimensions are in millimeters with a tolerance of ±3 mm

LEVEL	HEIGHT (mm)		DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																											
			-900	-750	-600	-450	-300	-150	0	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000	
LEVEL 1 SIDE SILL	370	PRE	--	--	--	--	--	136	204	198	192	187	184	182	180	179	179	180	181	156	--	--	--	--	--	--	--	--	--	
		POST	--	--	--	--	--	158	268	287	309	318	347	368	372	377	397	354	314	227	--	--	--	--	--	--	--	--	--	
		CRUSH	N/A	N/A	N/A	N/A	N/A	22	64	89	117	131	163	186	192	198	218	174	133	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
LEVEL 2 H POINT	765	PRE	--	113	--	--	--	81	171	146	137	131	127	123	121	119	118	117	118	119	121	99	70	--	--	74	122	172	195	
		POST	--	76	--	--	--	110	248	271	297	318	332	347	362	372	374	352	330	305	285	200	137	--	--	90	132	179	199	
		CRUSH	N/A	-37	N/A	N/A	N/A	29	77	125	160	187	205	224	241	253	256	235	212	186	164	101	67	N/A	N/A	16	10	7	4	
LEVEL 3 MID DOOR	911	PRE	--	255	208	160	163	172	157	147	139	133	129	125	122	120	118	117	118	119	121	123	125	105	112	146	156	171	194	
		POST	--	221	176	137	154	189	198	187	219	228	241	257	278	284	294	316	303	290	268	212	147	133	135	163	166	177	196	
		CRUSH	N/A	-34	-32	-23	-9	17	41	40	80	95	112	132	156	164	176	199	185	171	147	89	22	28	23	17	10	6	2	
LEVEL 4 WINDOW SILL	1094	PRE	--	316	268	235	210	193	178	164	157	151	146	142	138	136	134	134	134	134	136	133	120	146	151	159	169	184	206	
		POST	--	288	244	213	190	175	163	160	157	170	192	205	224	236	254	291	265	246	223	182	161	176	175	175	178	186	208	
		CRUSH	N/A	-28	-24	-22	-20	-18	-15	-4	0	19	46	63	86	100	120	157	131	112	87	49	41	30	24	16	9	2	2	
LEVEL 5 WINDOW TOP	1633	PRE	--	--	--	--	--	--	--	--	--	--	--	--	317	309	303	298	297	296	297	298	301	305	310	315	324	334	--	
		POST	--	--	--	--	--	--	--	--	--	--	--	--	--	322	330	339	345	356	336	328	320	318	317	318	319	325	332	--
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5	21	36	47	59	40	31	22	17	12	8	4	1	-2	N/A

## DATA SHEET NO. 11

### VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle:	2007 Dodge Nitro	NHTSA No.:	C70304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	November 21, 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)	2780	765	149	157	8
2	2178	1094	134	169	35
3	1576	765	119	317	198
4	974	765	120	367	247
5	372	765	134	307	173
6 (LF)	-230	911	167	170	3

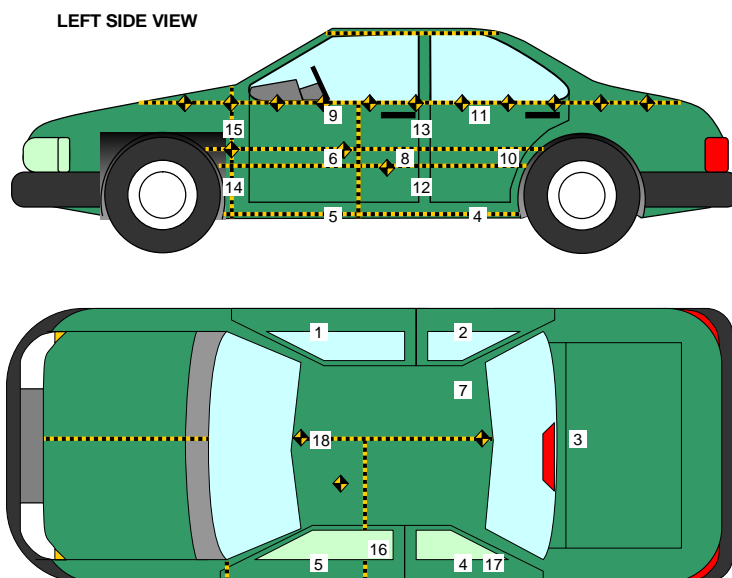
Reference plane is parallel to test vehicle longitudinal centerline.  
 Given dimensions = Reference plane to vehicle body.



## DATA SHEET NO. 13

### VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle:	2007 Dodge Nitro	NHTSA No.:	C70304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	November 21, 2006



Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Right Sill at Front Seat	2924	673	-445
2	Right Sill at Rear Seat	1781	680	-448
3	Rear Floorpan Above Axle	1119	-7	-803
4	Left Sill at Rear Door	1814	-680	-425
5	Left Sill at Front Door	2791	-645	-436
6	Left Front Door C/L**	-	-	-
7	Rear Occupant Compartment	1704	266	-483
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	2066	-666	-634
13	Left Middle B-Post	2050	-677	-984
14	Left Lower A-Post	3178	-625	-574
15	Left Middle A-Post	2989	-694	-1209
16	Front Seat Track	2256	-574	-518
17	Rear Seat Track or Structure	1093	-564	-822
18	Vehicle CG	2500	-9	-698

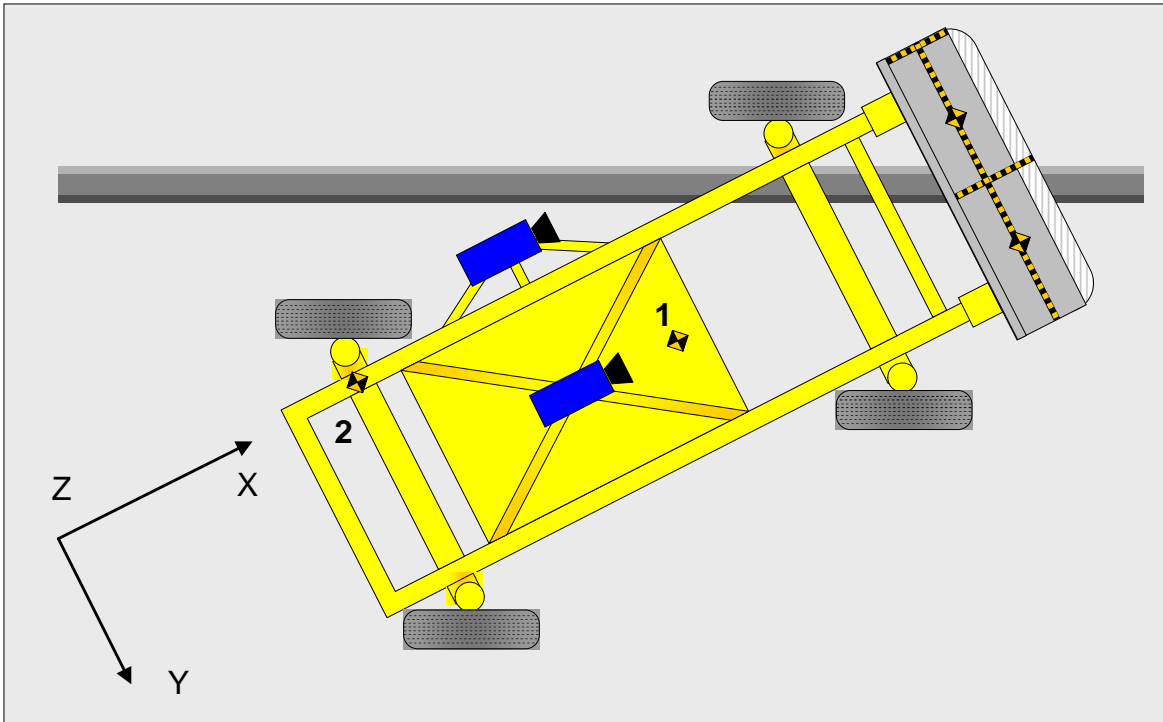
Reference Points    X - Test Vehicle Rear Bumper (+ forward)  
                           Y - Test Vehicle Centerline (+ to right)  
                           Z - Ground Plane (+ down)

\*\* Accelerometer was not requested by the COTR.

**DATA SHEET NO. 14**

**MDB ACCELEROMETER LOCATIONS**

Test Vehicle: 2007 Dodge Nitro NHTSA No. C70304  
 Test Program: FMVSS 214 Indicant Side Impact Test Date: November 21, 2006



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

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

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

Test Vehicle: 2007 Dodge Nitro NHTSA No. C70304  
 Test Program: FMVSS 214 Indicant Side Impact Test Date: November 21, 2006

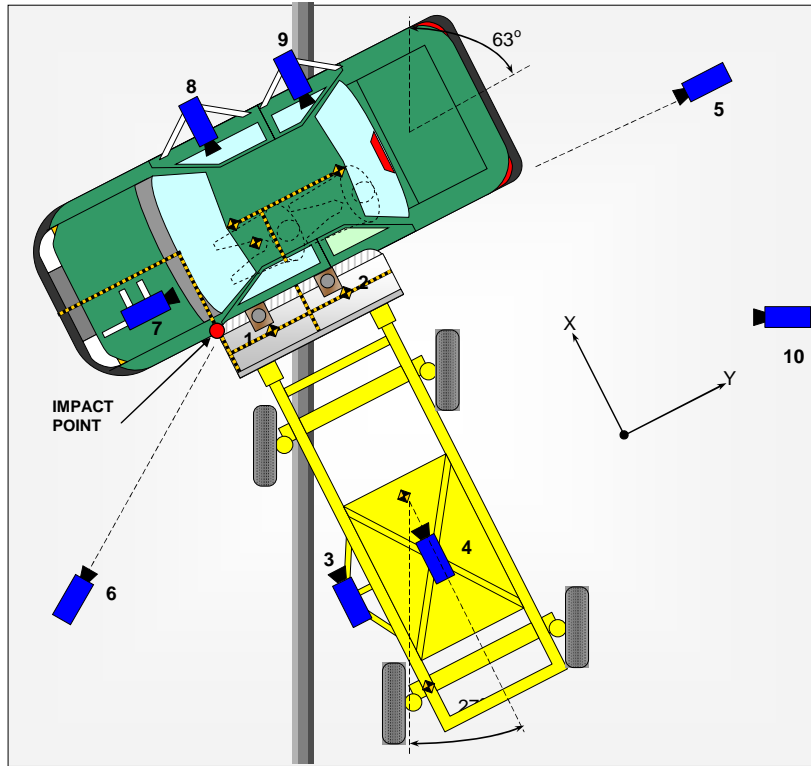
	Elements	Pre-Test (mm)
1	Total Length	4519
2	Total Width	1776
3	Bumper Top Height	608
4	Bumper Bottom Height	467
5	Longitudinal Member Top Height	609
6	Distance between Longitudinal Members	872
7	Longitudinal Member Width	77
8	Engine Top Height	962
9	Engine Bottom Height	307
10	Engine and gearbox width	665
11	Front bumper-engine distance	526
12	Front shock absorber fixing height	750
13	Bonnet leading edge height	1036
14	Front shock absorber fixing width	906
15	Front bumper – front axle distance	699
16	Front axle – a pillar distance	634
17	A-pillar – B-pillar distance	1093
18	B-Pillar – rear axle distance	1036
19	B-pillar – C-pillar distance	931
20	Roof sill bottom height	1543
21	Roof sill top height	1645
22	Floor sill bottom height	423
23	Floor sill top height	480



**DATA SHEET NO. 16**

**HIGH SPEED CAMERA LOCATIONS AND DATA**

Test Vehicle: 2007 Dodge Nitro NHTSA No. C70304  
 Test Program: FMVSS 214 Indicant Side Impact Test Date: November 21, 2006



No.	Camera View	Location (mm)			Angle (deg)	Lens (mm)	Film Speed (fps)
		X	Y	Z			
1	Overhead Close-up	72	812	-4880	-90.0	8	1000
2	Overhead Overall	195	855	-4880	-90.0	28	1000
3	MDB Onboard, Impact Point Close-up	-1470	0	-847	0.0	13	1000
4	MDB Onboard, Centerline of Impact	-1140	838	-1587	-17.0	7.5	1000
5	Right Side, Ground Level, Overall	0	10748	-1154	-2.5	50	1000
6	Left Side, Ground Level, Overall	2300	2080	-1072	-5.2	28	1000
7	Vehicle Onboard Front SID/HIII, Front	396	-274	-1514	-8.4	25	1000
8	Vehicle Onboard Front SID/HIII, Side	1664	942	-1229	-6.1	12.5	1000
9	Vehicle Onboard Rear SID/HIII, Side	1669	1774	-1227	-10.7	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**

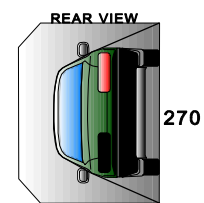
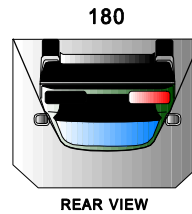
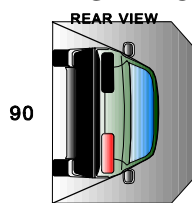
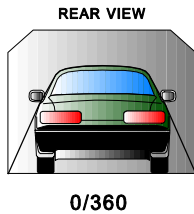
Test Vehicle: 2007 Dodge Nitro NHTSA No. C70304  
 Test Program: FMVSS 214 Indicant Side Impact Test Date: November 21, 2006

**FUEL SYSTEM INTEGRITY POST IMPACT DATA**

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

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

**STATIC ROLLOVER DATA**



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

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

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

**APPENDIX A**  
**PHOTOGRAPHS**

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A-14	Post-Test Rear View	A-10
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A-16	Post-Test Right Rear $\frac{3}{4}$ View	A-11
A-17	Pre-Test Right Side View	A-12
A-18	Post-Test Right Side View	A-12
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**TABLE OF PHOTOGRAPHS (continued)**

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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**

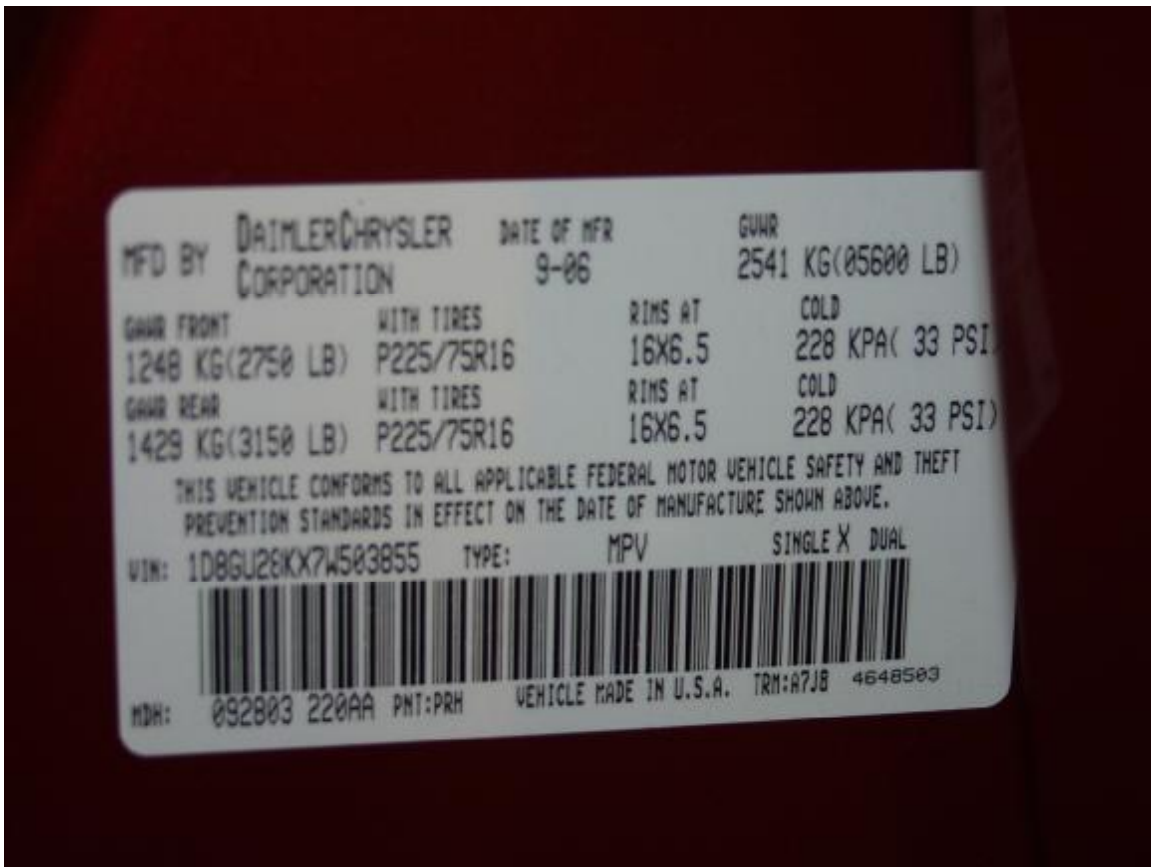


Figure A-3: Vehicle Certification Label

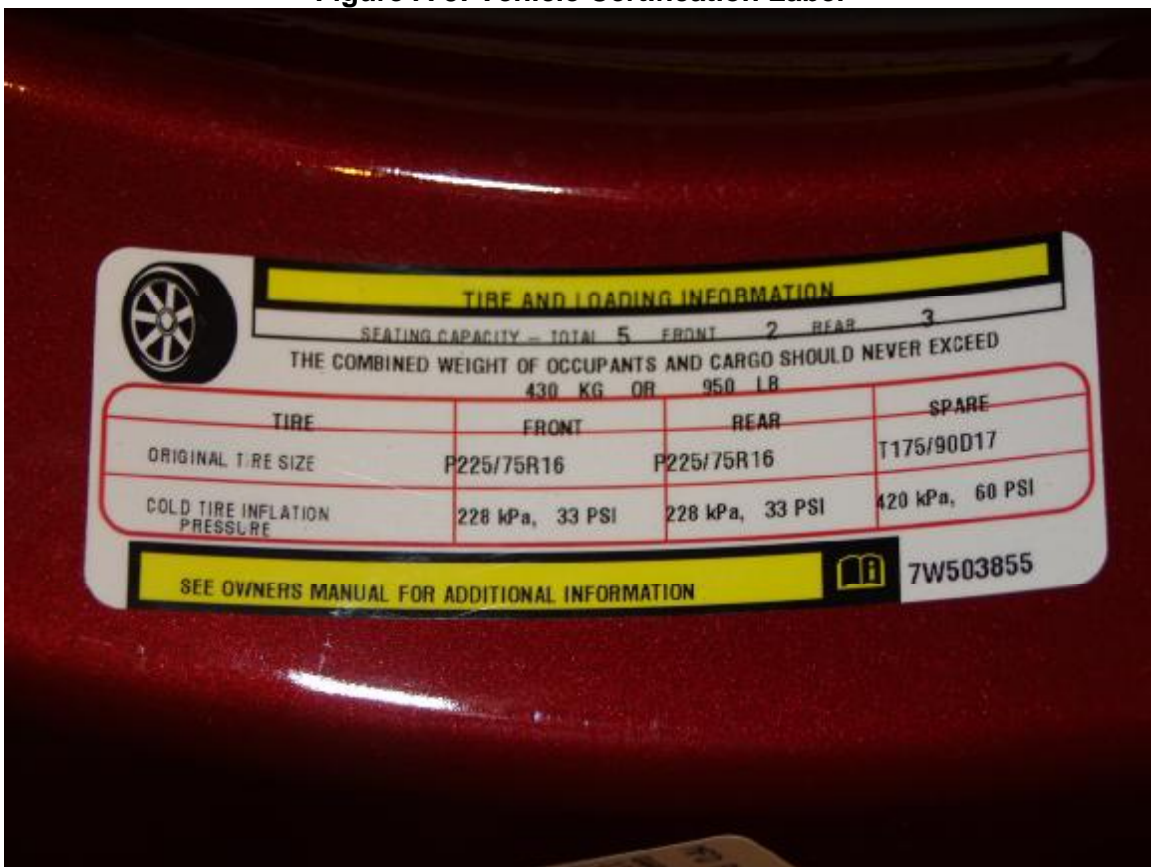
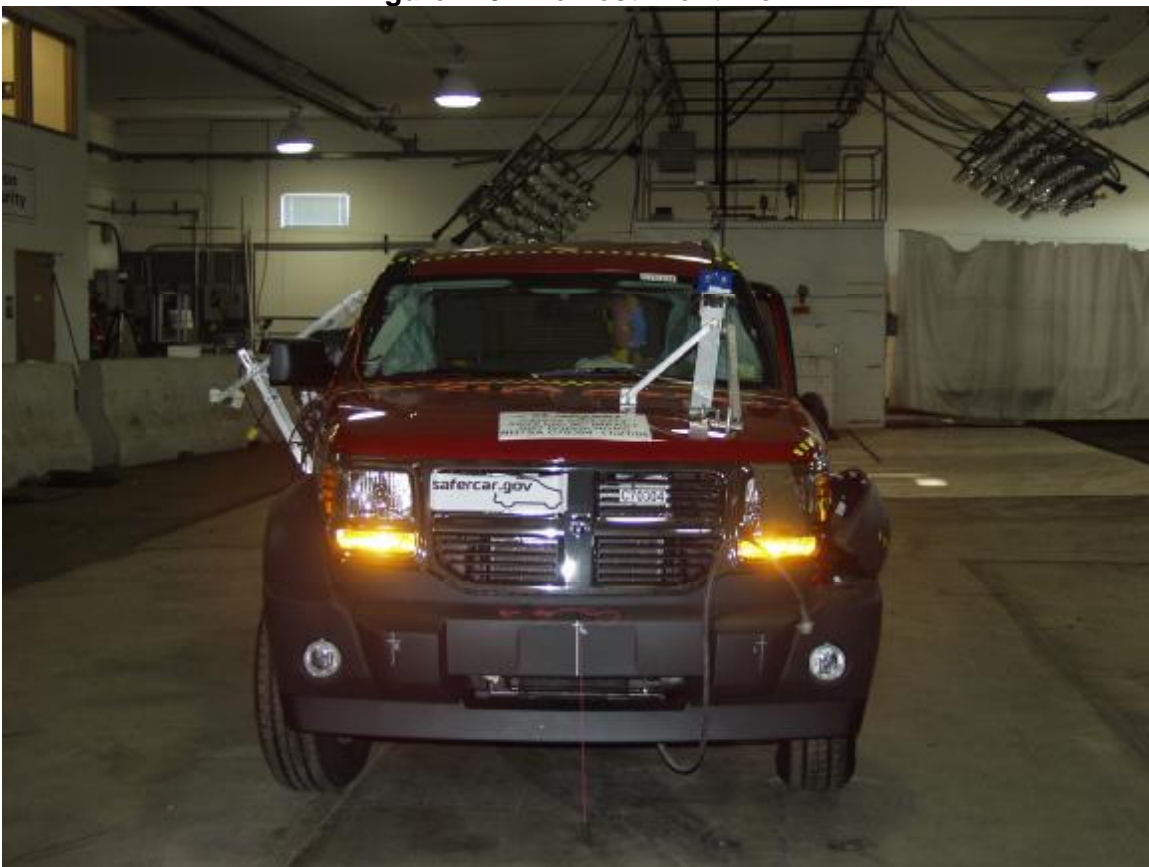


Figure A-4: Vehicle Tire Placard Label



**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 ¾ View of Left Side Doors



Figure A-48: Post-Test Left Front ¾ View of Left Side Doors



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



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



**Figure A-51: Rollover 90 Degrees**



**Figure A-52: Rollover 180 Degrees**



Figure A-53: Rollover 270 Degrees



Figure A-54: Rollover 360 Degrees





**Figure A-55: Impact Photo**

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

### DATA CHANNEL FILTER CLASS SUMMARY

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

### DATA CHANNEL TITLE KEY

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

### TABLE OF DATA PLOTS

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

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

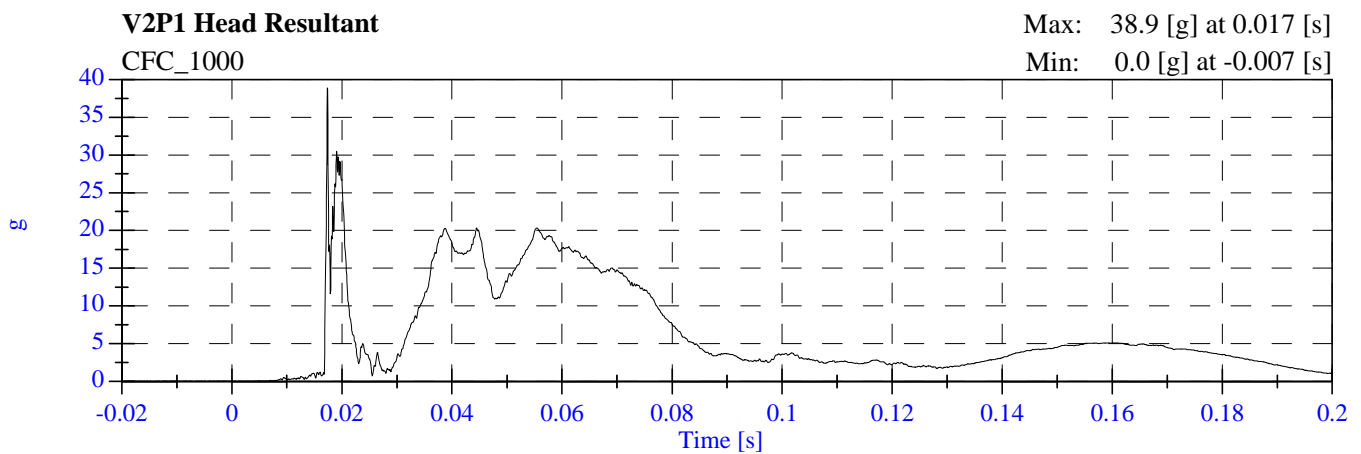
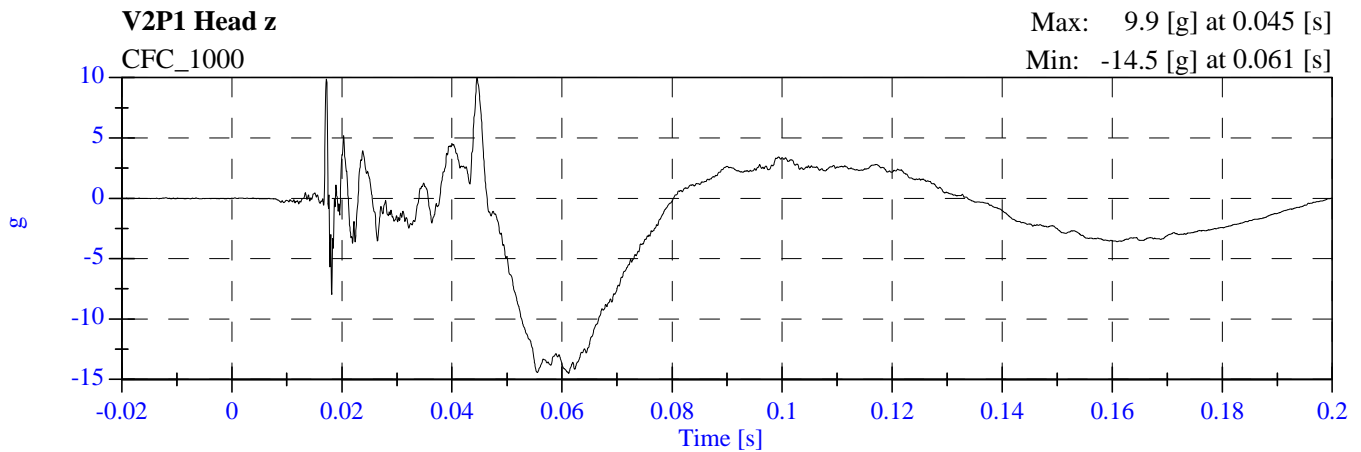
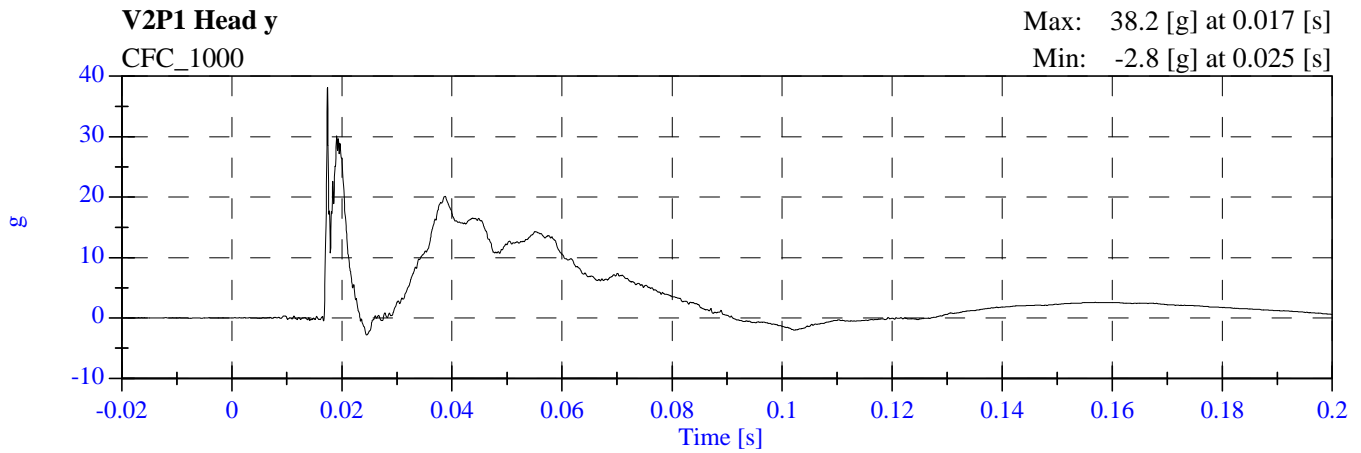
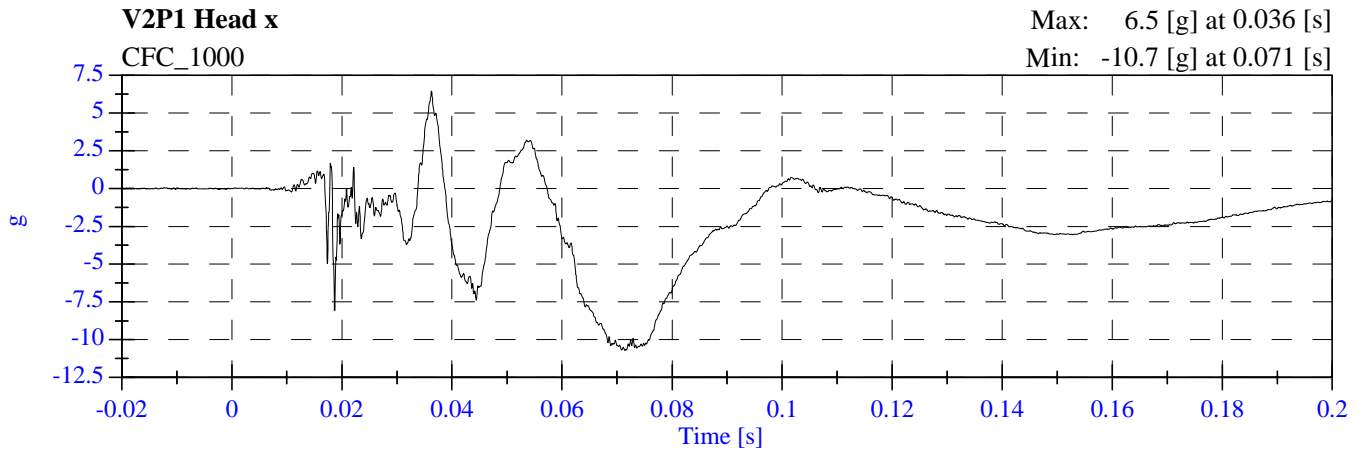
V2P1 Head Ax	V2A1 Right Front Sill Ax
V2P1 Head Ay	V2A1 Right Front Sill Ay
V2P1 Head Az	V2A1 Right Front Sill Az
V2P1 Upper Neck Fx	V2A2 Right Rear Sill Ax
V2P1 Upper Neck Fy	V2A2 Right Rear Sill Ay
V2P1 Upper Neck Fz	V2A2 Right Rear Sill Az
V2P1 Upper Neck Mx	V2A3 Rear Floorpan Ax
V2P1 Upper Neck My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

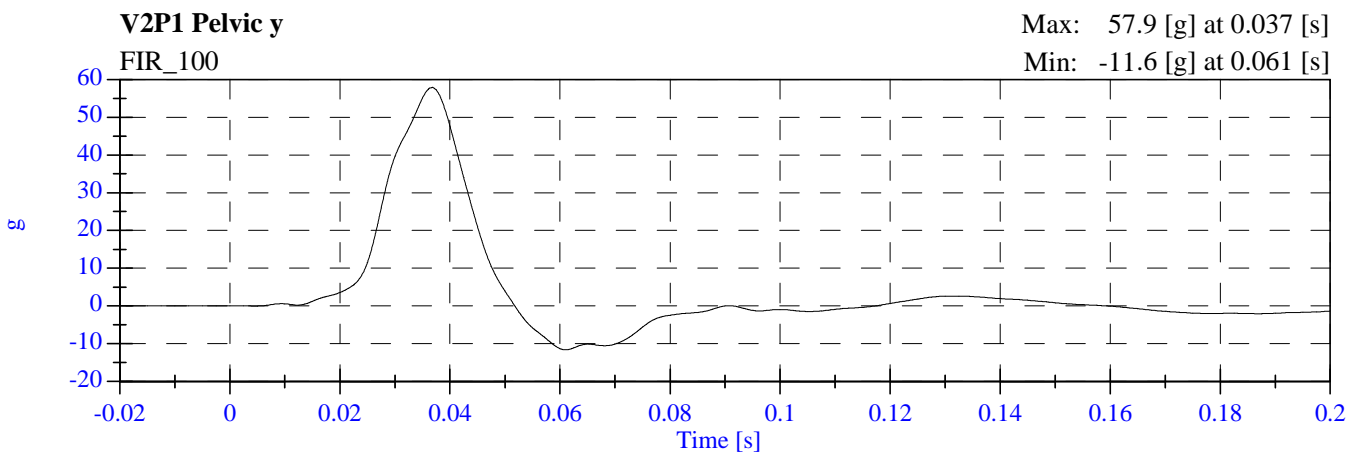
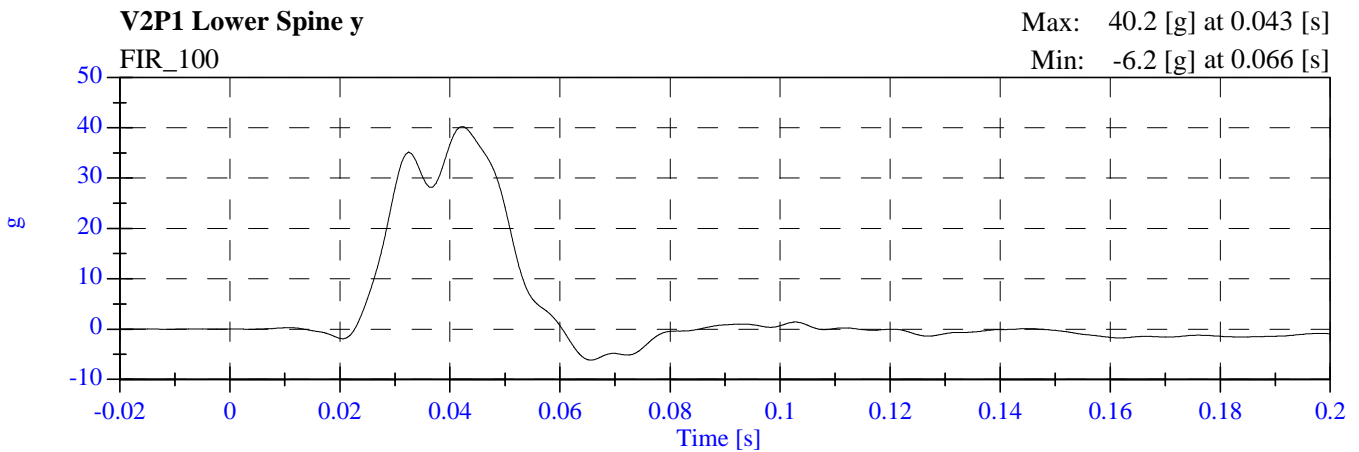
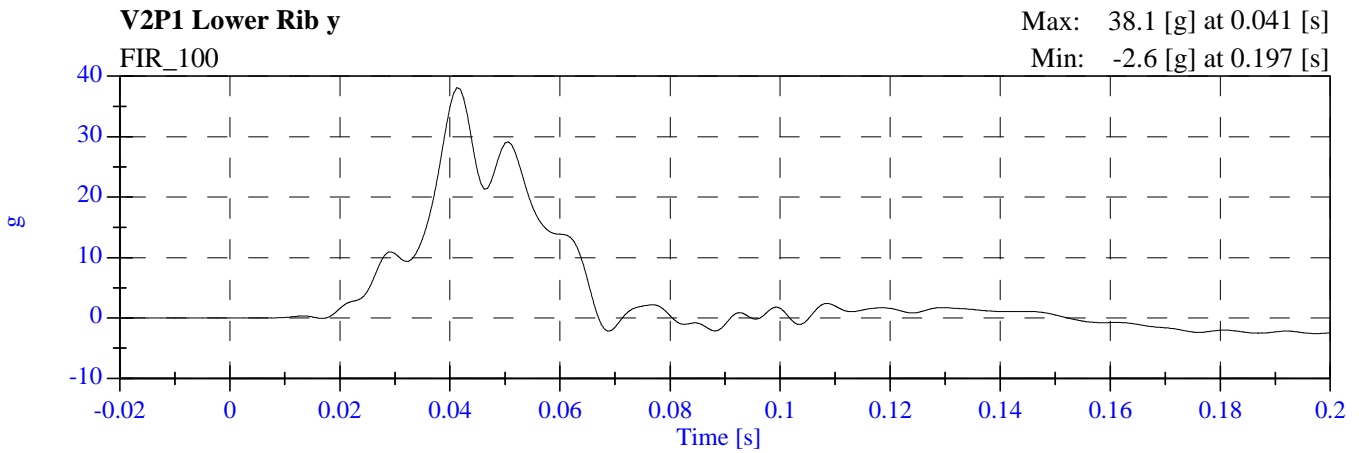
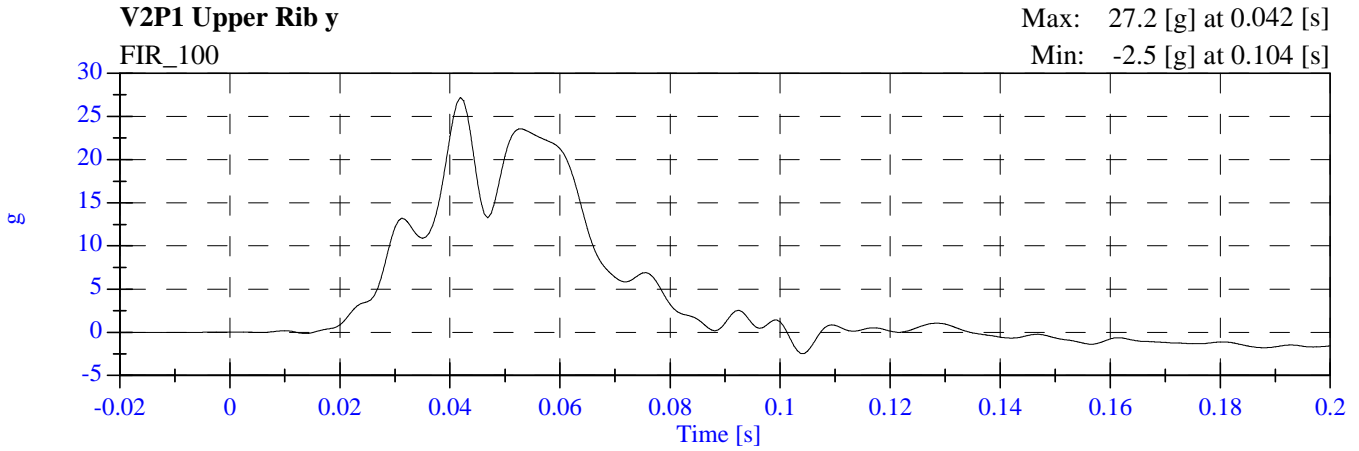
The following channel anomalies occurred:

V2 A4 Left Rear Sill Y      Transducer Dislodged at 11 ms

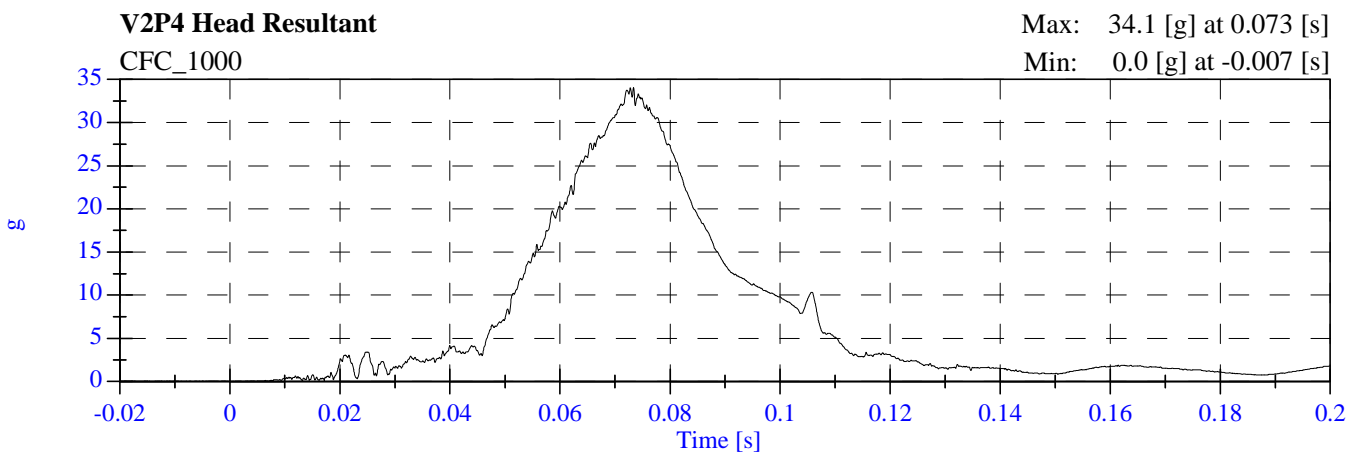
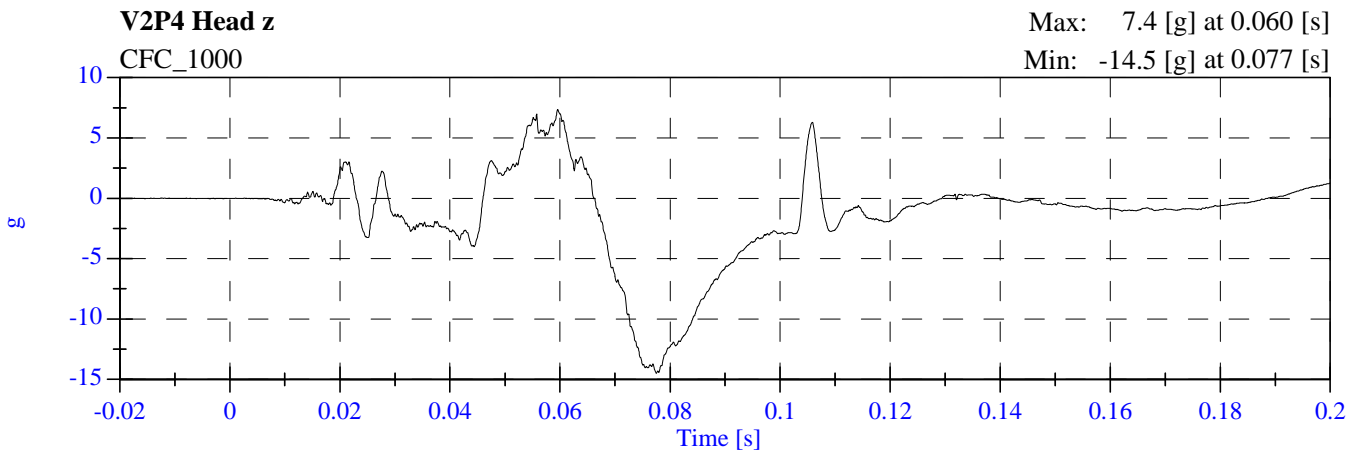
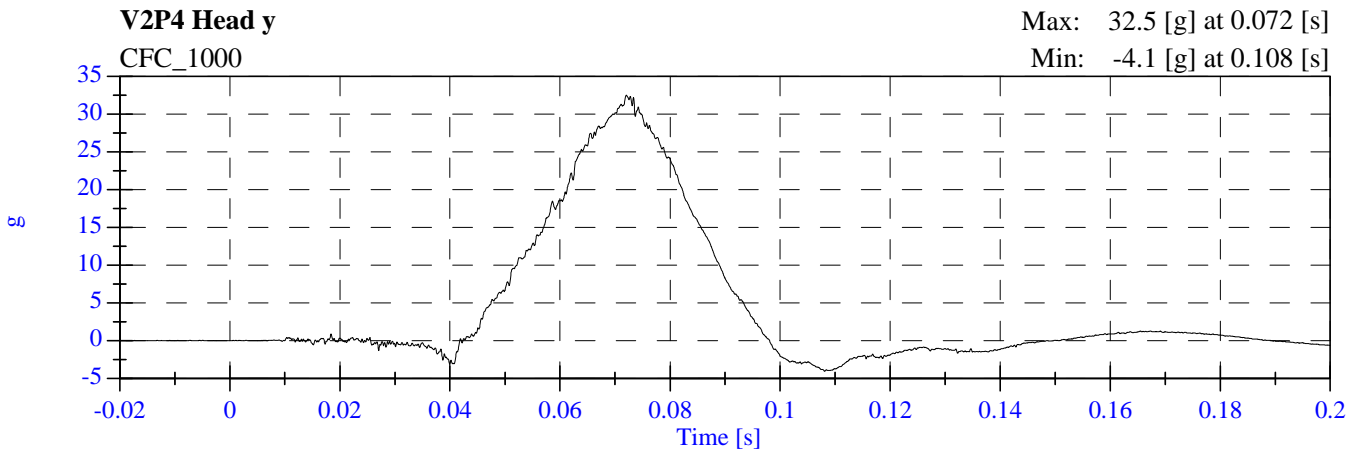
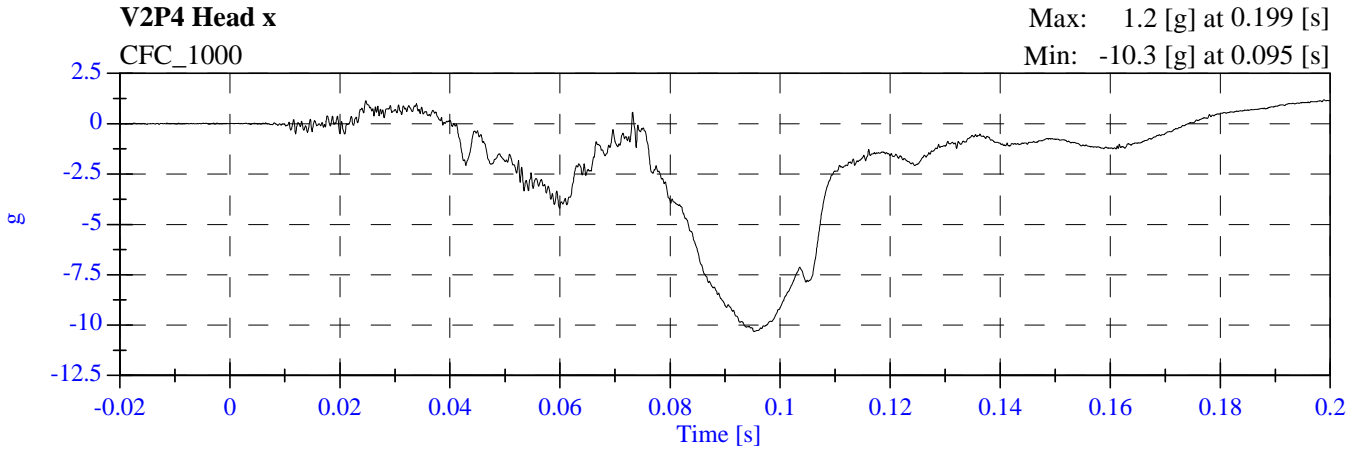
# 2007 FMVSS214D Indicant - 2007 Dodge Nitro C70304 - November 21, 2006



**2007 FMVSS214D Indicant - 2007 Dodge Nitro  
C70304 - November 21, 2006**

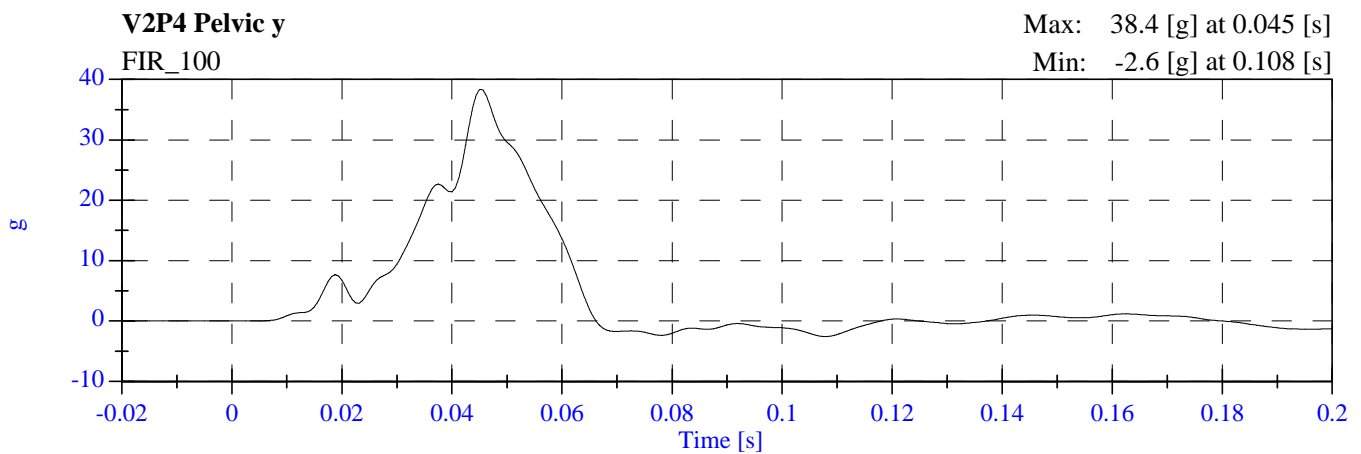
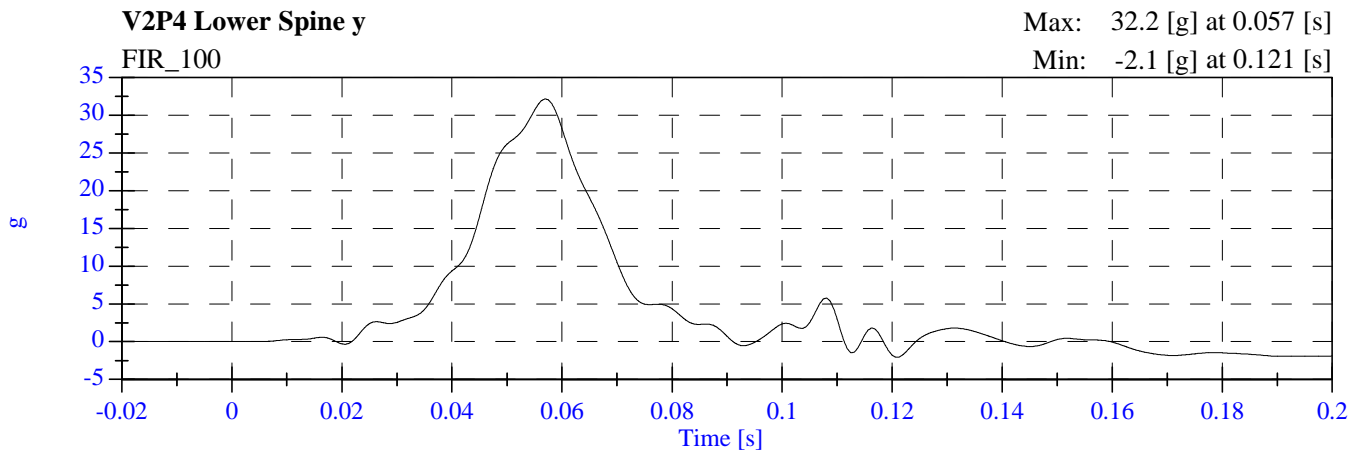
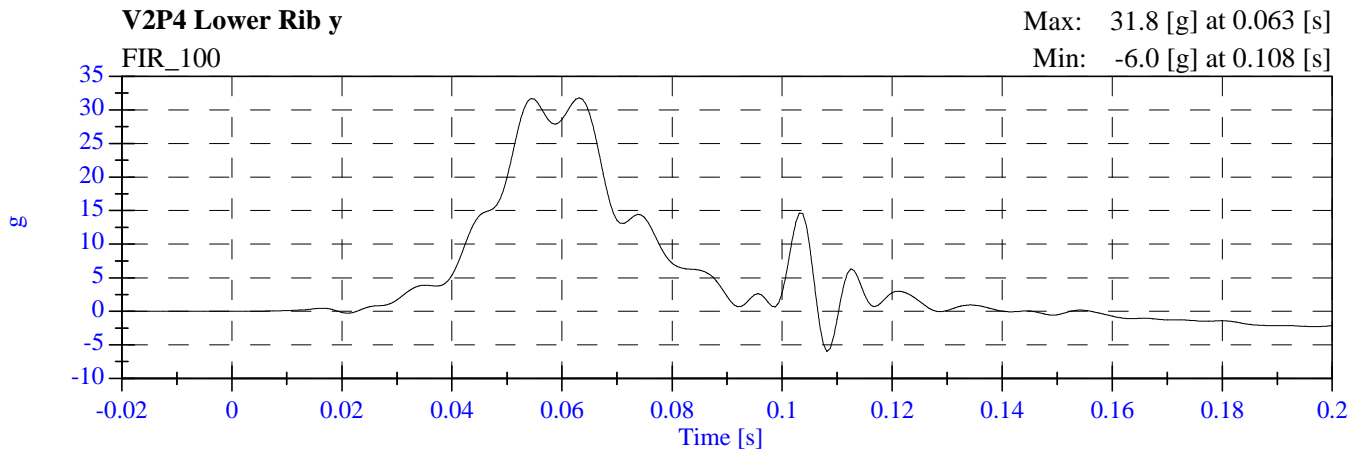
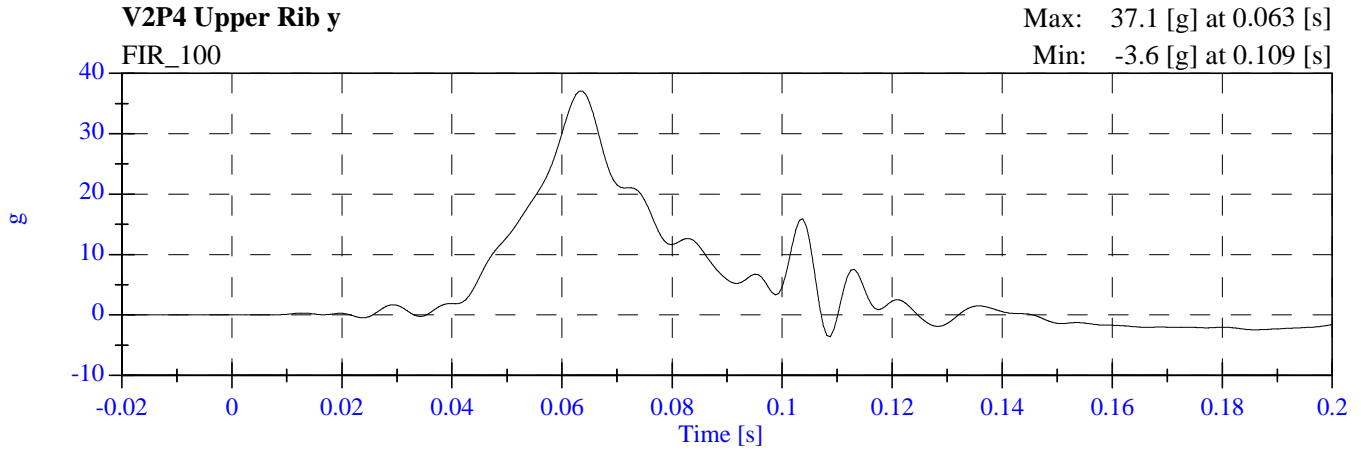


# 2007 FMVSS214D Indicant - 2007 Dodge Nitro C70304 - November 21, 2006





# 2007 FMVSS214D Indicant - 2007 Dodge Nitro C70304 - November 21, 2006



**APPENDIX C**  
**DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA**

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

Date: November 11, 2006

Sequential Test Number:

1.3; 1.3

Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	SID H3 NO.: 906		SID H3 NO.: 905	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	895	895	895	895
RH- Rib Height (mm)	501 - 521	511	513	513	513
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	231	232	235	233
KV- Knee Pivot from Back Line (mm)	511 - 526	517	517	516	516
SW- Knee Pivot to Floor (mm)	490 - 505	499	498	494	495
HW- Hip Width (mm)	356 - 391	371	371	369	370
<b>THORAX IMPACTS</b>					
TEMPERATURE (• C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	38.0	42.0	38.0	42.0
PROBE SPEED (m/s)	4.27 - 4.33	4.31	4.28	4.27	4.29
UPPER RIB (g's)	37 - 46	43.66	45.05	41.68	42.02
LOWER RIB (g's)	37 - 46	42.11	43.42	42.07	40.68
LOWER SPINE (g's)	15 - 22	20.25	21.28	21.70	20.42
<b>PELVIS IMPACT</b>					
TEMPERATURE (• C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	38.0	42.0	38.0	42.0
PROBE SPEED (m/s)	4.27 - 4.33	4.31	4.30	4.30	4.28
PELVIS (g's)	40 - 60	44.70	41.72	42.91	41.39

**REMARKS:** None

**CALIBRATION TEST RESULTS**

**PRE-TEST**

**SID H3 NO.:** 906

**CONFIGURED FOR LEFT SIDE IMPACT**

**CALIBRATION TEST RESULTS SUMMARY  
PRE-TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID H3 Serial No.: 906 Sequential Test Number: 1.3  
Date: 11/03/06 Laboratory Technician: B. Swiecicki

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

\* Test not required for SID certification.

**REMARKS:** None

**EXTERNAL DIMENSIONS  
PRE-TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID H3 Serial No.: 906 Sequential Test Number: 1.3  
Date: 11/03/06 Laboratory Technician: B. Swiecicki

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

**REMARKS:** None

**SID Shock Test S/N:906 ( 3.05 m/s )**

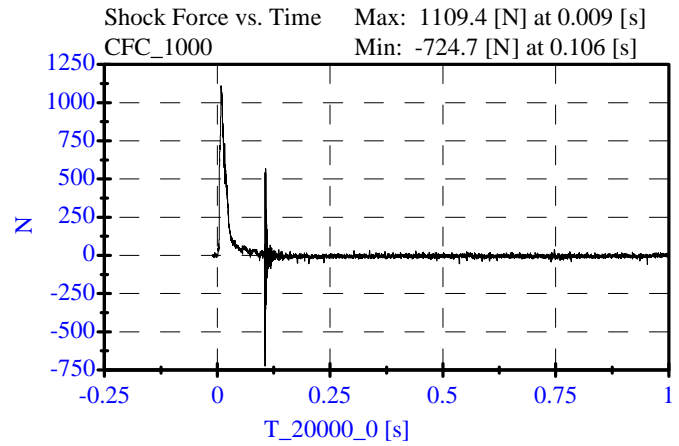
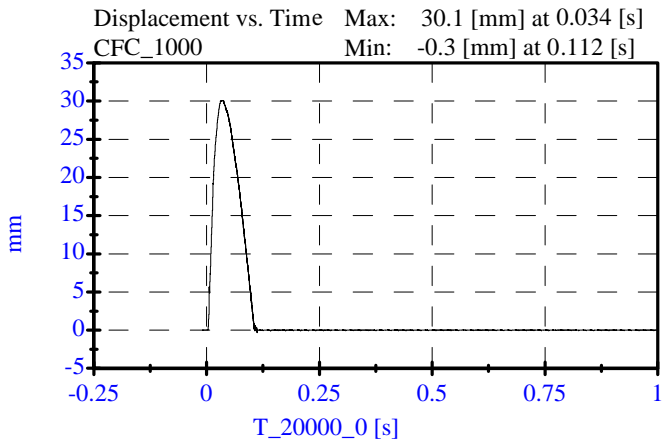
**PRE TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 906  
Date: September 11, 2006

Sequential Test Number: 1 File: 905SH  
Laboratory Technician: B. Swiecicki

<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 %	50.00 %	Passed
Displacement:	30.00-35.00 mm	30.05 mm	Passed
Maximum Force:	836.00-1125.00 N	1109.43 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	906		
Damper Setting:	5		



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

**PRE TEST**

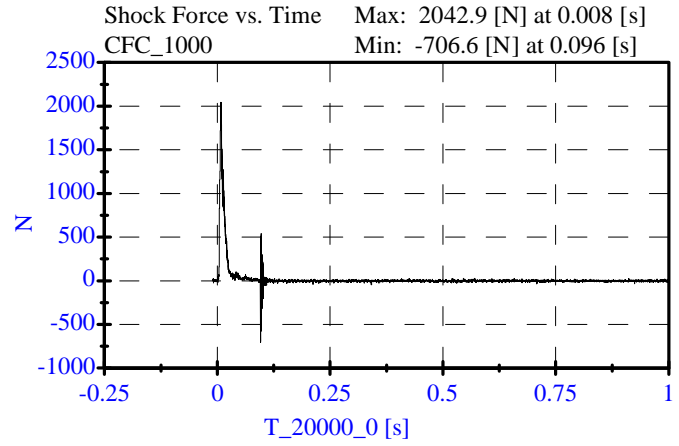
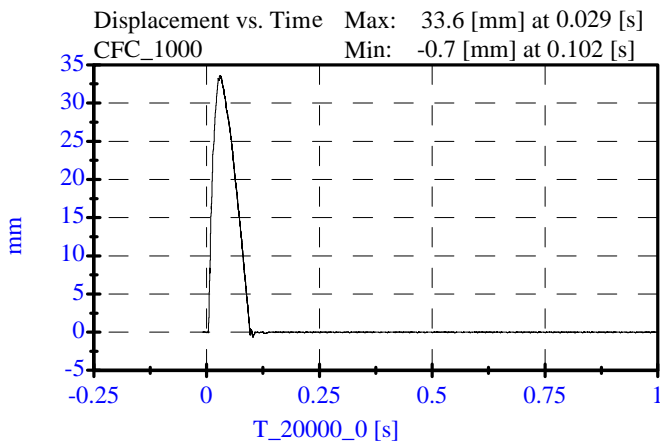
**CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 906  
Date: September 11, 2006

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

<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 %	50.00 %	Passed
Displacement:	32.00-37.00 mm	33.58 mm	Passed
Maximum Force:	1730.00-2099.00 N	2042.90 N	Passed

Impact Test Velocity: 4.27 m/s  
Damper Identification: 906  
Damper Setting: 5





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

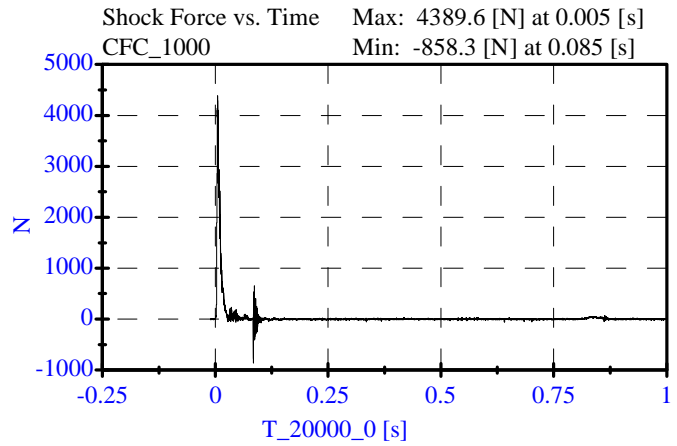
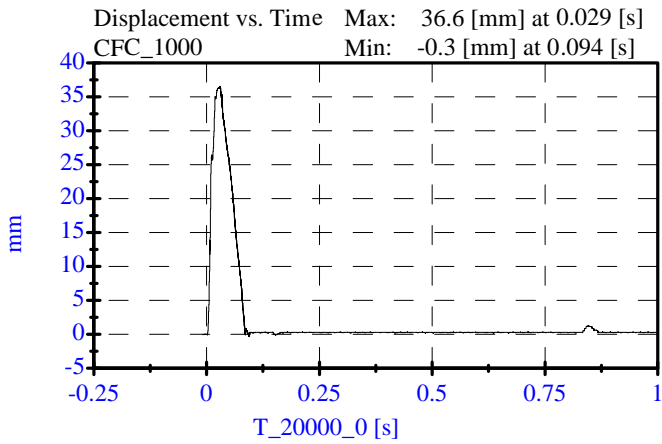
**PRE TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 906  
Date: September 11, 2006

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

<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 %	50.00 %	Passed
Displacement:	33.00-40.00 mm	36.58 mm	Passed
Maximum Force:	3741.00-4448.00 N	4389.60 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	906		
Damper Setting:	5		

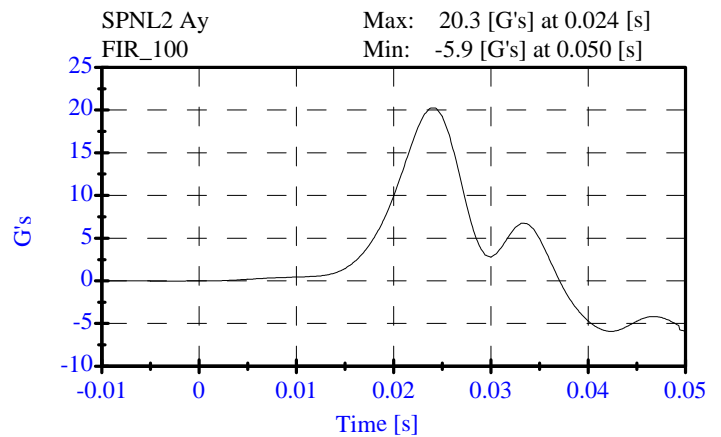
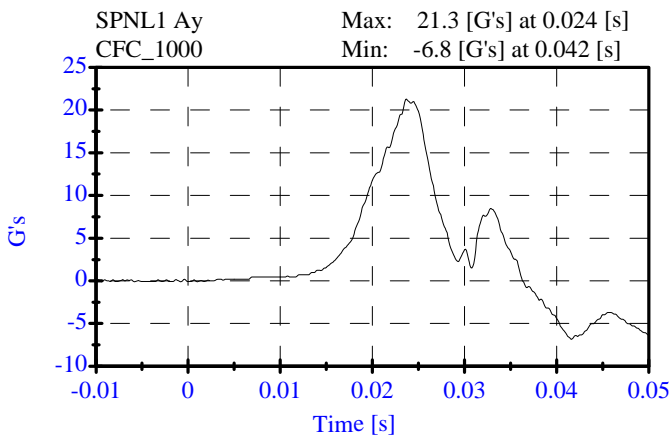
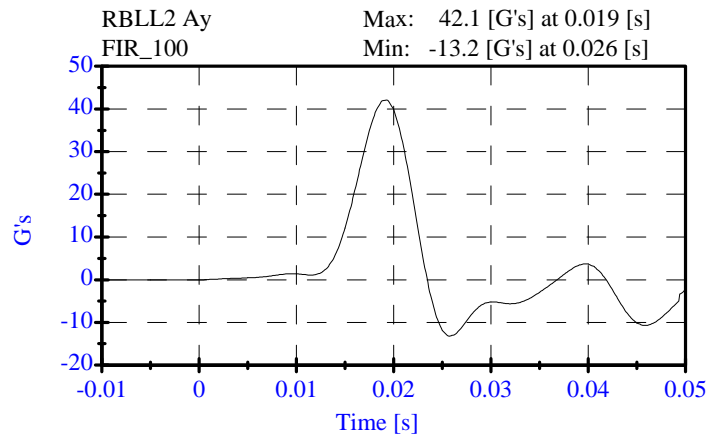
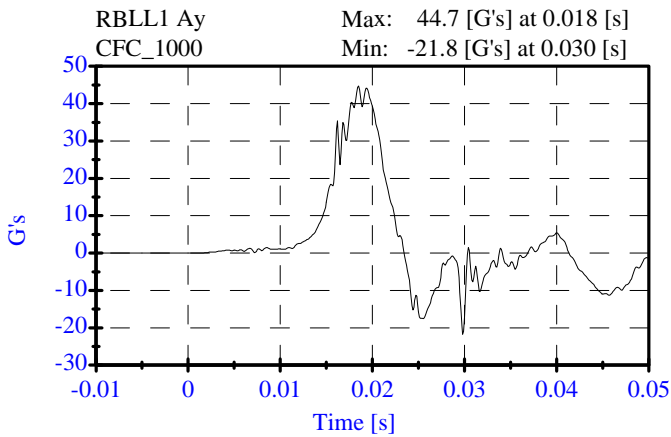
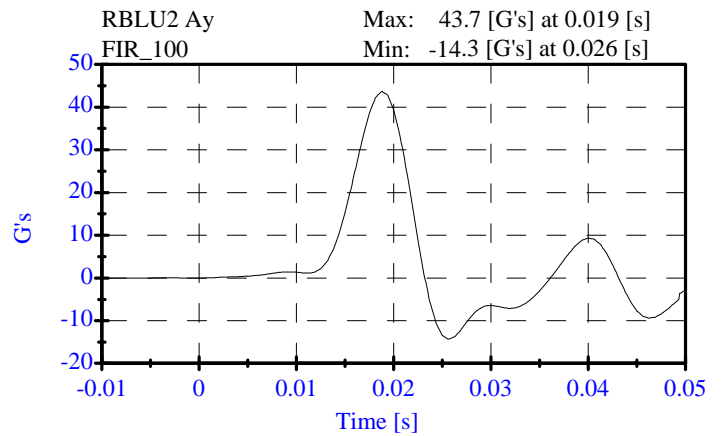
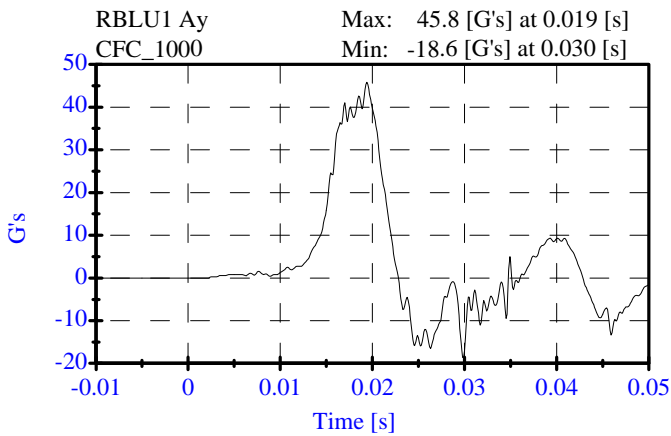


**Thorax Impact  
Pre-Test  
CONFIGURED FOR LEFT SIDE IMPACT**

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

Sequential Test Number: 1 File: 906T 11-01-06  
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.31 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	43.66 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	42.11 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	20.25 G's	Passed



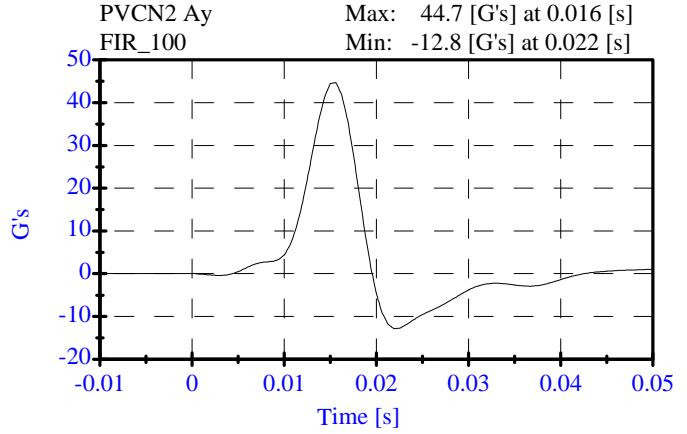
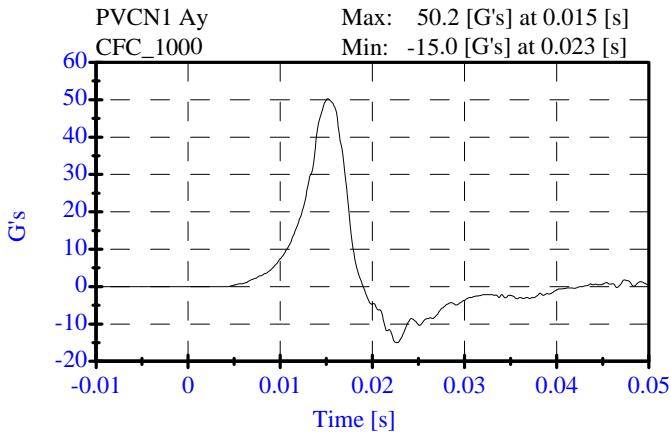
**Pelvic Impact  
Pre-Test**

**CONFIGURED FOR LEFT SIDE IMPACT**

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

Sequential Test Number: 1 File: 906P 11-01-06  
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.31 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	44.70 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.7 ms	Passed



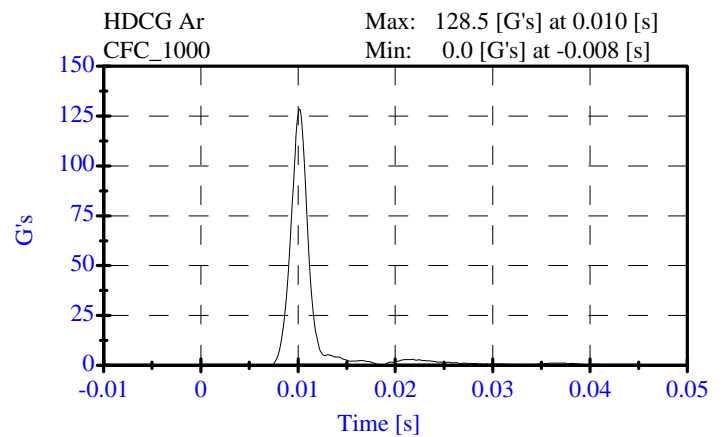
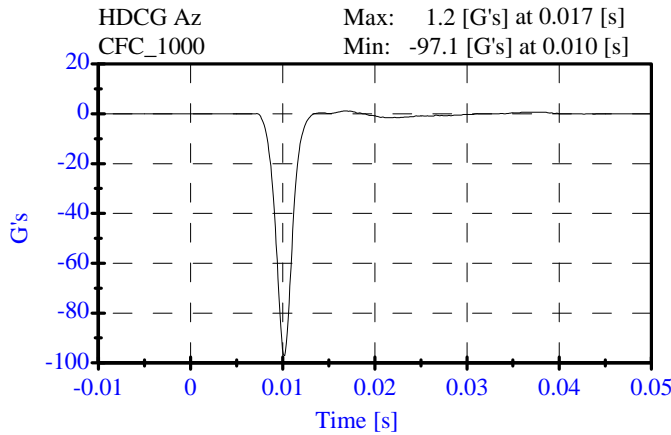
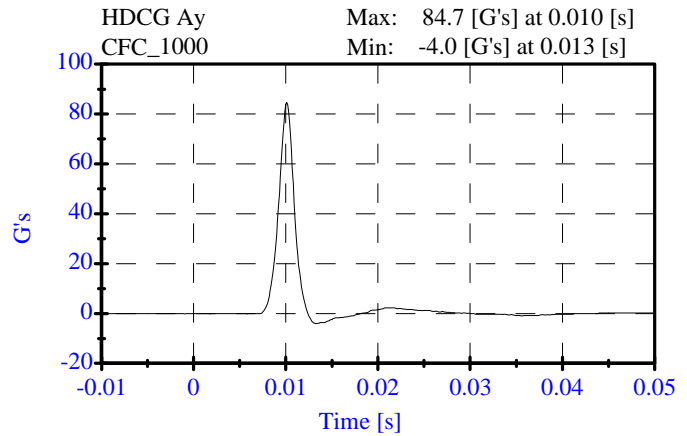
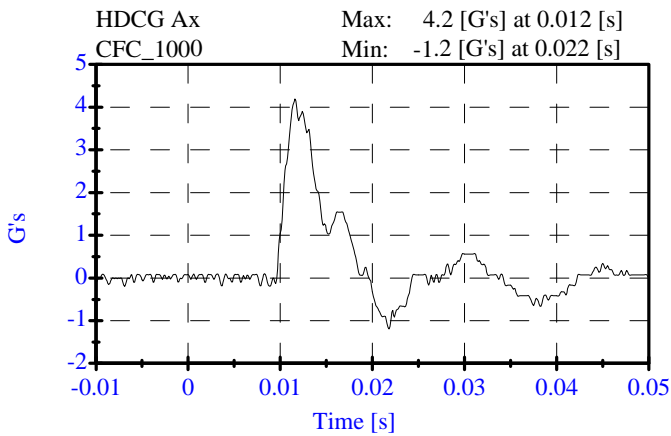
**Head Drop  
Pre-Test**

**CONFIGURED FOR LEFT SIDE IMPACT**

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

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

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



**Neck Test  
Pre-Test**

**CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 906  
Date: 10-31-06

Sequential Test Number: 1 File: 906N 10-31-06  
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	31.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.00 m/s	Passed
<b>PENDULUM DELTA V</b>			
Delta V at 10 ms:	1.96- 2.55 m/s	2.02 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.12 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	5.99 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	6.92 m/s	Passed
<b>D PLANE ROTATION</b>			
Maximum Rotation:	66.0-82.0 Deg	69.83 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	59.90 ms	Passed
<b>MOMENT ABOUT THE OCCIPITAL CONDYLE</b>			
Max Occipital Moment:	73.00- 88.00 N-m	81.44 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	56.20 ms	Passed
<b>HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT</b>			
Moment to Rotation Peak:	2.0-16.0 ms	9.80 ms	Passed

**Neck Test  
Pre-Test**

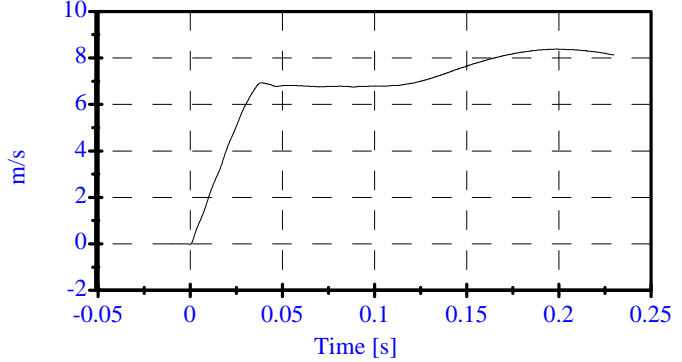
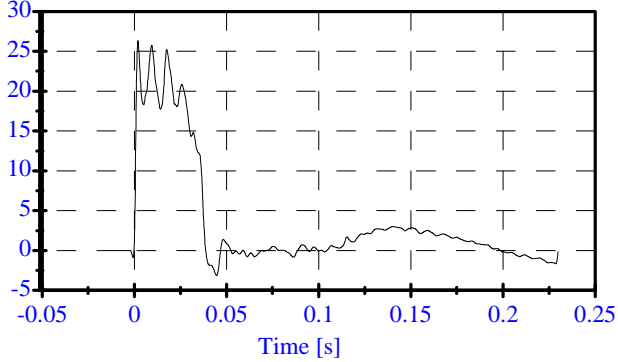
**CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 906  
Date: 10-31-06

Sequential Test Number: 1 File: 906N 10-31-06  
Laboratory Technician: B. Swiecicki

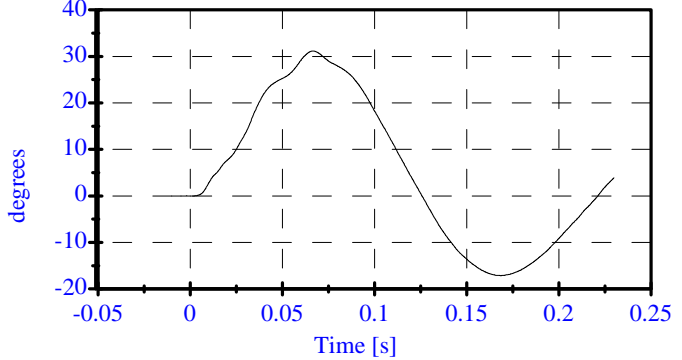
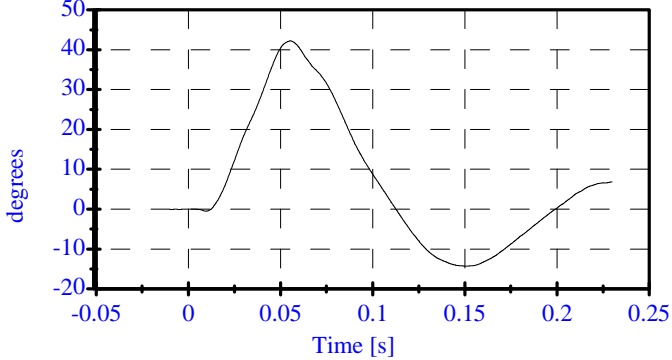
Pend Ax CFC\_180 Max: 26.4 [ ] at 0.002 [s]  
Min: -3.1 [ ] at 0.045 [s]

Pend Vx CFC\_180 Max: 8.4 [m/s] at 0.199 [s]  
Min: -0.0 [m/s] at -0.000 [s]



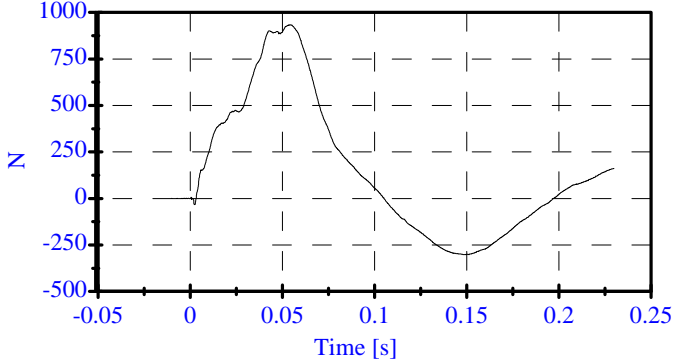
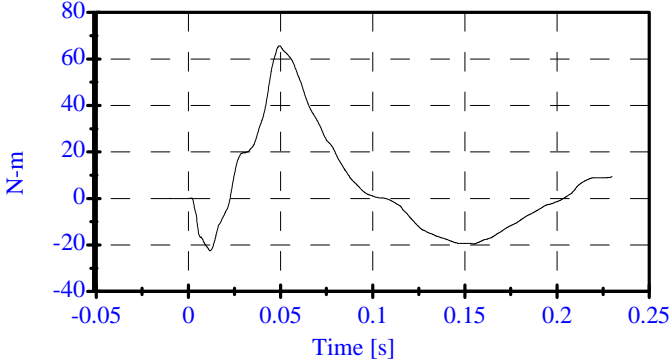
Head Rot CFC\_180 Max: 42.2 [degrees] at 0.055 [s]  
Min: -14.3 [degrees] at 0.152 [s]

Arm Rot CFC\_180 Max: 31.2 [degrees] at 0.067 [s]  
Min: -17.1 [degrees] at 0.169 [s]



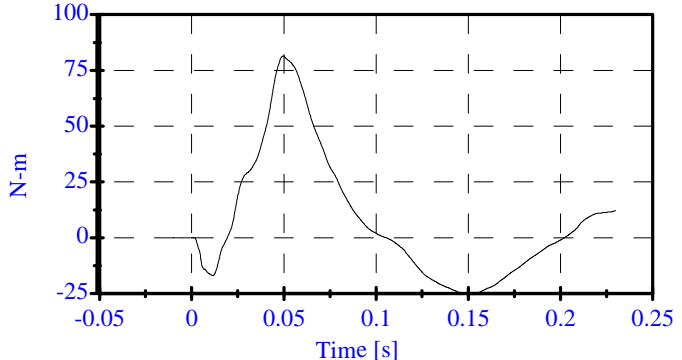
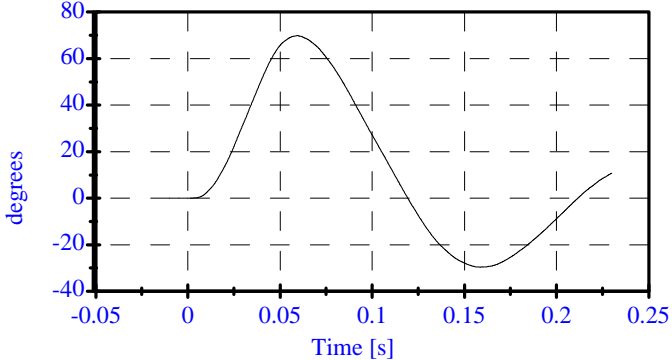
Neck Mx CFC\_600 Max: 65.6 [N-m] at 0.050 [s]  
Min: -22.5 [N-m] at 0.012 [s]

Neck Fy CFC\_1000 Max: 933.2 [N] at 0.054 [s]  
Min: -301.4 [N] at 0.151 [s]



Tot Rot CFC\_180 Max: 69.8 [degrees] at 0.059 [s]  
Min: -29.6 [degrees] at 0.158 [s]

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



# Abdomen test

## Pre-Test

### CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906

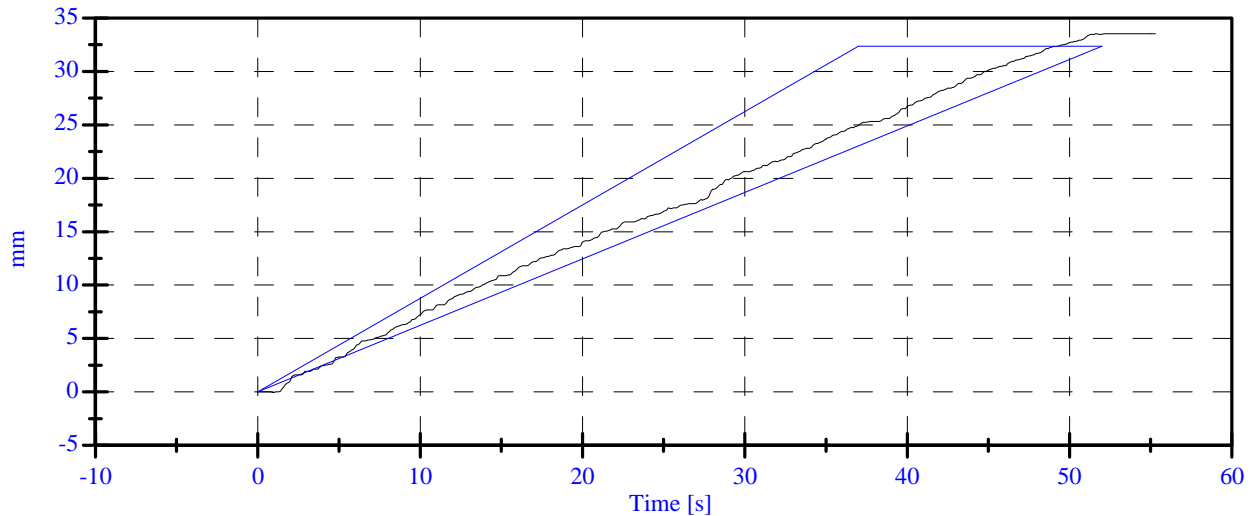
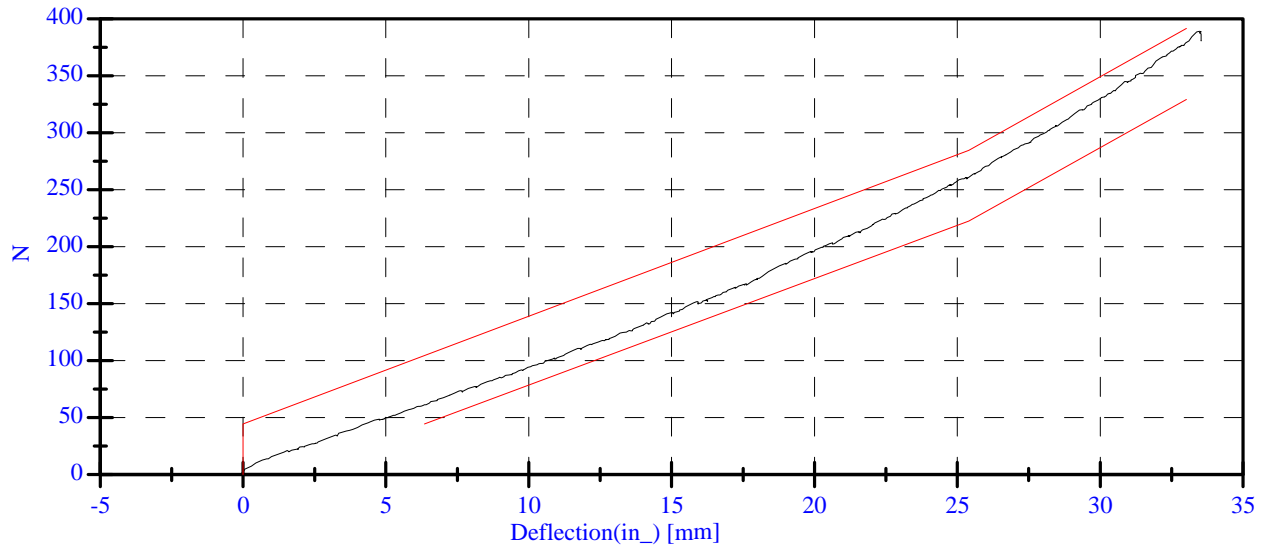
Date: 11-03-06

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

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	41.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	121.50 N	Passed
Force at 19.05 mm :	162.98-220.99 N	185.30 N	Passed
Force at 25.40 mm :	221.97-280.02 N	260.70 N	Passed
Force at 33.02 mm :	324.99-391.00 N	378.87 N	Passed

### ABDOMINAL COMPRESSION TEST



# Lumbar Spine

## Pre-Test

### CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906

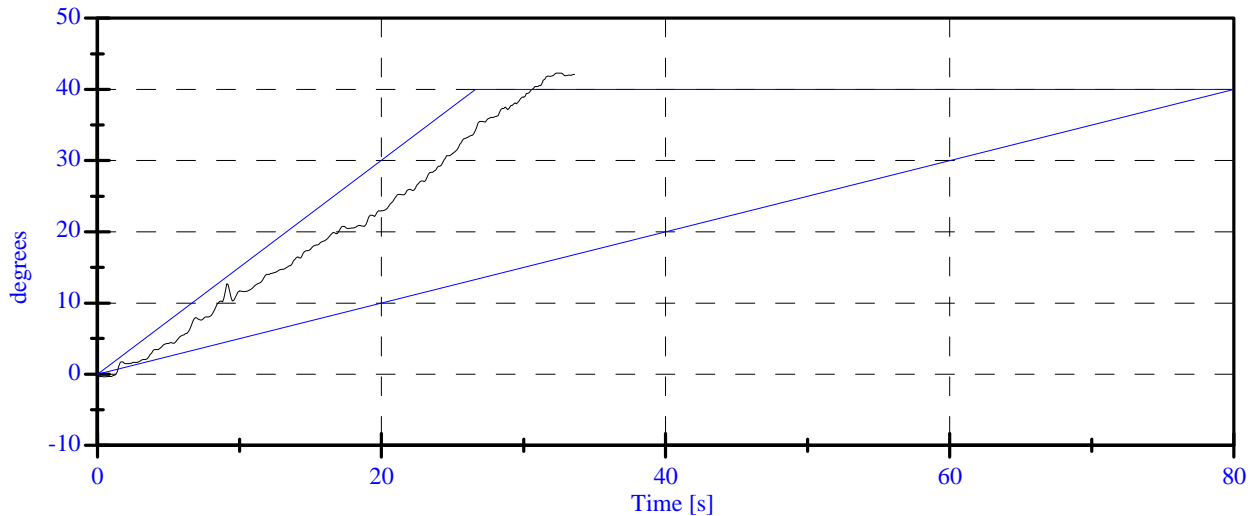
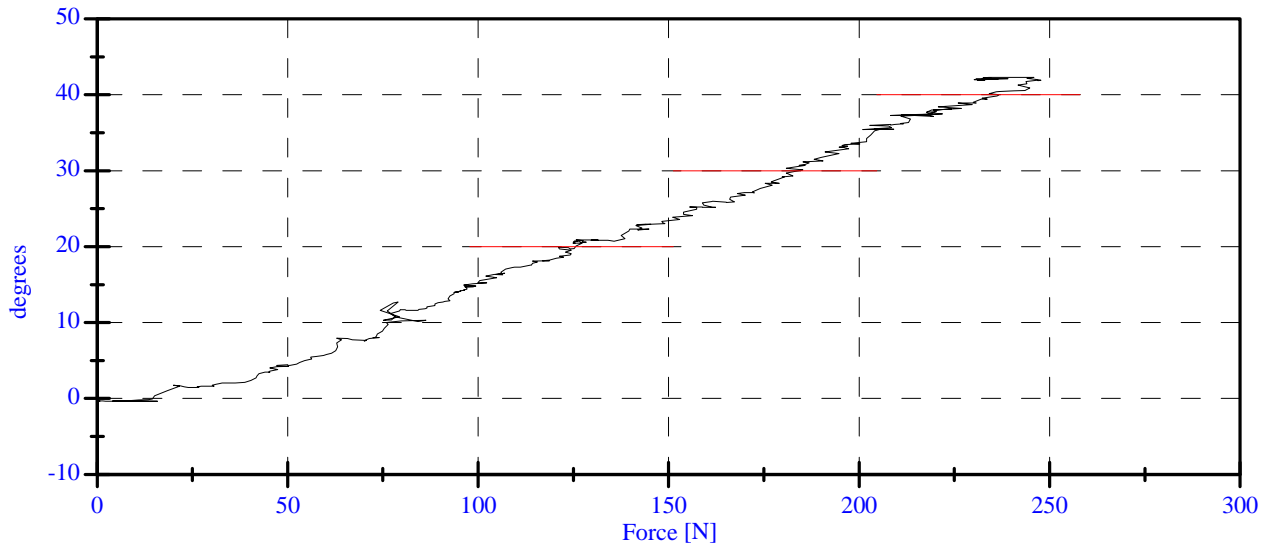
Date: 11-02-06

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

Laboratory Technician: B. Swiecicki

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

### LUMBAR SPINE FLEXION TEST





**PRE-TEST DUMMY INSPECTION LIST**  
**CONFIGURED FOR LEFT SIDE IMPACT**

SID H3 Serial No.: 906 Sequential Test Number: 1.3  
 Date: 11/03/06 Laboratory Technician: B. Swiecicki

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

**REMARKS:** None

**CALIBRATION TEST RESULTS**

**PRE-TEST**

**SID H3 NO.:** 905

**CONFIGURED FOR LEFT SIDE IMPACT**

**CALIBRATION TEST RESULTS SUMMARY  
PRE-TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID H3 Serial No.: 905 Sequential Test Number: 1.3  
Date: 11/03/06 Laboratory Technician: B. Swiecicki

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

\* Test not required for SID certification.

**REMARKS:** None

**EXTERNAL DIMENSIONS  
PRE-TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID H3 Serial No.: 905 Sequential Test Number: 1.3  
Date: 11/03/06 Laboratory Technician: B. Swiecicki

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

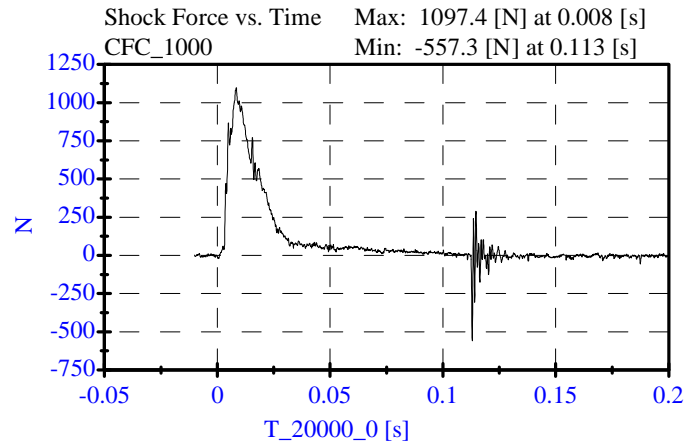
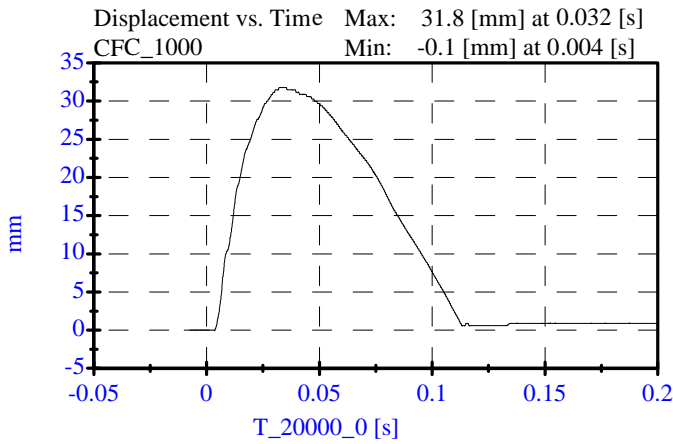
**REMARKS:** None

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

ATD Serial No: 905  
 Date: July 26, 2006

Sequential Test Number: 1 File: 905SL  
 Laboratory Technician: B. Swiecicki

<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 %	50.00 %	Passed
Displacement:	30.00-35.00 mm	31.80 mm	Passed
Maximum Force:	836.00-1125.00 N	1097.35 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	905		
Damper Setting:	5		

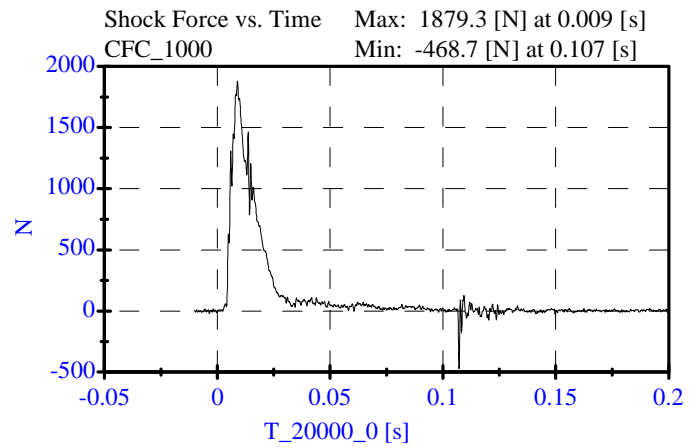
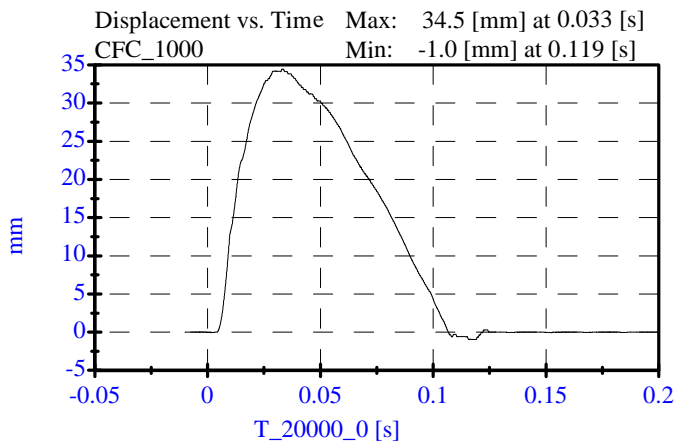


**SID Shock Test S/N:905 ( 4.27 m/s )**  
**PRE TEST**  
**CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 905  
 Date: July 26, 2006

Sequential Test Number: 1 File: 905SM  
 Laboratory Technician: B. Swiecicki

<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 %	50.00 %	Passed
Displacement:	32.00-37.00 mm	34.46 mm	Passed
Maximum Force:	1730.00-2099.00 N	1879.32 N	Passed
Impact Test Velocity:	4.27 m/s		
Damper Identification:	905		
Damper Setting:	5		

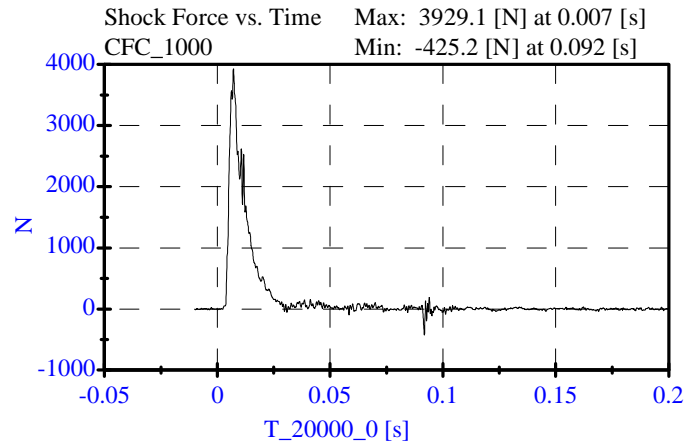
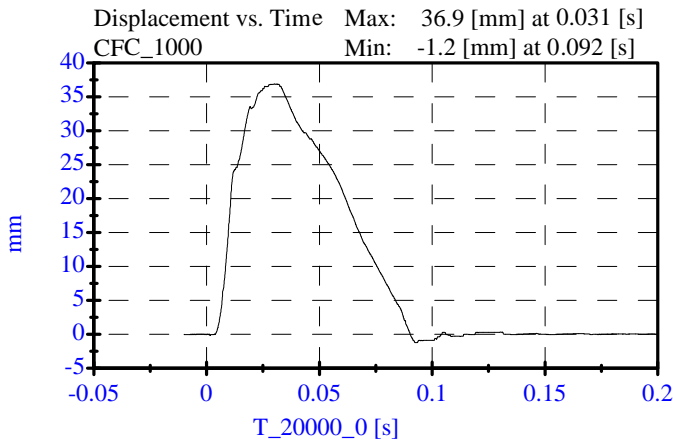


**SID Shock Test S/N:905 ( 6.10 m/s )**  
**PRE TEST**  
**CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 905  
 Date: July 26, 2006

Sequential Test Number: 1 File: 905SH  
 Laboratory Technician: B. Swiecicki

<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 %	50.00 %	Passed
Displacement:	33.00-40.00 mm	36.86 mm	Passed
Maximum Force:	3741.00-4448.00 N	3929.08 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	905		
Damper Setting:	5		

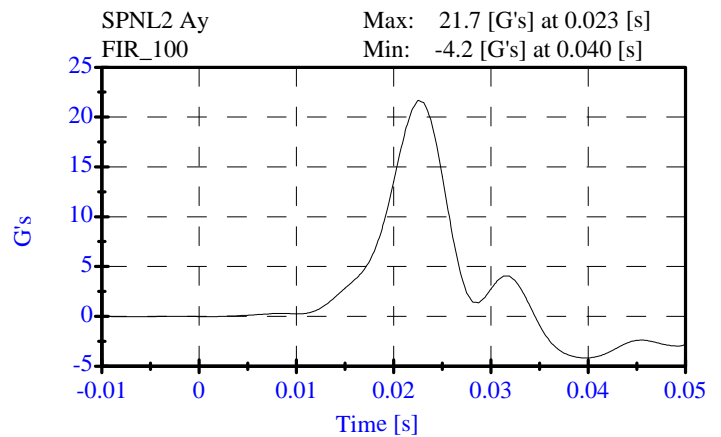
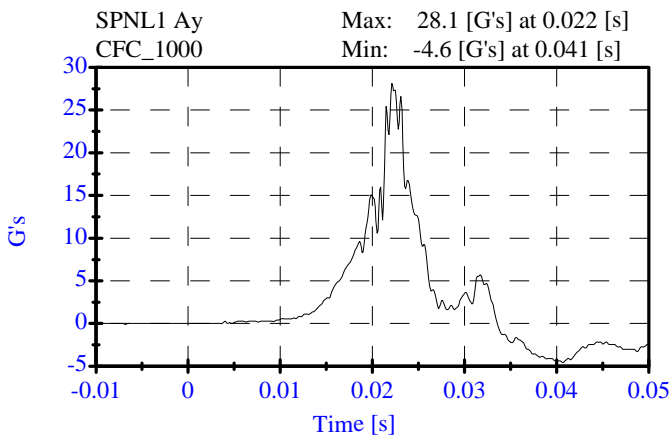
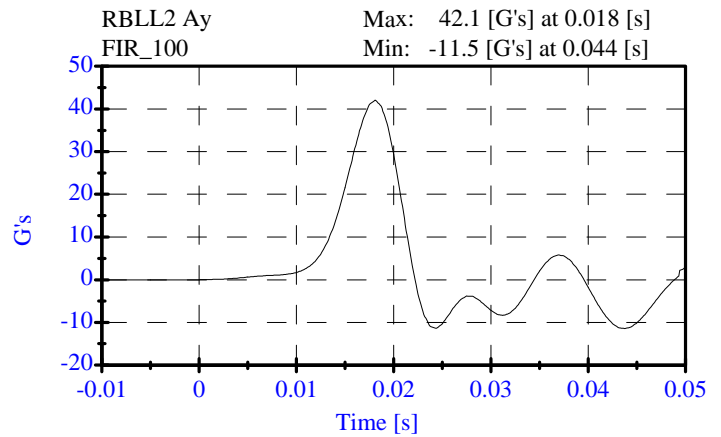
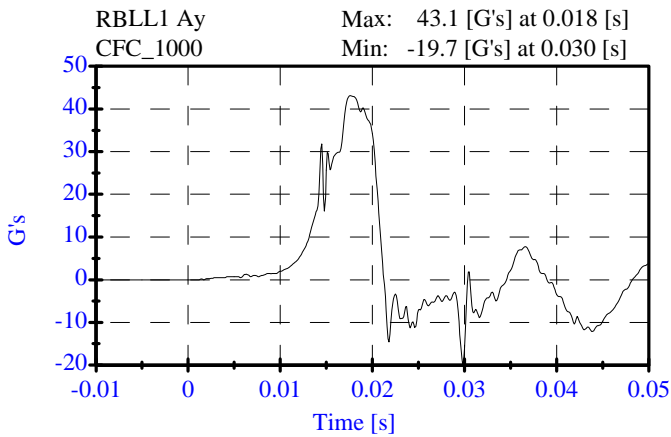
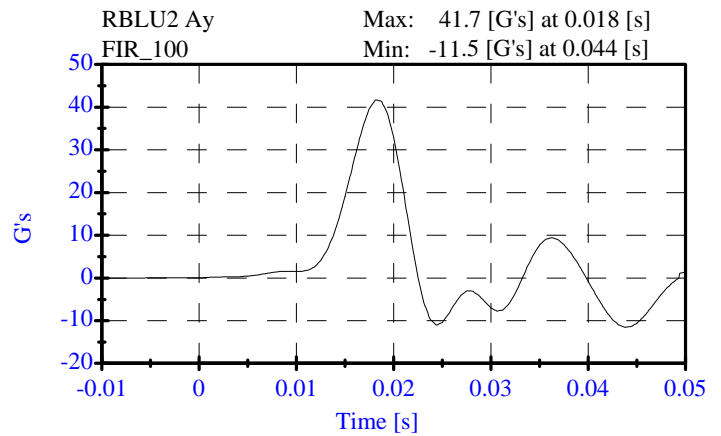
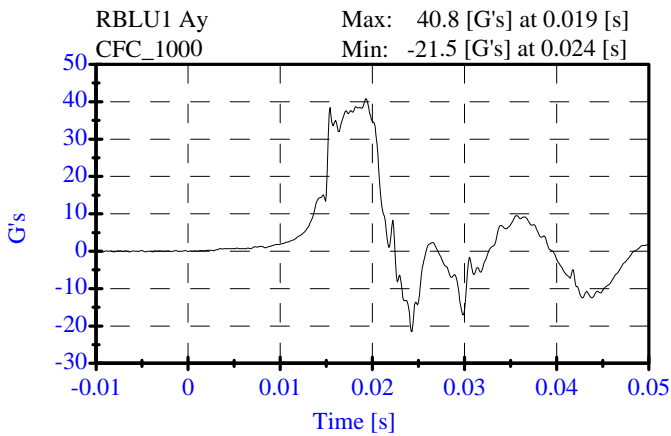


**Thorax Impact**  
**Pre-Test**  
**CONFIGURED FOR LEFT SIDE IMPACT**

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

Sequential Test Number: 1 File: 905T1 11-01-06  
 Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.27 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	41.68 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	42.07 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	21.70 G's	Passed





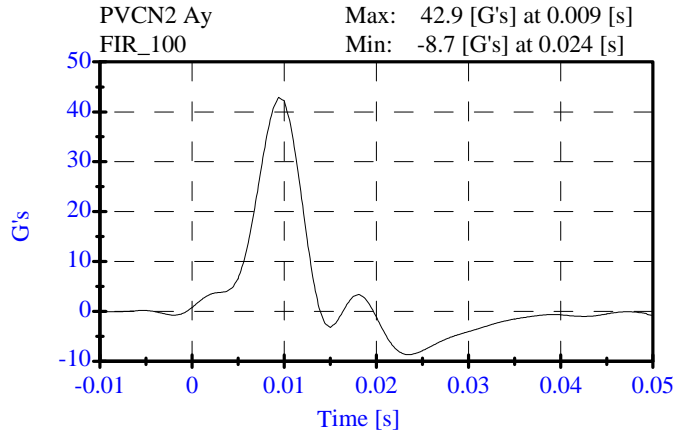
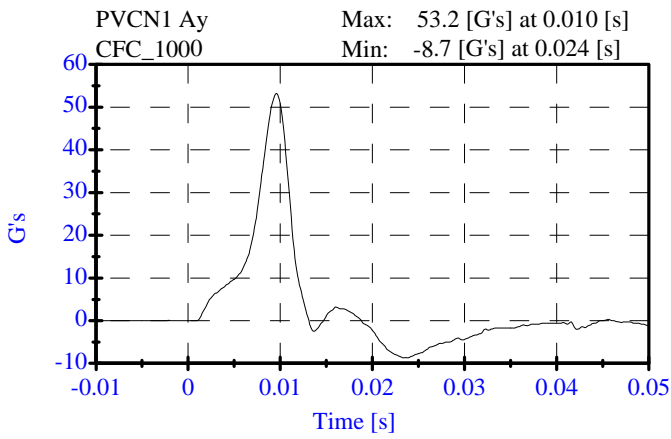
**Pelvic Impact  
Pre-Test**

**CONFIGURED FOR LEFT SIDE IMPACT**

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

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

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



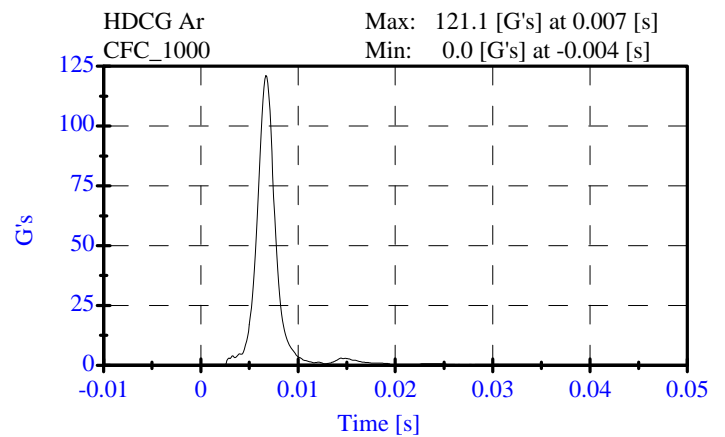
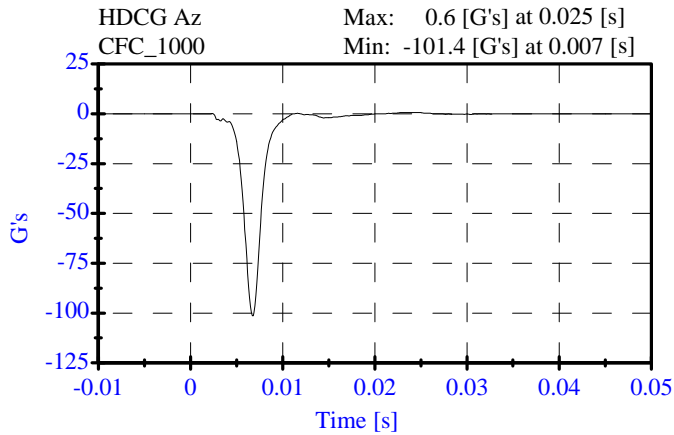
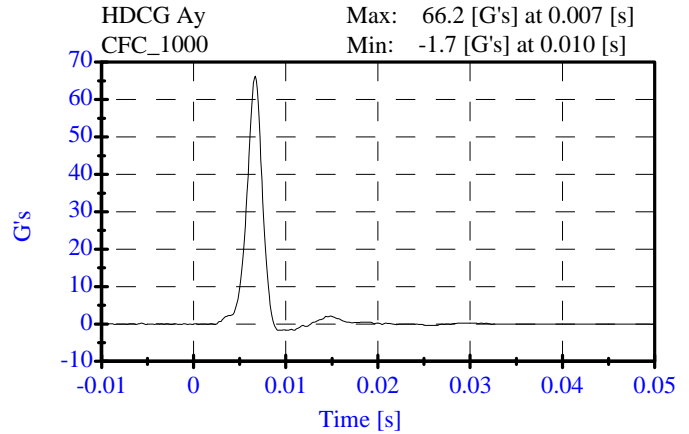
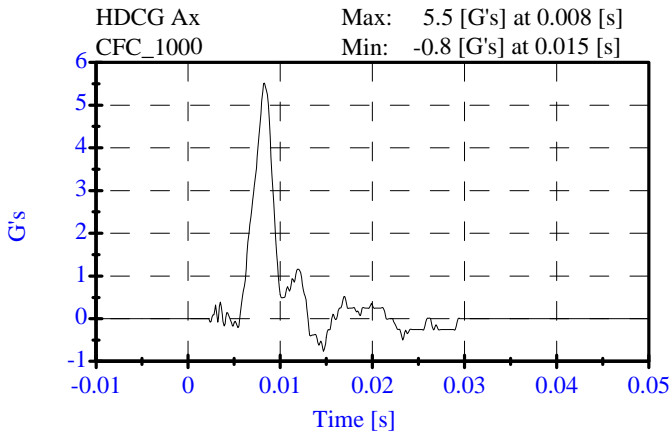
**Head Drop  
Pre-Test**

**CONFIGURED FOR LEFT SIDE IMPACT**

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

Sequential Test Number: 1 File: 905HD 10-26-06  
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	121.13 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	5.51 Gs	Passed
Curve PerCent NonModal:	< 15%	2.49 %	Passed



**Neck Test  
Pre-Test**

**CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 905  
Date: 10-30-06

Sequential Test Number: 1 File: 905N 10-30-06  
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.00 m/s	Passed
<b>PENDULUM DELTA V</b>			
Delta V at 10 ms:	1.96- 2.55 m/s	2.11 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.25 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.01 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	6.94 m/s	Passed
<b>D PLANE ROTATION</b>			
Maximum Rotation:	66.0-82.0 Deg	71.37 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	61.80 ms	Passed
<b>MOMENT ABOUT THE OCCIPITAL CONDYLE</b>			
Max Occipital Moment:	73.00- 88.00 N-m	79.43 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	56.10 ms	Passed
<b>HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT</b>			
Moment to Rotation Peak:	2.0-16.0 ms	8.90 ms	Passed

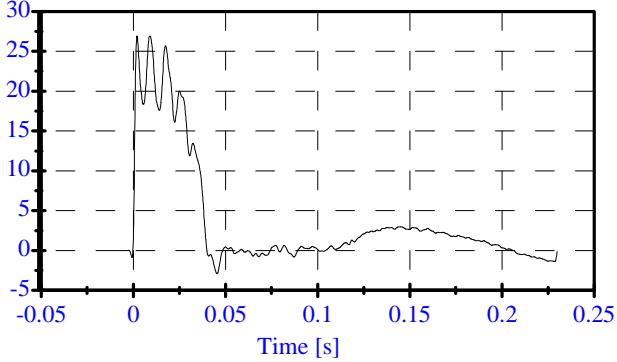
Neck Test  
Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

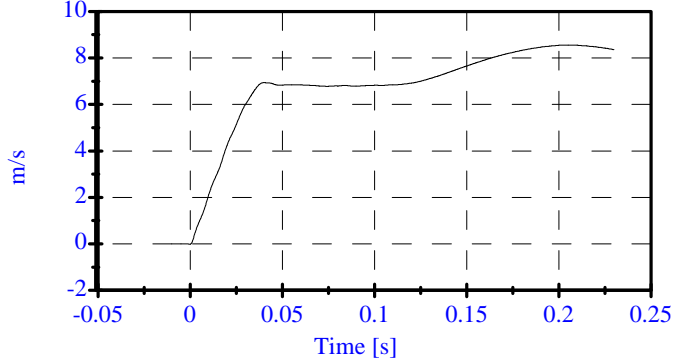
ATD Serial No: 905  
Date: 10-30-06

Sequential Test Number: 1 File: 905N 10-30-06  
Laboratory Technician: B. Swiecicki

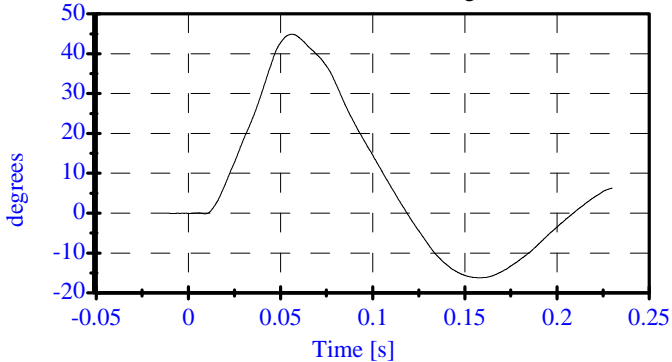
Pend Ax CFC\_180 Max: 27.0 [ ] at 0.002 [s]  
Min: -2.9 [ ] at 0.045 [s]



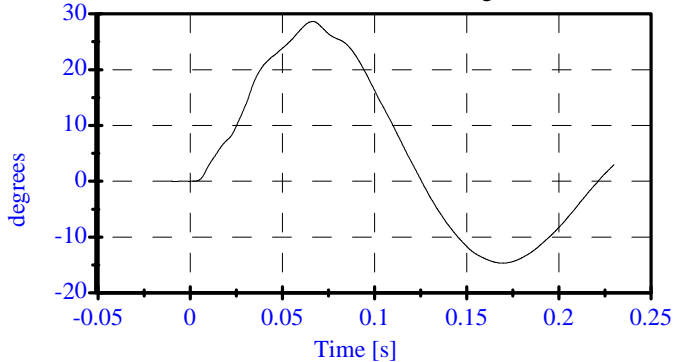
Pend Vx CFC\_180 Max: 8.6 [m/s] at 0.207 [s]  
Min: -0.0 [m/s] at -0.000 [s]



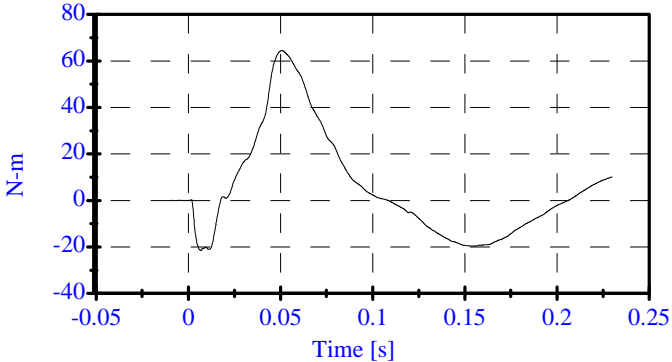
Head Rot CFC\_180 Max: 44.9 [degrees] at 0.056 [s]  
Min: -16.2 [degrees] at 0.158 [s]



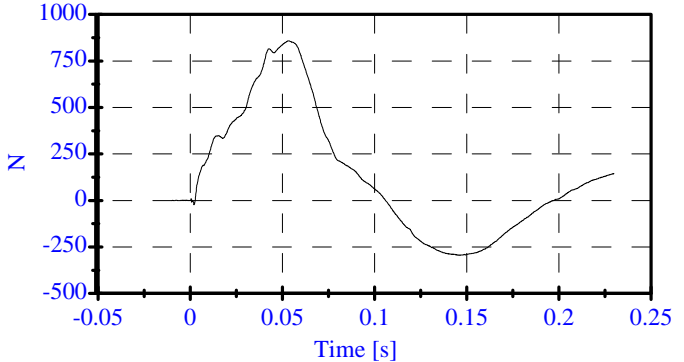
Arm Rot CFC\_180 Max: 28.7 [degrees] at 0.067 [s]  
Min: -14.7 [degrees] at 0.170 [s]



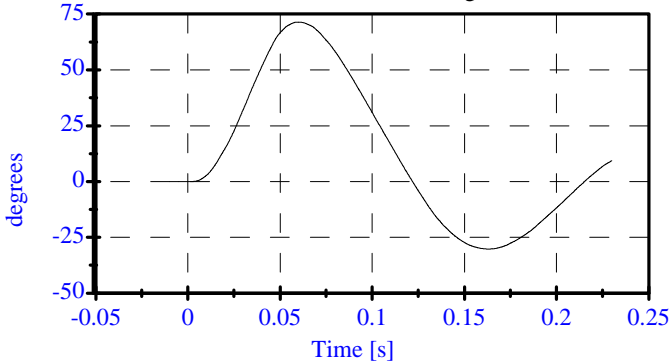
Neck Mx CFC\_600 Max: 64.4 [N-m] at 0.051 [s]  
Min: -21.6 [N-m] at 0.007 [s]



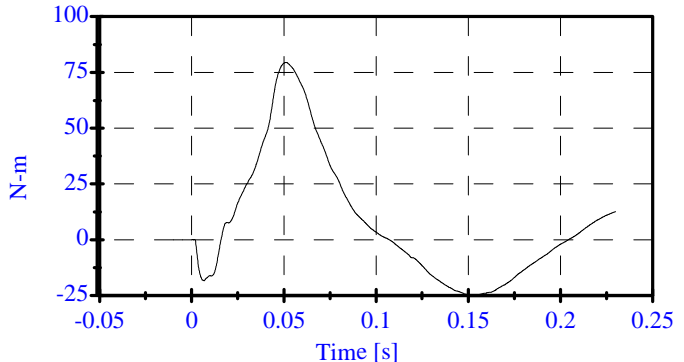
Neck Fy CFC\_1000 Max: 858.3 [N] at 0.053 [s]  
Min: -294.8 [N] at 0.146 [s]



Tot Rot CFC\_180 Max: 71.4 [degrees] at 0.060 [s]  
Min: -30.2 [degrees] at 0.163 [s]



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



# Abdomen Test

## Pre-Test

### CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905

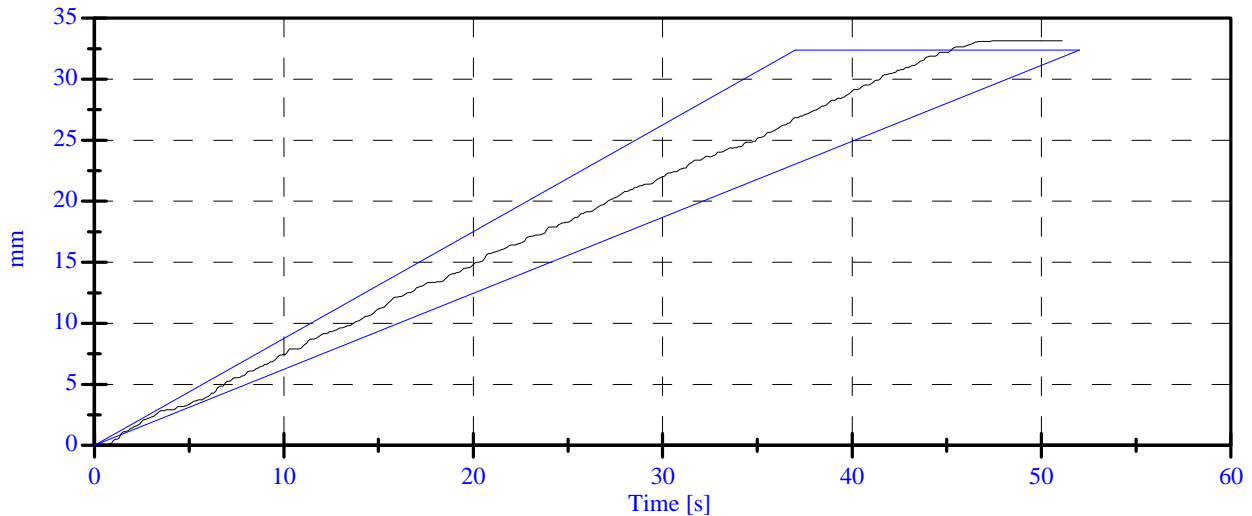
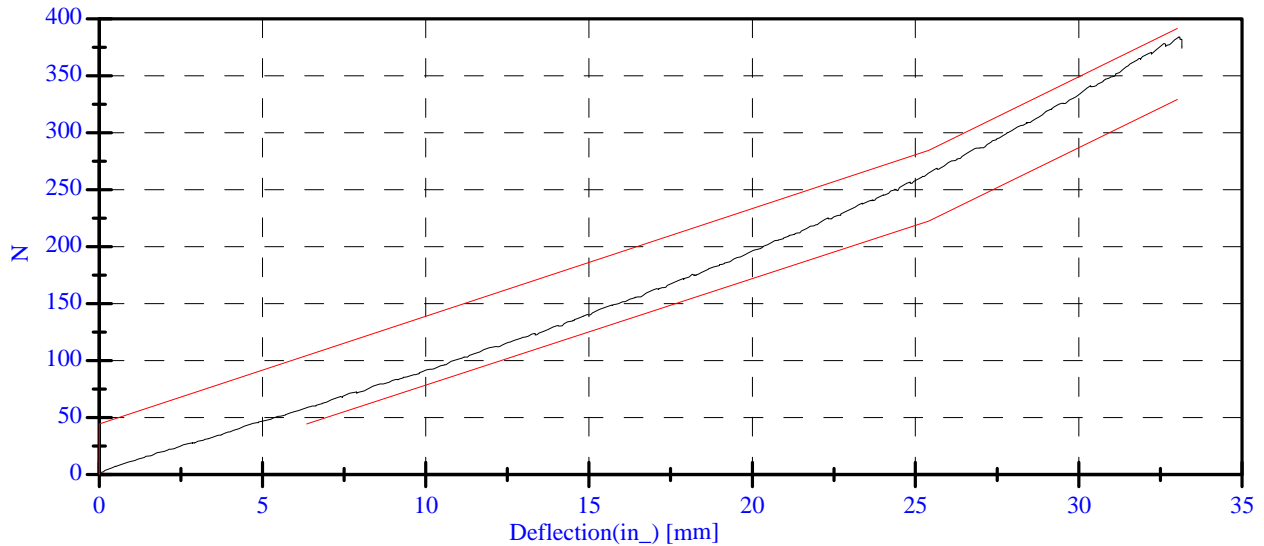
Date: 11-03-06

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

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	41.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	120.42 N	Passed
Force at 19.05 mm :	162.98-220.99 N	184.58 N	Passed
Force at 25.40 mm :	221.97-280.02 N	264.32 N	Passed
Force at 33.02 mm :	324.99-391.00 N	383.58 N	Passed

### ABDOMINAL COMPRESSION TEST



# Lumbar Spine

## Pre-Test

### CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905

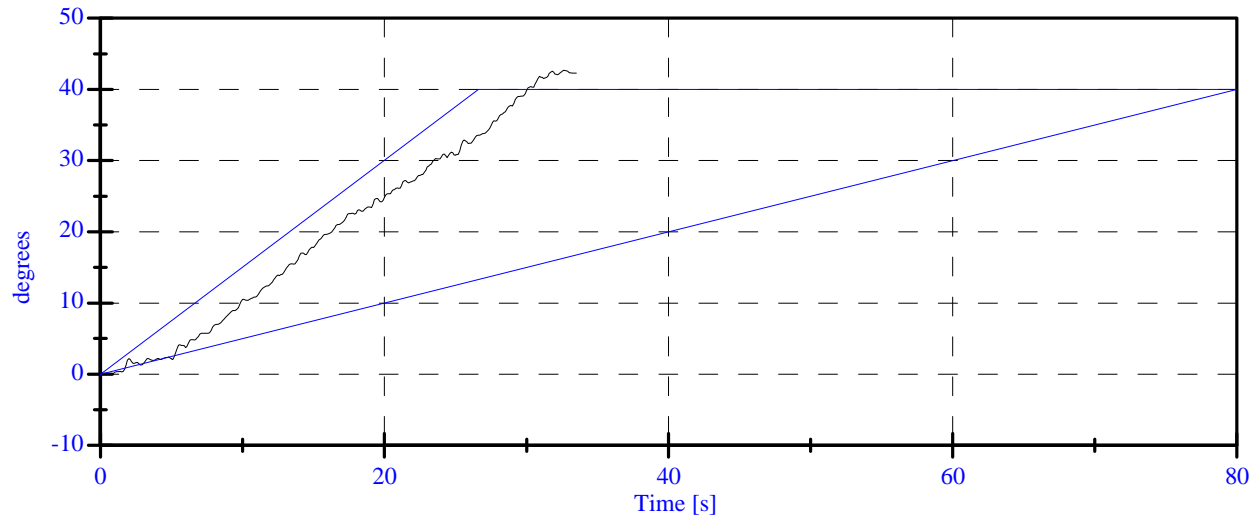
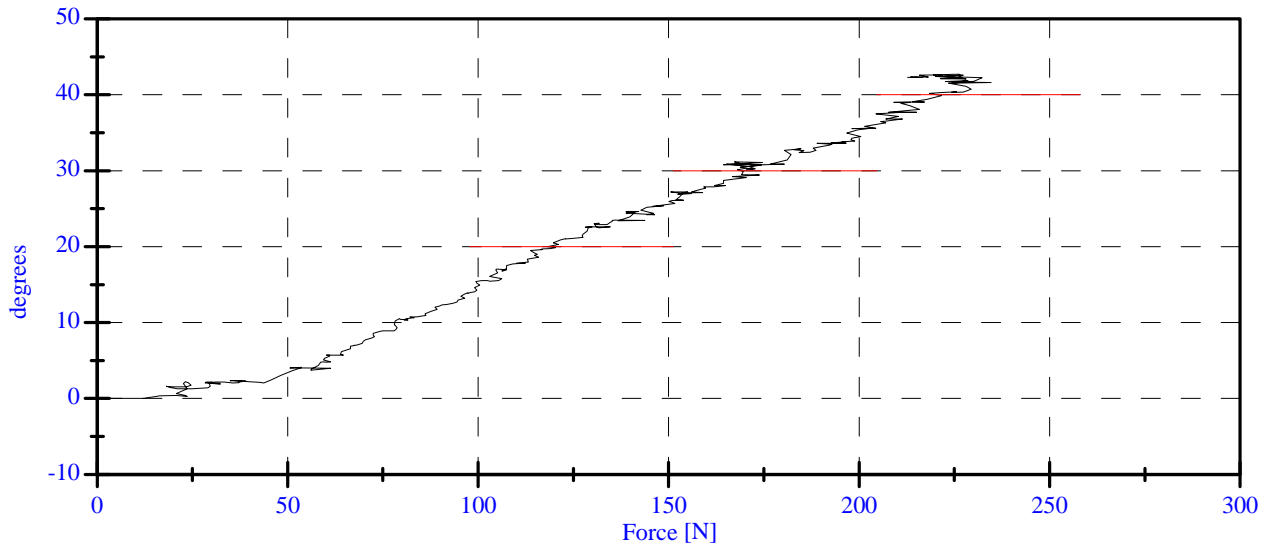
Date: 11-02-06

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

Laboratory Technician: B. Swiecicki

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

### LUMBAR SPINE FLEXION TEST



**PRE-TEST DUMMY INSPECTION LIST**  
**CONFIGURED FOR LEFT SIDE IMPACT**

SID H3 Serial No.: 905 Sequential Test Number: 1.3  
 Date: 11/03/06 Laboratory Technician: B. Swiecicki

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

**REMARKS:** None

**CALIBRATION TEST RESULTS**

**POST TEST**

**SID H3 NO.:** 906

**CONFIGURED FOR LEFT SIDE IMPACT**



**CALIBRATION TEST RESULTS SUMMARY  
POST TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID H3 Serial No.: 906 Sequential Test Number: 1.4  
Date: 11/27/2006 Laboratory Technician: B. Swiecicki

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

\* Test not required for SID certification.

**REMARKS:** None

**EXTERNAL DIMENSIONS  
POST TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID H3 Serial No.: 906 Sequential Test Number: 1.4  
Date: 11/27/2006 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	895
RH- Rib Height (mm)	502 - 520	513
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	232
KH- Knee Pivot from Back Line (mm)	511 - 526	517
KV- Knee Pivot to Floor (mm)	490 - 505	498
HW- Hip Width (mm)	356 - 391	371

**REMARKS:** None

# Thorax Impact

## Post-Test

### CONFIGURED FOR LEFT SIDE IMPACT

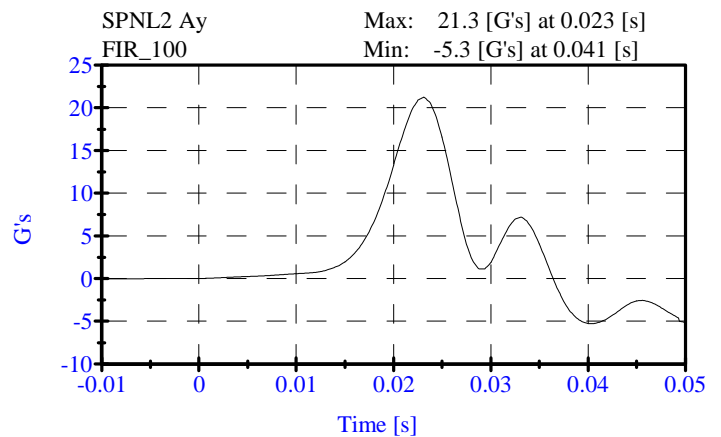
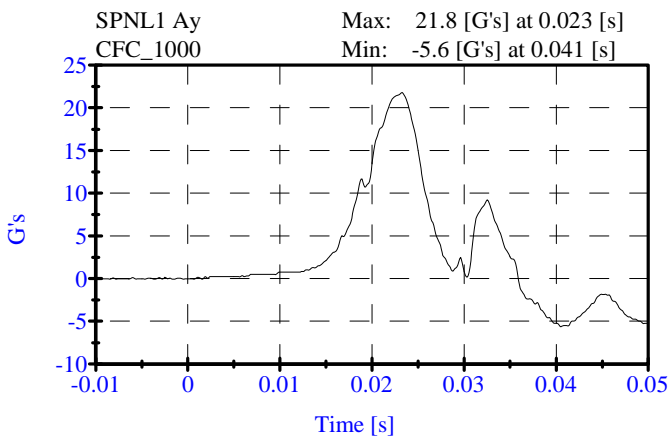
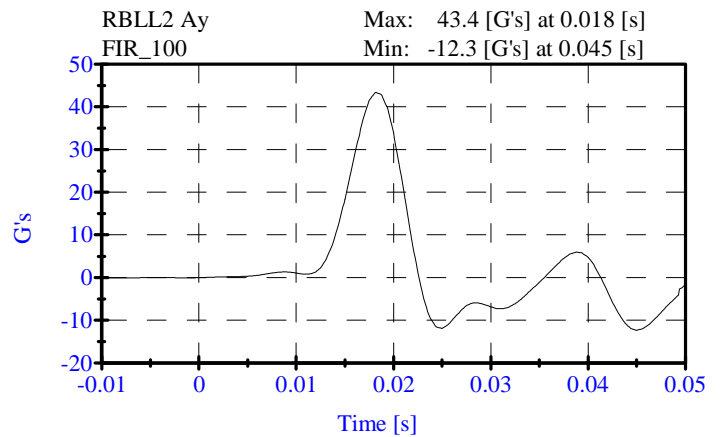
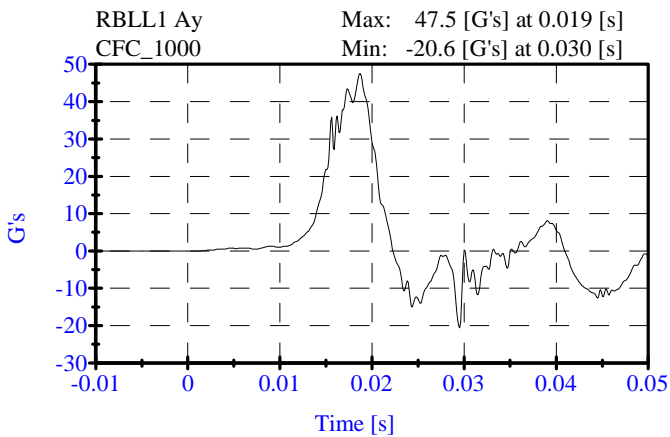
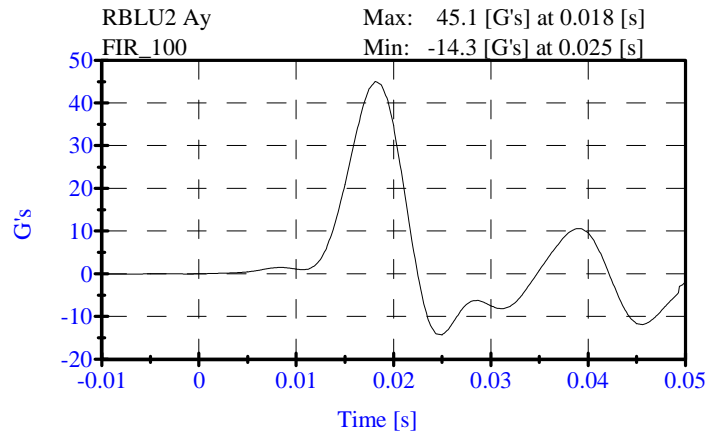
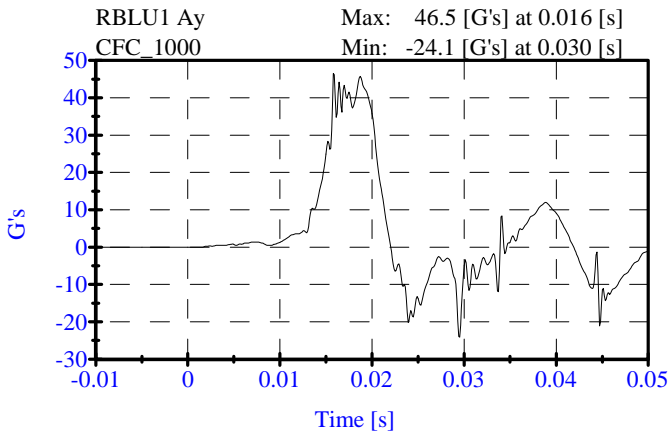
ATD Serial No: 906

Date: 11-27-06

Sequential Test Number: 1 File: 906T 11-27-06

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	42.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	45.05 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	43.42 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	21.28 G's	Passed



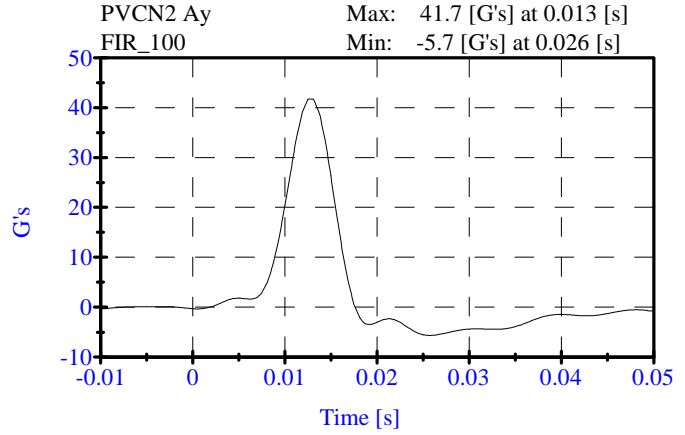
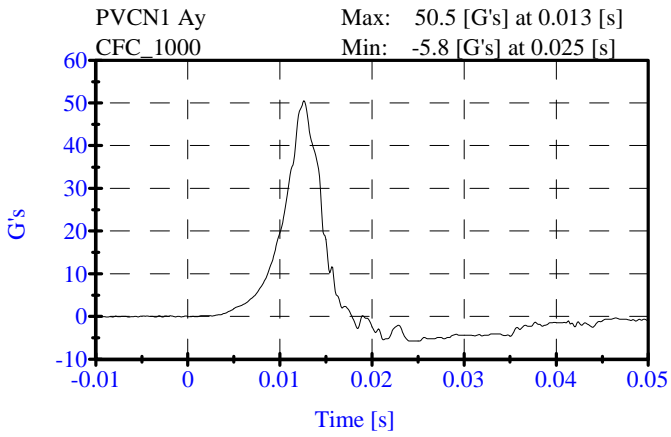
**Pelvic Impact  
POST TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 906  
Date: 11-27-06

Sequential Test Number: 1 File: 906P 11-27-06  
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	42.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.30 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	41.72 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.5 ms	Passed



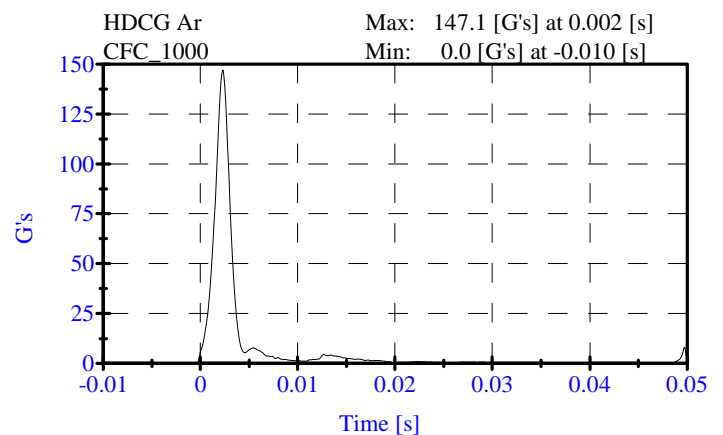
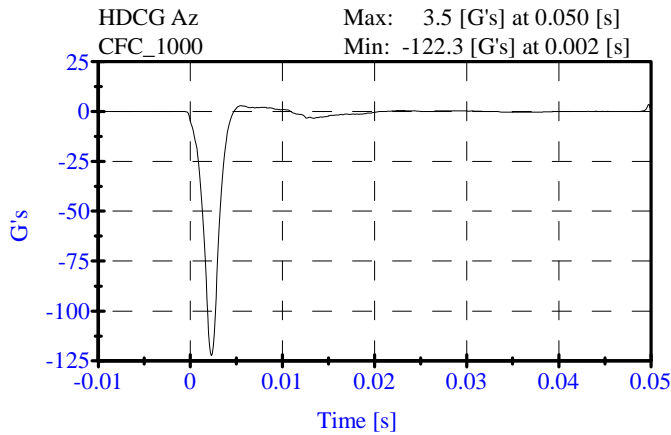
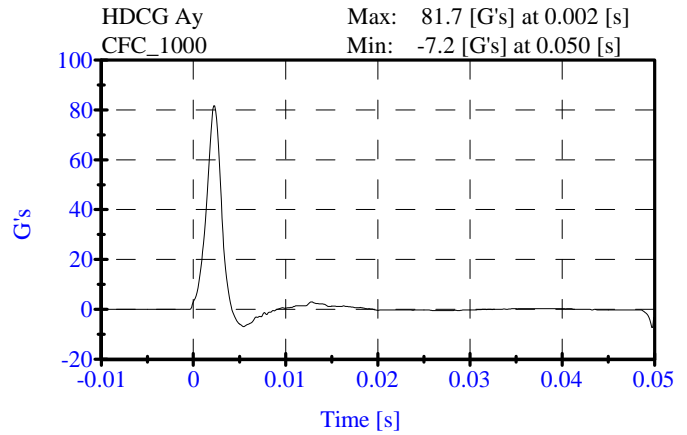
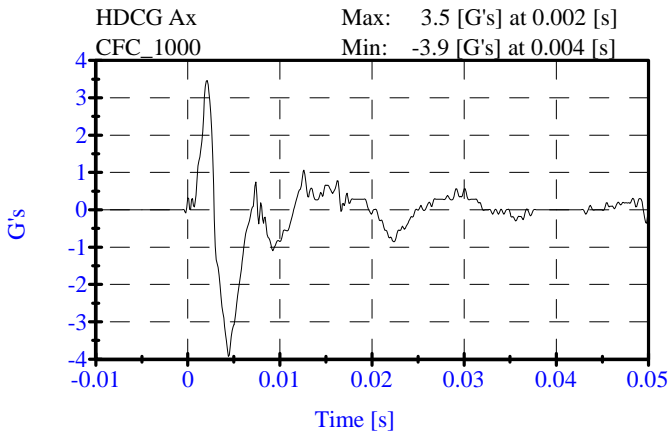
# Head Drop POST TEST

## CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906  
Date: 11-22-06

Sequential Test Number: 1 File: 906HD 11-22-06  
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	147.08 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	3.46 Gs	Passed
Curve PerCent NonModal:	< 15%	5.41 %	Passed



**Neck Test**  
**POST TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 906  
Date: 11-22-06

Sequential Test Number: 1 File: 906N 11-22-06  
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 %	36.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	6.98 m/s	Passed
<b>PENDULUM DELTA V</b>			
Delta V at 10 ms:	1.96- 2.55 m/s	2.06 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.28 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.23 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	6.99 m/s	Passed
<b>D PLANE ROTATION</b>			
Maximum Rotation:	66.0-82.0 Deg	71.76 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	60.50 ms	Passed
<b>MOMENT ABOUT THE OCCIPITAL CONDYLE</b>			
Max Occipital Moment:	73.00- 88.00 N-m	83.06 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	58.10 ms	Passed
<b>HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT</b>			
Moment to Rotation Peak:	2.0-16.0 ms	9.90 ms	Passed

**Neck Test  
POST TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 906

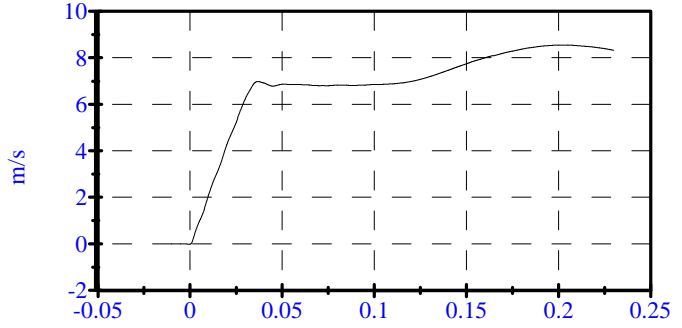
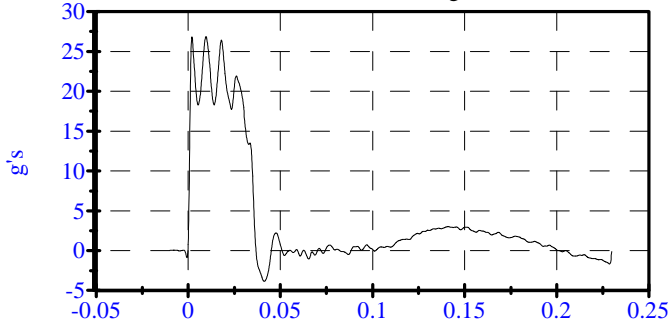
Date: 11-22-06

Sequential Test Number: 1 File: 906N 11-22-06

Laboratory Technician: B. Swiecicki

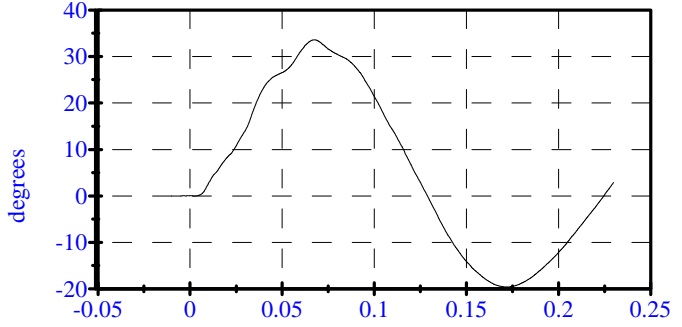
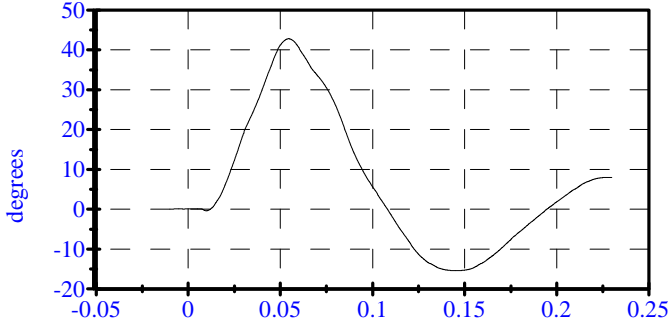
Pend Ax Max: 26.8 [g's] at 0.010 [s]  
CFC\_180 Min: -3.9 [g's] at 0.041 [s]

Pend Vx Max: 8.6 [m/s] at 0.200 [s]  
CFC\_180 Min: -0.0 [m/s] at -0.000 [s]



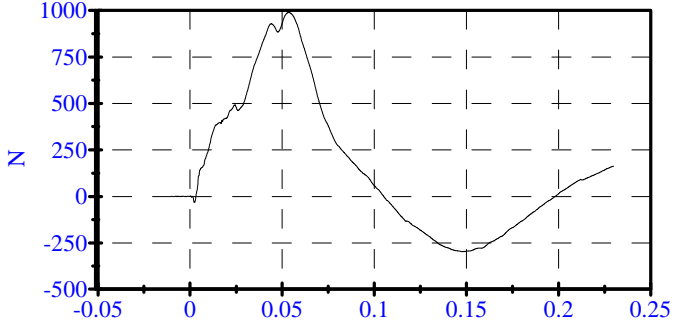
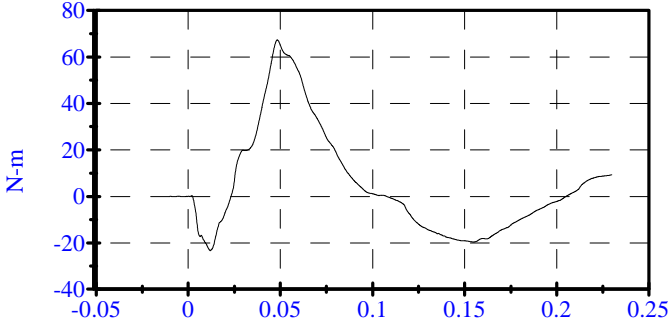
Head Rot Max: 42.8 [degrees] at 0.055 [s]  
CFC\_180 Min: -15.5 [degrees] at 0.145 [s]

Arm Rot Max: 33.6 [degrees] at 0.068 [s]  
CFC\_180 Min: -19.6 [degrees] at 0.172 [s]



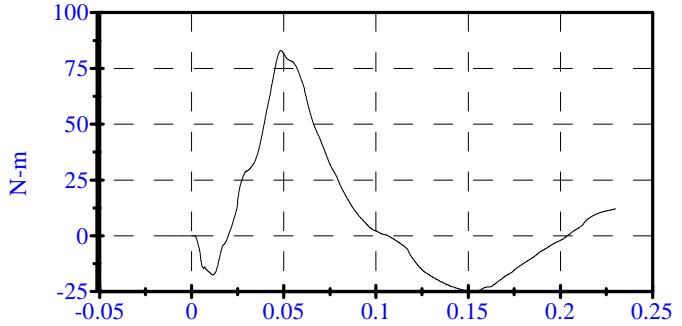
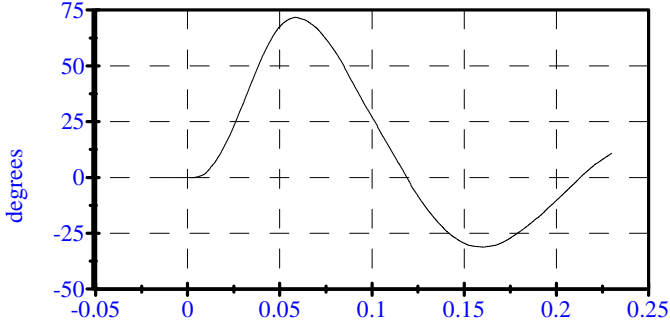
Neck Mx Max: 67.2 [N-m] at 0.048 [s]  
CFC\_600 Min: -23.3 [N-m] at 0.012 [s]

Neck Fy Max: 989.0 [N] at 0.054 [s]  
CFC\_1000 Min: -296.5 [N] at 0.147 [s]



Tot Rot Max: 71.8 [degrees] at 0.058 [s]  
CFC\_180 Min: -31.2 [degrees] at 0.160 [s]

Mocx Max: 83.1 [N-m] at 0.049 [s]  
Min: -24.7 [N-m] at 0.154 [s]



# Abdomen Test

## Post-Test

### CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906

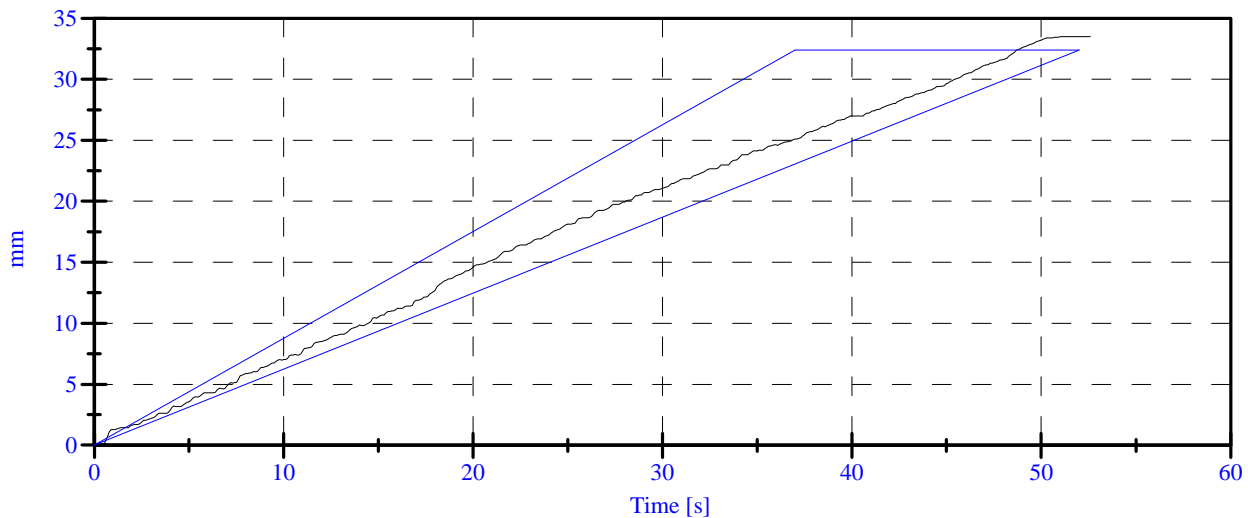
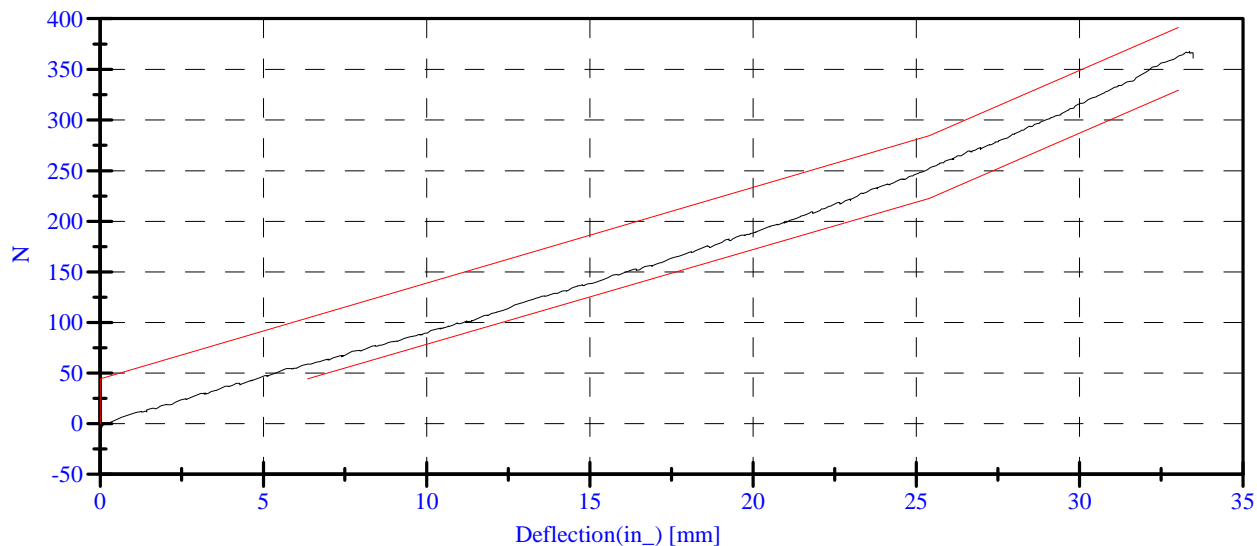
Date: 11-27-06

Sequential Test Number: 1 File: 906AB 11-27-06

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	120.05 N	Passed
Force at 19.05 mm :	162.98-220.99 N	179.14 N	Passed
Force at 25.40 mm :	221.97-280.02 N	253.45 N	Passed
Force at 33.02 mm :	324.99-391.00 N	363.28 N	Passed

### ABDOMINAL COMPRESSION TEST





# Lumbar Spine

## POST TEST

### CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906

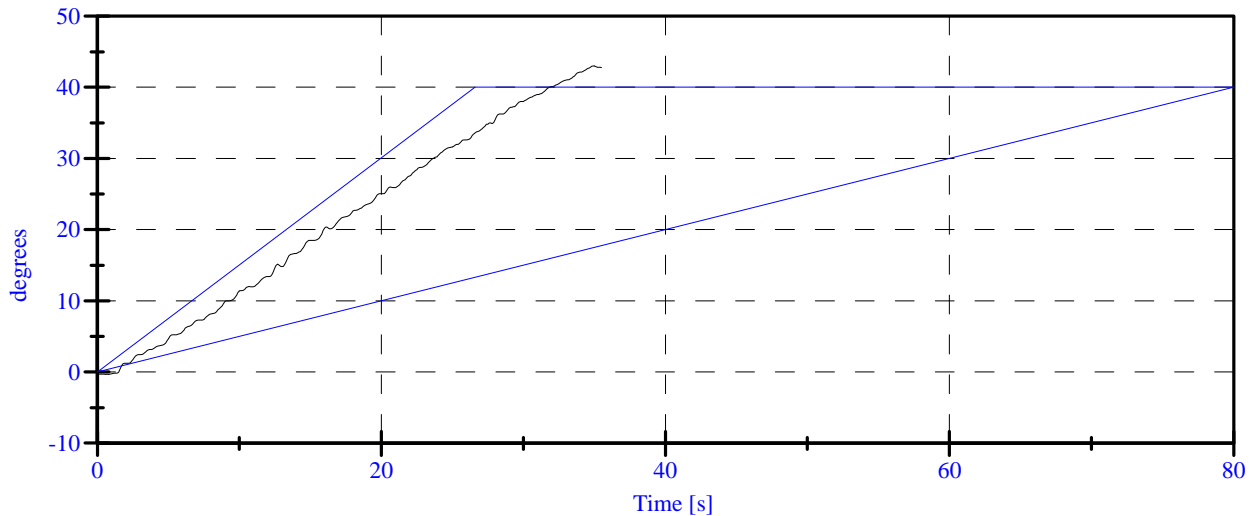
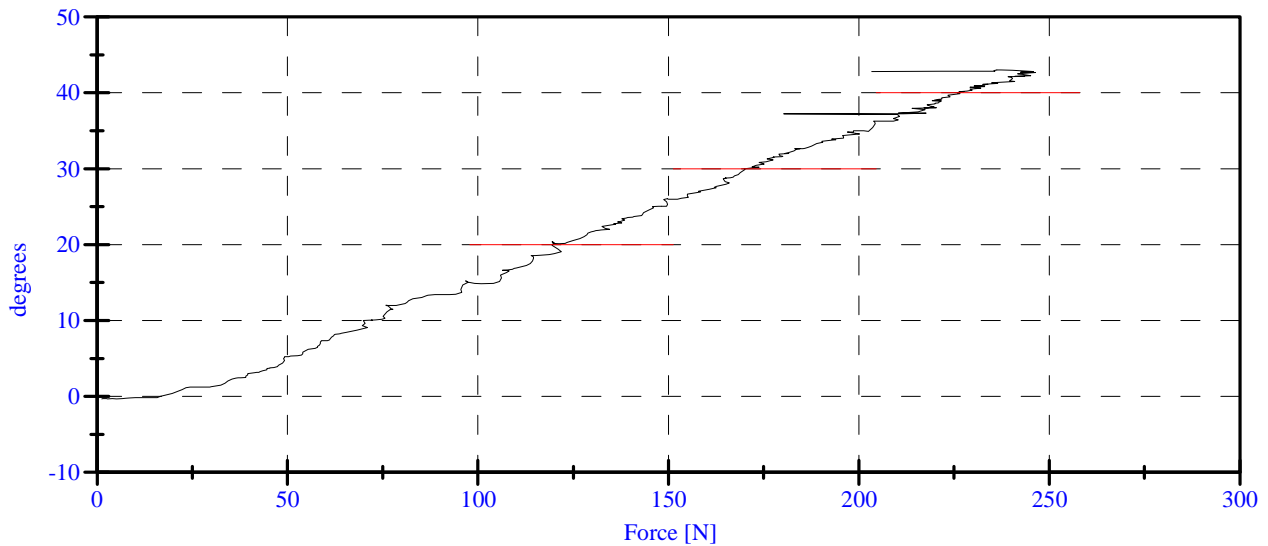
Date: 11-27-06

Sequential Test Number: 1 File: 906SP 11-27-06

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	16.59 N	Passed
Force at 20 Deg:	97.86-151.24 N	119.48 N	Passed
Force at 30 Deg:	151.24-204.62 N	169.89 N	Passed
Force at 40 Deg:	204.62-258.00 N	225.77 N	Passed
Return Angle	12 Deg Max	1.60 deg	Passed

### LUMBAR SPINE FLEXION TEST



**POST TEST DUMMY INSPECTION LIST**  
**CONFIGURED FOR LEFT SIDE IMPACT**

SID H3 Serial No.: 906 Sequential Test Number: 1.4  
 Date: 11/27/2006 Laboratory Technician: B. Swiecicki

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

**REMARKS:** None

**CALIBRATION TEST RESULTS**

**POST TEST**

**SID H3 NO.:** 905

**CONFIGURED FOR LEFT SIDE IMPACT**

**CALIBRATION TEST RESULTS SUMMARY  
POST TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID H3 Serial No.: 905 Sequential Test Number: 1.4  
Date: 11/27/2006 Laboratory Technician: B. Swiecicki

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

\* Test not required for SID certification.

**REMARKS:** None

**EXTERNAL DIMENSIONS  
POST TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID H3 Serial No.: 905 Sequential Test Number: 1.4  
Date: 11/27/2006 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	895
RH- Rib Height (mm)	502 - 520	513
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	233
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	370

**REMARKS:** None

# Thorax Impact

## Post-Test

### CONFIGURED FOR LEFT SIDE IMPACT

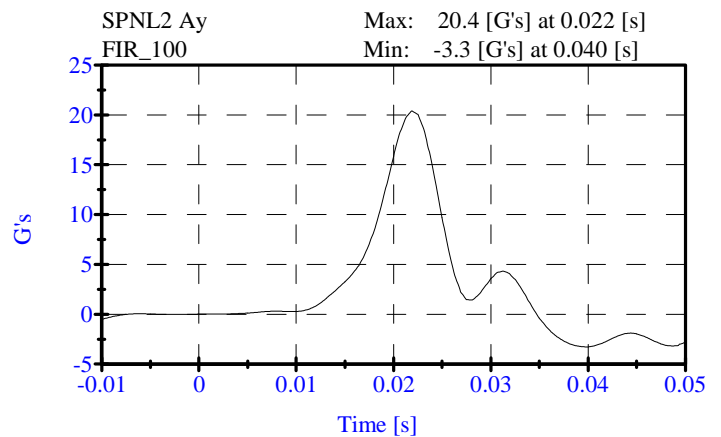
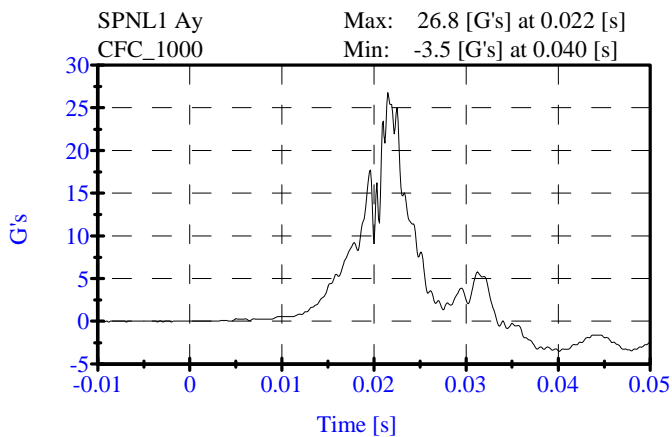
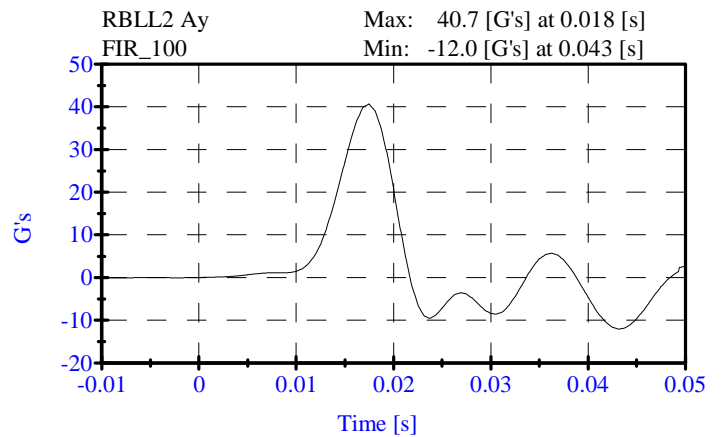
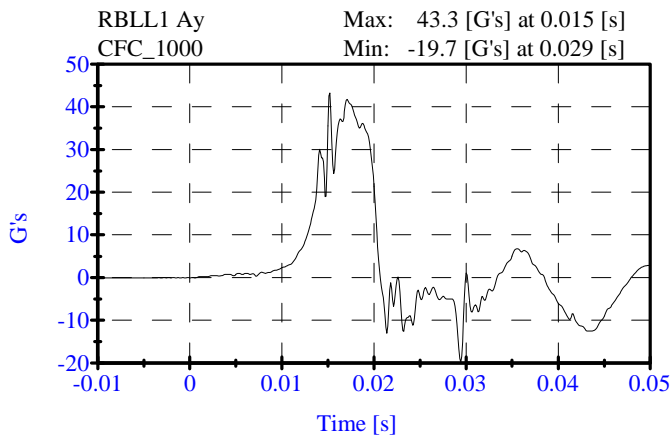
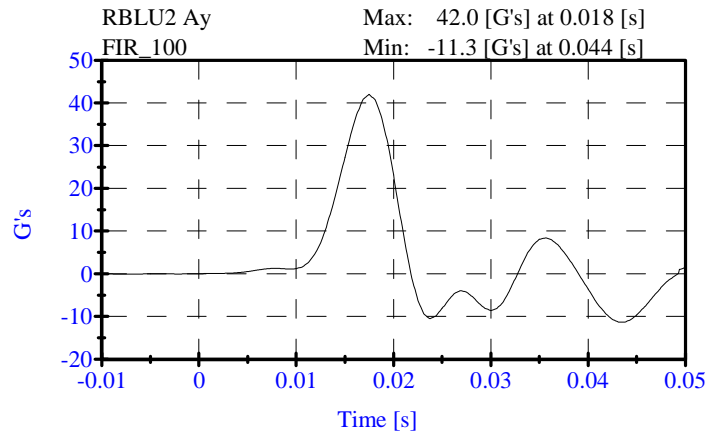
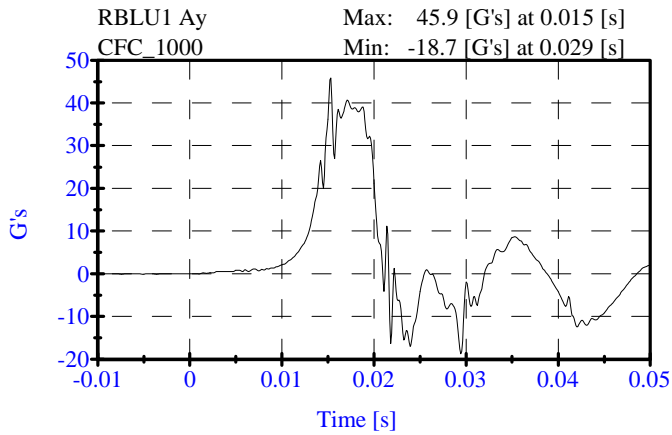
ATD Serial No: 905

Date: 11-27-06

Sequential Test Number: 1 File: 905T 11-27-06

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	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	42.02 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	40.68 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	20.42 G's	Passed



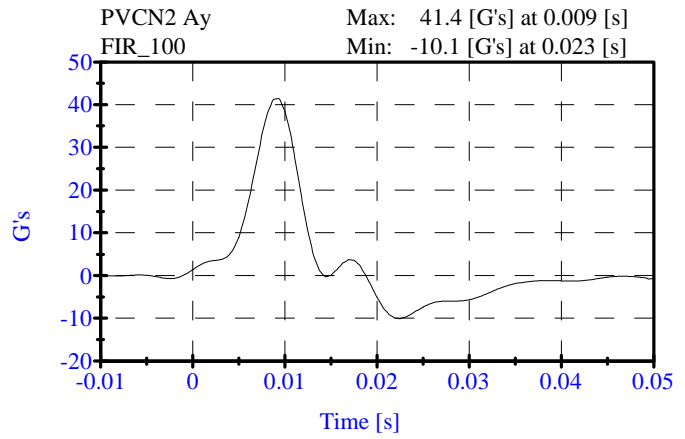
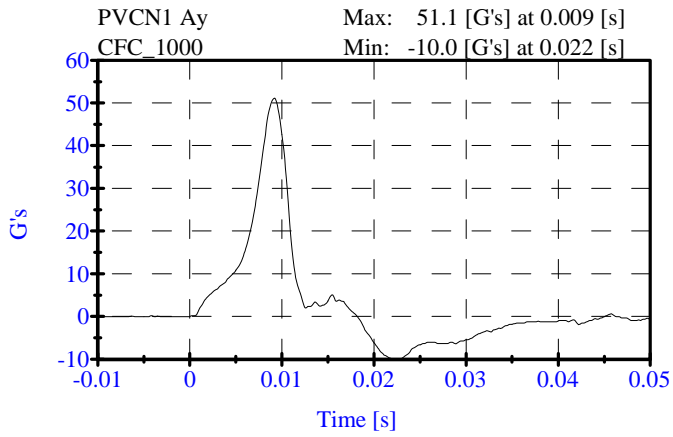
**Pelvic Impact  
POST TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 905  
Date: 11-27-06

Sequential Test Number: 1 File: 905P1 11-27-06  
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	42.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	41.39 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.4 ms	Passed



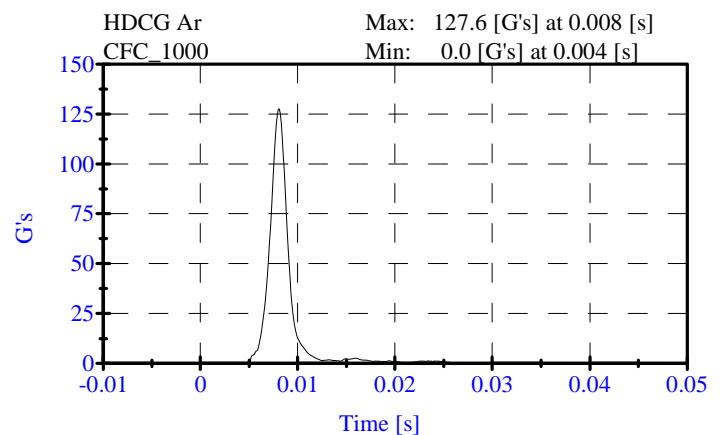
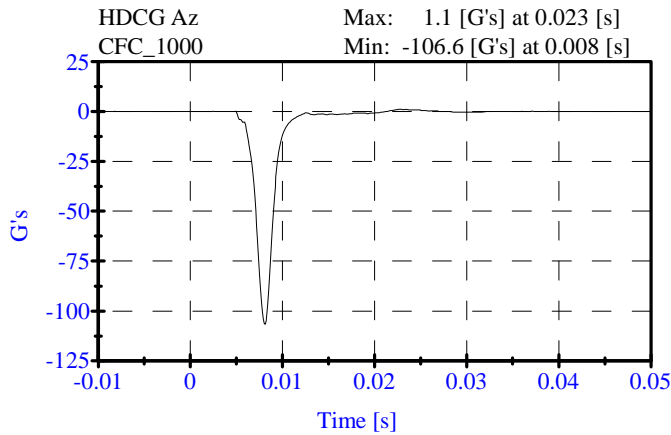
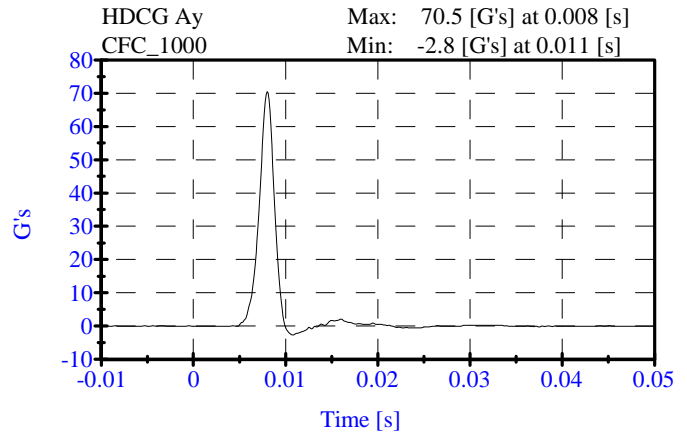
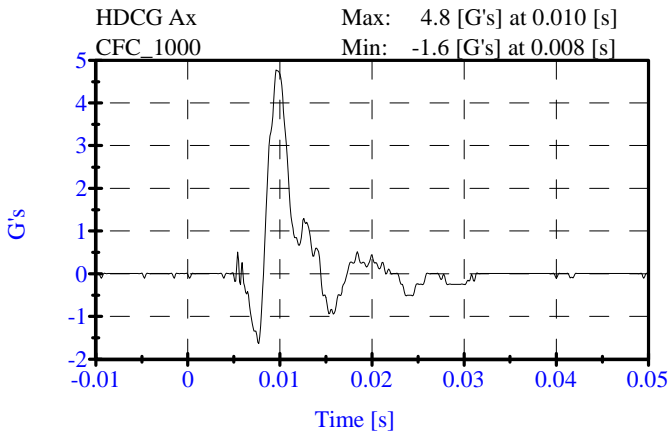
**Head Drop  
POST TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 905  
Date: 11-22-06

Sequential Test Number: 1 File: 905HD 11-22-06  
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	127.57 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	4.77 Gs	Passed
Curve PerCent NonModal:	< 15%	2.10 %	Passed





**Neck Test**  
**POST TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 905  
Date: 11-22-06

Sequential Test Number: 1 File: 905N 11-22-06  
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 %	36.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.00 m/s	Passed
<b>PENDULUM DELTA V</b>			
Delta V at 10 ms:	1.96- 2.55 m/s	2.25 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.67 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.67 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.13 m/s	Passed
<b>D PLANE ROTATION</b>			
Maximum Rotation:	66.0-82.0 Deg	71.95 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	60.40 ms	Passed
<b>MOMENT ABOUT THE OCCIPITAL CONDYLE</b>			
Max Occipital Moment:	73.00- 88.00 N-m	85.43 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	54.40 ms	Passed
<b>HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT</b>			
Moment to Rotation Peak:	2.0-16.0 ms	11.40 ms	Passed

**Neck Test  
POST TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

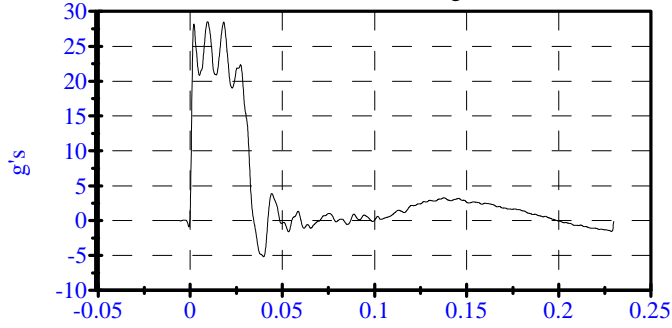
ATD Serial No: 905

Date: 11-22-06

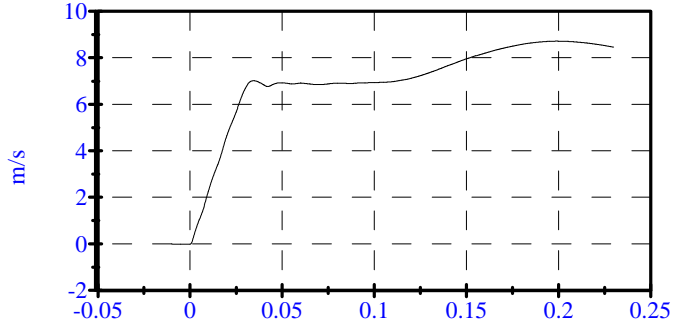
Sequential Test Number: 1 File: 905N 11-22-06

Laboratory Technician: B. Swiecicki

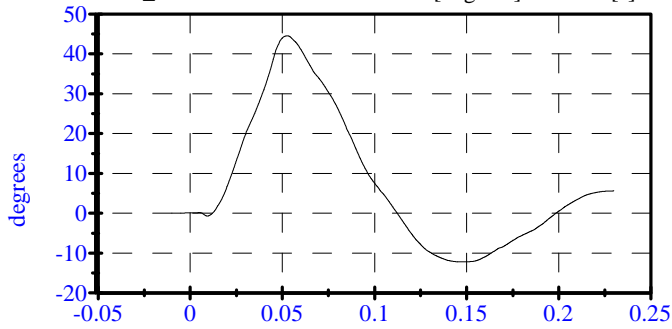
Pend Ax Max: 28.5 [g's] at 0.009 [s]  
CFC\_180 Min: -5.2 [g's] at 0.040 [s]



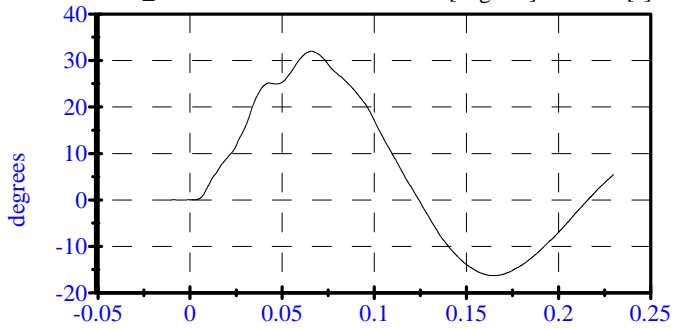
Pend Vx Max: 8.7 [m/s] at 0.199 [s]  
CFC\_180 Min: -0.0 [m/s] at -0.000 [s]



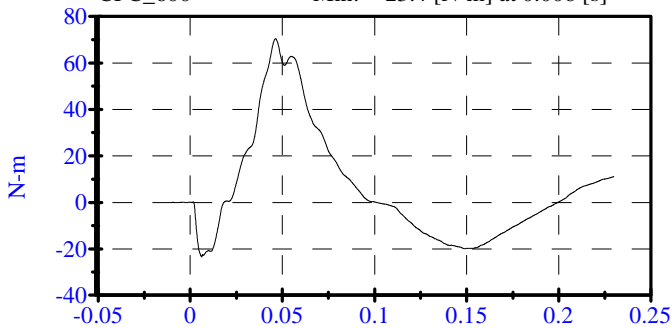
Head Rot Max: 44.5 [degrees] at 0.053 [s]  
CFC\_180 Min: -12.2 [degrees] at 0.148 [s]



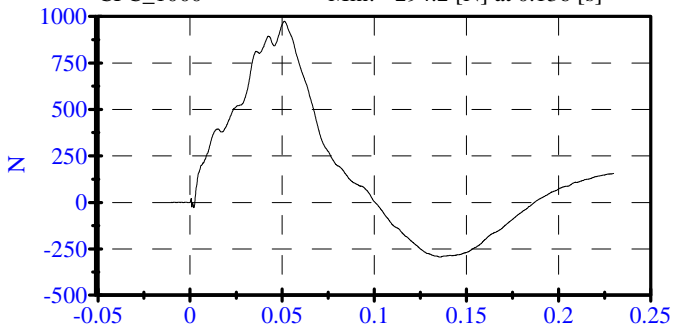
Arm Rot Max: 31.9 [degrees] at 0.066 [s]  
CFC\_180 Min: -16.3 [degrees] at 0.165 [s]



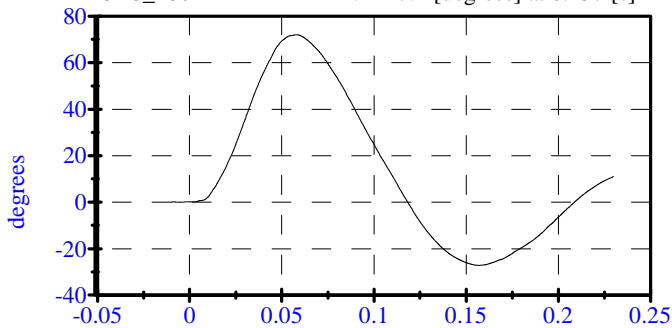
Neck Mx Max: 70.4 [N-m] at 0.046 [s]  
CFC\_600 Min: -23.4 [N-m] at 0.006 [s]



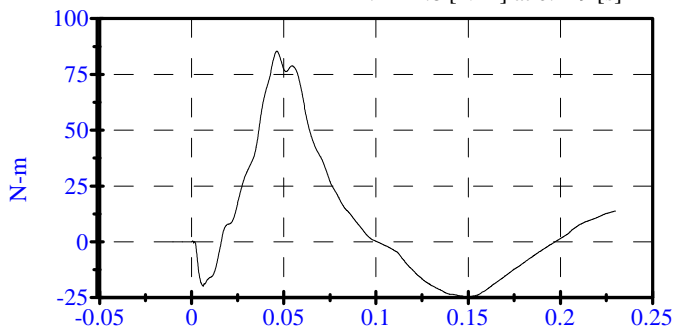
Neck Fy Max: 973.0 [N] at 0.051 [s]  
CFC\_1000 Min: -294.2 [N] at 0.136 [s]



Tot Rot Max: 72.0 [degrees] at 0.058 [s]  
CFC\_180 Min: -27.2 [degrees] at 0.157 [s]



Mocx Max: 85.4 [N-m] at 0.046 [s]  
Min: -24.8 [N-m] at 0.149 [s]



# Abdomen Test

## Post-Test

### CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905

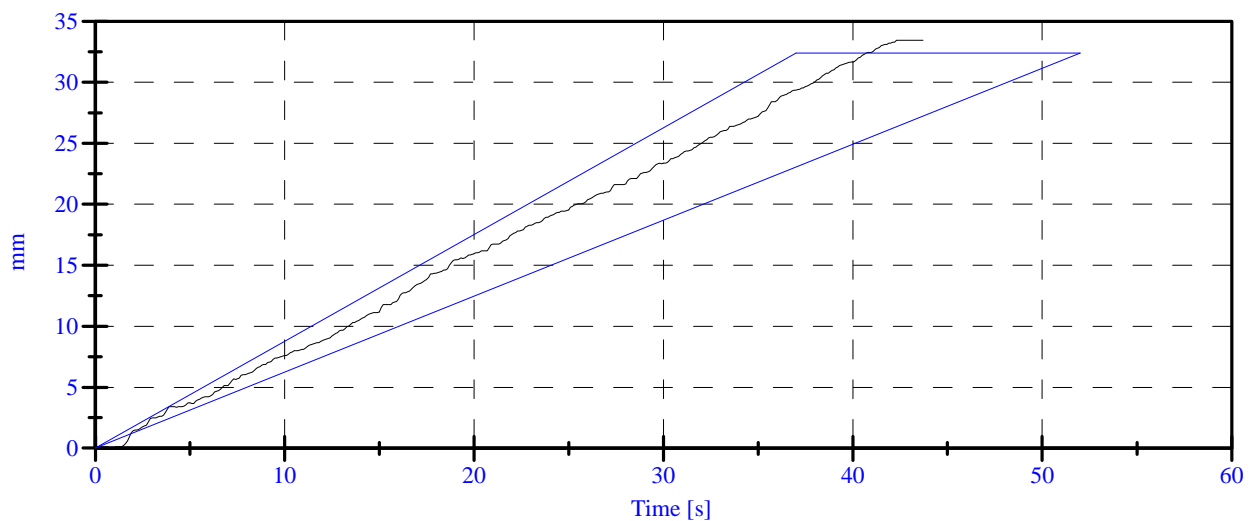
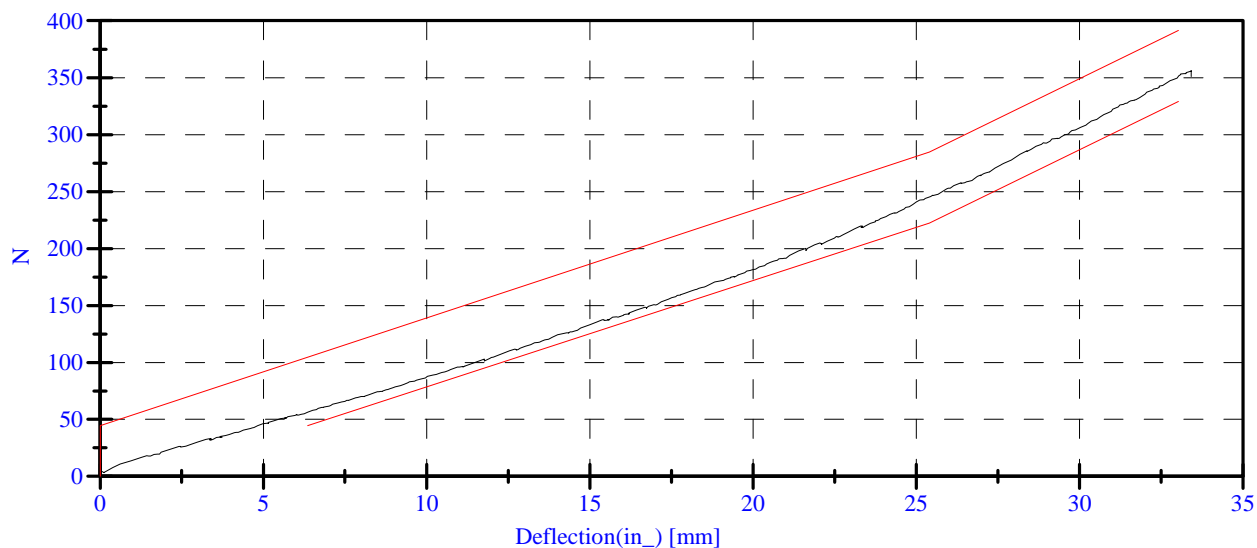
Date: 11-27-06

Sequential Test Number: 1 File: 905AB 11-27-06

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	114.25 N	Passed
Force at 19.05 mm :	162.98-220.99 N	171.89 N	Passed
Force at 25.40 mm :	221.97-280.02 N	245.84 N	Passed
Force at 33.02 mm :	324.99-391.00 N	351.68 N	Passed

### ABDOMINAL COMPRESSION TEST



**Lumbar Spine  
POST TEST**

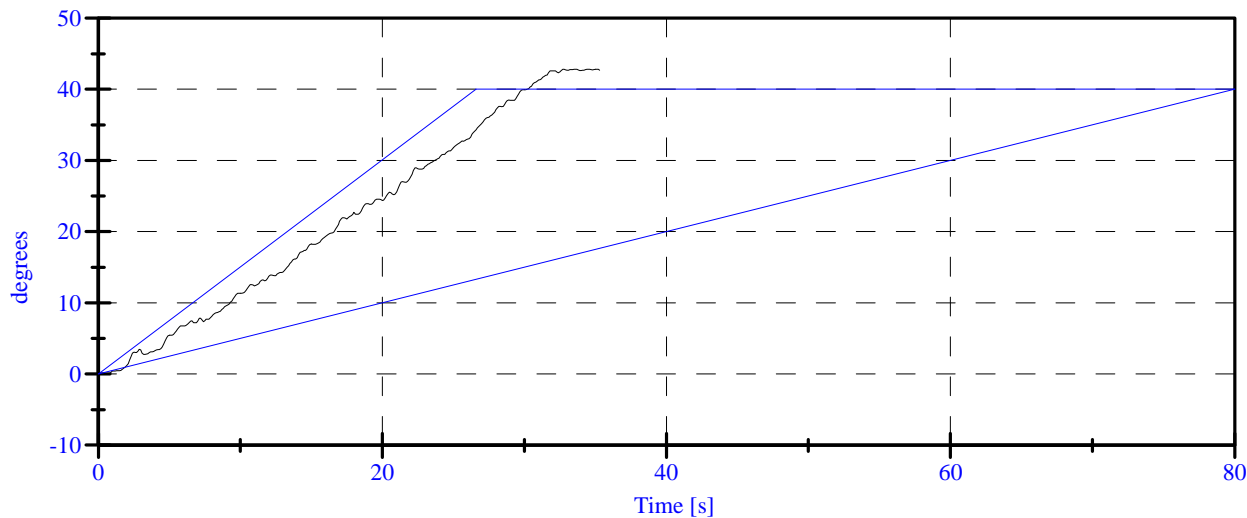
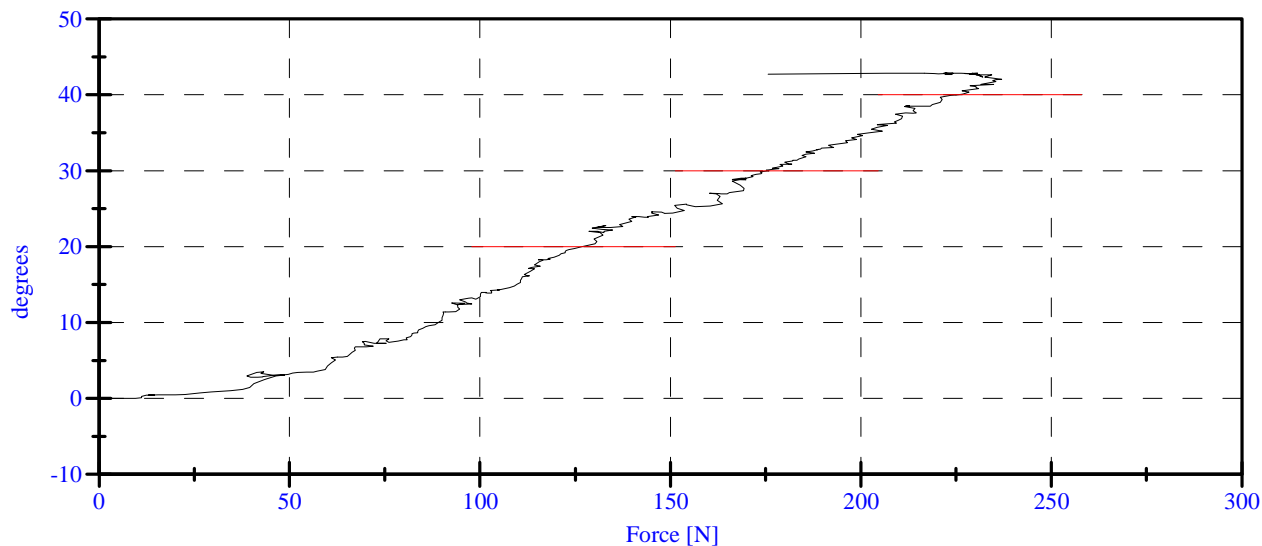
**CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 905  
Date: 11-27-06

Sequential Test Number: 1 File: 905SP 11-27-06  
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	2.22 N	Passed
Force at 20 Deg:	97.86-151.24 N	126.79 N	Passed
Force at 30 Deg:	151.24-204.62 N	175.89 N	Passed
Force at 40 Deg:	204.62-258.00 N	226.29 N	Passed
Return Angle	12 Deg Max	3.55 deg	Passed

**LUMBAR SPINE FLEXION TEST**



**POST TEST DUMMY INSPECTION LIST**  
**CONFIGURED FOR LEFT SIDE IMPACT**

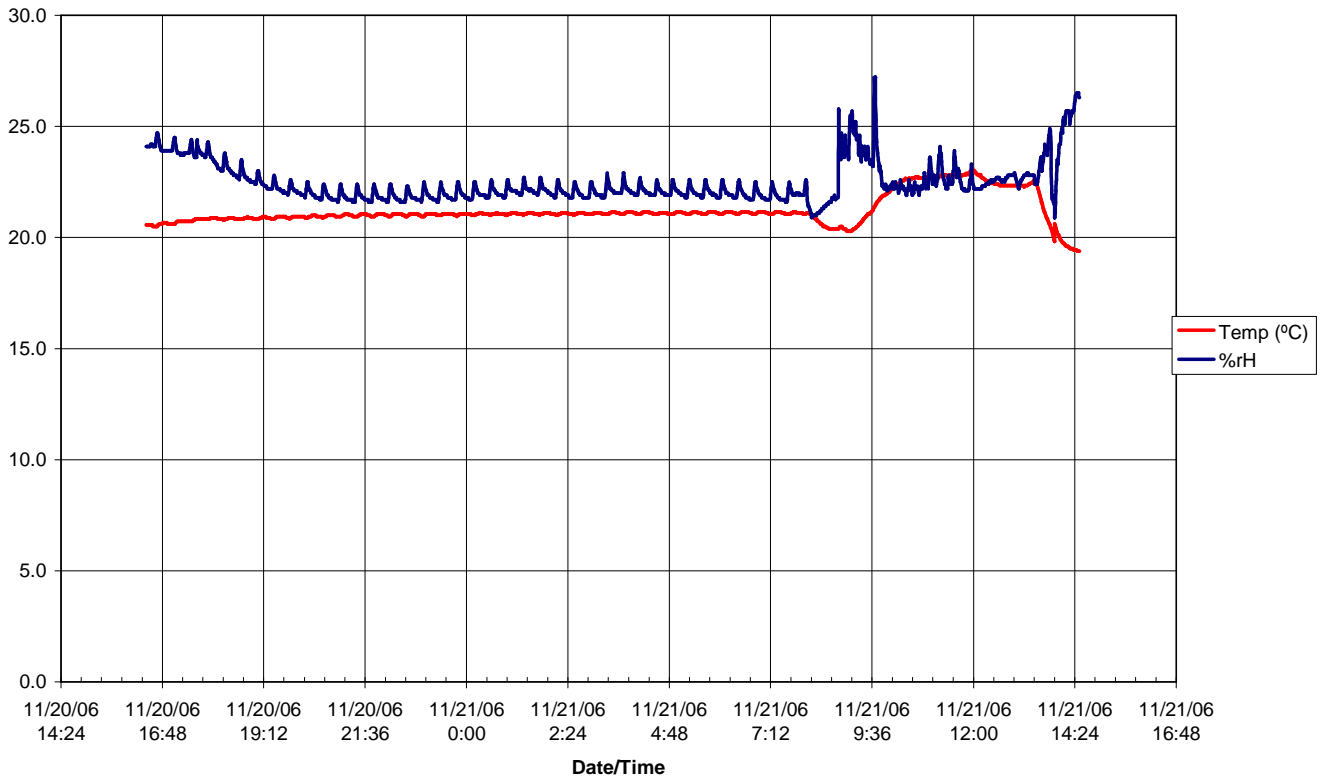
SID H3 Serial No.: 905 Sequential Test Number: 1.4  
 Date: 11/27/2006 Laboratory Technician: B. Swiecicki

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

**REMARKS:** None

# TEMPERATURE TRACE

## 2007 Dodge Nitro C70304 Environmental Conditions



**APPENDIX D**  
**TEST EQUIPMENT AND CALIBRATION INFORMATION**

**TEST EQUIPMENT LIST AND CALIBRATION INFORMATION**

**SID/HIII INSTRUMENTATION**

	FRONT SID/HIII NO.: 906		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P21373	ENDEVCO	5-Jul-06
HEAD AY	AC-P23128	ENDEVCO	5-Jul-06
HEAD AZ	AC-P21297	ENDEVCO	5-Jul-06
UPPER NECK FX	LC-1626FX	DENTON	6-Jul-06
UPPER NECK FY	LC-1626FY	DENTON	6-Jul-06
UPPER NECK FZ	LC-1626FZ	DENTON	6-Jul-06
UPPER NECK MX	LC-1626MX	DENTON	6-Jul-06
UPPER NECK MY	LC-1626MY	DENTON	6-Jul-06
UPPER NECK MZ	LC-1626MZ	DENTON	6-Jul-06
UPPER RIB	AC-P15736	ENDEVCO	5-Jul-06
LOWER RIB	AC-P16289	ENDEVCO	5-Jul-06
LOWER SPINE	AC-P16761	ENDEVCO	5-Jul-06
PELVIS	AC-P23960	ENDEVCO	5-Jul-06
UPPER RIB REDUNDANT	AC-P16593	ENDEVCO	5-Jul-06
LOWER RIB REDUNDANT	AC-P23142	ENDEVCO	5-Jul-06
LOWER SPINE REDUNDANT	AC-P21516	ENDEVCO	5-Jul-06
PELVIS REDUNDANT	AC-P32221	ENDEVCO	5-Jul-06

	REAR SID/HIII NO.: 905		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P23788	ENDEVCO	6-Jul-06
HEAD AY	AC-P21393	ENDEVCO	6-Jul-06
HEAD AZ	AC-P16845	ENDEVCO	6-Jul-06
UPPER NECK FX	LC-798FX	DENTON	6-Jul-06
UPPER NECK FY	LC-798FY	DENTON	6-Jul-06
UPPER NECK FZ	LC-798FZ	DENTON	6-Jul-06
UPPER NECK MX	LC-798MX	DENTON	6-Jul-06
UPPER NECK MY	LC-798MY	DENTON	6-Jul-06
UPPER NECK MZ	LC-798MZ	DENTON	6-Jul-06
UPPER RIB	AC-P16862	ENDEVCO	6-Jul-06
LOWER RIB	AC-P16866	ENDEVCO	6-Jul-06
LOWER SPINE	AC-P16645	ENDEVCO	6-Jul-06
PELVIS	AC-P23139	ENDEVCO	6-Jul-06
UPPER RIB REDUNDANT	AC-P23156	ENDEVCO	6-Jul-06
LOWER RIB REDUNDANT	AC-P16656	ENDEVCO	6-Jul-06
LOWER SPINE REDUNDANT	AC-P19343	ENDEVCO	6-Jul-06
PELVIS REDUNDANT	AC-P17539	ENDEVCO	6-Jul-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-P23161	ENDEVCO	19-Jul-06
RIGHT FRONT SILL (Y)	AC-P24011	ENDEVCO	7-Jul-06
RIGHT FRONT SILL (Z)	AC-P19111	ENDEVCO	7-Jul-06
RIGHT REAR SILL (X)	AC-P23939	ENDEVCO	19-Jul-06
RIGHT REAR SILL (Y)	AC-P23999	ENDEVCO	19-Jul-06
RIGHT REAR SILL (Z)	AC-P23993	ENDEVCO	19-Jul-06
REAR FLOORPAN ABOVE AXLE (X)	AC-P16625	ENDEVCO	18-Jul-06
REAR FLOORPAN ABOVE AXLE (Y)	AC-J32143	ENDEVCO	21-Jul-06
REAR FLOORPAN ABOVE AXLE (Z)	AC-J32838	ENDEVCO	7-Jul-06
LEFT REAR SILL (Y)	AC-P13323	ENDEVCO	5-Jul-06
LEFT FRONT SILL (Y)	AC-P19219	ENDEVCO	5-Jul-06
LEFT FRONT DOOR CENTERLINE (Y)	-	-	-
RIGHT REAR SEAT OCCUPANT COMP. (Y)	AC-8083-037	ICS	12-Jul-06
MID REAR OF LEFT FRONT DOOR (Y)	-	-	-
LEFT FRONT DOOR UPPER C/L (Y)	-	-	-
MID REAR OF LEFT REAR DOOR (Y)	-	-	-
LEFT REAR DOOR UPPER C/L (Y)	-	-	-
LOWER LEFT B- PILLAR (Y)	AC-P23137	ENDEVCO	5-Jul-06
MIDDLE LEFT B-PILLAR (Y)	AC-P23136	ENDEVCO	5-Jul-06
LOWER LEFT A-PILLAR (Y)	AC-P23155	ENDEVCO	30-Jun-06
UPPER LEFT A-PILLAR (Y)	AC-P16843	ENDEVCO	5-Jul-06
FRONT SEAT TRACK (Y)	AC-P19374	ENDEVCO	5-Jul-06
REAR SEAT TRACK (Y)	AC-J31011	ENDEVCO	10-Mar-06
VEHICLE CG (X)	AC-P23976	ENDEVCO	6-Jul-06
VEHICLE CG (Y)	AC-P18628	ENDEVCO	6-Jul-06
VEHICLE CG (Z)	AC-P18718	ENDEVCO	5-Jul-06
MDB CG (X)	AC-C16433	ENDEVCO	27-Jun-06
MDB CG (Y)	AC-C16416	ENDEVCO	27-Jun-06
MDB CG (Z)	AC-C16499	ENDEVCO	27-Jun-06
MDB REAR FRAME MEMBER (X)	AC-C14948	ENDEVCO	27-Jun-06
MDB REAR FRAME MEMBER (Y)	AC-C16680	ENDEVCO	27-Jun-06

**REMARKS:** None