

REPORT NUMBER: 214-CAL-06-04

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

**HONDA OF CANADA MFG.
2006 HONDA CIVIC
2-DOOR COUPE**

NHTSA NUMBER: C65304

**PREPARED BY:
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Test Date: June 13, 2006

FINAL REPORT

**PREPARED FOR:
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Technical Report Documentation Page

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16. Abstract A 55/28 km/h 90° Moving Deformable Barrier FMVSS 214 Indicant side impact was conducted on the subject 2006 Honda Civic 2-Door Coupe 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 June 13, 2006. The impact velocity of the Moving Deformable Barrier (MDB) was 62.28 km/h, and the ambient temperature at the struck side (driver side) of the vehicle was 21.4°C. The target vehicle's maximum post test static crush was 240 mm at level 3. The test vehicle's occupant performance is as follows: <table style="margin-left: auto; margin-right: auto; border: none;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>DRIVER</u></th> <th style="text-align: center;"><u>PASS.</u></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib (LUR) Accel., g</td> <td style="text-align: center;">71.6</td> <td style="text-align: center;">44.5</td> </tr> <tr> <td>Left Lower Rib (LLR) Accel., g</td> <td style="text-align: center;">70.5</td> <td style="text-align: center;">43.8</td> </tr> <tr> <td>Lower Spine (T₁₂) Accel., g</td> <td style="text-align: center;">82.7</td> <td style="text-align: center;">50.1</td> </tr> <tr> <td>Thoracic Trauma Index (TTI)</td> <td style="text-align: center;">77</td> <td style="text-align: center;">47</td> </tr> <tr> <td>Pelvis (PEV) Accel., g</td> <td style="text-align: center;">120</td> <td style="text-align: center;">50</td> </tr> <tr> <td>HIC</td> <td style="text-align: center;">281</td> <td style="text-align: center;">725</td> </tr> </tbody> </table> The doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.					<u>DRIVER</u>	<u>PASS.</u>	Left Upper Rib (LUR) Accel., g	71.6	44.5	Left Lower Rib (LLR) Accel., g	70.5	43.8	Lower Spine (T ₁₂) Accel., g	82.7	50.1	Thoracic Trauma Index (TTI)	77	47	Pelvis (PEV) Accel., g	120	50	HIC	281	725
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SECTION 1

PURPOSE AND TEST PROCEDURE

PURPOSE

This side impact test is part of the FMVSS 214 Side Impact Protection Compliance Test Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-02-D-01114. The purpose of this indicant test was to evaluate side impact protection in a 2006 Honda Civic 2-Door Coupe when tested at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-06, dated July 26, 2001).

SECTION 2

SUMMARY OF FMVSS 214 INDICANT SIDE IMPACT TEST

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

A model year 2006 Honda Civic 2-Door Coupe was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 62.28 km/h. The specified impact velocity range is from 61.1 to 62.7 km/h. The test (target) vehicle was stationary and positioned 63° to the line of forward motion. The weight of the vehicle as tested was 1426.0 kg and the test weight of the MDB was 1362.5 kg. The test was conducted at the Calspan Corporation Transportation Sciences Center on June 13, 2006.

One (1) real-time motion picture camera and nine (9) high-speed motion picture cameras were used to document the impact event. The pre-test and post-test conditions were recorded by one (1) real-time motion picture camera. Camera locations and pertinent camera information are documented in the data sheets. Pre- and post-test photographs of the vehicle and Side Impact Dummies (SID/HIIIs) can be found in Appendix A.

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

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

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

2.2 GENERAL COMMENTS

The test vehicle sustained a maximum static crush of 240 mm at level 3, 1200 mm rearward of the left vertical impact point. The driver and passenger SID/HIII's, Serial Nos. 269 and 270 respectively, were calibrated just prior to this test.

Test data and observations are presented in this section of the report. Appendix A contains the still photograph prints. Appendix B contains the driver and passenger SID/HIII's, vehicle, and MDB response data traces. Appendix C contains the SID/HIII's configuration and performance verification data. Appendix D contains the test equipment information.

The occupant data is summarized below:

ATD position	HIC(36)	T ₁	T ₂	TTI (G's)	Peak Pelvis (G's)
Driver	281	41.4	77.4	77	120
Passenger	725	44.7	52.2	47	50

SUPPLEMENTAL RESTRAINT INFORMATION

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

The test instrumentation data listed in Appendix B can be found on the NHTSA website:
www.nhtsa.dot.gov.

DATA SHEET NO. 1**GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle:	2006 Honda Civic	NHTSA No.	C65304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 13, 2006

TEST VEHICLE INFORMATION AND VEHICLE OPTIONS

Make	Honda of Canada Mfg.	Driver Front Airbag	Yes
Model	Civic	Driver Side Curtain Airbag	Yes
Body Style	2-Door Coupe	Driver Side Torso Airbag	Yes
NHTSA No.	C65304	Driver Pretensioners	Yes
VIN	2HGFG12646H550580	Driver Load Limiters	Yes
Color	Blue	Driver Power Seats	No
Engine Disp.(L)	1.8	Rear Pass. Side Curtain Airbag	Yes
Engine Cylinders	4	Rear Pass. Side Torso Airbag	No
Engine Placement	Lateral	Rear Pass. Pretensioners	No
Transmission Type	Automatic	Rear Pass. Load Limiters	No
Transmission Speeds	5	Rear Pass. Power Seats	NA
Final Drive	Front	Tilt Wheel	Yes
Air Conditioning	Yes	Anti-lock Brakes	Yes
Power Steering	Yes	Traction Control	No
Power Brakes	Yes	Power Windows	Yes
Delivery Date	05/16/2006	Power Door Locks	Yes
Odometer Reading (km)	114	Automatic Door Locks (ADL)	Yes
Dealer	Ralph Pontiac Inc, 3939 W Ridge Rd, Rochester, NY 146126	Owner's Manual Details Instructions on Disabling ADLs	Yes

DATA FROM CERTIFICATION LABEL

Manufactured By	Honda of Canada Mfg.	GVWR (kg)	1645
Date of Manufacture	04/06	GAWR Front (kg)	880
		GAWR Rear (kg)	775

VEHICLE CAPACITY DATA

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench		
Number Of Occupants	2	3		5
Capacity Wt. (VCW) (kg)				340.2
Cargo Wt. (RCLW) (kg)				44.8

DATA SHEET NO. 1 (continued)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle:	2006 Honda Civic	NHTSA No.	C65304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 13, 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	375.0	247.0		423.0	342.0		421.0	394.5	
Right	kg	382.0	222.0		391.0	280.0		329.0	281.5	
Ratio	%	61.7	38.3		56.7	43.3		52.6	47.4	
Totals	kg	757.0	469.0	1226.0	814.0	622.0	1436.0	750.0	676.0	1426.0

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1226.0
Weight of 2 P572E ATDs (81.2 kg each)	kg	162.4
Rated Cargo/Luggage Weight (RCLW)	kg	44.8
Calculated Vehicle Target Weight (TVTW)	kg	1433.2

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

Weight of Ballast (including instrumentation package and cameras): 37.6 kg

TEST VEHICLE ATTITUDES

	Units	LF	RF	LR	RR
As Delivered	mm	656	663	673	678
Fully Loaded	mm	641	659	637	652
As Tested	mm	646	659	640	652

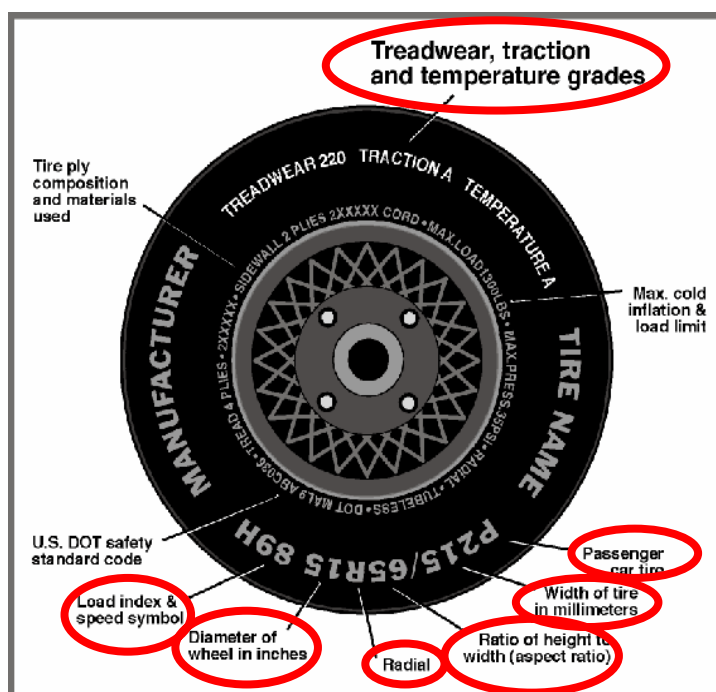
TEST VEHICLE VERTICAL IMPACT LINE AND CG

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2655
Target Impact Point Aft of Front Axle	mm	388
Actual Impact Point Aft of Front Axle	mm	389
As Tested CG (aft of front axle)	mm	1258.61

DATA SHEET NO. 2

TEST VEHICLE TIRE INFORMATION

Test Vehicle:	2006 Honda Civic	NHTSA No.	C65304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 13, 2006



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	300	300
Cold / Test Pressure (kPa)	220	220
Recommended Tire Size	P205/55 R16 89H	P205/55 R16 89H
Tire Size on Vehicle	P205/55 R16 89H	P205/55 R16 89H
Tire Manufacturer	Bridgestone	Bridgestone
Tire Name	Turanza EL400	Turanza EL400
Tire Type	P	P
Tire Width (mm)	205	205
Ratio of Height to Width (aspect ratio)	55	55
Radial	R	R
Wheel Diameter	16	16
Load Index & Speed Symbol	89 H	89 H
Treadwear	300	300
Traction Grade	A	A
Temperature Grade	A	A

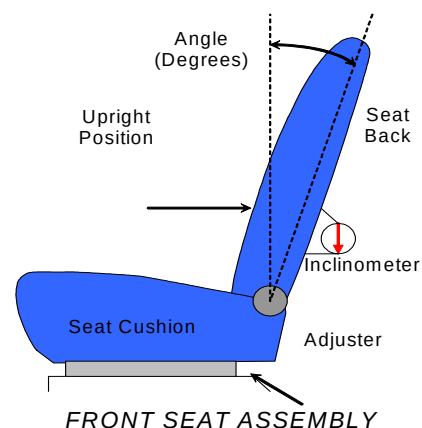
DATA SHEET NO. 3

TEST VEHICLE INFORMATION

Test Vehicle:	2006 Honda Civic	NHTSA No.	C65304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 13, 2006

NORMAL DESIGN RIDING POSITION

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

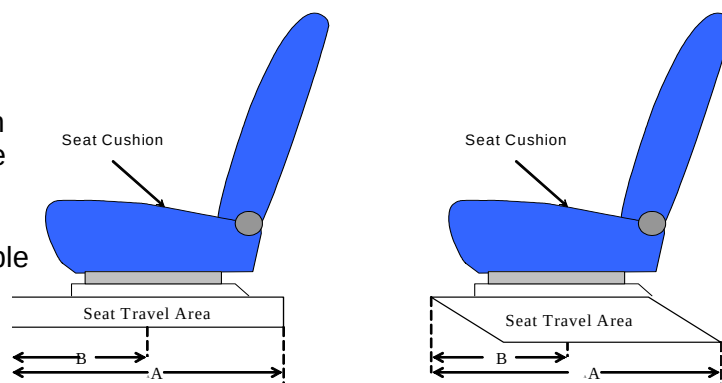


SEAT BACK POSITION

	Driver Seat	Rear Seat
Test Detent (forward-most detent defined as 0)	Detent 4	Not Adjustable
Angle (deg. from forward-most locking position)	9.1	Not Adjustable
Alternative Measurements to Verify Test Position	NA	Not Adjustable

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)	278	Not Adjustable
Test Position (B) (mm)	139	Not Adjustable
Test Detent (forward-most detent defined as 0)	10	Not Adjustable
Total Number of Detents (including 0)	25	Not Adjustable

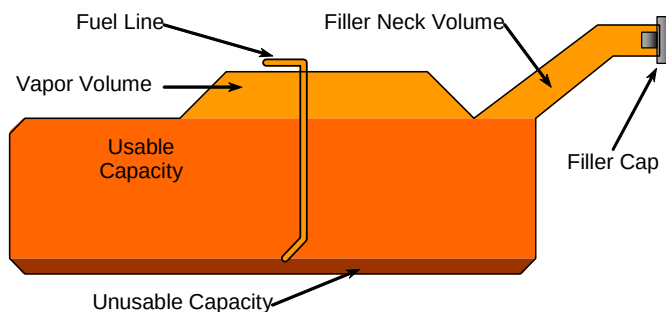
DATA SHEET NO. 3 (CONTINUED)

TEST VEHICLE INFORMATION

Test Vehicle: 2006 Honda Civic	NHTSA No. C65304
Test Program: FMVSS 214 Indicant Side Impact	Test Date: June 13, 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.



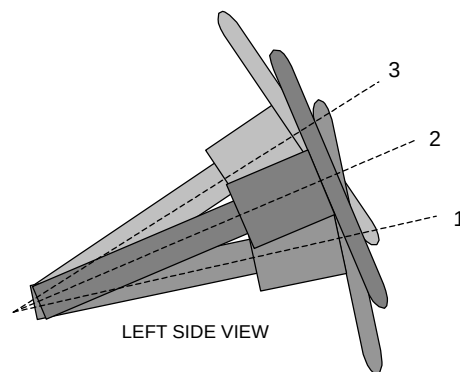
VEHICLE FUEL TANK ASSEMBLY

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard" Fuel Tank	50.0
Usable Capacity of "Optional" Fuel Tank	-
Stoddard Used For Test (92%-94% of Fuel Tank Usable Capacity)	46.2

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when moved through its full range of motion. An aluminum plate is placed across the rim of the steering wheel, an inclinometer is placed on the plate and the angle is measured.



STEERING COLUMN ASSEMBLY

STEERING COLUMN POSITION

	Fore/Aft Position (mm)	Tilt (degrees)	Tilt (detent)
Lowermost Position No. 1	0	20.0	-
Geometric Center Position No. 2 *	19.3	23.0	-
Uppermost Position No. 3	38.5	26.0	-

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

Test Vehicle:	2006 Honda Civic	NHTSA No.	C65304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 13, 2006

MDB SPECIFICATIONS

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

MDB WEIGHTS

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

MDB SPEED AND IMPACT ANGLE DATA

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

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

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	1 mm rearward
Vertical Offset	mm	+/-20	6 mm below

DATA SHEET NO. 5
POST TEST OBSERVATIONS

Test Vehicle:	2006 Honda Civic	NHTSA No.	C65304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 13, 2006

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat SID/HIII	Rear Seat SID/HIII
Dummy Type / Serial No.	SID/HIII / 269	SID/HIII / 270
Head Contact	Left side of head to upper C-pillar trim and side curtain airbag	Left side of head to side curtain airbag and top of side door trim
Upper Torso Contact	Left arm to door trim above arm rest	Left arm to door trim above arm rest
Lower Torso Contact	Pelvis to door trim below arm rest	Pelvis to seat bolster and side airbag
Left Knee Contact	Left knee to B-pillar trim	Left knee to door trim
Right Knee Contact	Right knee to left knee	Right knee to door trim

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

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

POST TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	No visible separations
Sill Separation	A 140 mm long by 35 mm wide lateral tear visible on the top of the driver side rocker panel forward of the B-pillar
Windshield Damage	The upper left side of the windshield cracked
Window Damage	The driver side window and left rear passenger window broke
Other Notable Effects	None

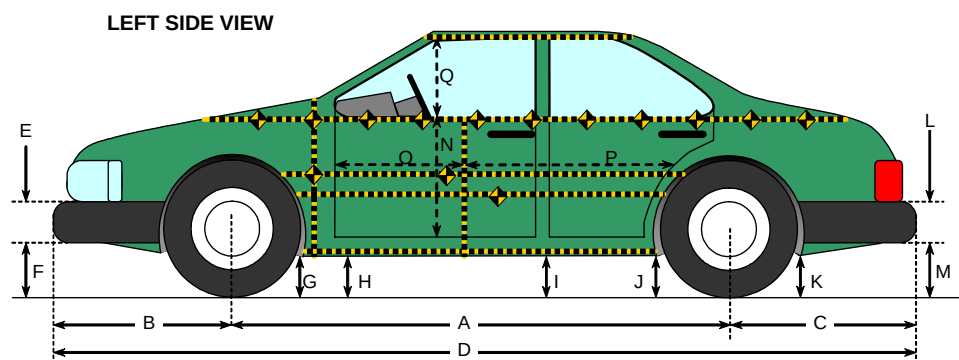
SUPPLEMENTAL RESTRAINT INFORMATION

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

DATA SHEET NO. 6

VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle:	2006 Honda Civic	NHTSA No.	C65304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 13, 2006



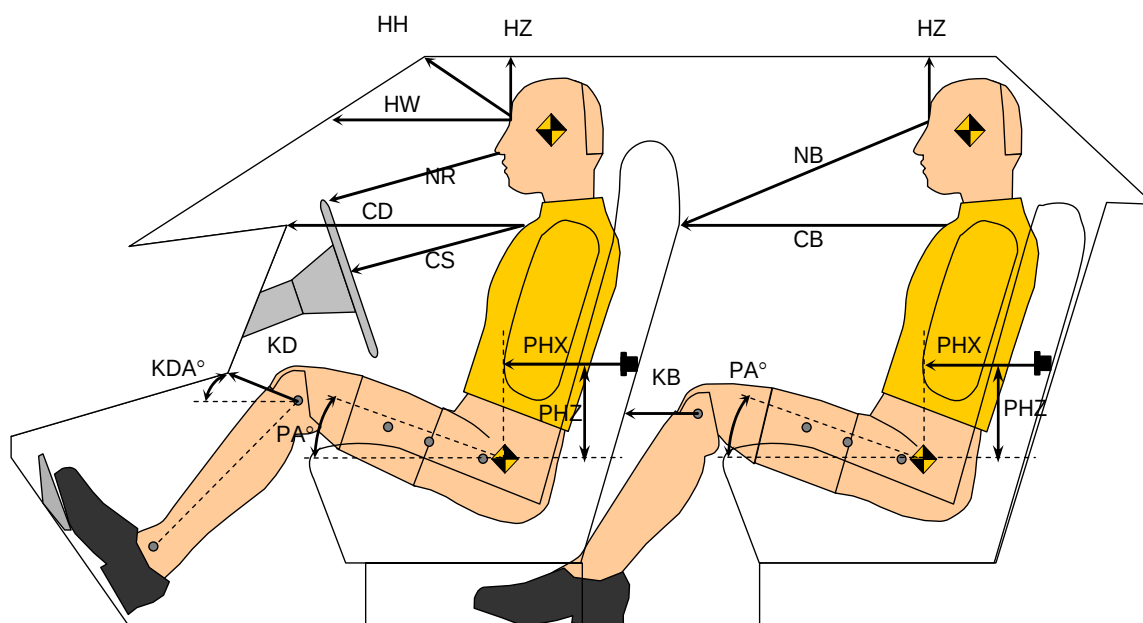
All Measurements in mm

Code	Measurement Description	Pre-Test (delivered)	Pre-Test (as tested)	Post-Test (as tested)	Difference
A	Wheelbase	2651	2655	2637	18
B	Front Axle to FSOV	869	874	879	-5
C	Rear Axle to RSOV	921	912	918	-6
D	Total Length at Centerline	4441	4441	4434	7
E	Front Bumper Thickness	120	120	120	0
F	Front Bumper Bottom to Ground	390	385	396	-11
G	Sill Height at Front Wheel Well	170	150	160	-10
H	Sill Height at Front Door Leading Edge	180	160	180	-20
I	Sill Height at "B" Pillar	199	169	186	-17
J1	Sill Height at Rear Wheel Well	182	152	167	-15
J2	Pinch Weld Height at Rear Wheel Well	201	171	187	-16
K	Sill Height Aft of Rear Wheel Well	255	216	230	-14
L	Rear Bumper Thickness	195	195	195	0
M	Rear Bumper Bottom to Ground	405	369	374	-5
N	Sill Height to Window Bottom Sill	673	673	566	107
O	Front Door Leading Edge to Impact CL	792	792	759	33
P	Rear Door Trailing Edge to Impact CL	577	577	560	17
Q	Front Window Opening	379	379	365	14
R	Right Side Length	4290	4290	4296	-6
S	Left Side Length	4290	4290	4283	7
T	Vehicle Width at "B" Post	1750	1750	1715	35

DATA SHEET NO. 7

SID/HII LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle:	2006 Honda Civic	NHTSA No.	C65304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 13, 2006



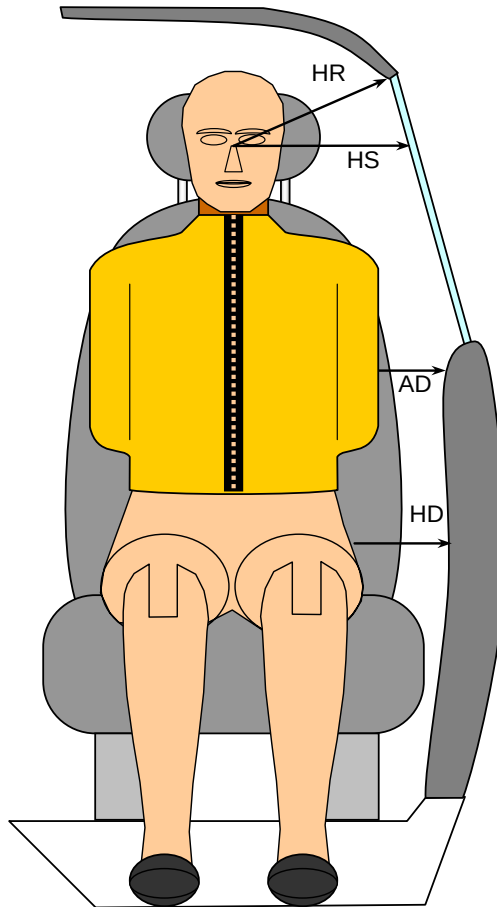
Driver Code	Pass. Code	Measurement Description	Driver S/N 269		Passenger S/N 270	
			Length(mm)	Angle(°)	Length(mm)	Angle(°)
HH		Head to Header	329			
HW		Head to Windshield	641			
HZ	HZ	Head to Roof	148		95	
NR	NB	Nose to Rim/Nose to Seatback	391		543	
CD	CB	Chest to Dash or Seatback	595		498	
CS		Chest to Steering Wheel	285			
KDL	KBL	Left Knee to Dash or Seatback	156	33	188	28
KDR	KBR	Right Knee to Dash or Seatback	164	35	198	28
PA	PA	Pelvic Angle		25.0		24.5
PHX	PHX*	H-Point to Striker (X-Axis)	437		-417	
PHZ	PHZ*	H-Point to Striker (Z-Axis)	242		187	

* Relative to the driver door striker for 2-Door vehicles.

DATA SHEET NO. 8

SID/HIII LATERAL CLEARANCE DIMENSIONS

Test Vehicle:	2006 Honda Civic	NHTSA No.	C65304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 13, 2006



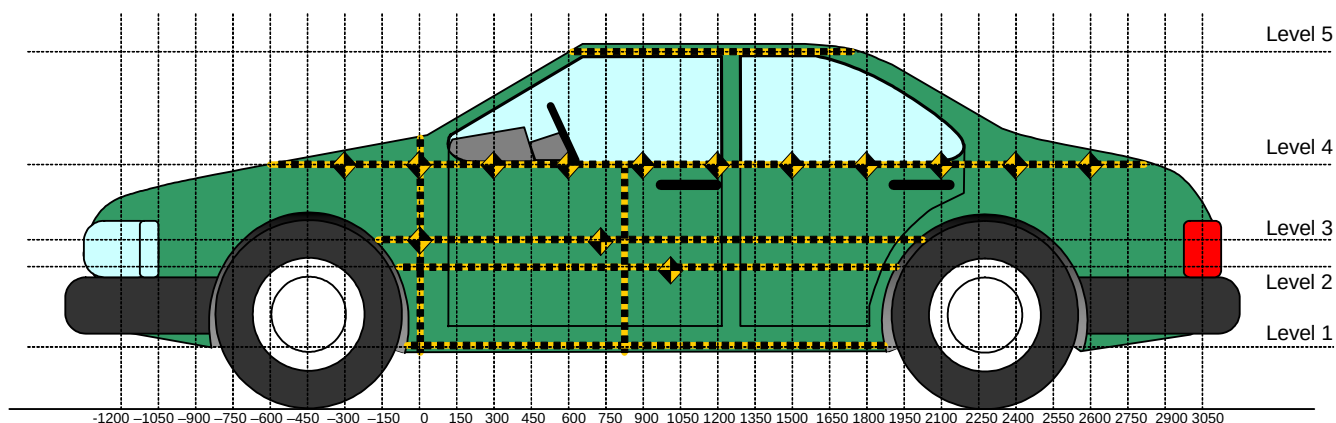
FRONT VIEW OF DUMMY

Code	Measurement Description	Units	Driver S/N 269	Passenger S/N 270
HR	Head to Side Header	mm	225	205
HS	Head to Side Window	mm	344	219
AD ₁	Arm to Door (at upper rib level)	mm	105	60
AD ₂	Arm to Door (at lower rib level)	mm	125	40
HD	H-Point to Door	mm	145	148

DATA SHEET NO. 9

VEHICLE SIDE MEASUREMENTS

Test Vehicle:	2006 Honda Civic	NHTSA No.	C65304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 13, 2006



All Measurements Shown in mm

LEFT SIDE VIEW

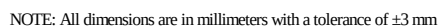
Measurements are taken with vehicle in the as tested condition.
 Measurements along the vertical 750 mm.
 All measurements below in mm.

Level	Measurement Description	Maximum Exterior Static Crush	Height Above Ground	Distance From Impact
1	Sill Top	39	222	1200
2	Occupant H-Point	234	445	750
3	Mid Door	240	602	1200
4	Window Sill	200	813	1200
5	Window	11	1284	1350
	Maximum Penetration	240		

VEHICLE EXTERIOR CRUSH PROFILES

NHTSA No. C65304

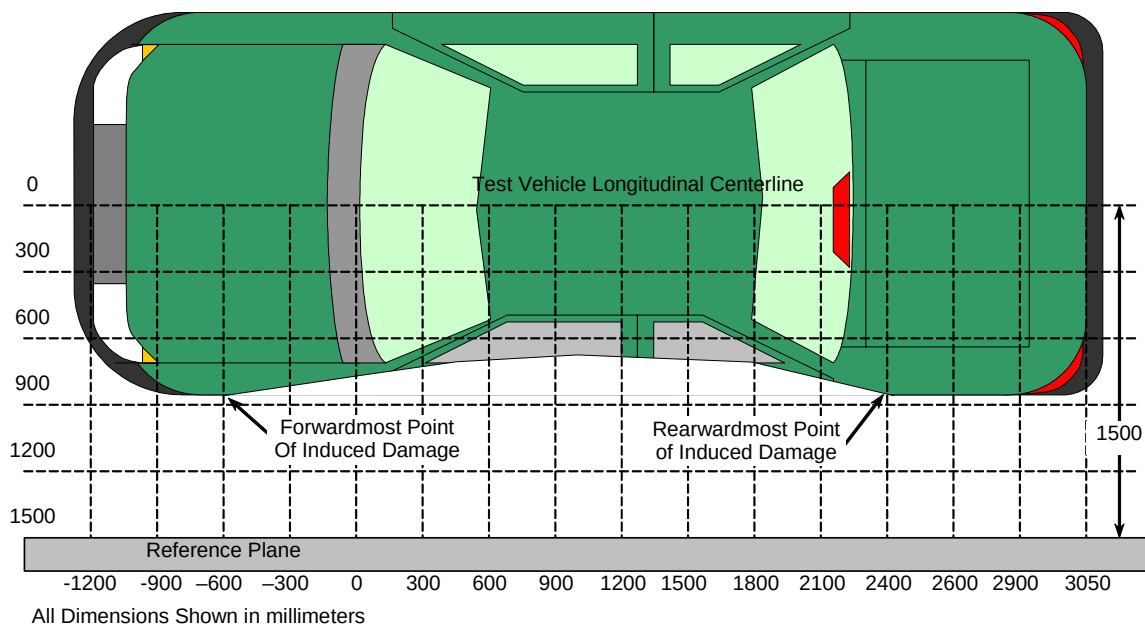
Test Date: June 13, 2006

2-14

DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle:	2006 Honda Civic	NHTSA No.	C65304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 13, 2006



TOP VIEW

DAMAGE PROFILE DISTANCES

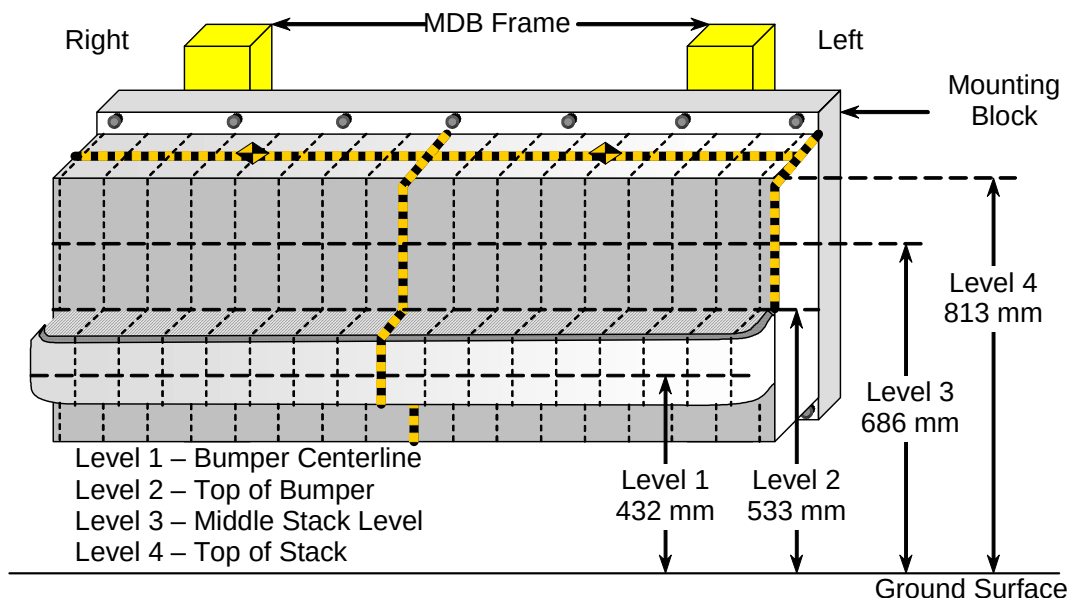
DPD	Distance from Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max Static Crush (mm)
1 (LR)	2235	813	163	163	0
2	1758	813	153	294	141
3	1281	602	127	341	214
4	804	445	128	360	232
5	327	445	132	342	210
6 (LF)	-150	813	209	209	0

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

DATA SHEET NO. 12

DEFORMABLE BARRIER HONEYCOMB FACE STATIC CRUSH

Test Vehicle:	2006 Honda Civic	NHTSA No.	C65304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 13, 2006



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

			NOTE: All dimensions are in millimeters with a tolerance of ±.5 mm																	
			DISTANCE RIGHT OF CENTER (mm)										DISTANCE LEFT OF CENTER (mm)							
LEVEL	HEIGHT AT CL (mm)*		800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800	
LEVEL 4 TOP STACK	813	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	
		POST	671	641	663	704	672	645	623	615	612	614	618	619	623	627	652	683	722	
		CRUSH	52	22	44	85	53	26	4	-4	-7	-5	-1	0	4	8	33	64	103	
LEVEL 3 MID LEVEL	686	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	
		POST	684	660	713	683	670	635	623	618	616	618	619	623	625	626	630	647	693	
		CRUSH	65	41	94	64	51	16	4	-1	-3	-1	0	4	6	7	11	28	74	
LEVEL 2 TOP BUMPER	533	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	
		POST	703	715	750	738	672	642	634	638	629	627	631	632	635	642	657	673	684	
		CRUSH	84	96	131	119	53	23	15	19	10	8	12	13	16	23	38	54	65	
LEVEL 1 MID BUMPER	432	PRE	535	519	518	518	518	518	518	518	518	518	518	518	518	518	518	519	535	
		POST	739	744	781	781	715	655	599	571	553	552	556	563	570	585	602	622	650	
		CRUSH	204	225	263	263	197	137	81	53	35	34	38	45	52	67	84	103	115	

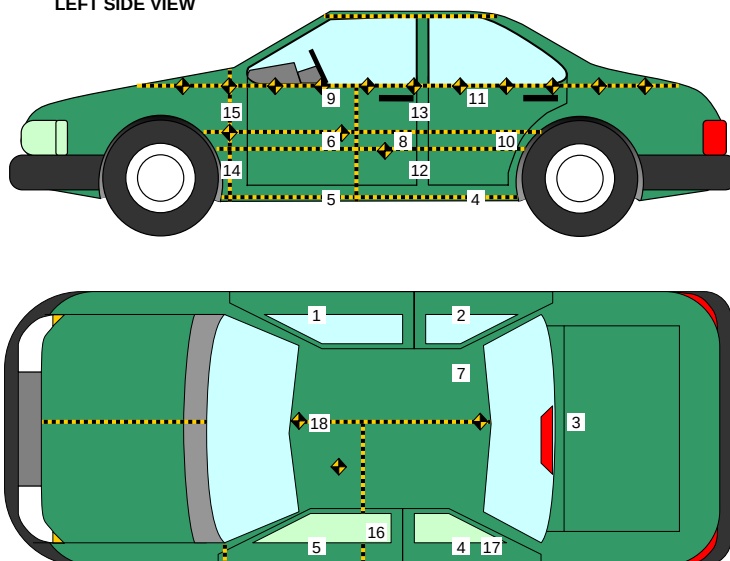
*Heights measured above ground level.

DATA SHEET NO. 13

VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle:	2006 Honda Civic	NHTSA No.	C65304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 13, 2006

LEFT SIDE VIEW



Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Right Sill at Front Seat	2556	656	-253
2	Right Sill at Rear Seat	1969	654	-251
3	Rear Floorpan Above Axle	1118	3	-495
4	Left Sill at Rear Door	1963	-646	-250
5	Left Sill at Front Door	2576	-647	-231
6	Left Front Door C/L**	-	-	-
7	Rear Occupant Compartment	1833	-318	-204
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	1847	-656	-388
13	Left Middle B-Post	1848	-672	-740
14	Left Lower A-Post	3066	-625	-476
15	Left Middle A-Post	3206	-657	-930
16	Front Seat Track	2186	-536	-258
17	Rear Seat Track or Structure	1027	-539	-524
18	Vehicle CG	2456	-7	-363

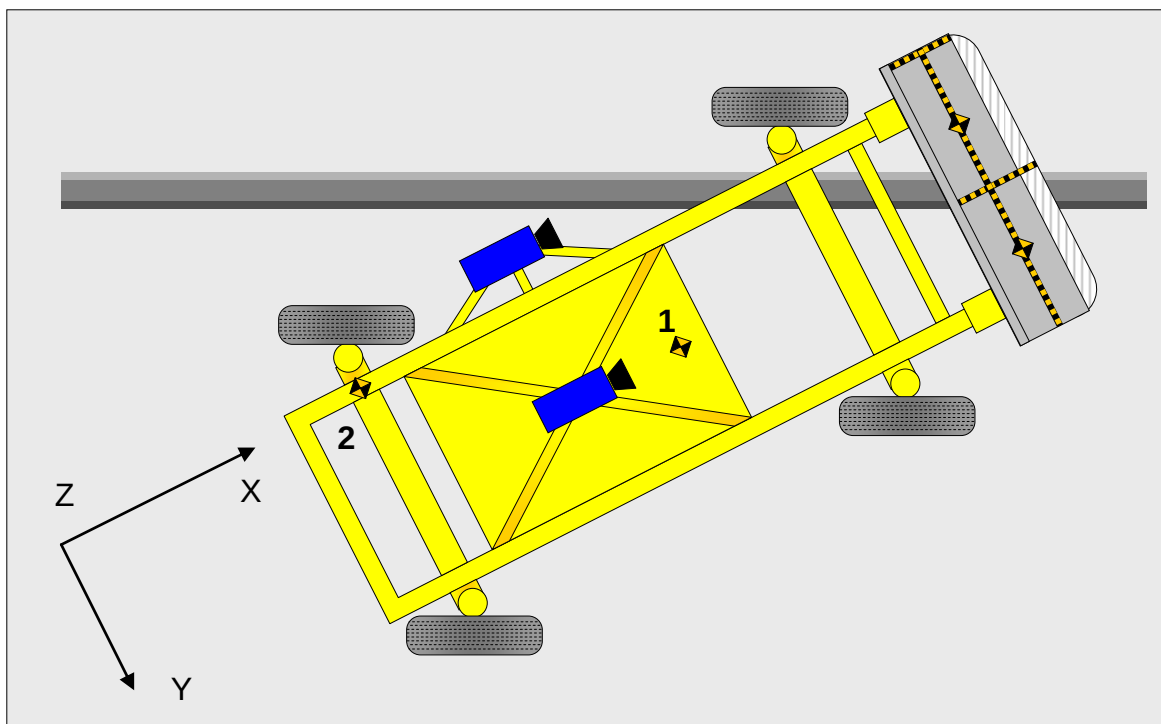
Reference Points X - Test Vehicle Rear Bumper (+ forward)
 Y - Test Vehicle Centerline (+ to right)
 Z - Ground Plane (+ down)

** Accelerometer was not requested by the COTR.

DATA SHEET NO. 14

MDB ACCELEROMETER LOCATIONS

Test Vehicle:	2006 Honda Civic	NHTSA No.	C65304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 13, 2006



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

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

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

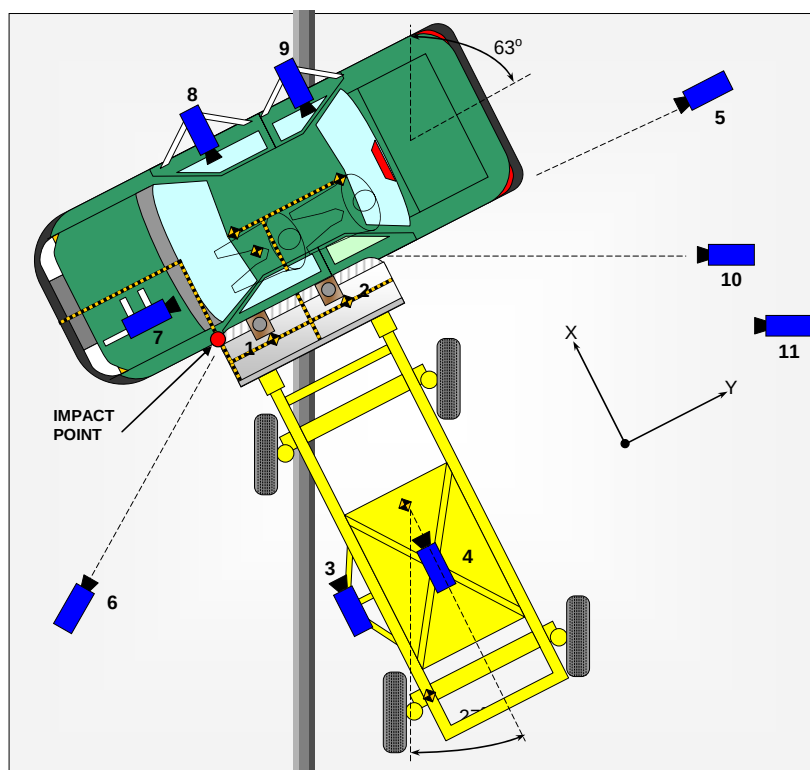
Test Vehicle:	2006 Honda Civic	NHTSA No.	C65304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 13, 2006

	Elements	Pre-Test (mm)
1	Total Length	4441
2	Total Width	1750
3	Bumper Top Height	510
4	Bumper Bottom Height	390
5	Longitudinal Member Top Height	500
6	Distance between Longitudinal Members	925
7	Longitudinal Member Width	70
8	Engine Top Height	810
9	Engine Bottom Height	173
10	Engine and gearbox width	830
11	Front bumper-engine distance	420
12	Front shock absorber fixing height	900
13	Bonnet leading edge height	660
14	Front shock absorber fixing width	1200
15	Front bumper – front axle distance	869
16	Front axle – a pillar distance	1350
17	A-pillar – B-pillar distance	420
18	B-Pillar – rear axle distance	898
19	B-pillar – C-pillar distance	530
20	Roof sill bottom height	1270
21	Roof sill top height	1360
22	Floor sill bottom height	190
23	Floor sill top height	340

DATA SHEET NO. 16

HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle:	2006 Honda Civic	NHTSA No.	C65304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 13, 2006



No.	Camera View	Location (mm)			Angle (deg)	Lens (mm)	Film Speed (fps)
		X	Y	Z			
1	Overhead Close-up	72	812	-4880	-90	8	1000
2	Overhead Overall	195	855	-4880	-90	28	1000
3	MDB Onboard, Impact Point Close-up	-1470	0	-847	0	13	1000
4	MDB Onboard, Centerline of Impact	-1140	838	-1587	-17	7.5	1000
5	Right Side, Ground Level, Overall	-80	10600	-1050	-4	50	1000
6	Left Side, Ground Level, Overall	-1875	-1685	-910	-6	24	1000
7	Vehicle Onboard Front SID/HIII, Front	546	-610	-1190	-9	25	1000
8	Vehicle Onboard Front SID/HIII, Side	1710	900	-1025	-7	12.5	1000
9	Vehicle Onboard Rear SID/HIII, Side	1620	1670	-1060	-13	12.5	1000
10	Real Time Coverage						30

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

DATA SHEET NO. 17
SUMMARY OF FMVSS 301 DATA

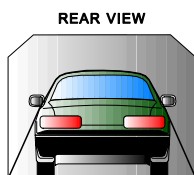
Test Vehicle:	2006 Honda Civic	NHTSA No.	C65304
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 13, 2006

FUEL SYSTEM INTEGRITY POST IMPACT DATA

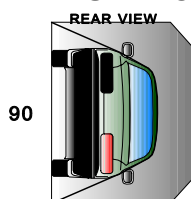
Time Interval	FMVSS 301 Maximum Allowable Spillage	Spillage (g)
Impact Until Motion Ceases	28 g	0
First Five Minutes Following Impact	142 g	0
Next 25 Minutes	28 g / 1 minute	0

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

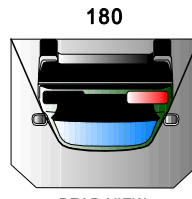
STATIC ROLLOVER DATA



0/360

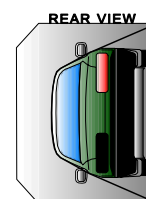


90



180

REAR VIEW



270

Rollover Stage	Rotation Time (spec. 1 -3 min)				FMVSS 301 Hold Time		Total Time				Next Whole Minute Interval	
0° - 90°	1	minutes	4	seconds	5	minutes	6	minutes	4	seconds	7	minutes
90° - 180°	1	minutes	5	seconds	5	minutes	6	minutes	5	seconds	7	minutes
180°-270°	1	minutes	1	seconds	5	minutes	6	minutes	1	seconds	7	minutes
270°-360°	1	minutes	9	seconds	5	minutes	6	minutes	9	seconds	7	minutes

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

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

APPENDIX A
PHOTOGRAPHS

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Figure A-1: As Received Left Front $\frac{3}{4}$ View



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



Figure A-3: Vehicle Certification Label



Figure A-4: Vehicle Tire Placard Label



Figure A-5: Pre-Test Front View



Figure A-6: Post-Test Front View



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



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



Figure A-9: Pre-Test Left Side View



Figure A-10: Post-Test Left Side View



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



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



Figure A-13: Pre-Test Rear View



Figure A-14: Post-Test Rear View



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



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



Figure A-17: Pre-Test Right Side View



Figure A-18: Post-Test Right Side View



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



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

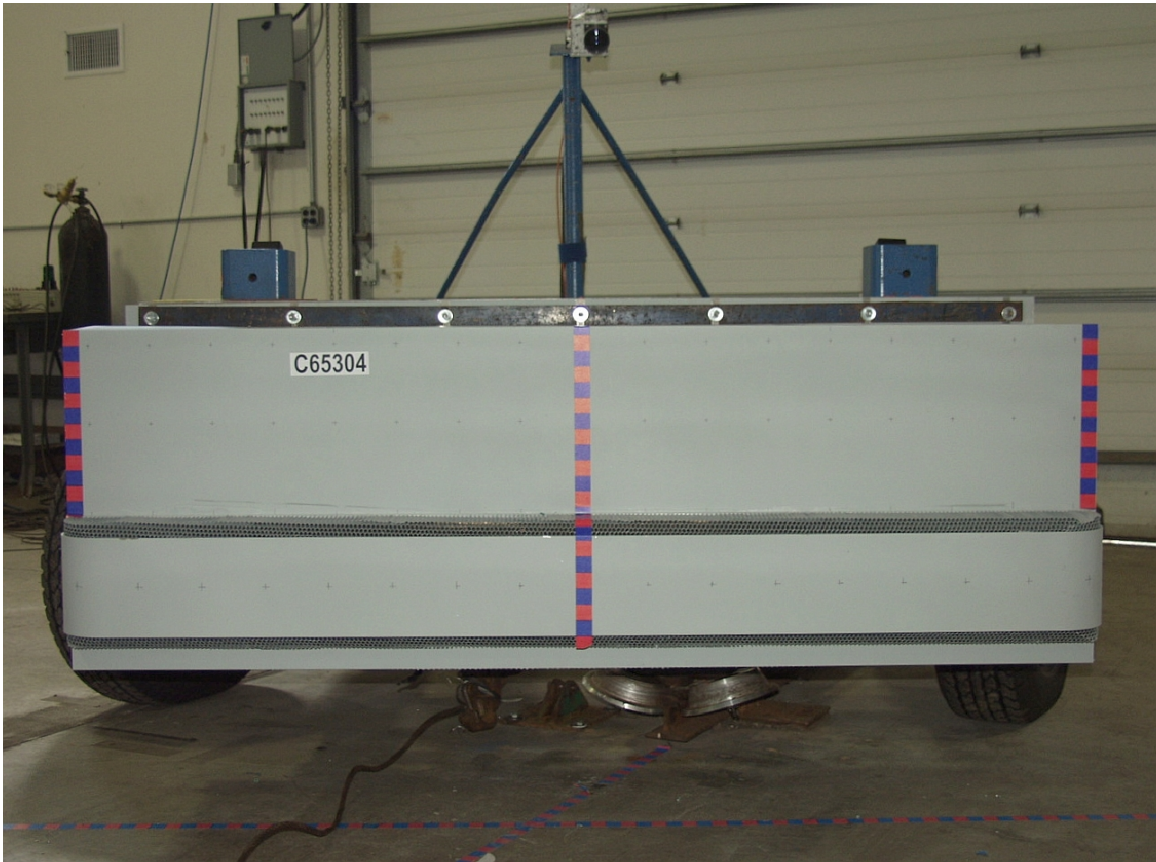


Figure A-21: Pre-Test Frontal View of MDB Impactor Face



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



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



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

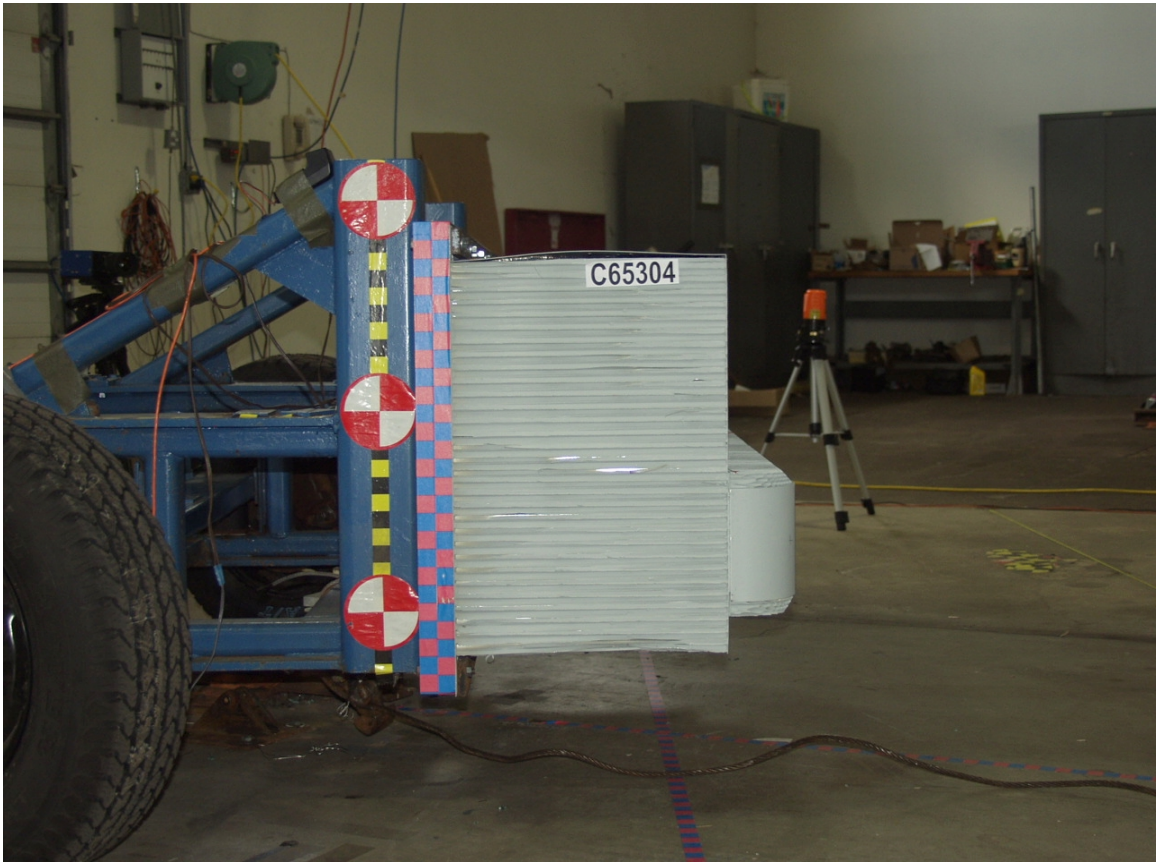


Figure A-25: Pre-Test Right Side View of MDB Impactor Face



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

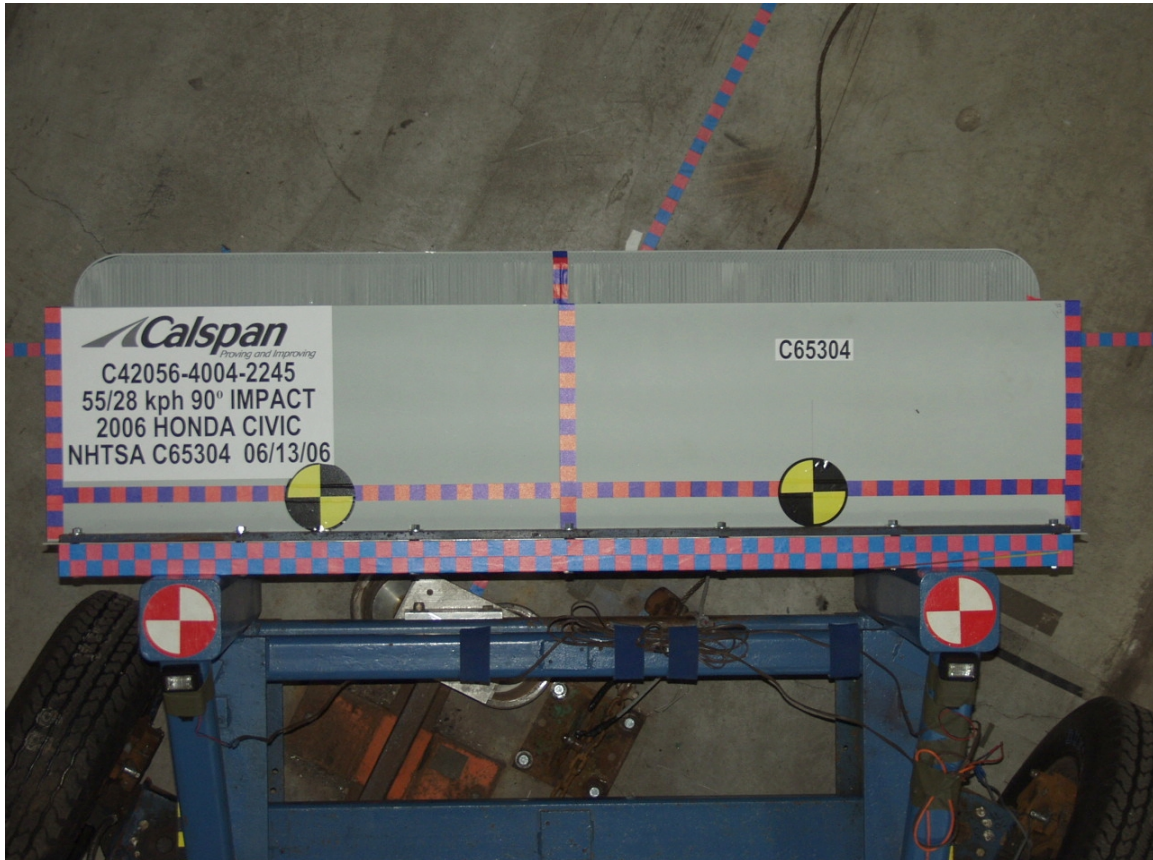


Figure A-27: Pre-Test Top View of MDB Impactor Face



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



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



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

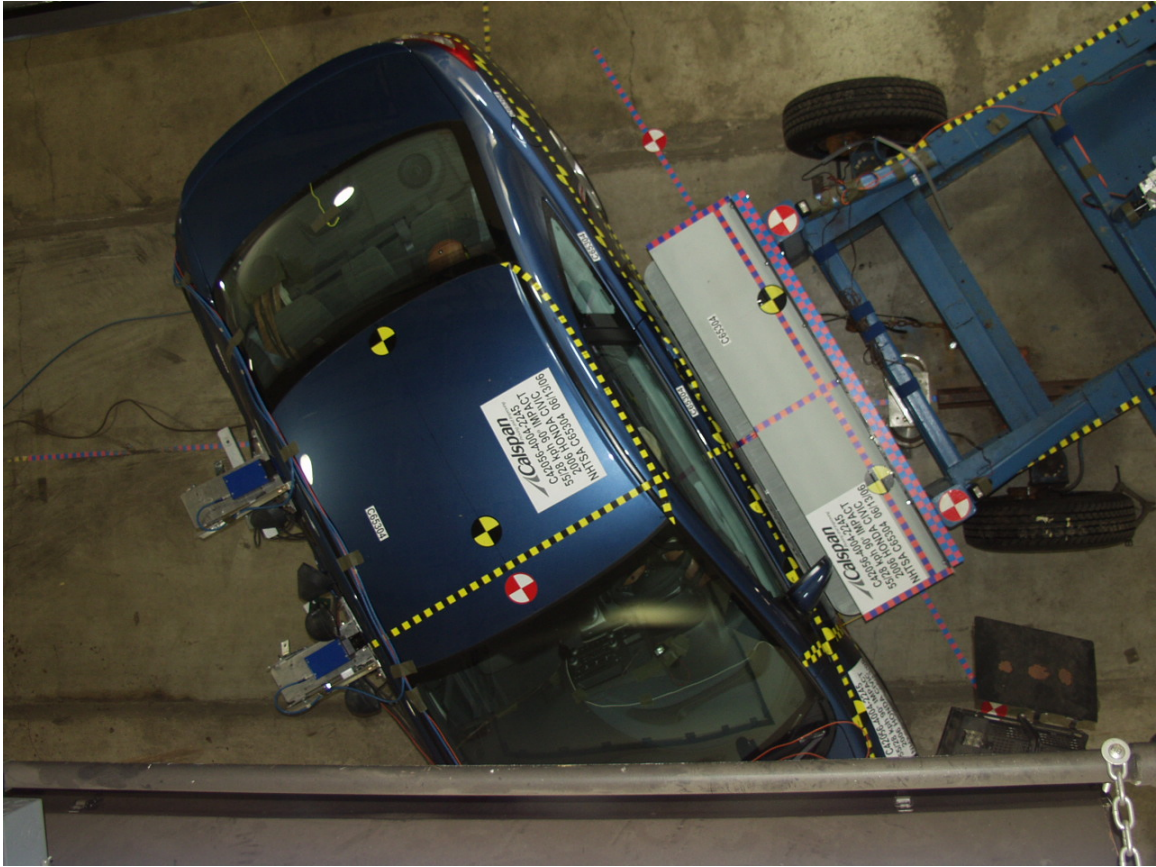


Figure A-31: Pre-Test Overhead View of Aligned MDB and Vehicle

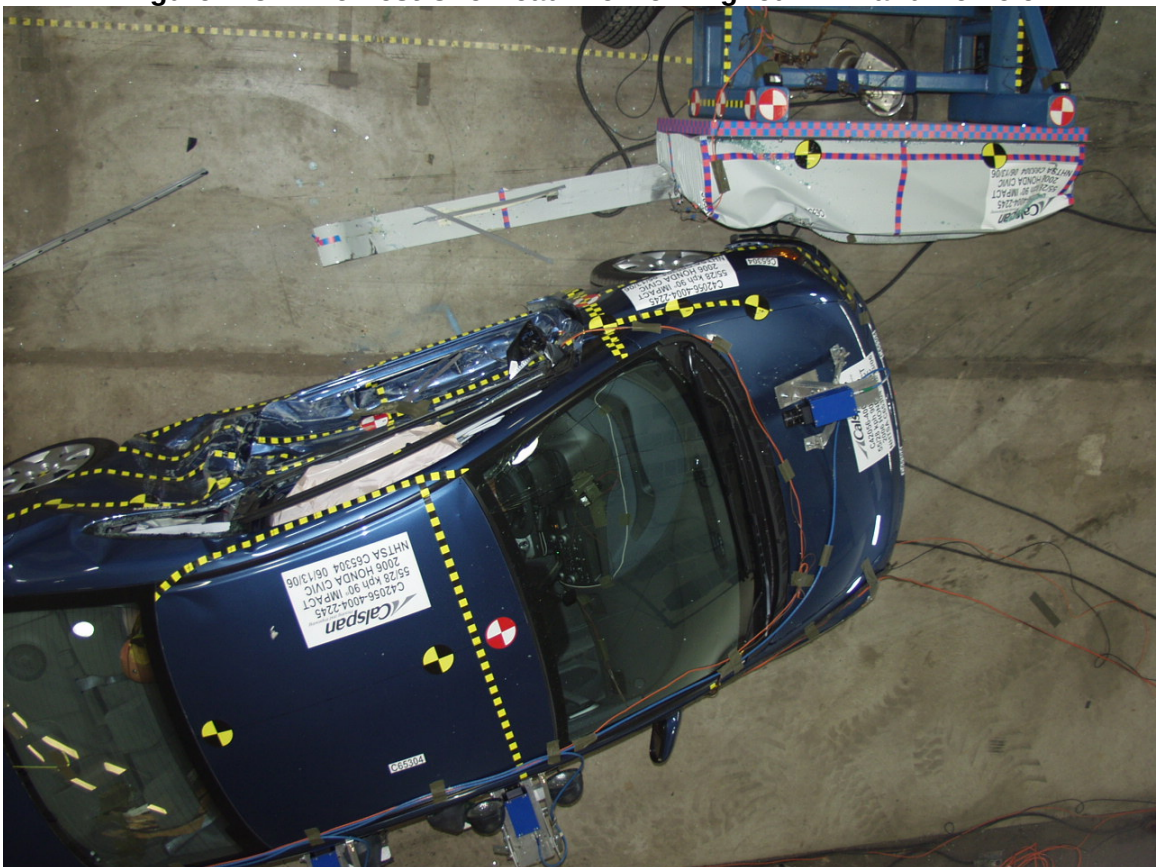


Figure A-32: Post-Test Overhead View of MDB and Vehicle



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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

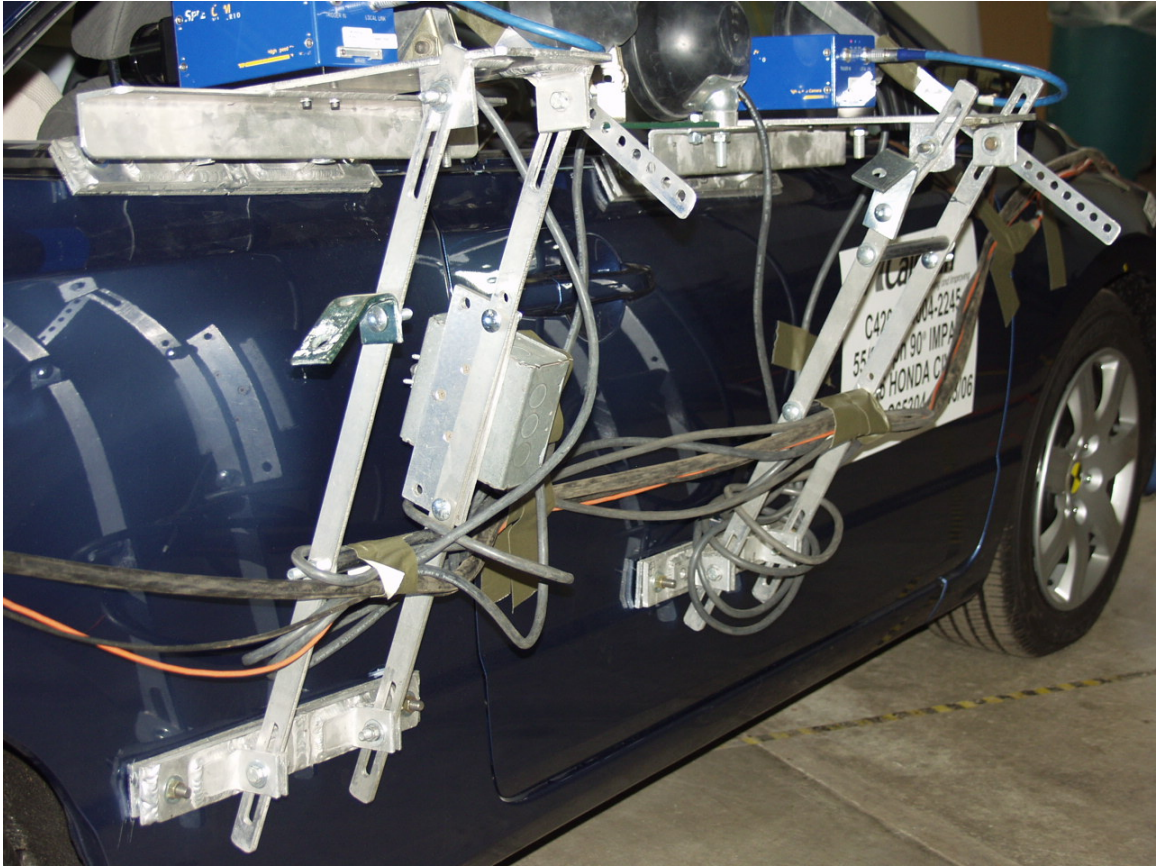


Figure A-49: Pre-Test Left Rear $\frac{3}{4}$ View of Left Side Door



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



Figure A-51: Rollover 90 Degrees



Figure A-52: Rollover 180 Degrees



Figure A-53: Rollover 270 Degrees



Figure A-54: Rollover 360 Degrees



Figure A-55: Impact Photo

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

DATA CHANNEL FILTER CLASS SUMMARY

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

DATA CHANNEL TITLE KEY

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

TABLE OF DATA PLOTS

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

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

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

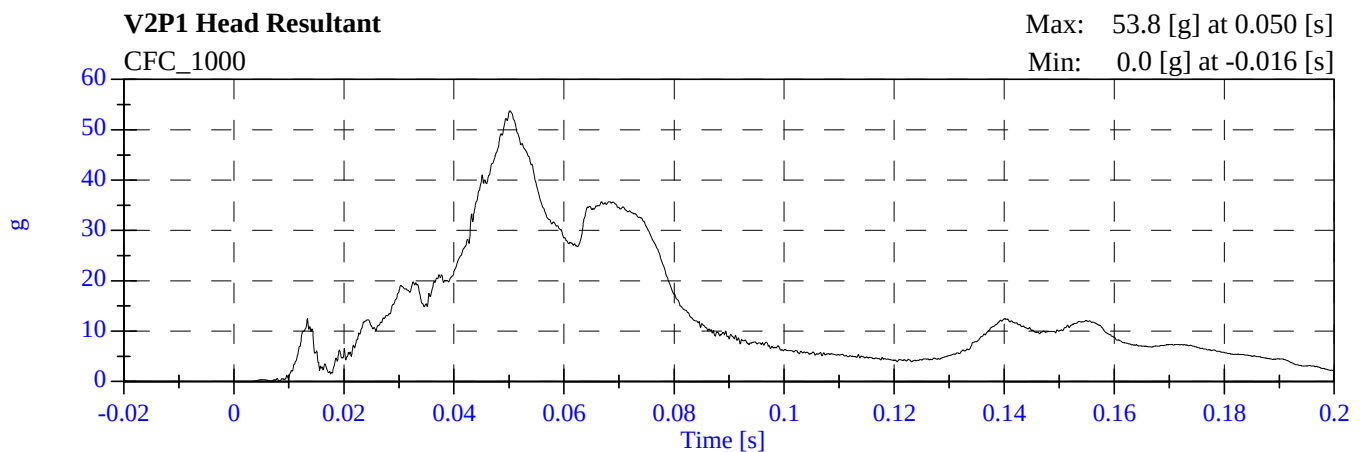
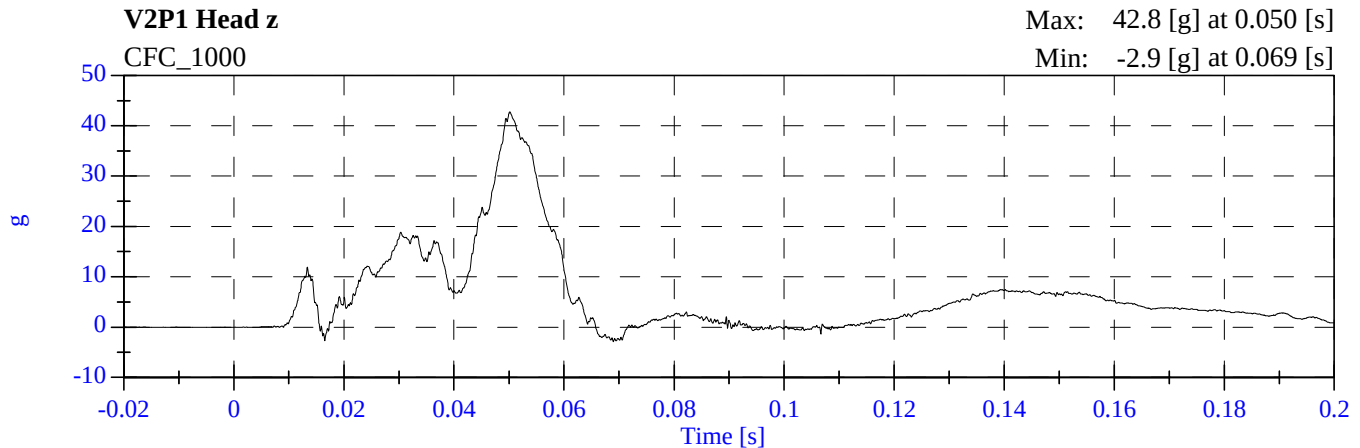
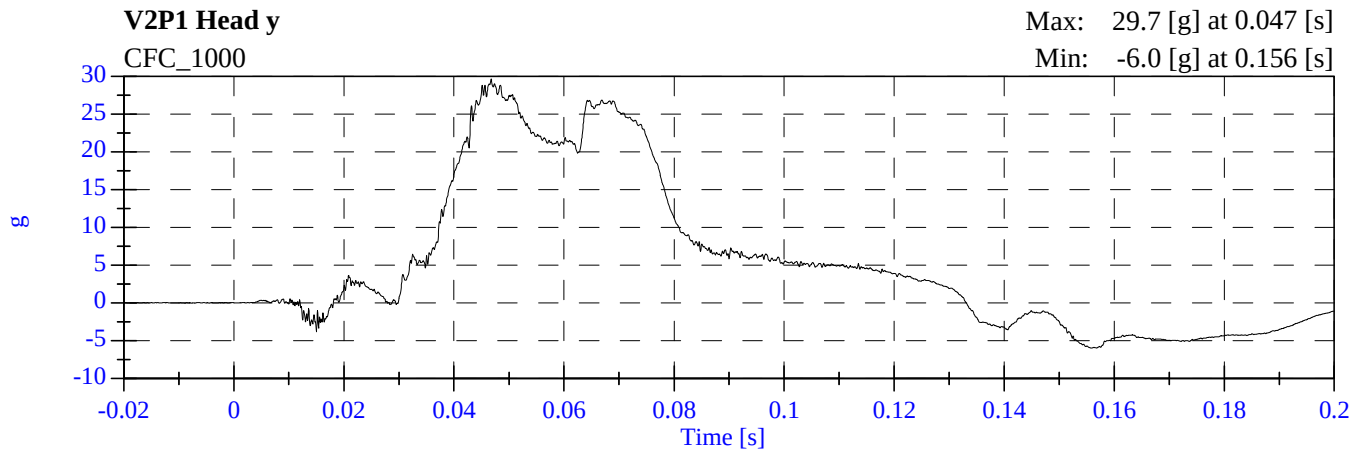
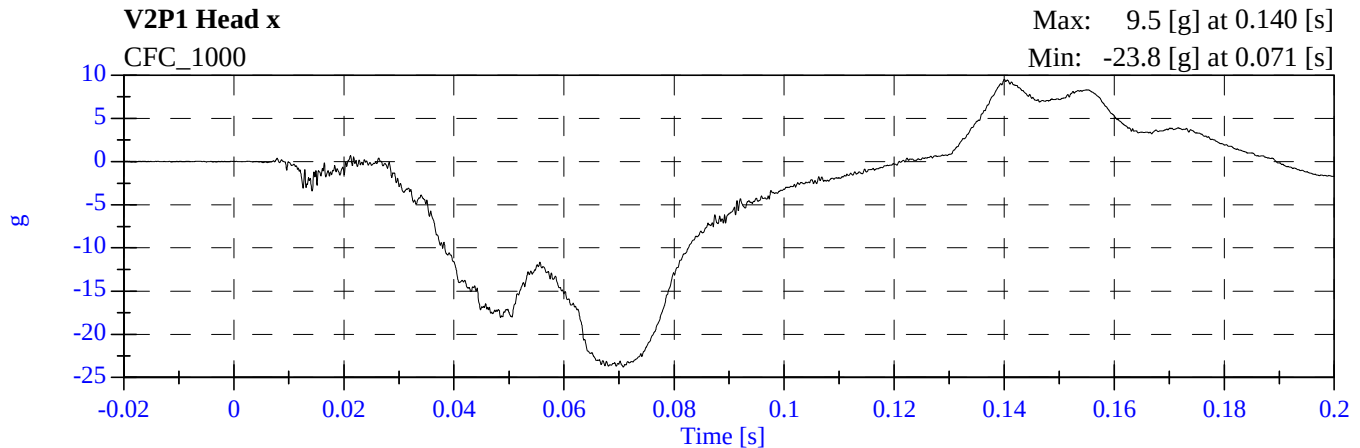
TEST NOTES

The following channel anomalies occurred:

V2A13 Left Mid B Post Ay Cable damaged at 49 ms.

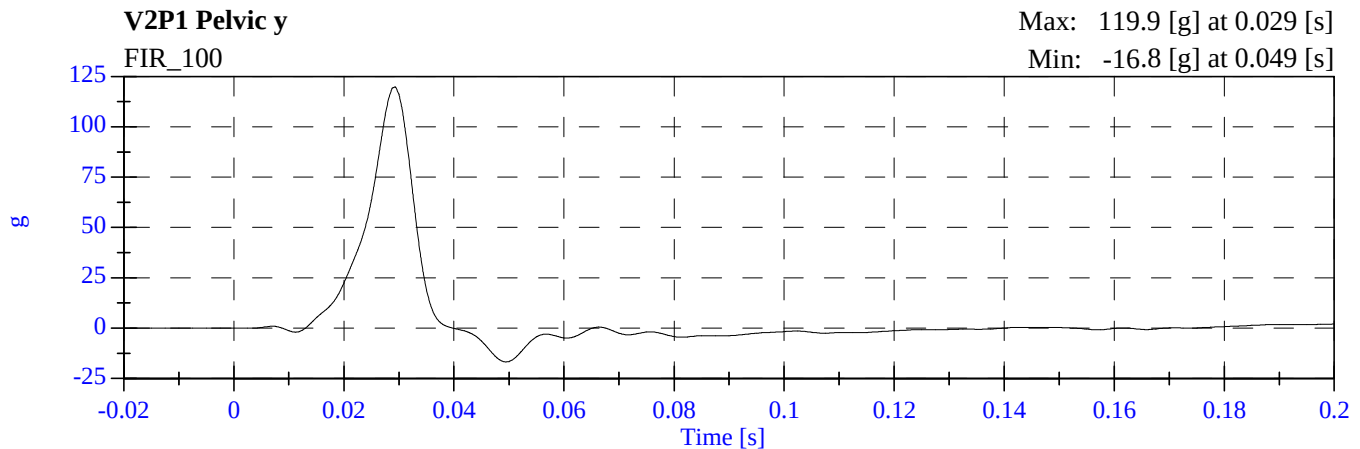
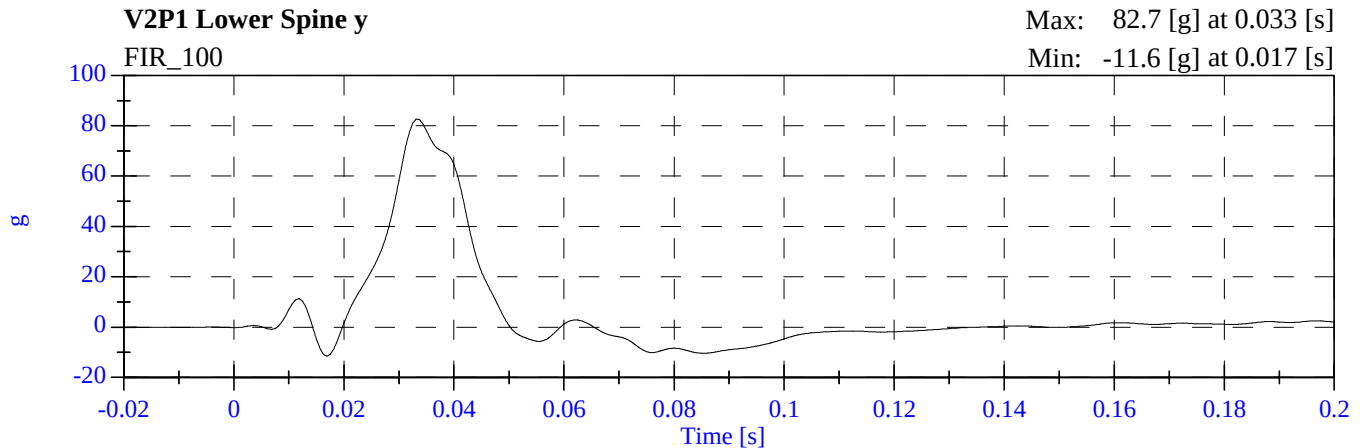
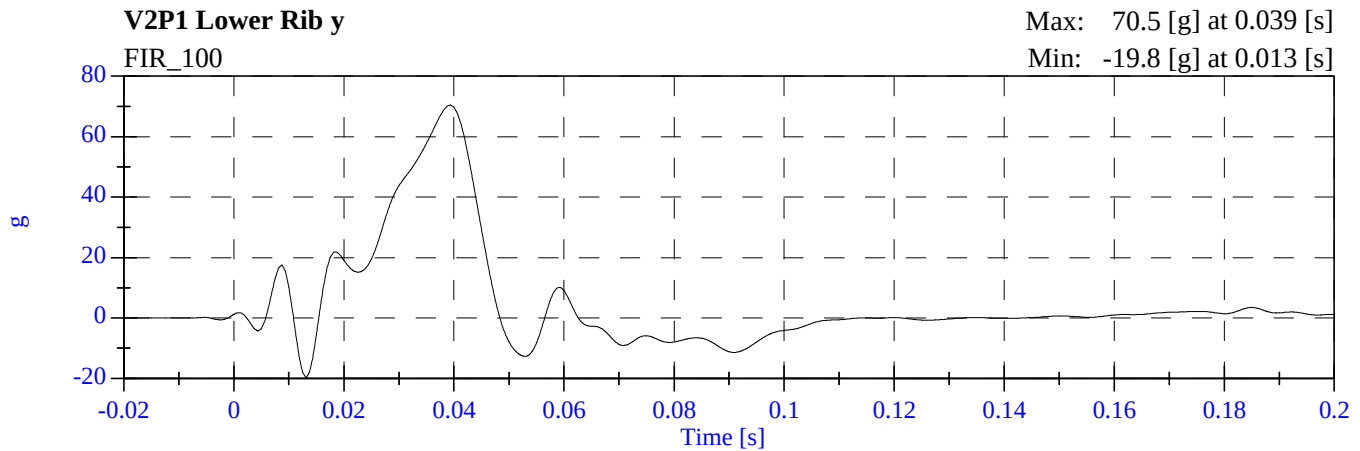
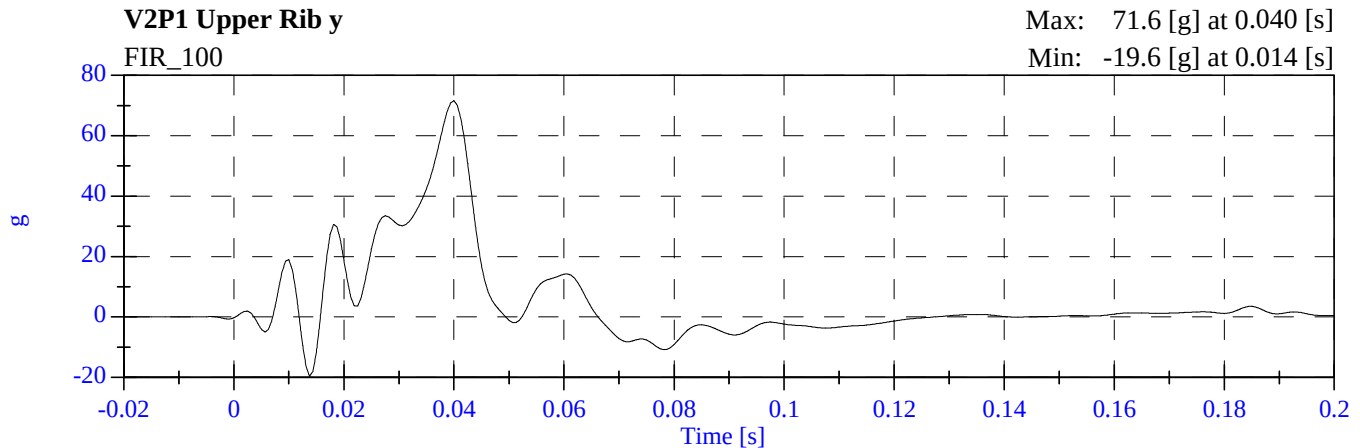
2006 FMVSS 214D Indicant Test 4 - 2006 Honda Civic 2-Door

C65304 - June 13, 2006

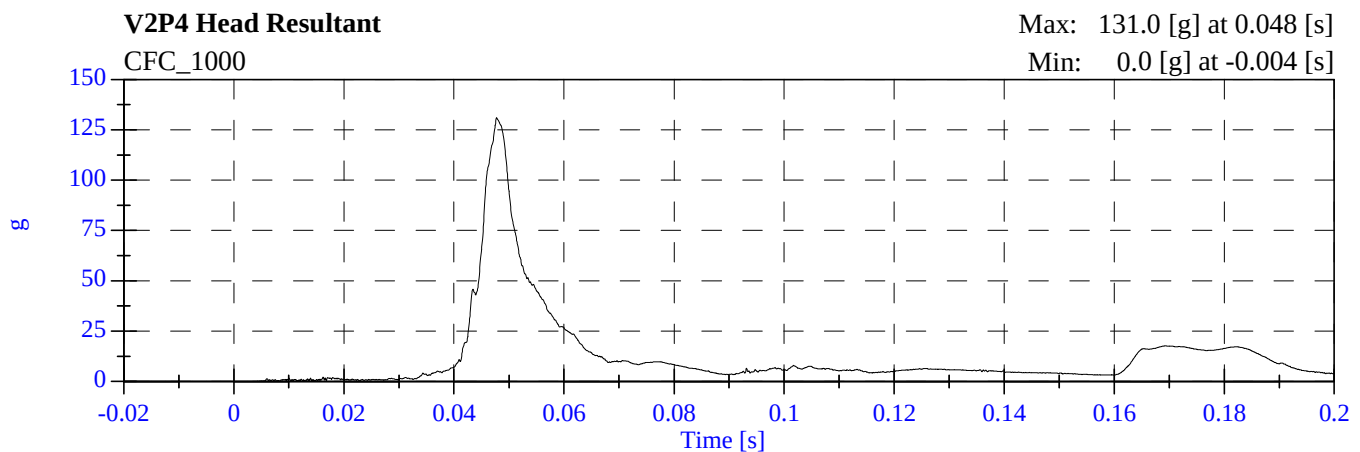
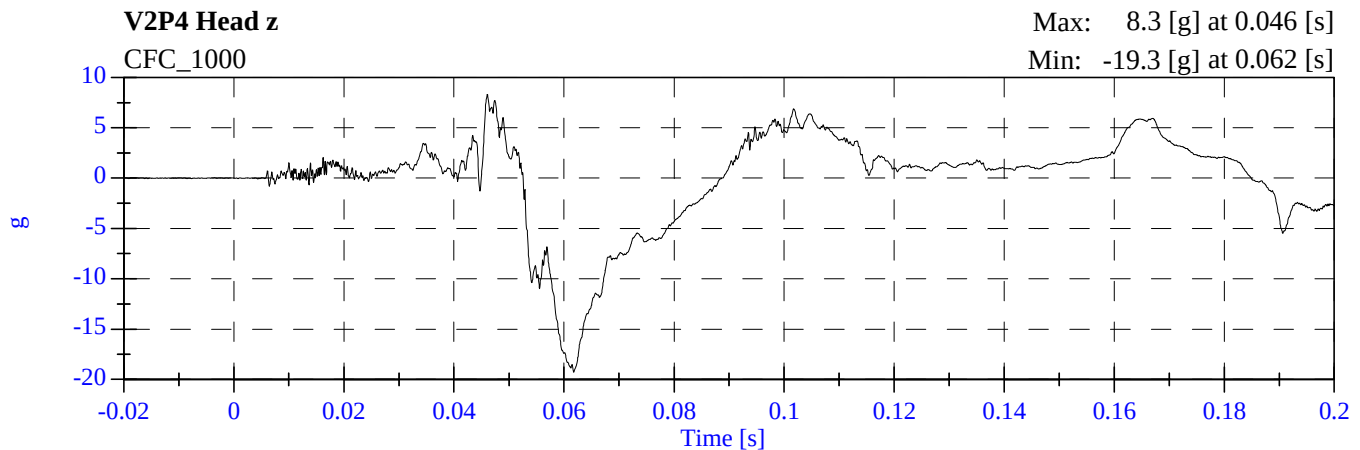
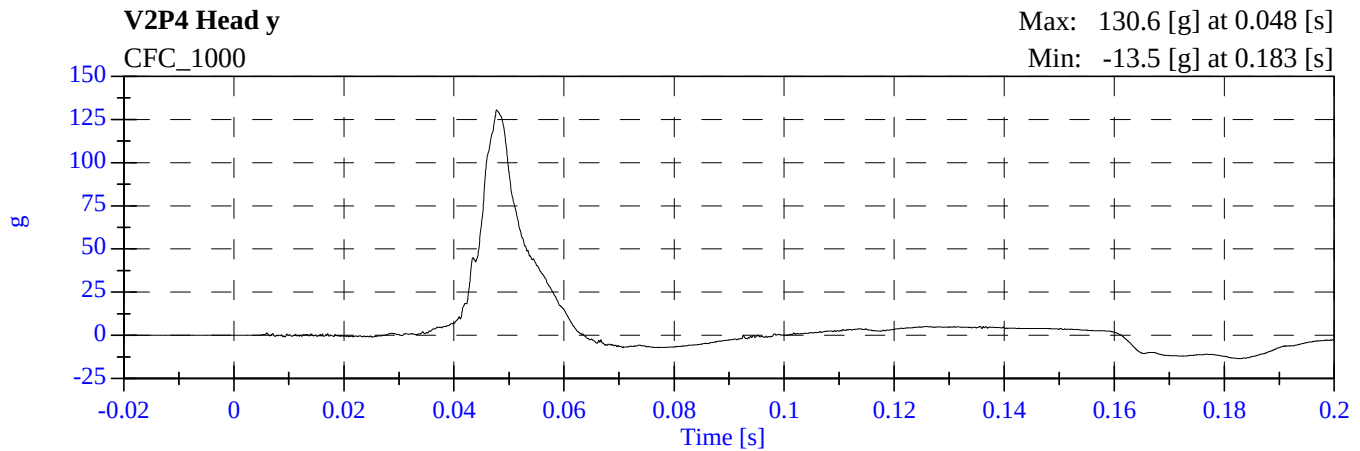
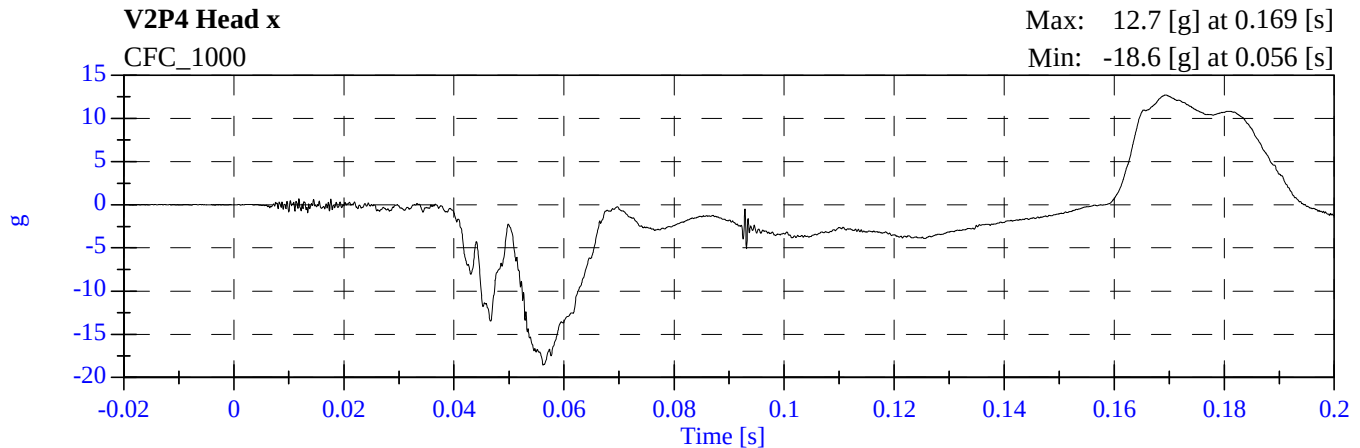


2006 FMVSS 214D Indicant Test 4 - 2006 Honda Civic 2-Door

C65304 - June 13, 2006

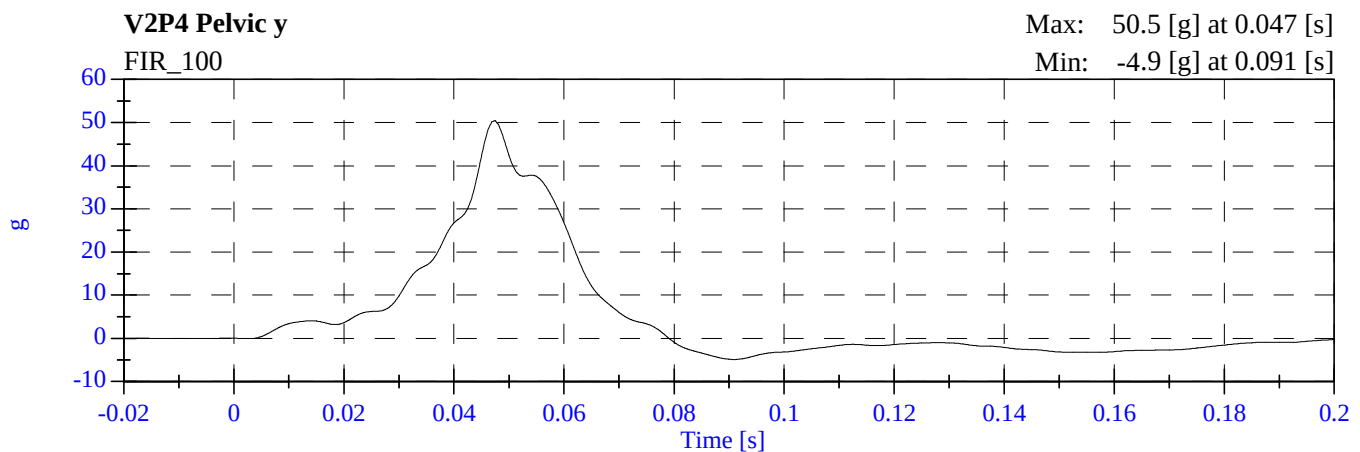
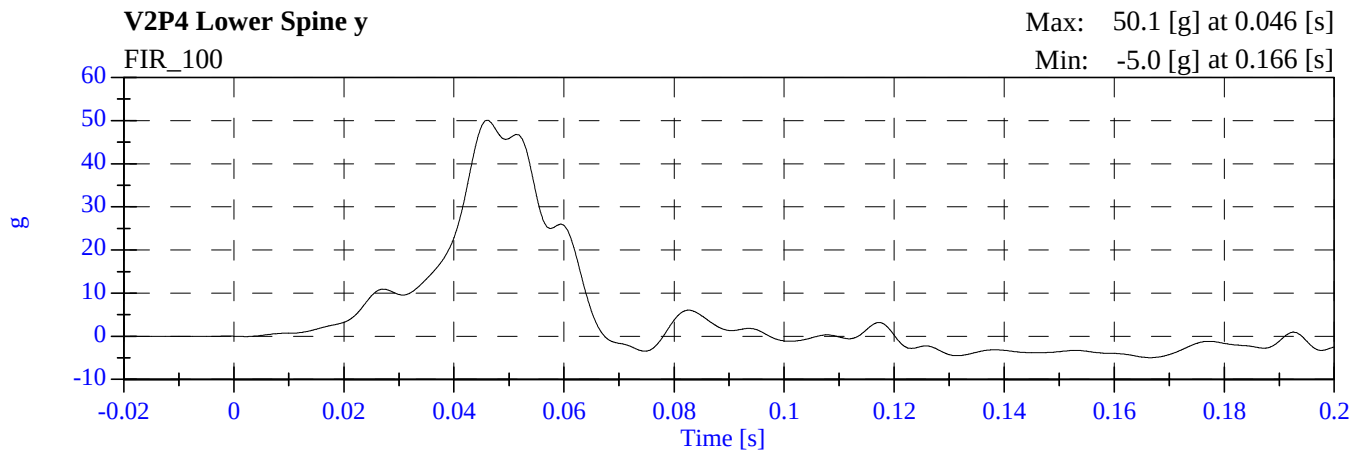
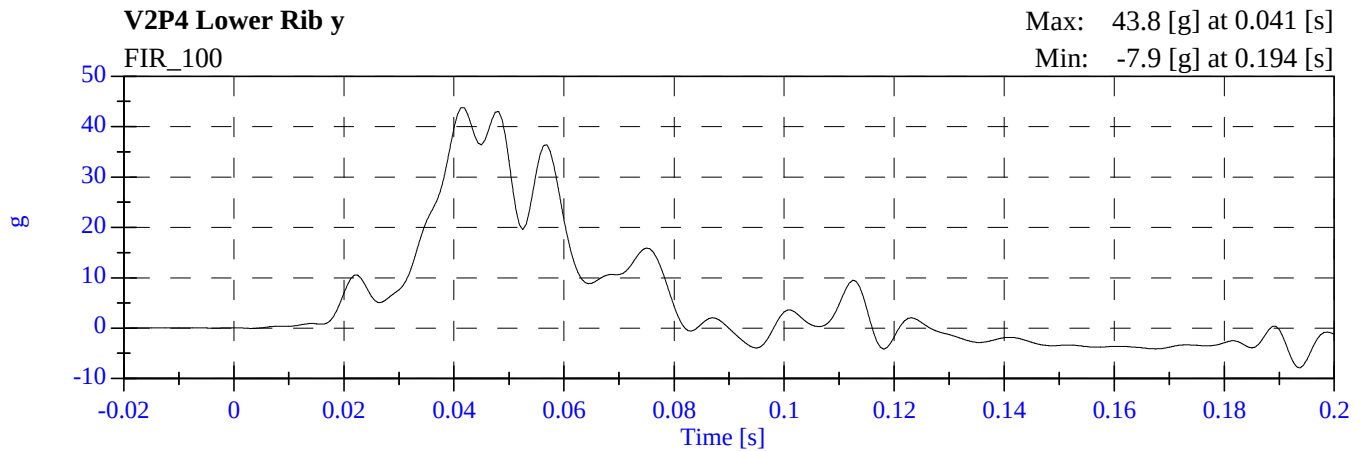
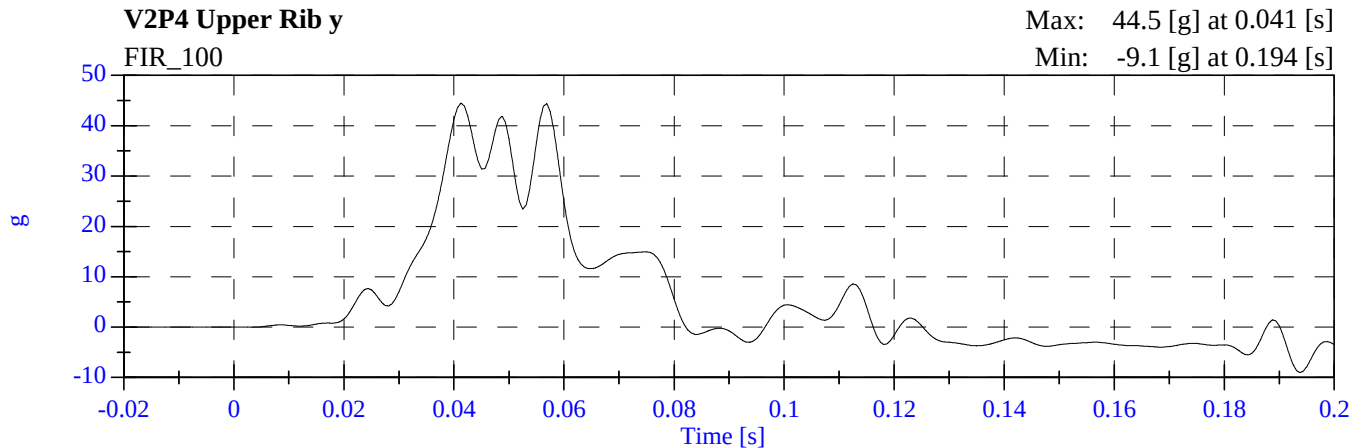


2006 FMVSS 214D Indicant Test 4 - 2006 Honda Civic 2-Door C65304 - June 13, 2006



2006 FMVSS 214D Indicant Test 4 - 2006 Honda Civic 2-Door

C65304 - June 13, 2006



APPENDIX C

DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID H3 PRE & POST TEST CALIBRATION

CONFIGURED FOR LEFT SIDE IMPACT

Date: March 16, 2006; March 16;2006

Sequential Test Number:

1.2; 1.3

Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	SID H3 NO.: 269		SID H3 NO.: 270	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	899	899	899	899
RH- Rib Height (mm)	501 - 521	505	508	505	505
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	234	234	236	234
KV- Knee Pivot from Back Line (mm)	511 - 526	516	516	516	516
SW- Knee Pivot to Floor (mm)	490 - 505	495	495	495	495
HW- Hip Width (mm)	356 - 391	381	378	384	381
THORAX IMPACTS					
TEMPERATURE (C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 -70	42.0	35.0	42.0	35.0
PROBE SPEED (m/s)	4.27 - 4.33	4.29	4.32	4.29	4.32
UPPER RIB (g's)	37 - 46	39.10	41.45	37.80	40.25
LOWER RIB (g's)	37 - 46	38.40	42.51	37.40	38.58
LOWER SPINE (g's)	15 -22	19.26	20.47	19.80	20.31
PELVIS IMPACT					
TEMPERATURE (C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	42.0	35.0	42.0	35.0
PROBE SPEED (m/s)	4.27 - 4.33	4.27	4.31	4.29	4.31
PELVIS (g's)	40 -60	55.97	52.49	50.65	57.57

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID H3 NO.: 269

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269	Sequential Test Number: 1.2
Date: March 16, 2006	Laboratory Technician: B. Swiecicki

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

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1.2
Date: March 16, 2006 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 – 909	899
RH- Rib Height (mm)	502 – 520	505
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 – 241	234
KH- Knee Pivot from Back Line (mm)	511 – 526	516
KV- Knee Pivot to Floor (mm)	490 – 505	495
HW- Hip Width (mm)	356 - 391	381

REMARKS: None

Shock Impact - low (3.05 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

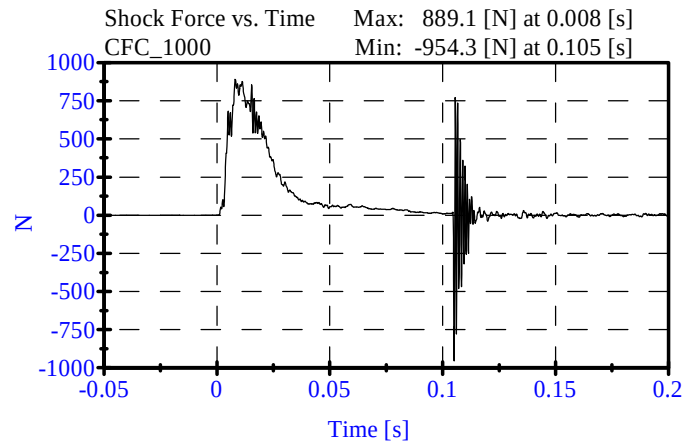
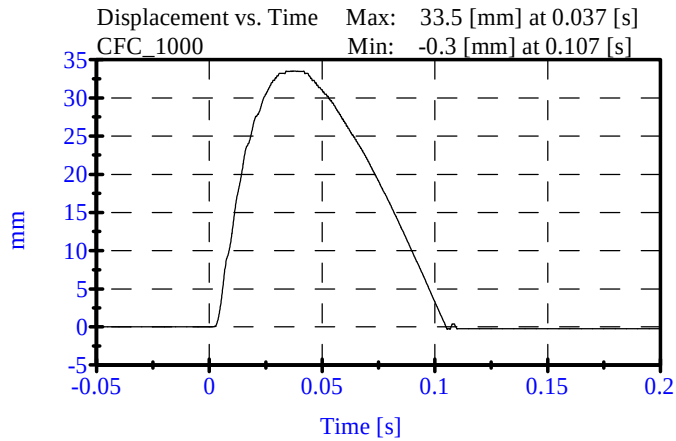
ATD Serial No: 269

Date: 09-29-05

Sequential Test Number: 1 File: 269SL6 09-29-05

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Displacement:	30.00-35.00 mm	33.51 mm	Passed
Maximum Force:	836.00-1125.00 N	889.08 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	269		
Damper Setting:	5		



Shock Impact - med (4.27 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269

Date: 09-29-05

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

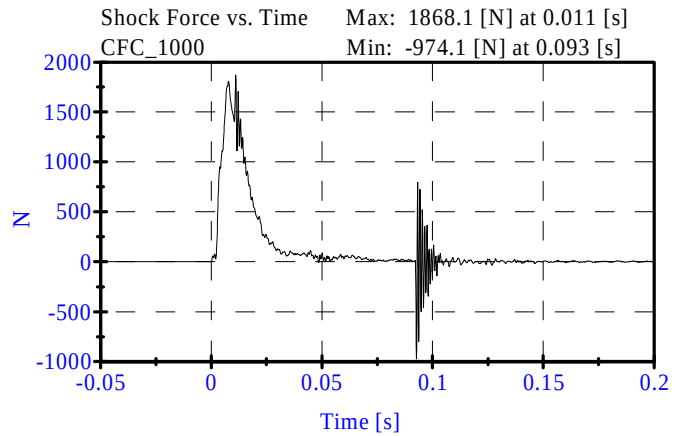
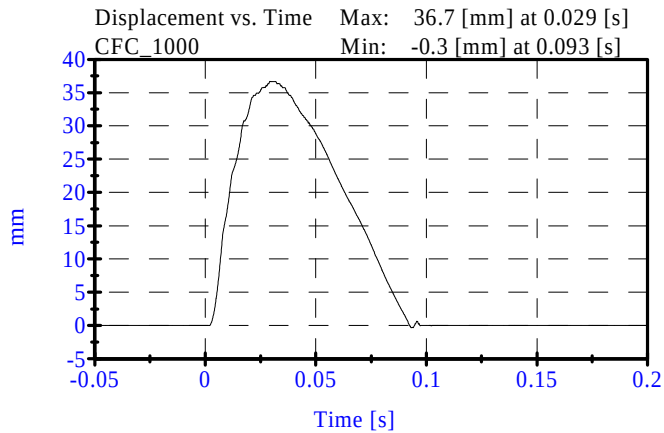
Laboratory Technician: B. Swiecicki

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

Impact Test Velocity: 4.27 m/s

Damper Identification: 269

Damper Setting: 5



Shock Impact - high (6.10 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

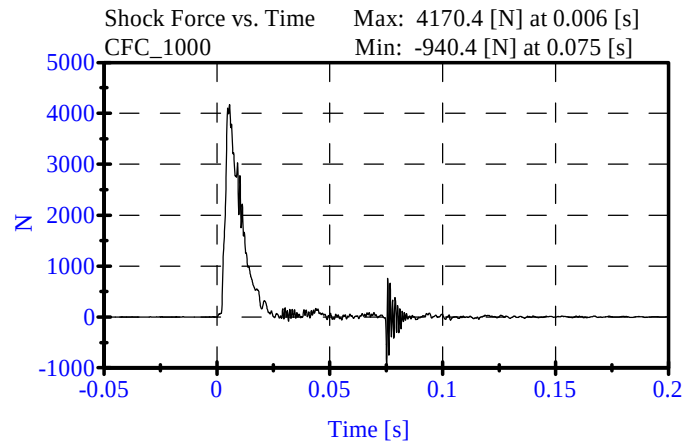
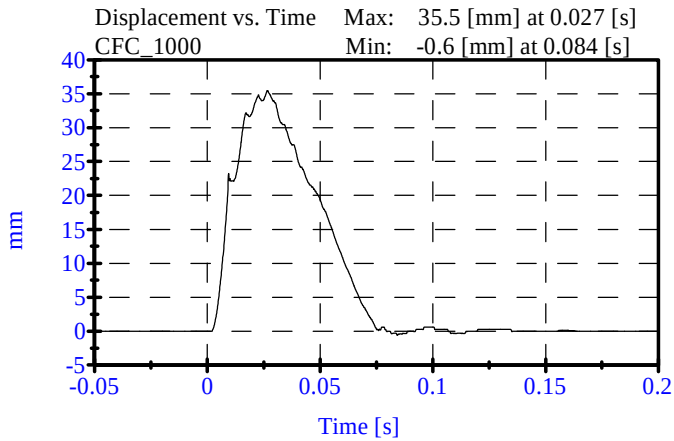
ATD Serial No: 269

Date: 09-29-05

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

Laboratory Technician: B. Swiecicki

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



Thorax Impact

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

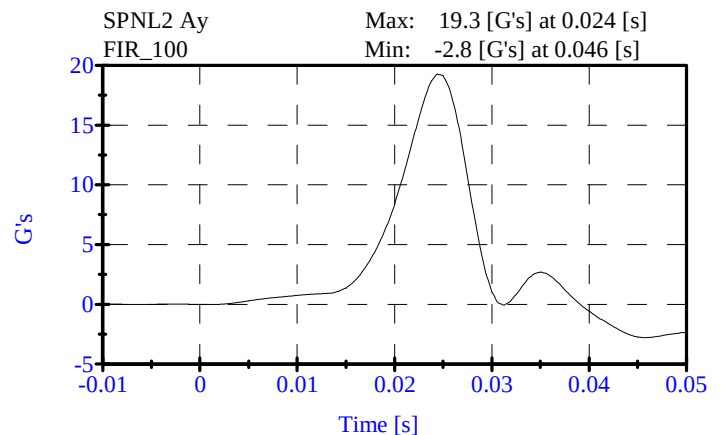
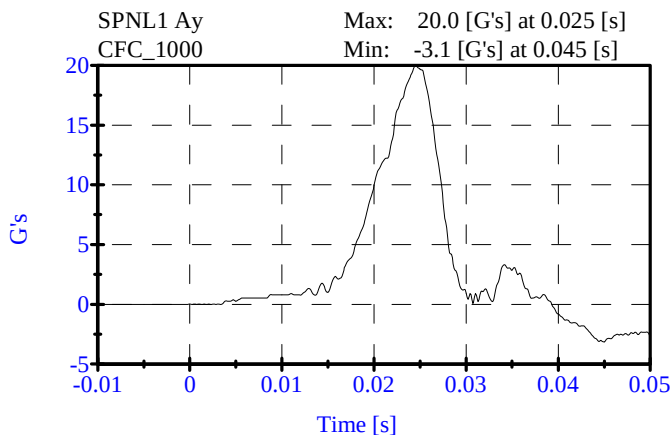
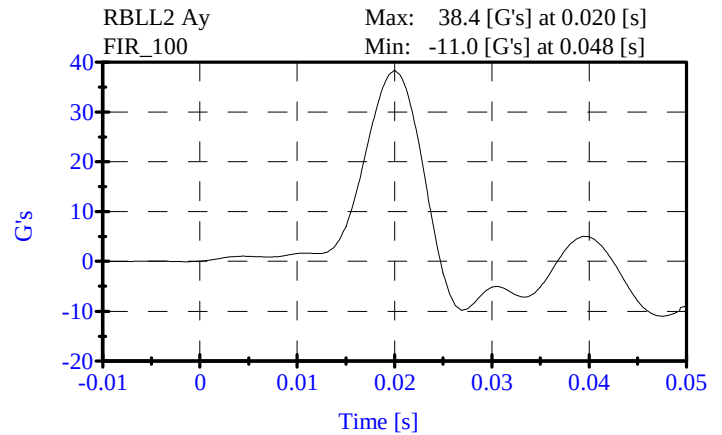
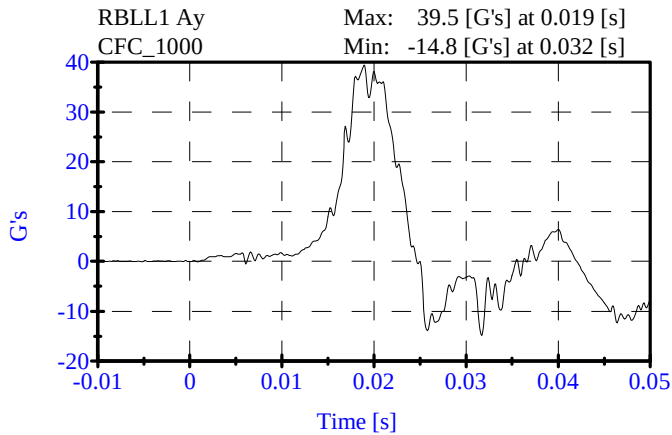
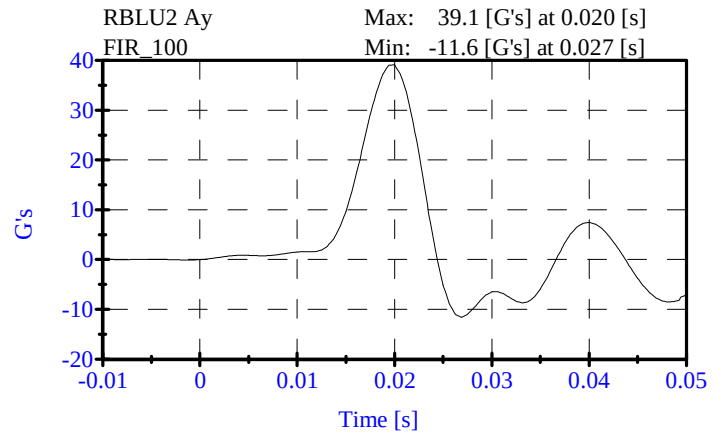
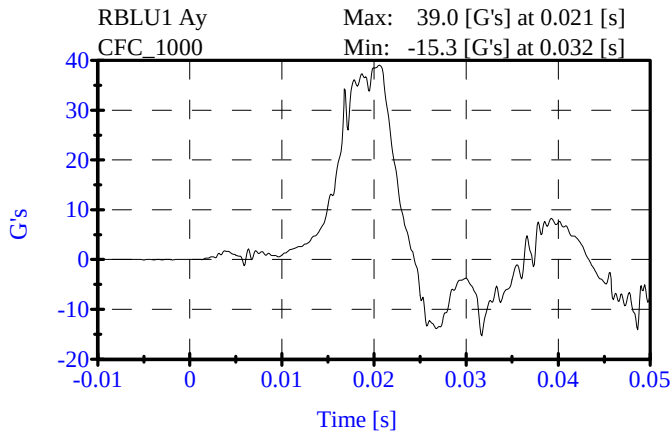
ATD Serial No: 269

Date: 03-16-06

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

Laboratory Technician: B. Swiecicki

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



Pelvic Impact

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

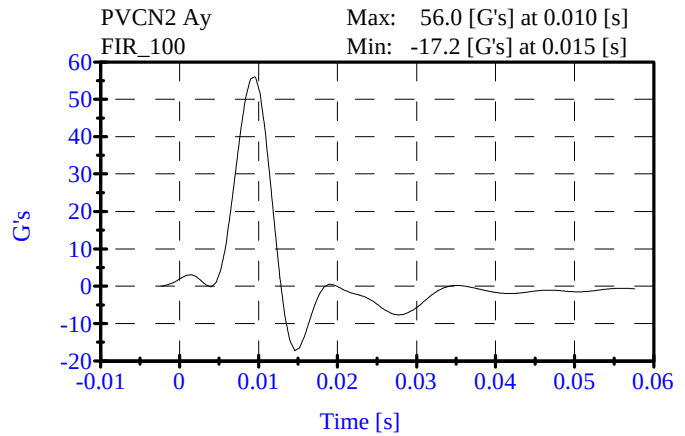
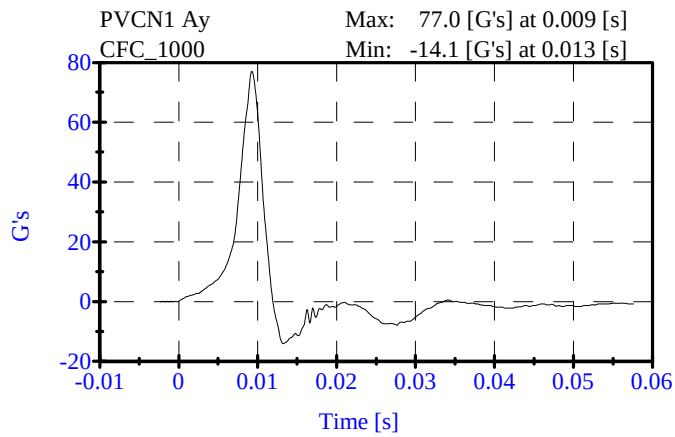
ATD Serial No: 269

Date: 03-16-06

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

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	42.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.27 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	55.97 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.4 ms	Passed



Head Drop

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

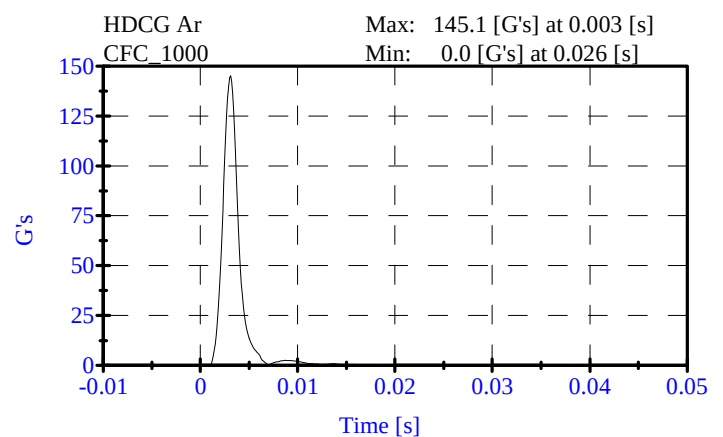
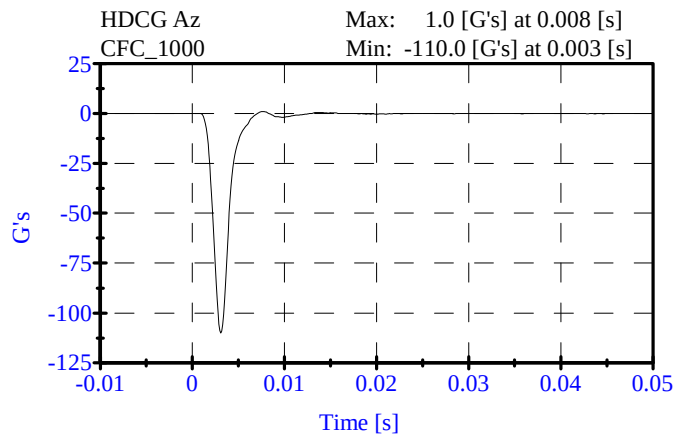
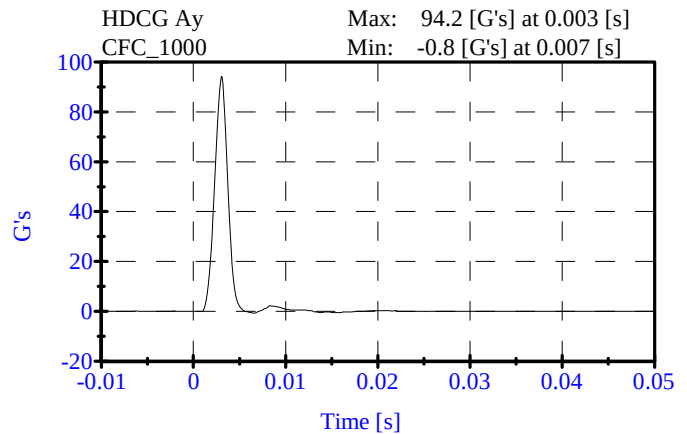
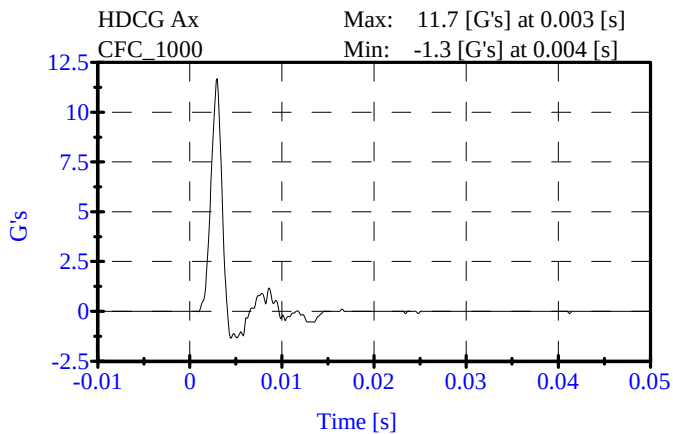
ATD Serial No: 269

Date: 03-14-06

Sequential Test Number: 1 File: 269H 03-14-06

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	145.15 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	11.68 Gs	Passed
Curve PerCent NonModal:	< 15%	1.77 %	Passed



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

ATD Serial No: 269

Date: 03-15-06

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

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	6.98 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.19 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.58 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.60 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.45 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	68.15 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	59.80 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	84.90 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	51.40 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	8.10 ms	Passed

Neck Test

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

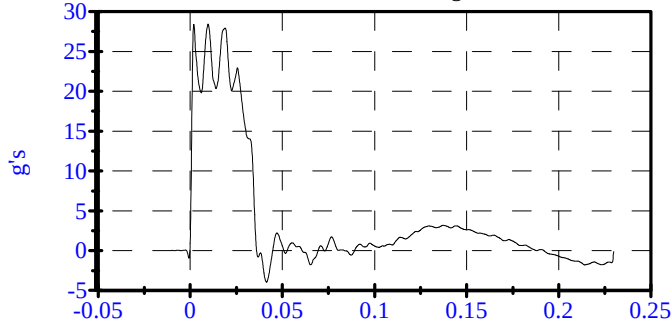
ATD Serial No: 269

Date: 03-15-06

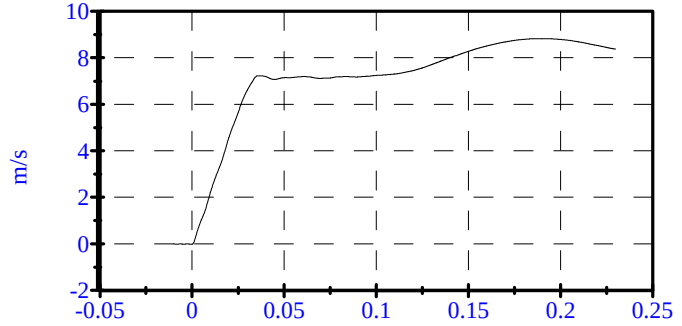
Sequential Test Number: 1 File: 269N 03-15-06

Laboratory Technician: B. Swiecicki

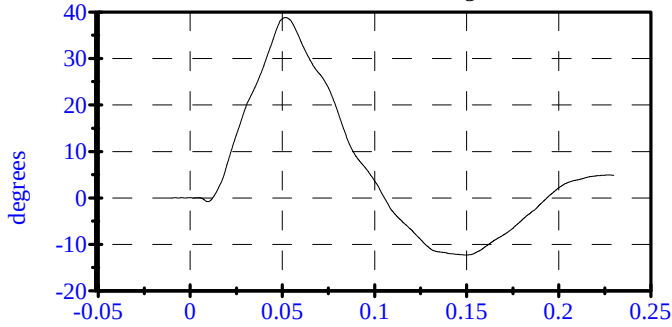
Pend Ax
CFC_180
Max: 28.4 [g's] at 0.010 [s]
Min: -4.0 [g's] at 0.041 [s]



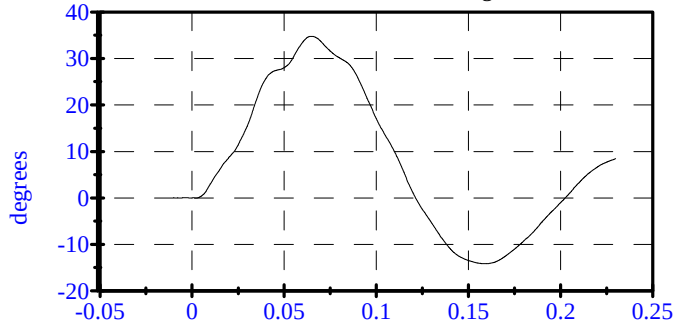
Pend Vx
CFC_180
Max: 8.8 [m/s] at 0.192 [s]
Min: -0.0 [m/s] at -0.000 [s]



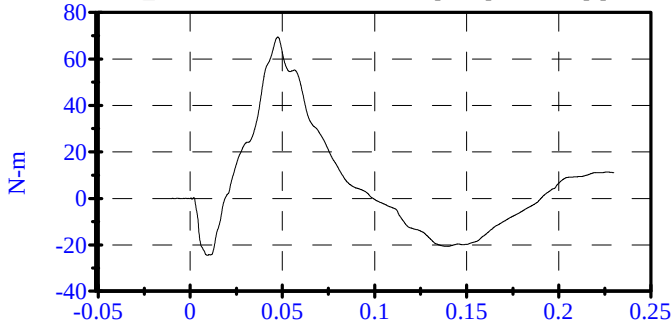
Head Rot
CFC_180
Max: 38.8 [degrees] at 0.052 [s]
Min: -12.3 [degrees] at 0.149 [s]



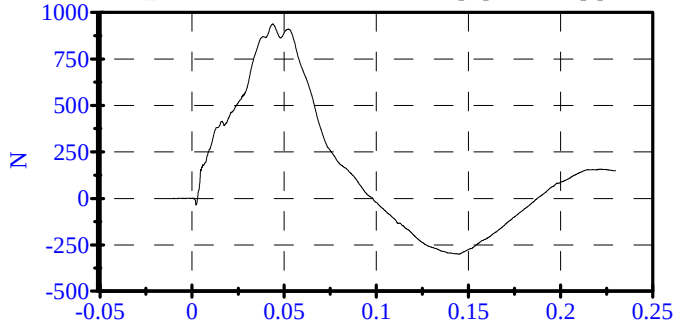
Arm Rot
CFC_180
Max: 34.8 [degrees] at 0.065 [s]
Min: -14.1 [degrees] at 0.159 [s]



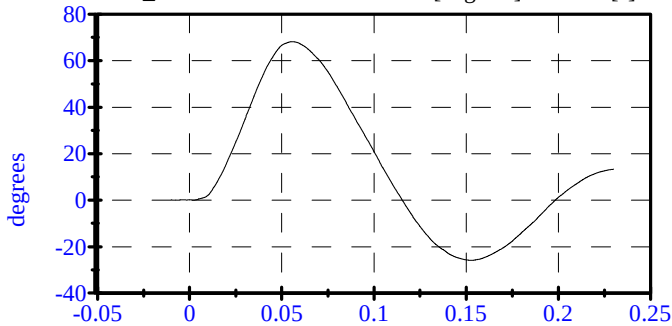
Neck Mx
CFC_600
Max: 69.5 [N-m] at 0.048 [s]
Min: -24.5 [N-m] at 0.010 [s]



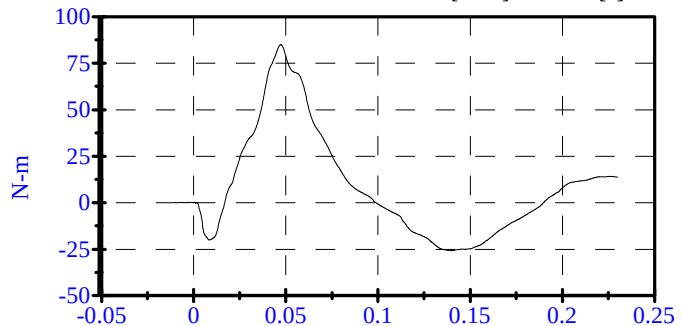
Neck Fy
CFC_1000
Max: 937.6 [N] at 0.044 [s]
Min: -299.4 [N] at 0.145 [s]



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



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



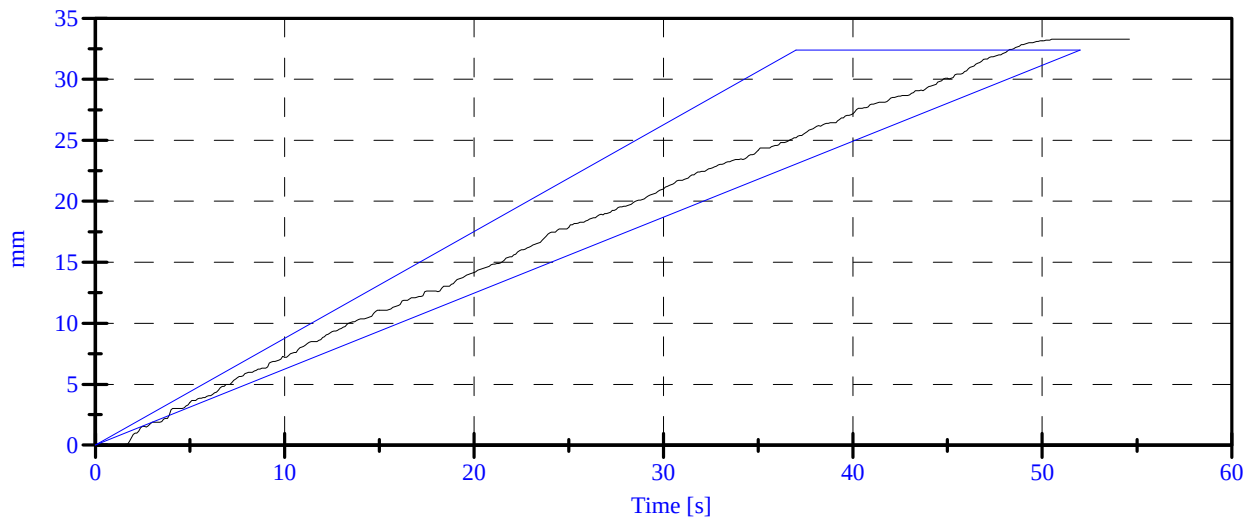
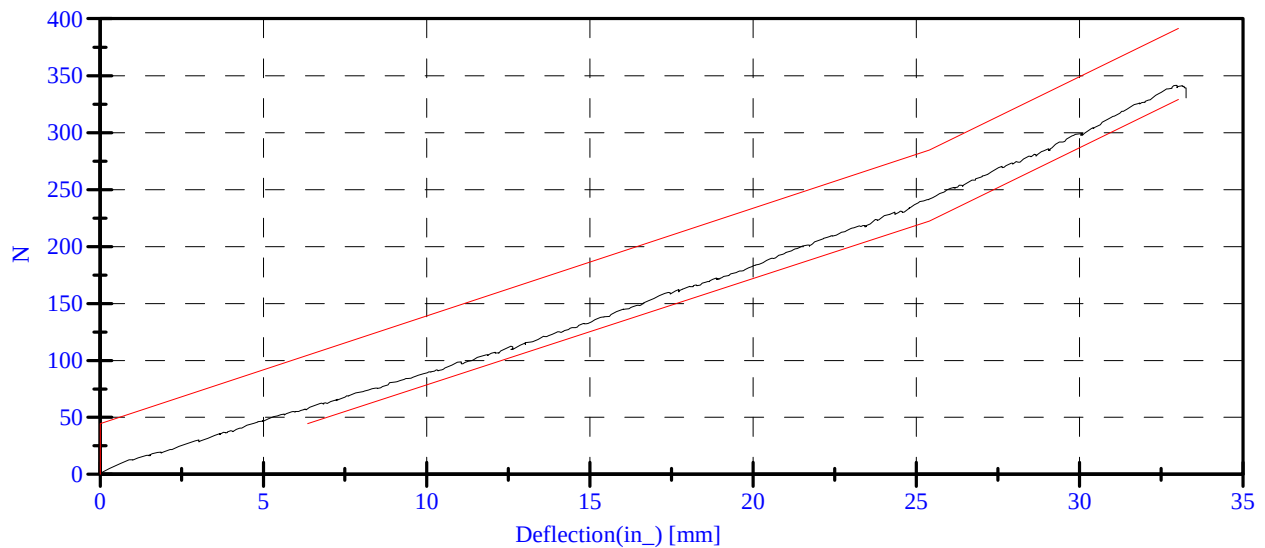
Abdomen Test
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

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

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

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	115.22 N	Passed
Force at 19.05 mm :	162.98-220.99 N	172.80 N	Passed
Force at 25.40 mm :	221.97-280.02 N	241.17 N	Passed
Force at 33.02 mm :	324.99-391.00 N	340.62 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269

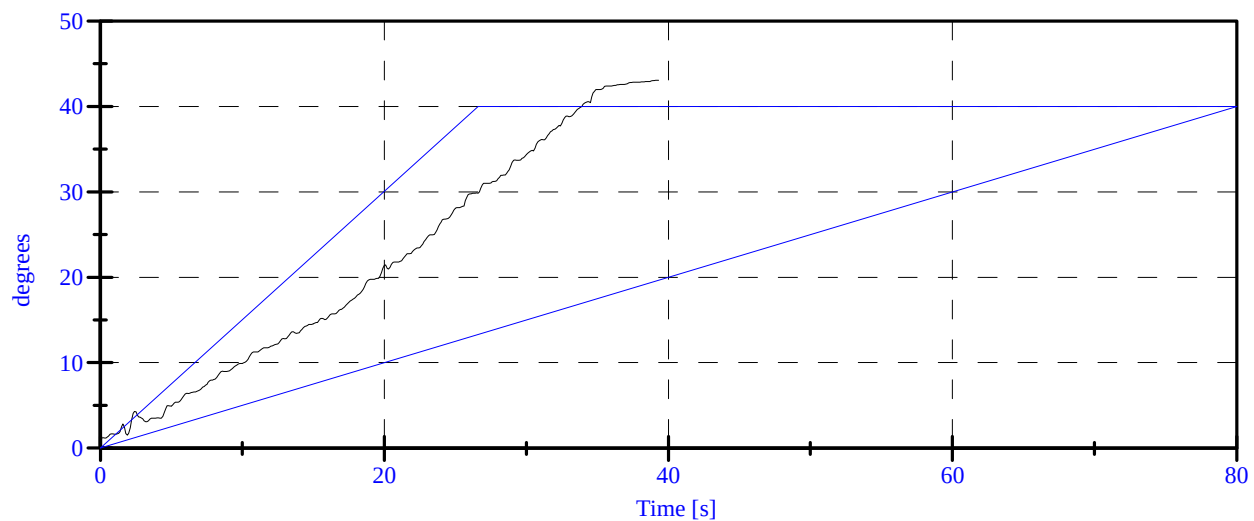
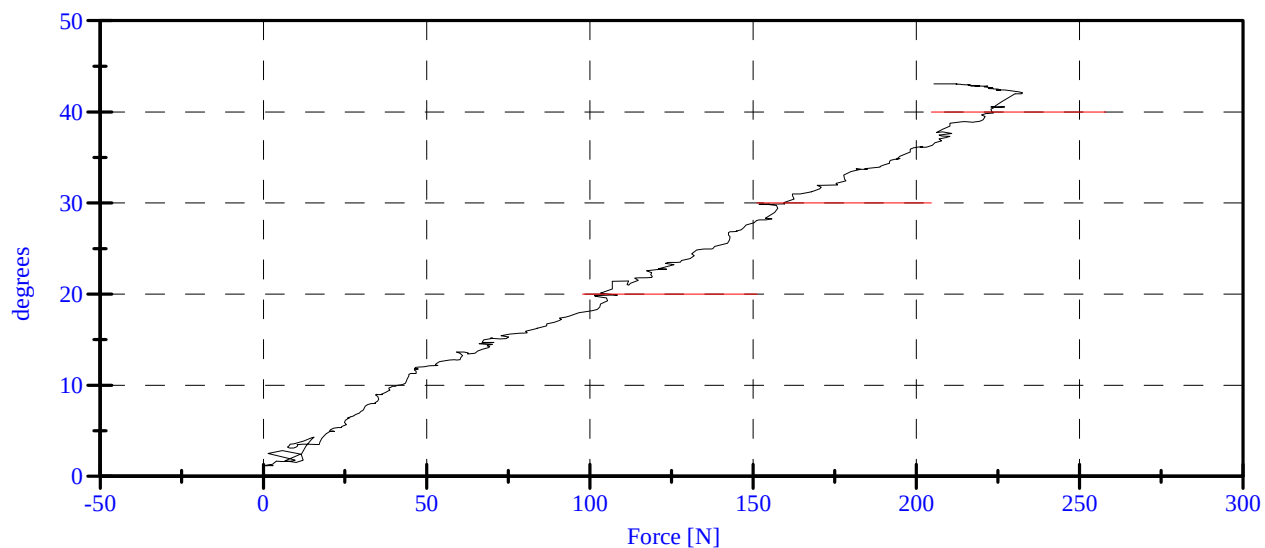
Date: 03-16-06

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

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	0.66 N	Passed
Force at 20 Deg:	97.86-151.24 N	106.42 N	Passed
Force at 30 Deg:	151.24-204.62 N	159.44 N	Passed
Force at 40 Deg:	204.62-258.00 N	223.16 N	Passed
Return Angle	12 Deg Max	2.62 deg	Passed

LUMBAR SPINE FLEXION TEST



PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1.2
 Date: March 16, 2006 Laboratory Technician: B. Swiecicki

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

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID H3 NO.: 270

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

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

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

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

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

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	899
RH- Rib Height (mm)	502 - 520	505
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	236
KH- Knee Pivot from Back Line (mm)	511 - 526	516
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	384

REMARKS: None

Shock Impact - Low (3.05 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

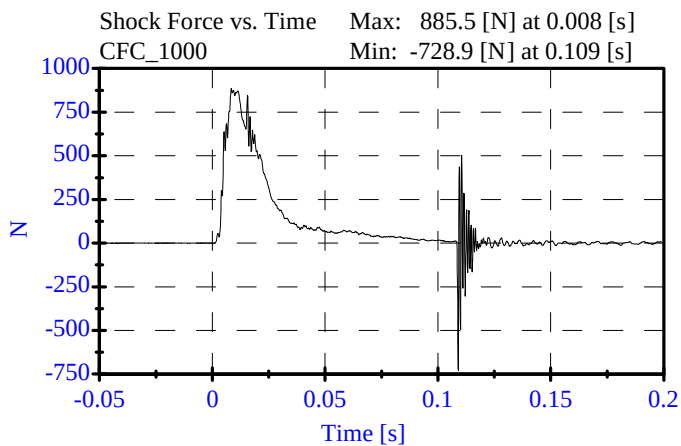
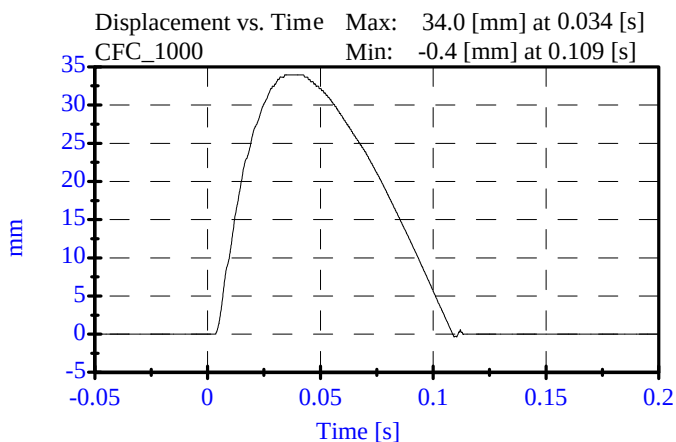
ATD Serial No: 270

Date: 09-29-05

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

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Displacement:	30.00-35.00 mm	34.00 mm	Passed
Maximum Force:	836.00-1125.00 N	885.47 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	270		
Damper Setting:	5		



Shock - Med (4.27 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270

Date: 09-29-05

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

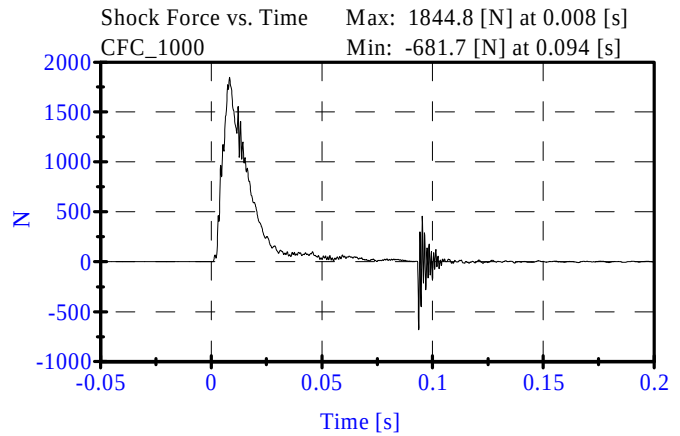
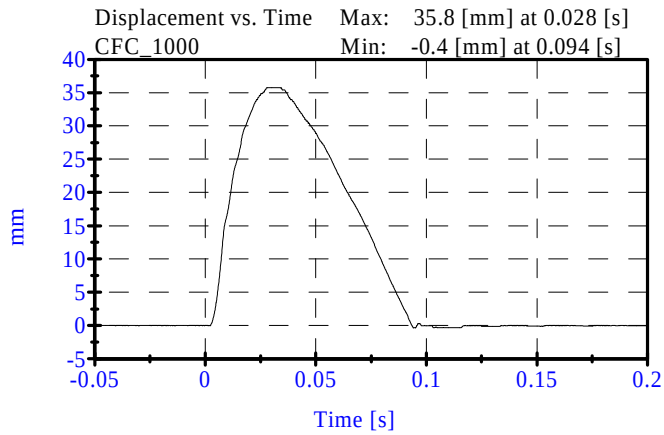
Laboratory Technician: B. Swiecicki

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

Impact Test Velocity: 4.27 m/s

Damper Identification: 270

Damper Setting: 5



Shock Impact - high (6.10 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

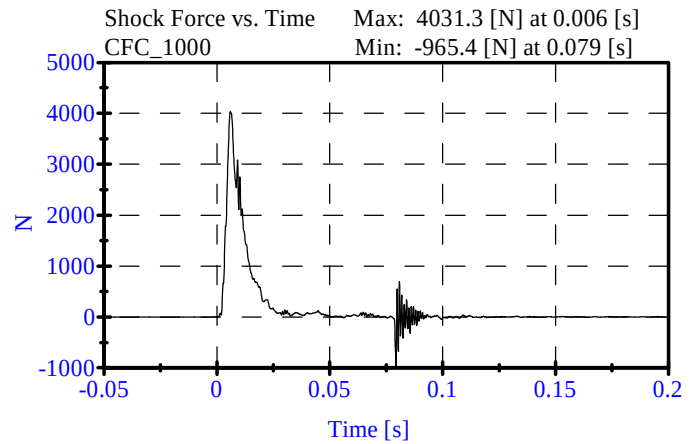
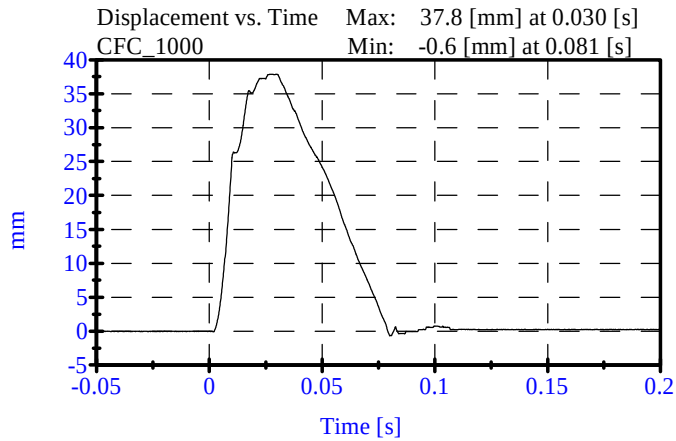
ATD Serial No: 270

Date: 09-29-05

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

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Displacement:	33.00-40.00 mm	37.82 mm	Passed
Maximum Force:	3741.00-4448.00 N	4031.26 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	270		
Damper Setting:	5		

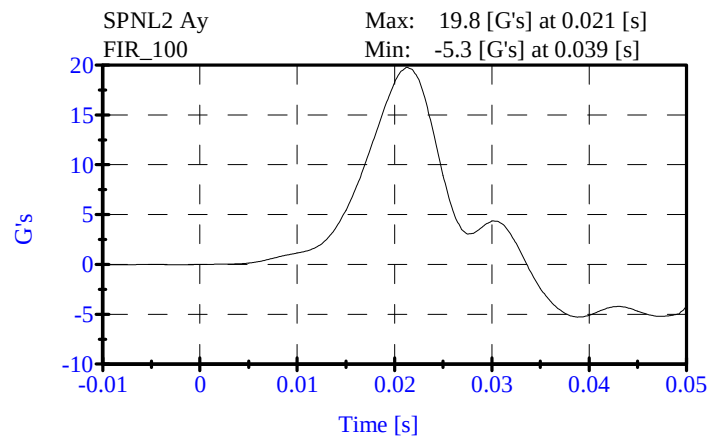
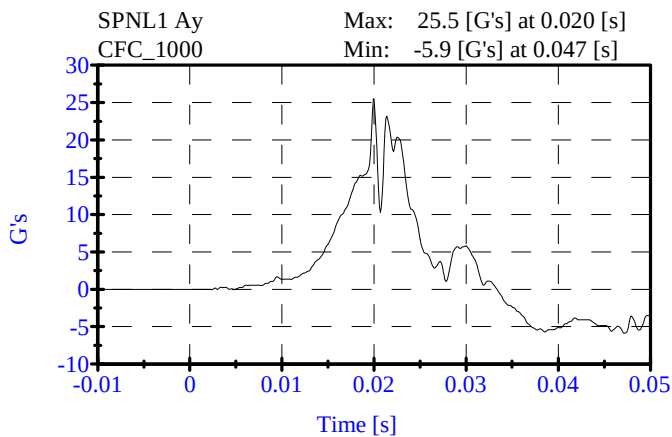
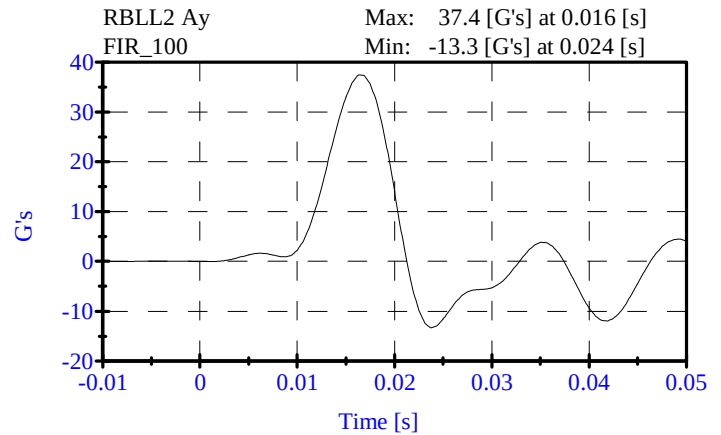
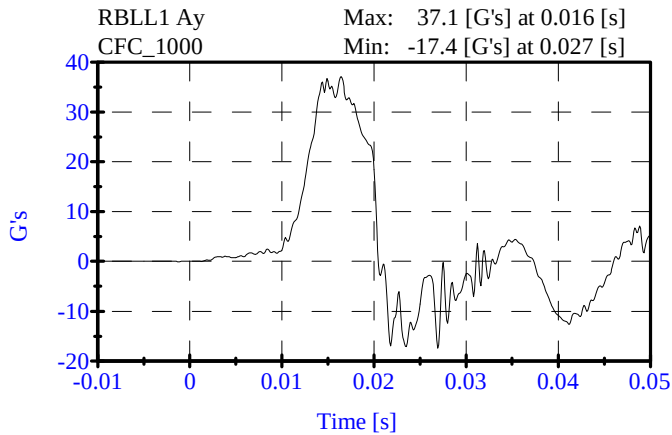
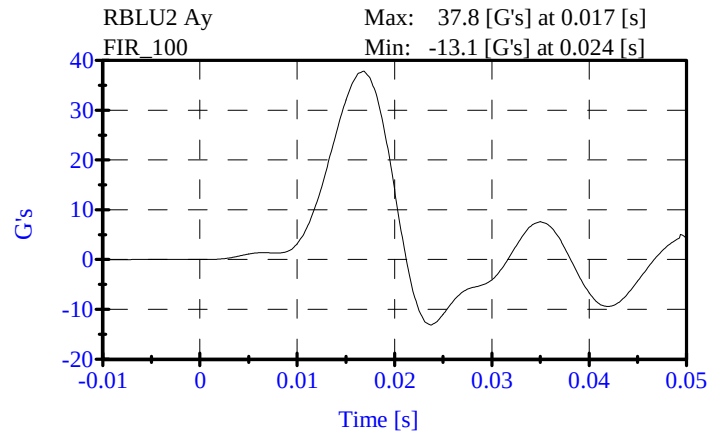
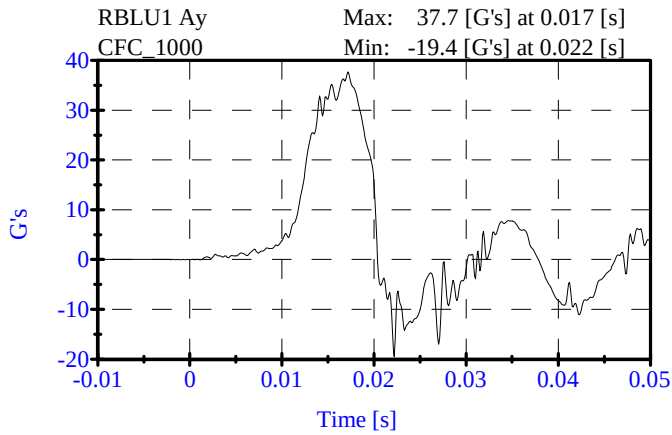


Thorax Impact
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

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

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

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



Pelvic Impact

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

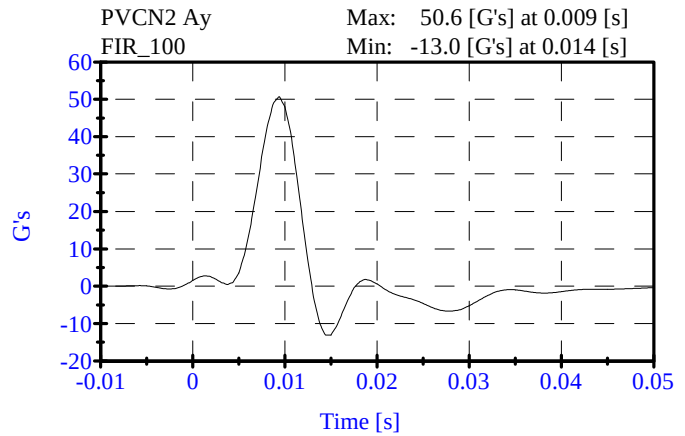
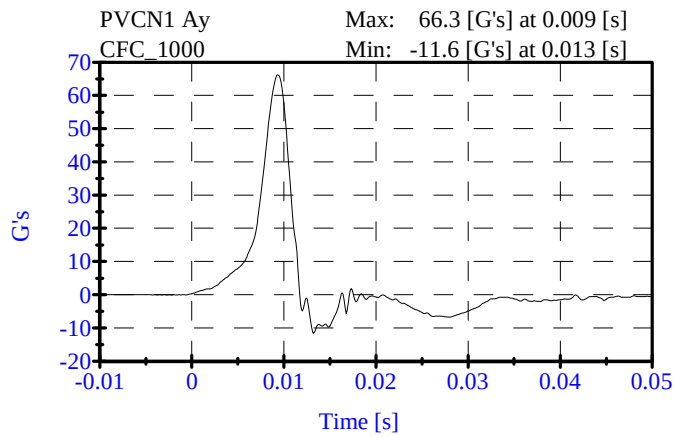
ATD Serial No: 270

Date: 03-16-06

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

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	42.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.29 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	50.65 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.3 ms	Passed



Head Drop

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

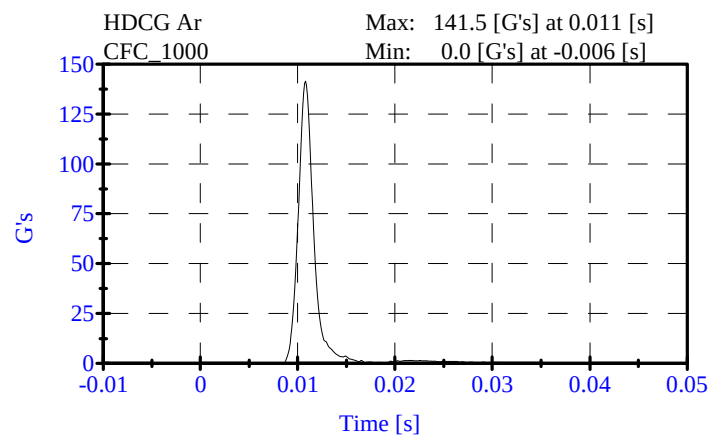
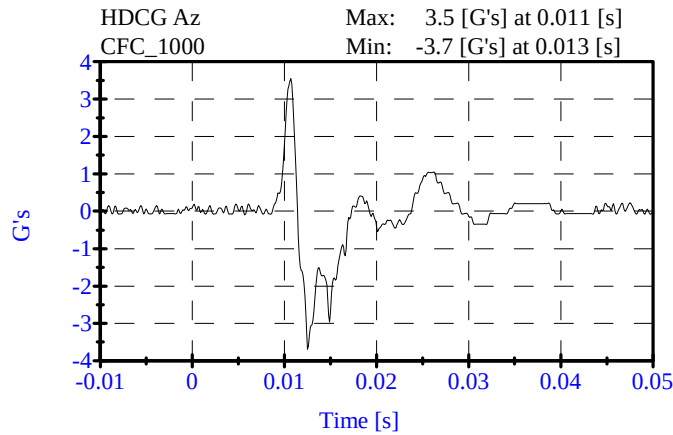
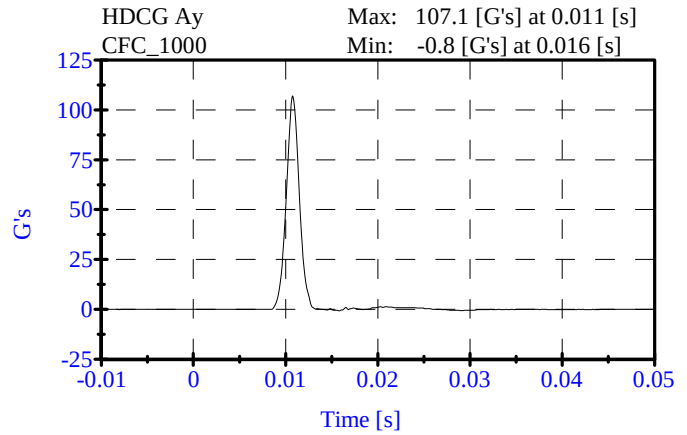
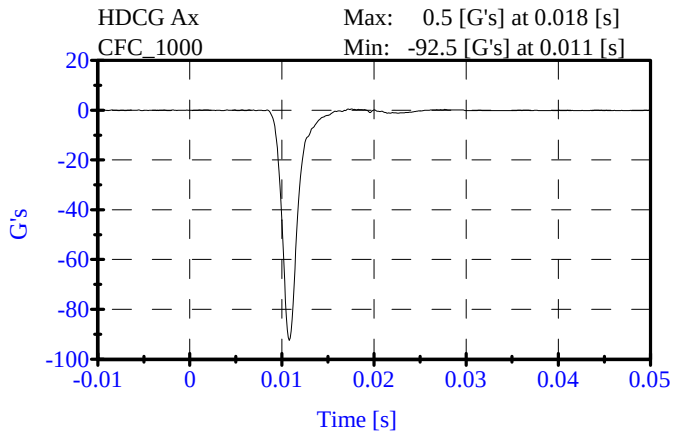
ATD Serial No: 270

Date: 03-13-06

Sequential Test Number: 1 File: 270H 03-13-06

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	141.54 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	0.52 Gs	Passed
Curve PerCent NonModal:	< 15%	2.60 %	Passed



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

ATD Serial No: 270

Date: 03-14-06

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

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	6.99 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.22 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.58 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.57 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.50 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	67.39 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	60.20 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	86.86 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	50.20 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	7.50 ms	Passed

Neck Test

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

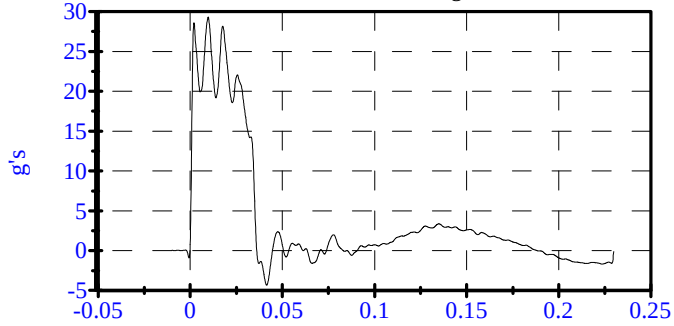
ATD Serial No: 270

Date: 03-14-06

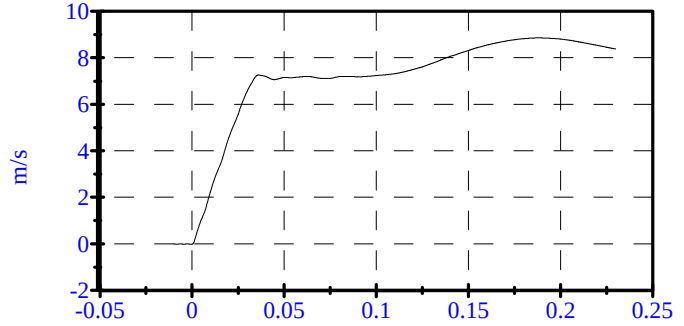
Sequential Test Number: 1 File: 270N 03-14-06

Laboratory Technician: B. Swiecicki

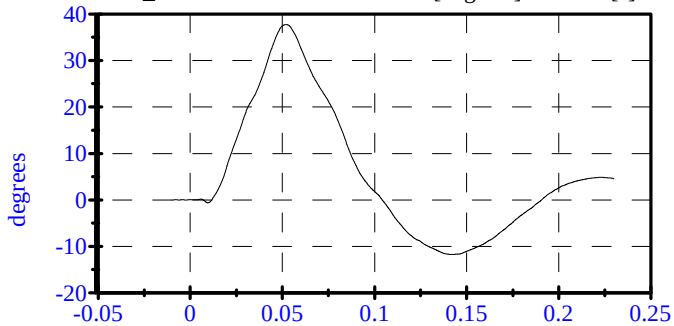
Pend Ax
CFC_180
Max: 29.3 [g's] at 0.010 [s]
Min: -4.4 [g's] at 0.041 [s]



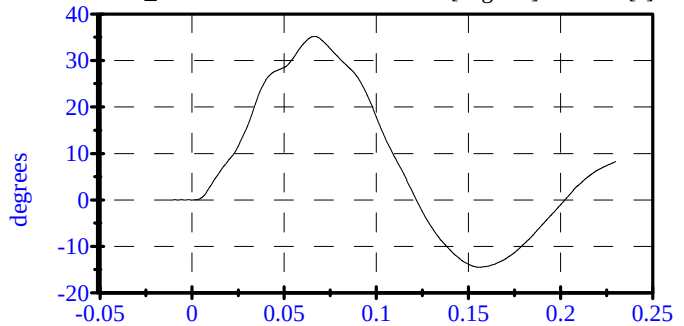
Pend Vx
CFC_180
Max: 8.9 [m/s] at 0.188 [s]
Min: -0.0 [m/s] at -0.000 [s]



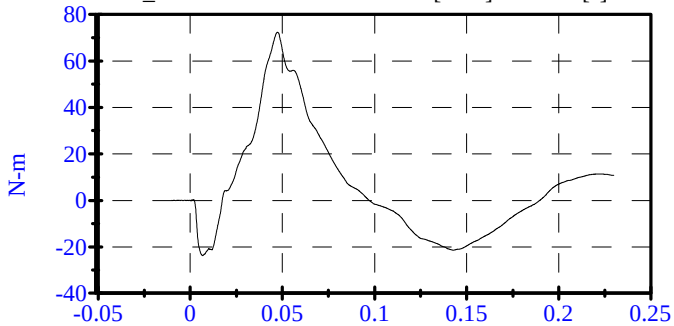
Head Rot
CFC_180
Max: 37.7 [degrees] at 0.052 [s]
Min: -11.7 [degrees] at 0.142 [s]



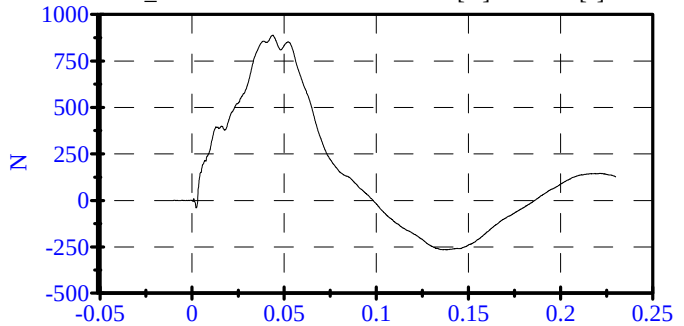
Arm Rot
CFC_180
Max: 35.1 [degrees] at 0.067 [s]
Min: -14.4 [degrees] at 0.156 [s]



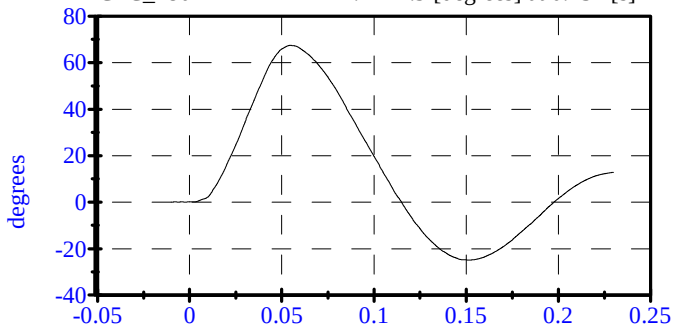
Neck Mx
CFC_600
Max: 72.3 [N-m] at 0.047 [s]
Min: -23.7 [N-m] at 0.007 [s]



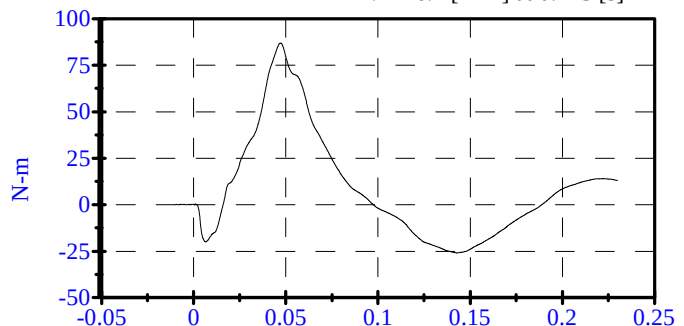
Neck Fy
CFC_1000
Max: 888.6 [N] at 0.044 [s]
Min: -266.2 [N] at 0.139 [s]



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



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



Abdomen Test

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270

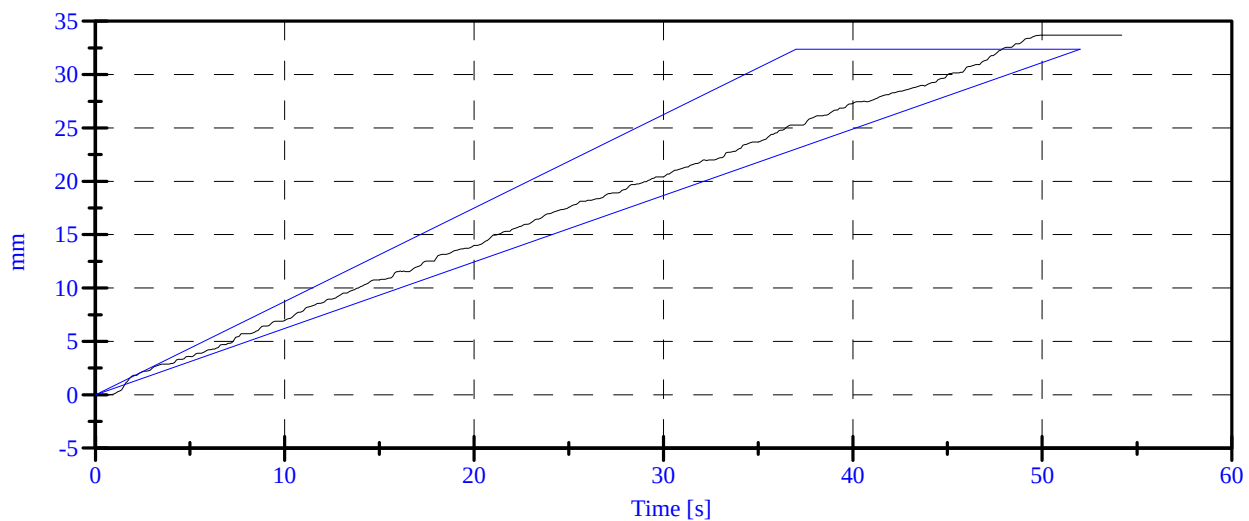
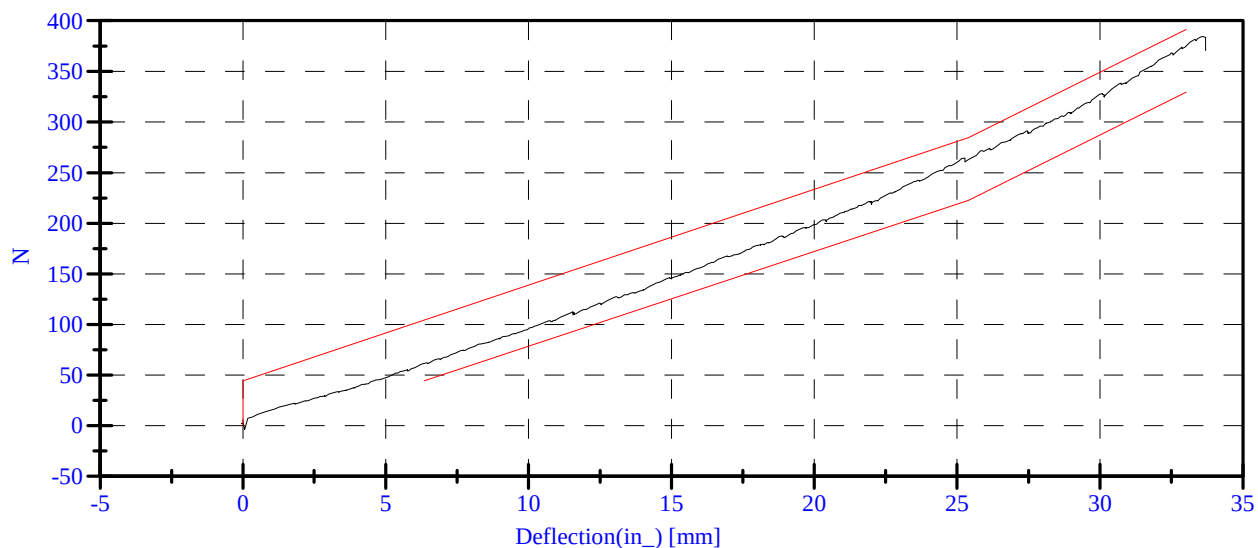
Date: 03-16-06

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

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	127.30 N	Passed
Force at 19.05 mm :	162.98-220.99 N	186.39 N	Passed
Force at 25.40 mm :	221.97-280.02 N	262.87 N	Passed
Force at 33.02 mm :	324.99-391.00 N	373.79 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270

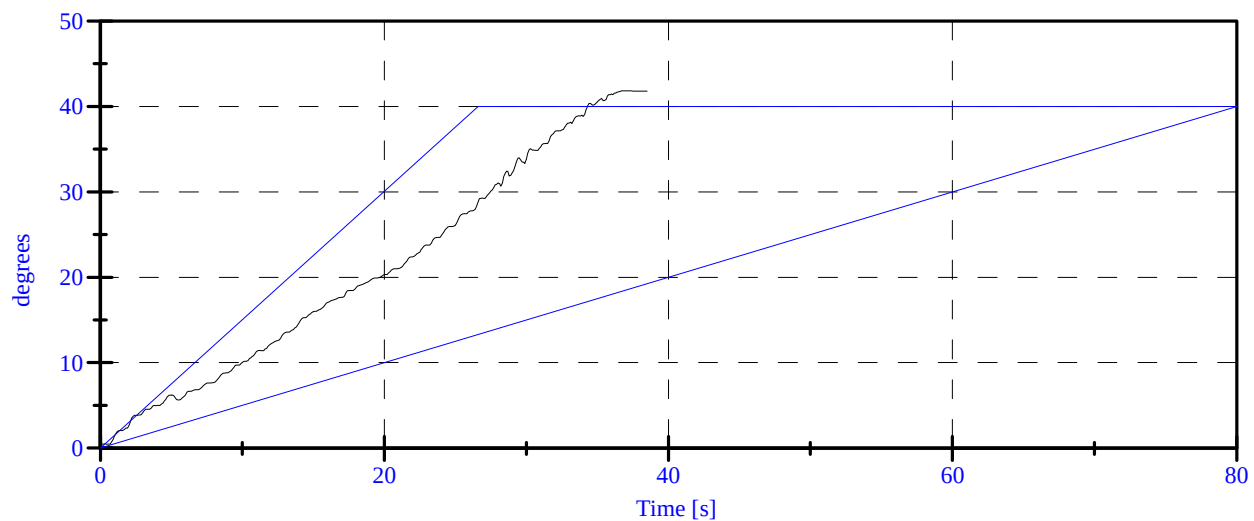
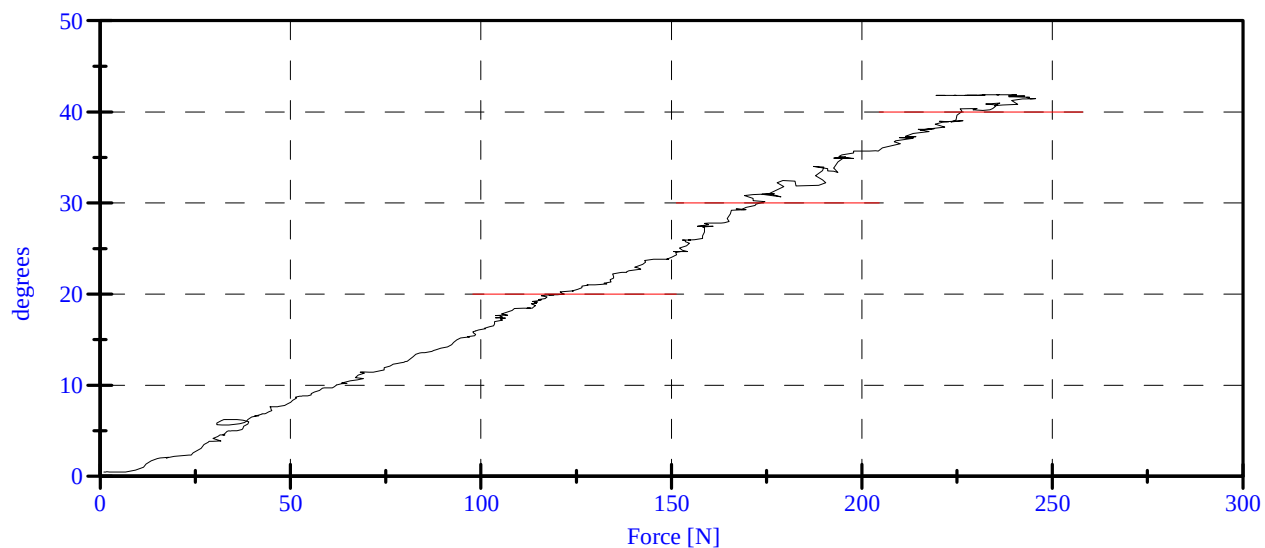
Date: 03-16-06

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

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	0.92 N	Passed
Force at 20 Deg:	97.86-151.24 N	121.83 N	Passed
Force at 30 Deg:	151.24-204.62 N	174.59 N	Passed
Force at 40 Deg:	204.62-258.00 N	226.29 N	Passed
Return Angle	12 Deg Max	4.13 deg	Passed

LUMBAR SPINE FLEXION TEST



PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

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

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

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 269

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1
Date: June 16, 2006 Laboratory Technician: B. Swiecicki

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

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1
Date: June 16, 2006 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	899
RH- Rib Height (mm)	502 - 520	508
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	234
KH- Knee Pivot from Back Line (mm)	511 - 526	516
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	378

REMARKS: None

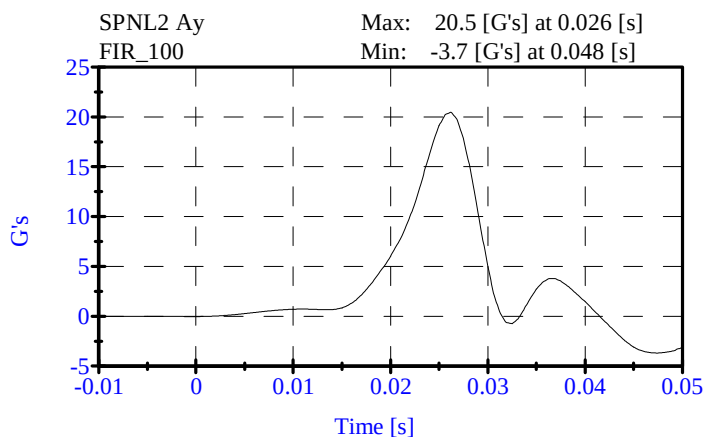
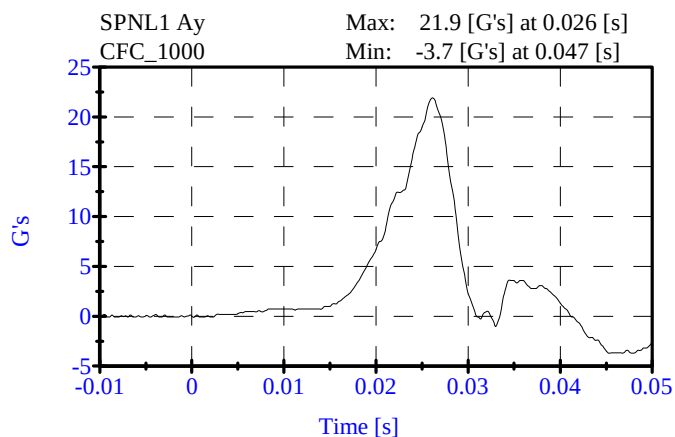
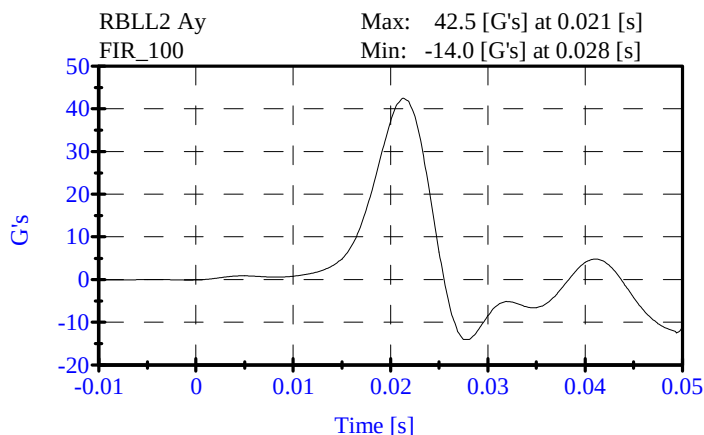
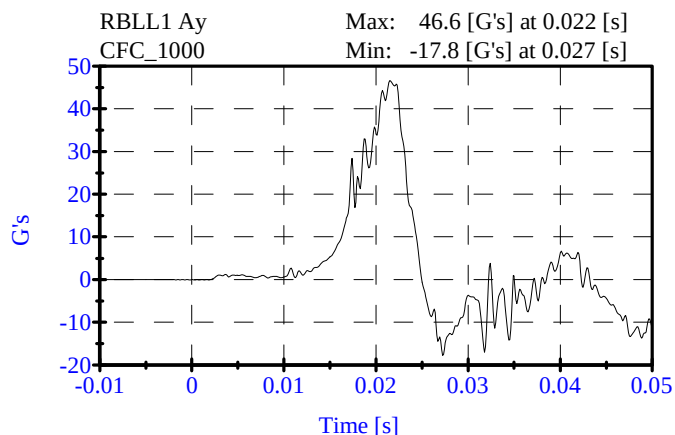
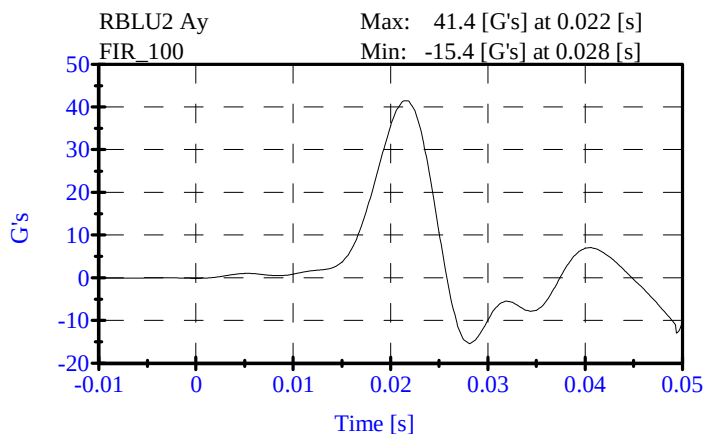
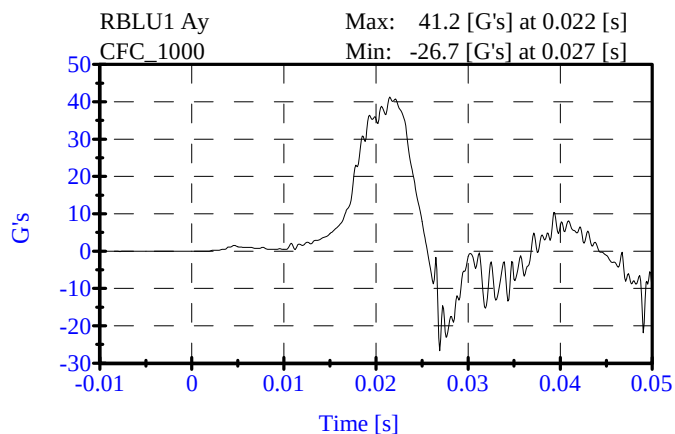
Thorax Impact POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

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

Sequential Test Number: 1 File: 269T 06-19-06
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.32 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	41.45 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	42.51 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	20.47 G's	Passed



Pelvic Impact

POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

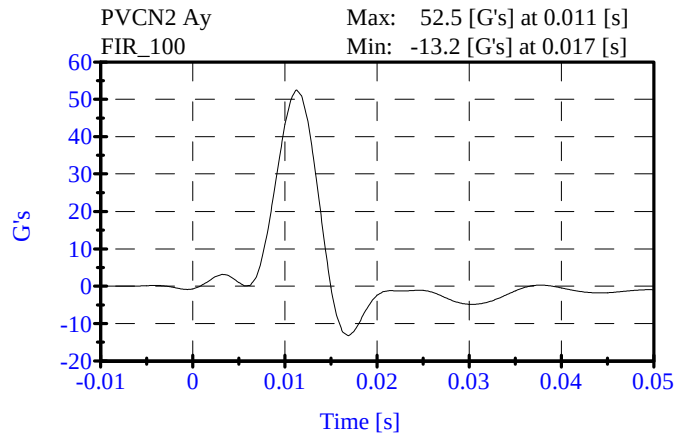
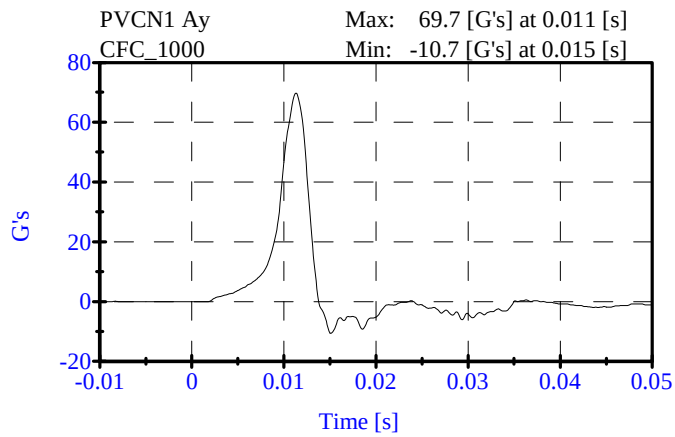
ATD Serial No: 269

Date: 06-19-06

Sequential Test Number: 1 File: 269P 06-19-06

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.31 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	52.49 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.4 ms	Passed



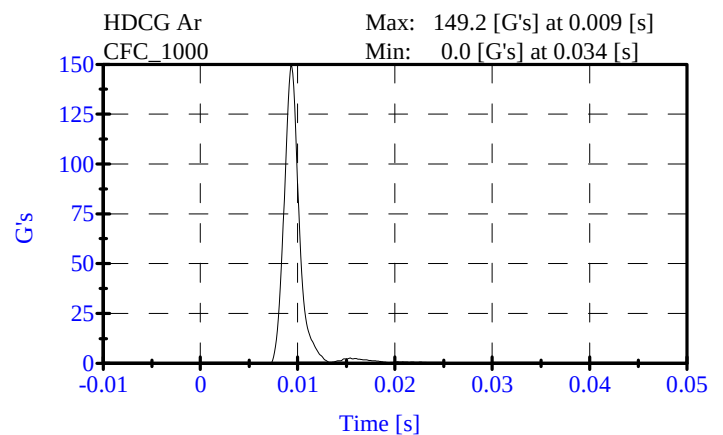
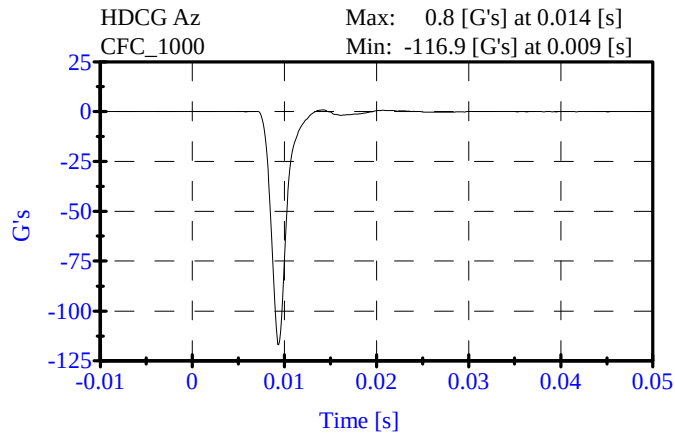
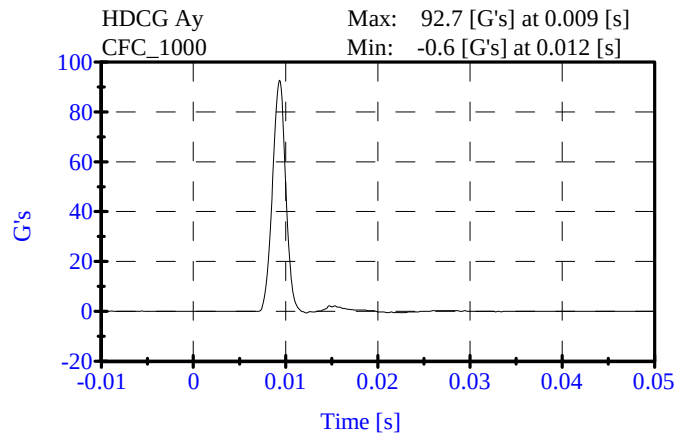
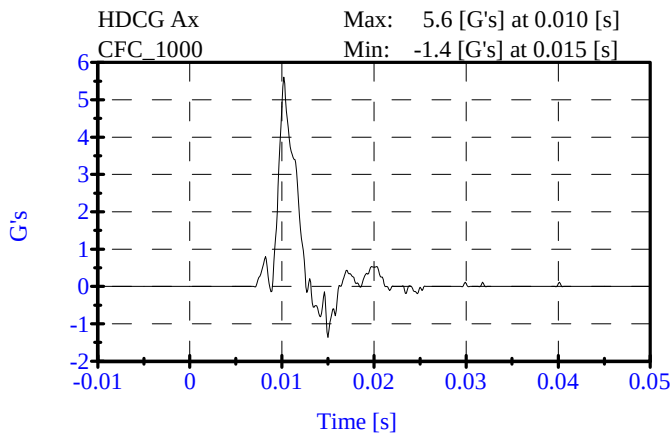
Head Drop **POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

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

Sequential Test Number: 1 File: 269HD 06-15-06
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	66.0-78.0 F	70.0 F	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	149.22 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	5.61 Gs	Passed
Curve PerCent NonModal:	< 15%	1.81 %	Passed



Neck Test
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

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

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

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	69.0-72.0 F	70.0 F	Passed
Lab Humidity:	10-70 %	30.00 %	Passed
Impact Velocity:	22.60-23.40 ft/s	23.00 ft/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	6.40- 8.40 ft/s	7.23 ft/s	Passed
Delta V at 20 ms:	13.50-16.70 ft/s	15.06 ft/s	Passed
Delta V at 30 ms:	18.80-23.00 ft/s	21.95 ft/s	Passed
Delta V between 40-70 ms:	20.60-25.10 ft/s	24.68 ft/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	68.64 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	58.30 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	646.10-778.90 in-lbf	760.49 in-lbf	Passed
Occipital Moment Decay:	49.0-64.0 ms	54.90 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	10.00 ms	Passed

Neck Test
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

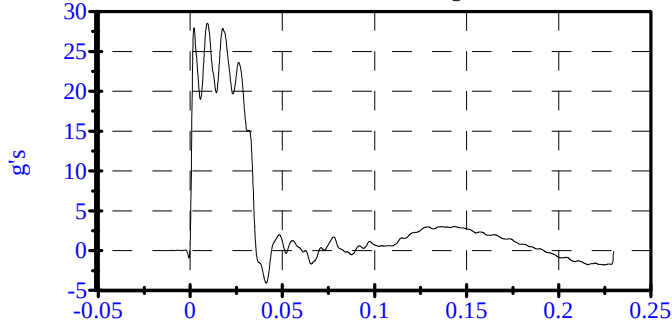
ATD Serial No: 269

Date: 06-16-06

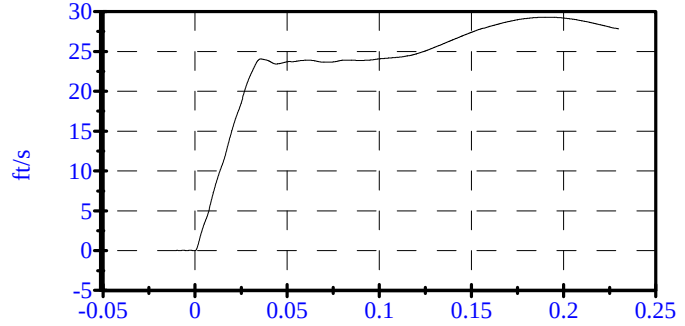
Sequential Test Number: 1 File: 269Neck 06-16-06

Laboratory Technician: B. Swiecicki

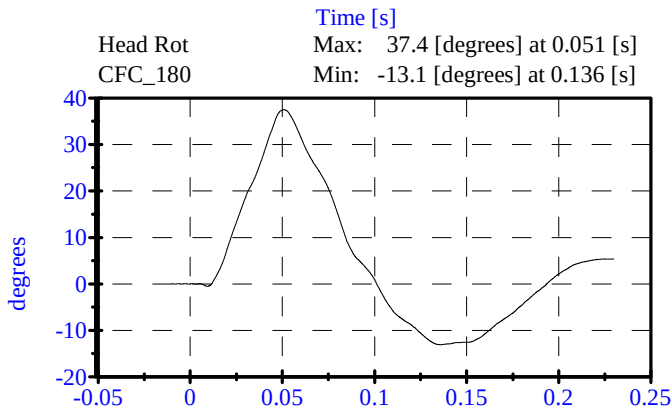
Pend Ax
CFC_180
Max: 28.5 [g's] at 0.009 [s]
Min: -4.1 [g's] at 0.041 [s]



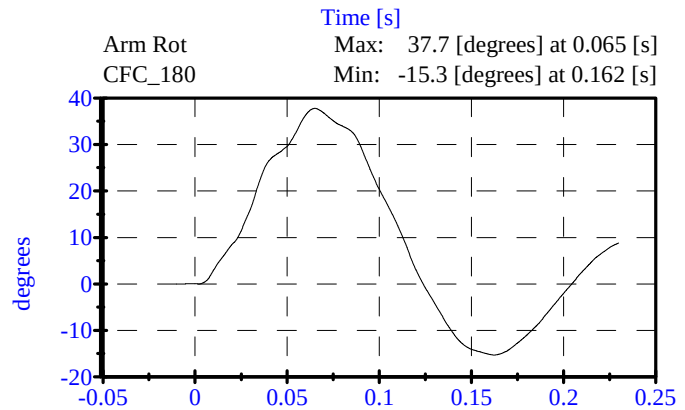
Pend Vx
CFC_180
Max: 29.3 [ft/s] at 0.192 [s]
Min: -0.0 [ft/s] at -0.000 [s]



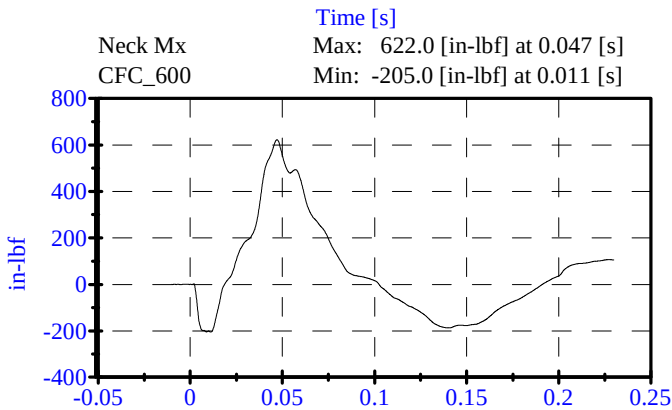
Head Rot
CFC_180
Max: 37.4 [degrees] at 0.051 [s]
Min: -13.1 [degrees] at 0.136 [s]



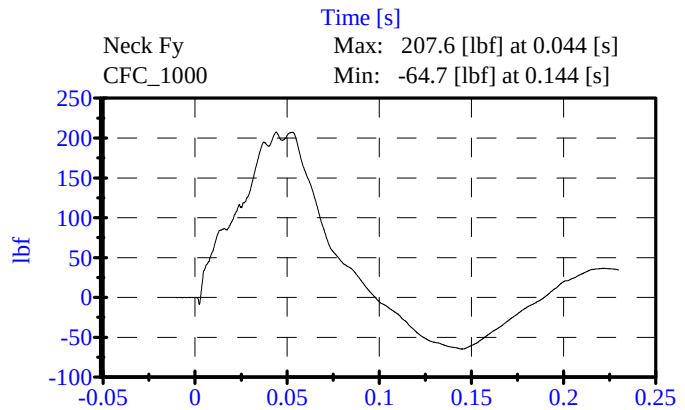
Arm Rot
CFC_180
Max: 37.7 [degrees] at 0.065 [s]
Min: -15.3 [degrees] at 0.162 [s]



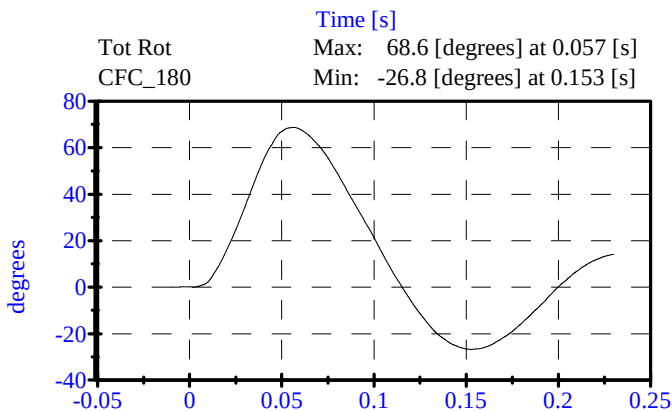
Neck Mx
CFC_600
Max: 622.0 [in-lbf] at 0.047 [s]
Min: -205.0 [in-lbf] at 0.011 [s]



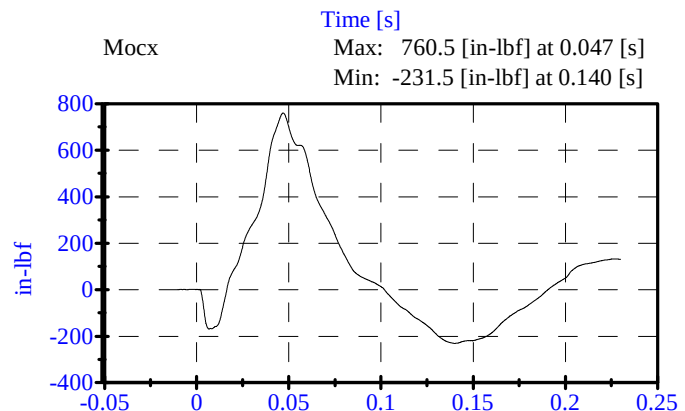
Neck Fy
CFC_1000
Max: 207.6 [lbf] at 0.044 [s]
Min: -64.7 [lbf] at 0.144 [s]



Tot Rot
CFC_180
Max: 68.6 [degrees] at 0.057 [s]
Min: -26.8 [degrees] at 0.153 [s]



Mocx
Max: 760.5 [in-lbf] at 0.047 [s]
Min: -231.5 [in-lbf] at 0.140 [s]



**Abdomen
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269

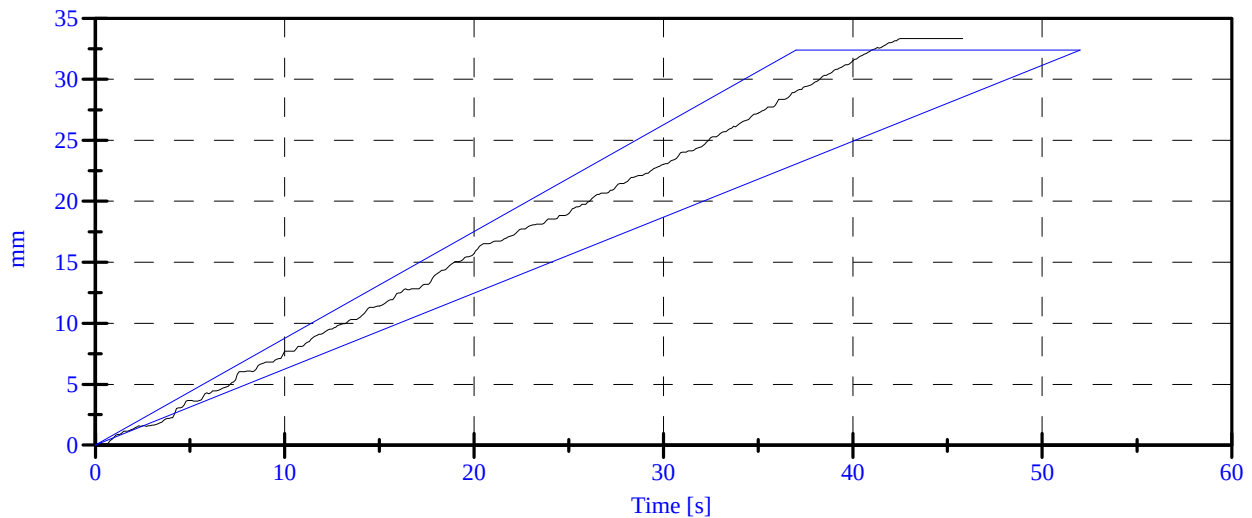
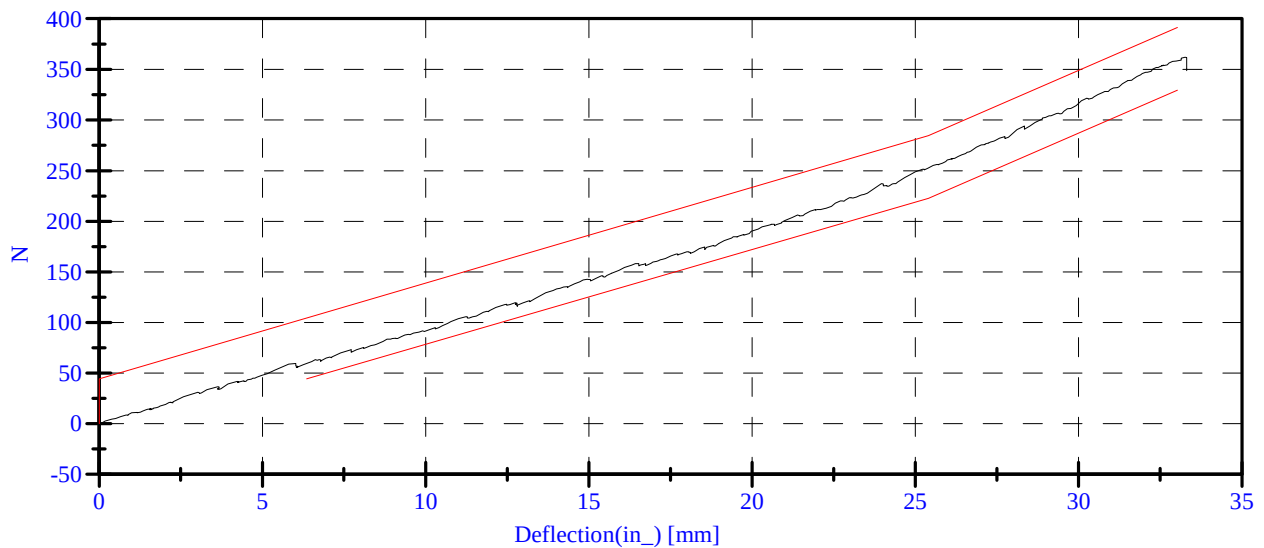
Date: 06-19-06

Sequential Test Number: 1 File: 269AB 06-19-06

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	119.33 N	Passed
Force at 19.05 mm :	162.98-220.99 N	178.05 N	Passed
Force at 25.40 mm :	221.97-280.02 N	252.36 N	Passed
Force at 33.02 mm :	324.99-391.00 N	358.57 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine

POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269

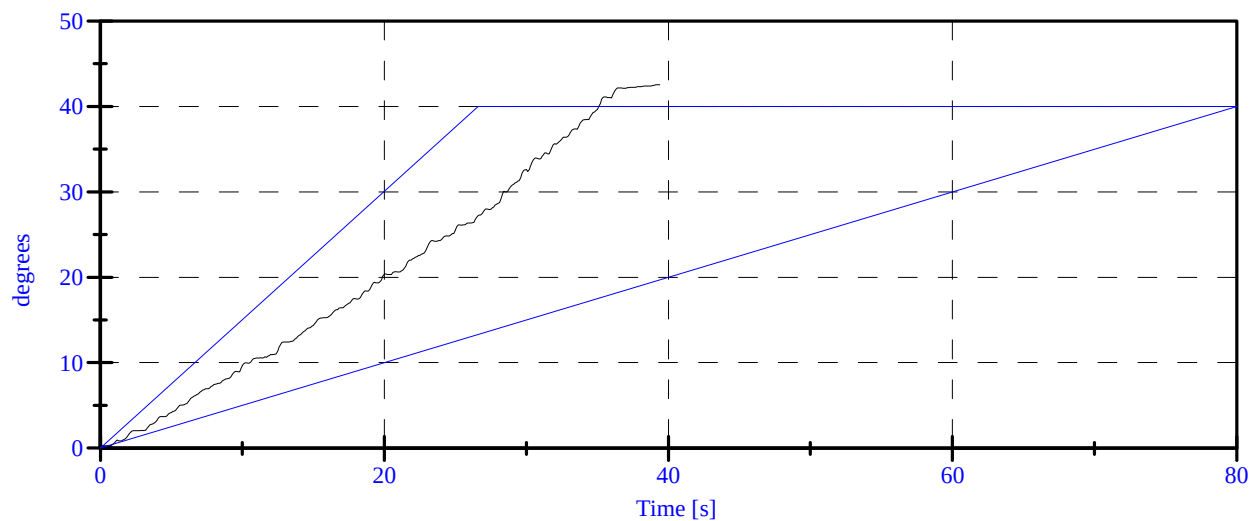
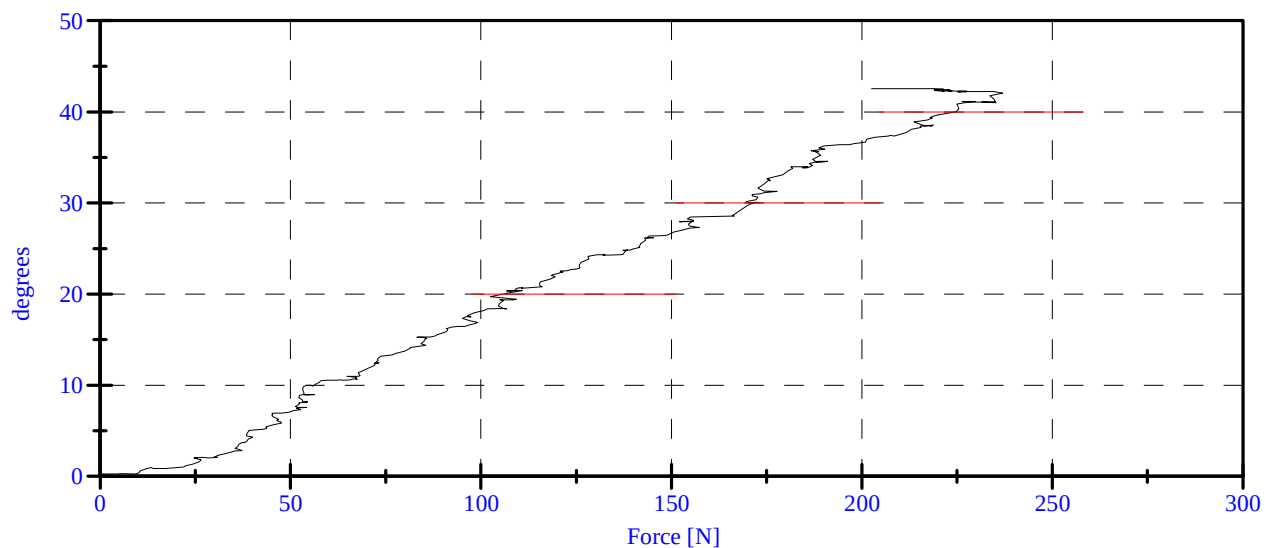
Date: 06-19-06

Sequential Test Number: 1 File: 269SP 06-19-06

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	0.40 N	Passed
Force at 20 Deg:	97.86-151.24 N	107.73 N	Passed
Force at 30 Deg:	151.24-204.62 N	173.28 N	Passed
Force at 40 Deg:	204.62-258.00 N	224.73 N	Passed
Return Angle	12 Deg Max	1.24 deg	Passed

LUMBAR SPINE FLEXION TEST



POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1
 Date: June 16, 2006 Laboratory Technician: B. Swiecicki

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

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 270

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270	Sequential Test Number: 1
Date: June 16, 2006	Laboratory Technician: B. Swiecicki

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

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 1
Date: June 16, 2006 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	899
RH- Rib Height (mm)	502 - 520	505
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	234
KH- Knee Pivot from Back Line (mm)	511 - 526	516
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	381

REMARKS: None

Thorax Impact

POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

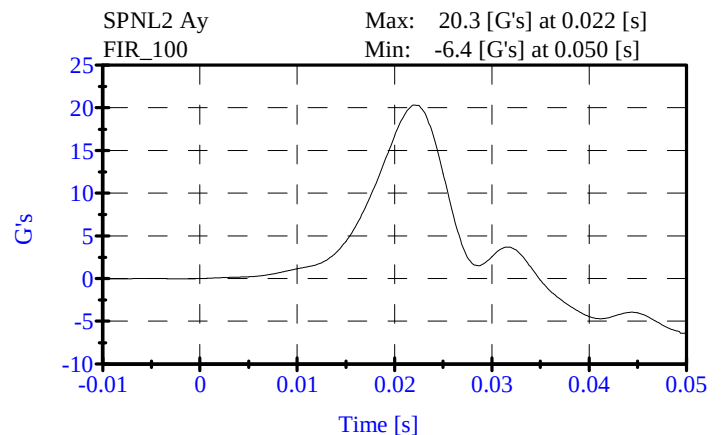
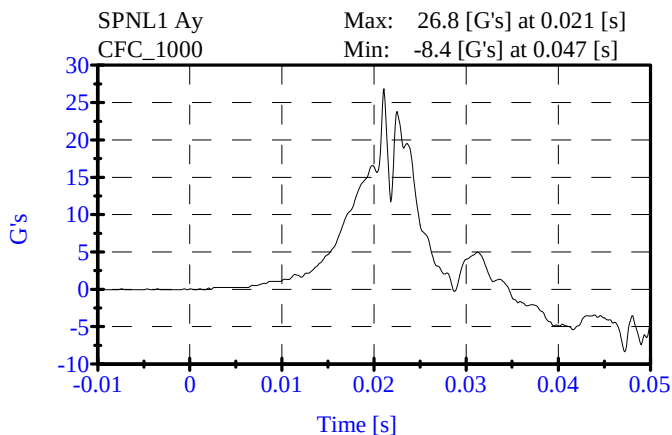
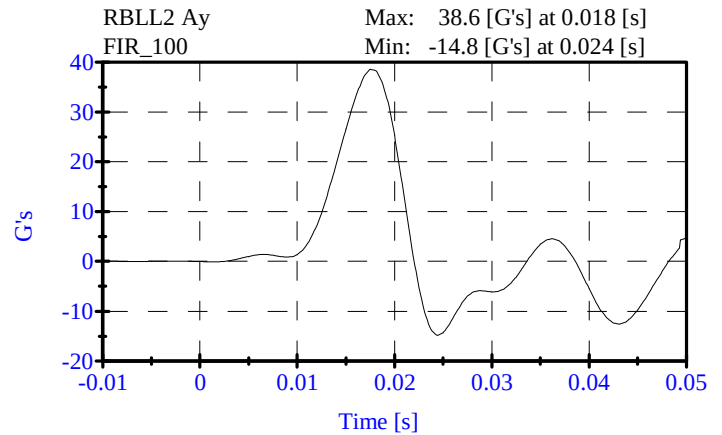
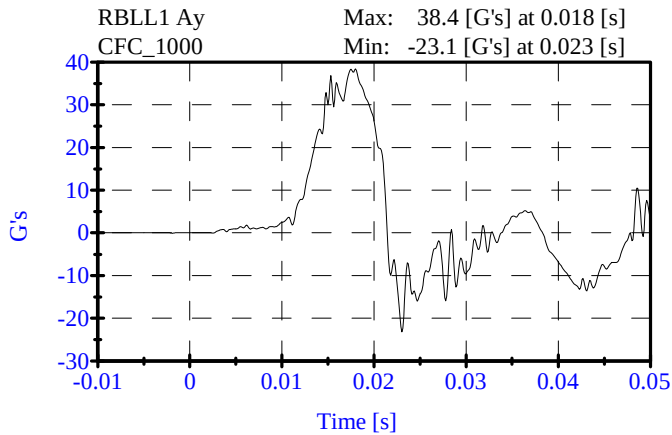
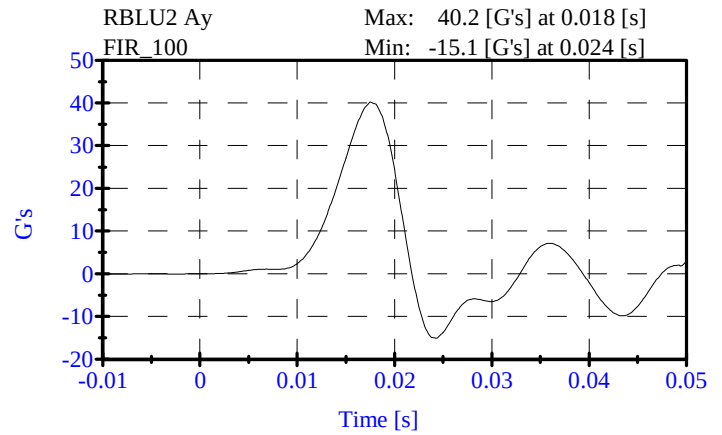
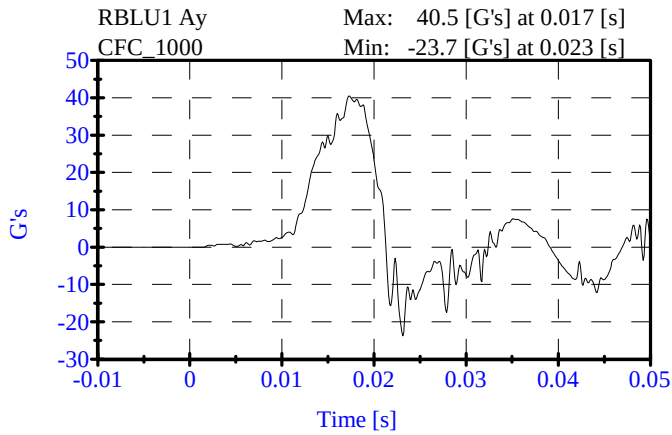
ATD Serial No: 270

Date: 06-19-06

Sequential Test Number: 1 File: 270T 06-19-06

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.32 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	40.25 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	38.58 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	20.31 G's	Passed



Pelvic Impact

POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

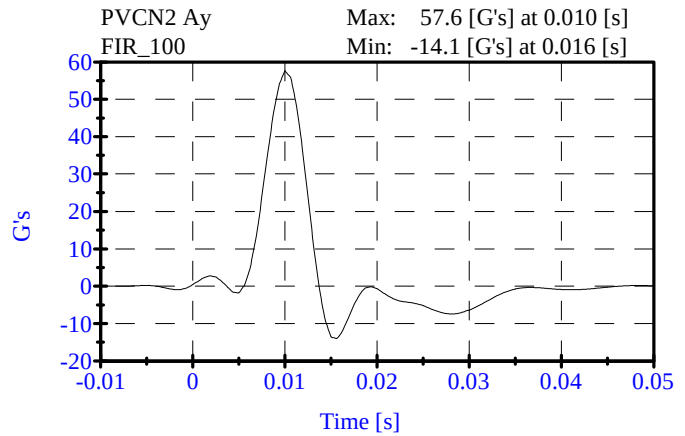
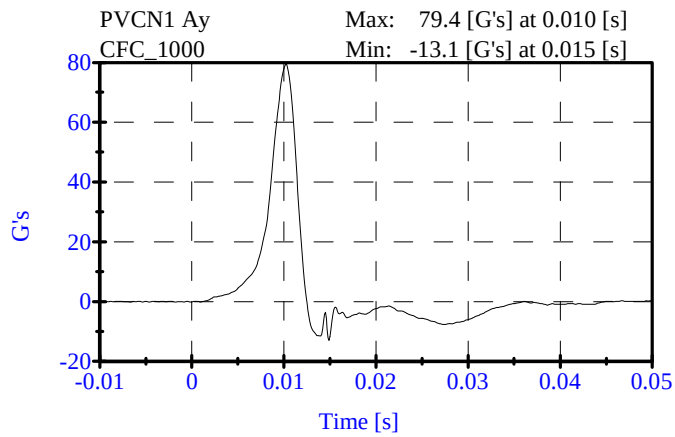
ATD Serial No: 270

Date: 06-19-06

Sequential Test Number: 1 File: 270P 06-19-06

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.31 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	57.57 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.4 ms	Passed



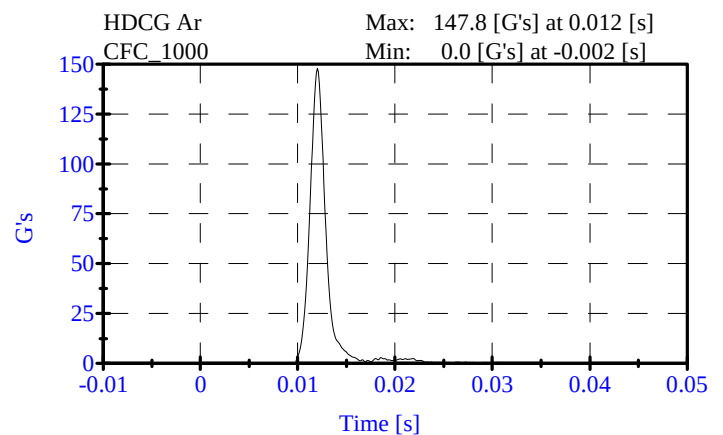
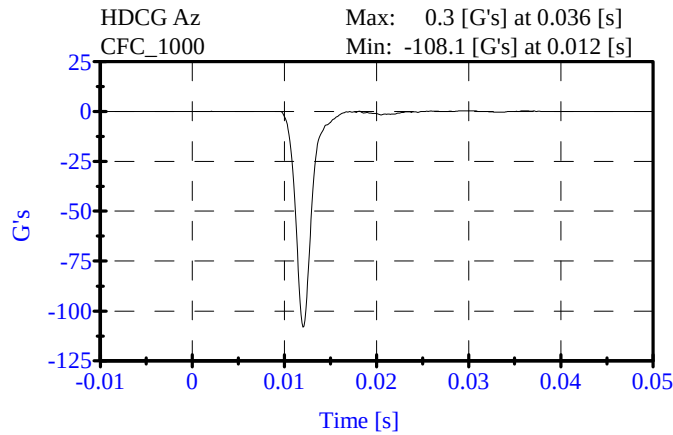
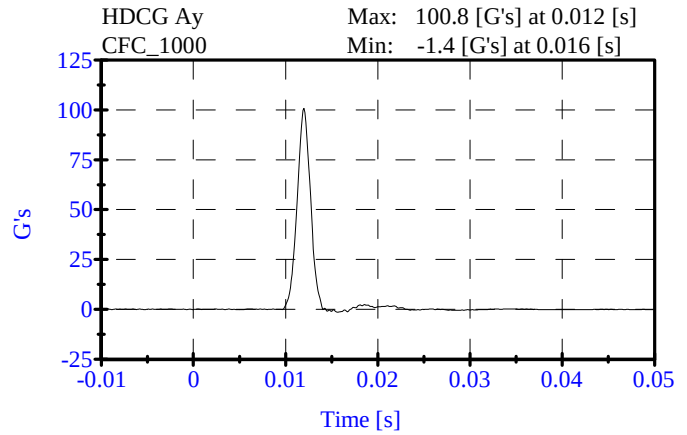
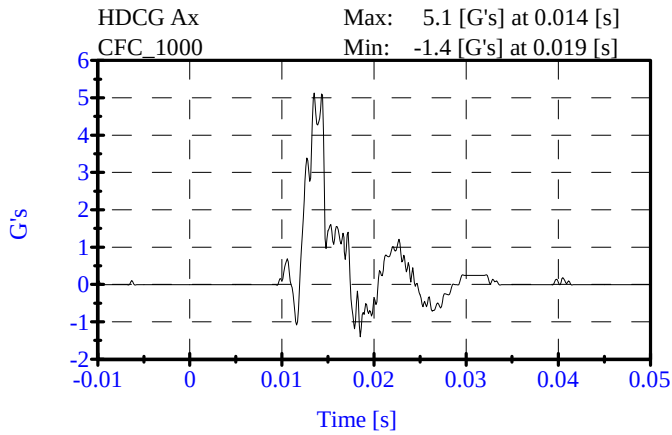
Head Drop POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 06-15-06

Sequential Test Number: 1 File: 270HD 06-15-06
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	66.0-78.0 F	70.0 F	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	147.81 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	5.13 Gs	Passed
Curve PerCent NonModal:	< 15%	1.94 %	Passed



Neck Test
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 06-15-06

Sequential Test Number: 1 File: 270Neck 06-15-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	69.0-72.0 F	70.0 F	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Impact Velocity:	22.60-23.40 ft/s	23.00 ft/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	6.40- 8.40 ft/s	7.65 ft/s	Passed
Delta V at 20 ms:	13.50-16.70 ft/s	15.61 ft/s	Passed
Delta V at 30 ms:	18.80-23.00 ft/s	22.62 ft/s	Passed
Delta V between 40-70 ms:	20.60-25.10 ft/s	24.80 ft/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	69.31 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	59.40 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	646.10-778.90 in-lbf	761.37 in-lbf	Passed
Occipital Moment Decay:	49.0-64.0 ms	54.40 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	9.20 ms	Passed

Neck Test
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

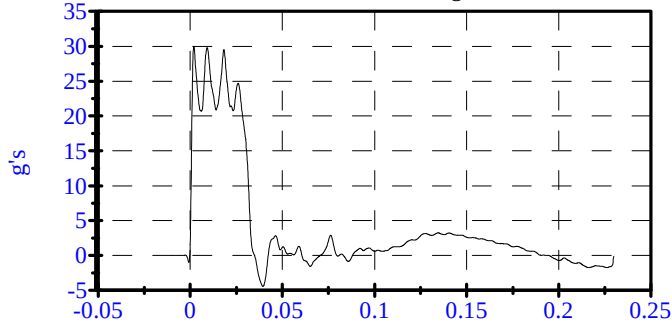
ATD Serial No: 270

Date: 06-15-06

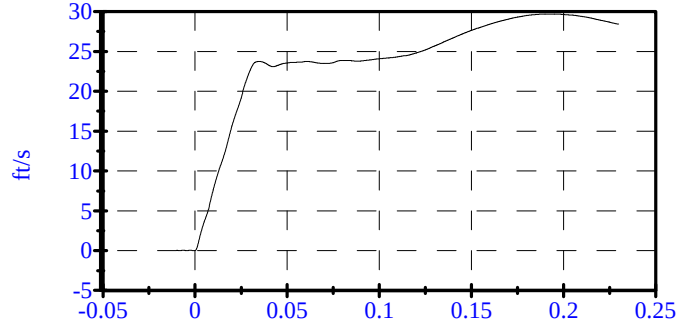
Sequential Test Number: 1 File: 270Neck 06-15-06

Laboratory Technician: B. Swiecicki

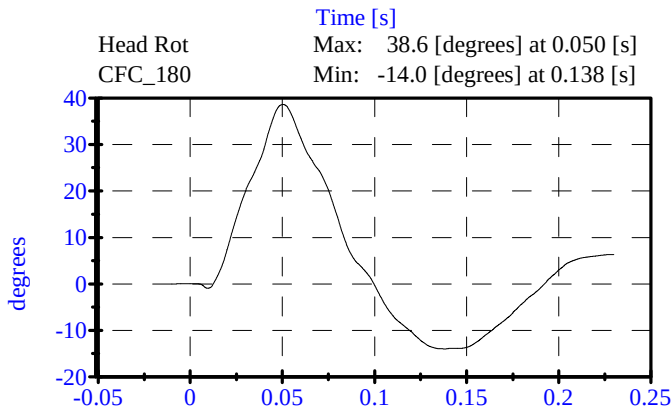
Pend Ax
CFC_180
Max: 30.0 [g's] at 0.002 [s]
Min: -4.4 [g's] at 0.039 [s]



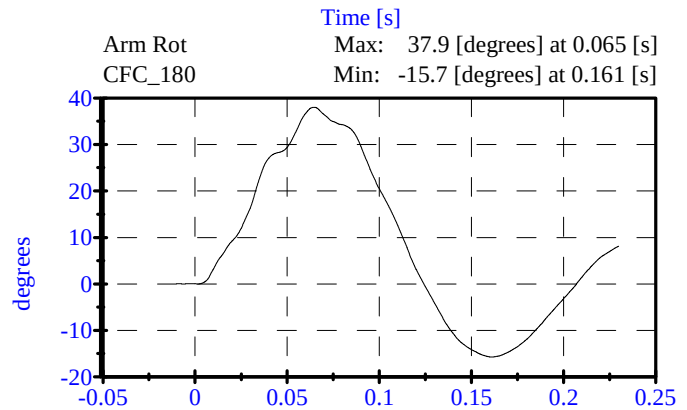
Pend Vx
CFC_180
Max: 29.7 [ft/s] at 0.195 [s]
Min: -0.0 [ft/s] at -0.000 [s]



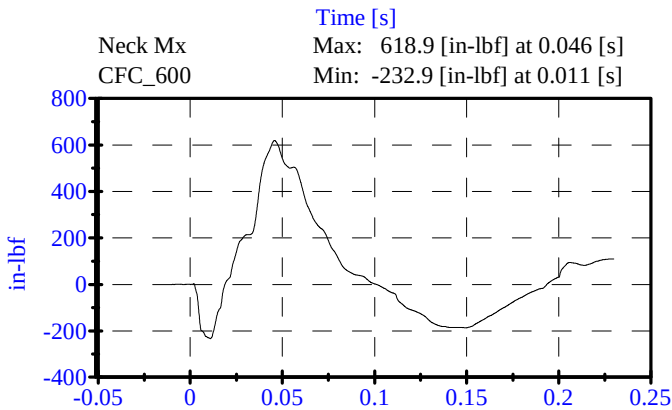
Head Rot
CFC_180
Max: 38.6 [degrees] at 0.050 [s]
Min: -14.0 [degrees] at 0.138 [s]



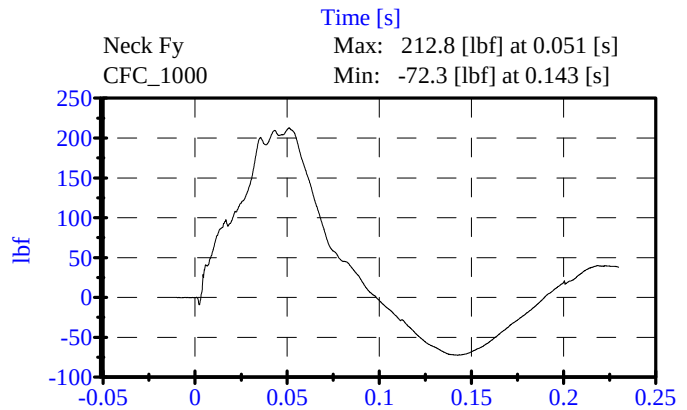
Arm Rot
CFC_180
Max: 37.9 [degrees] at 0.065 [s]
Min: -15.7 [degrees] at 0.161 [s]



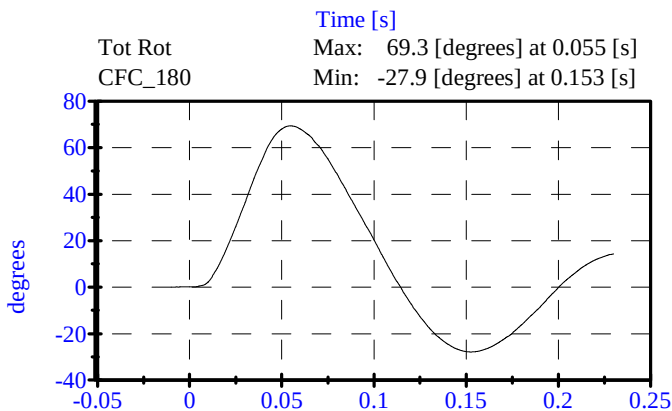
Neck Mx
CFC_600
Max: 618.9 [in-lbf] at 0.046 [s]
Min: -232.9 [in-lbf] at 0.011 [s]



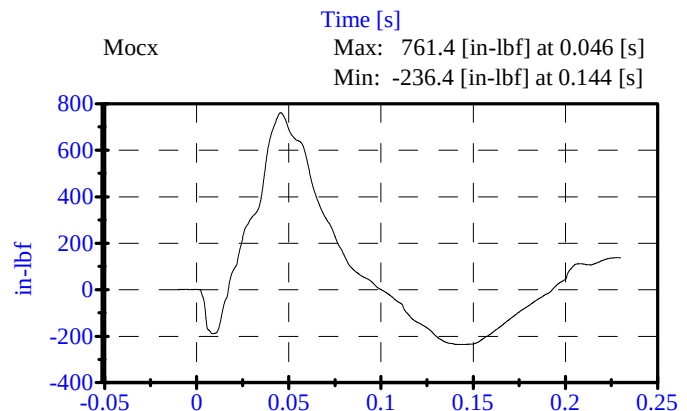
Neck Fy
CFC_1000
Max: 212.8 [lbf] at 0.051 [s]
Min: -72.3 [lbf] at 0.143 [s]



Tot Rot
CFC_180
Max: 69.3 [degrees] at 0.055 [s]
Min: -27.9 [degrees] at 0.153 [s]



Mocx
Max: 761.4 [in-lbf] at 0.046 [s]
Min: -236.4 [in-lbf] at 0.144 [s]



**Abdomen
POST TEST**

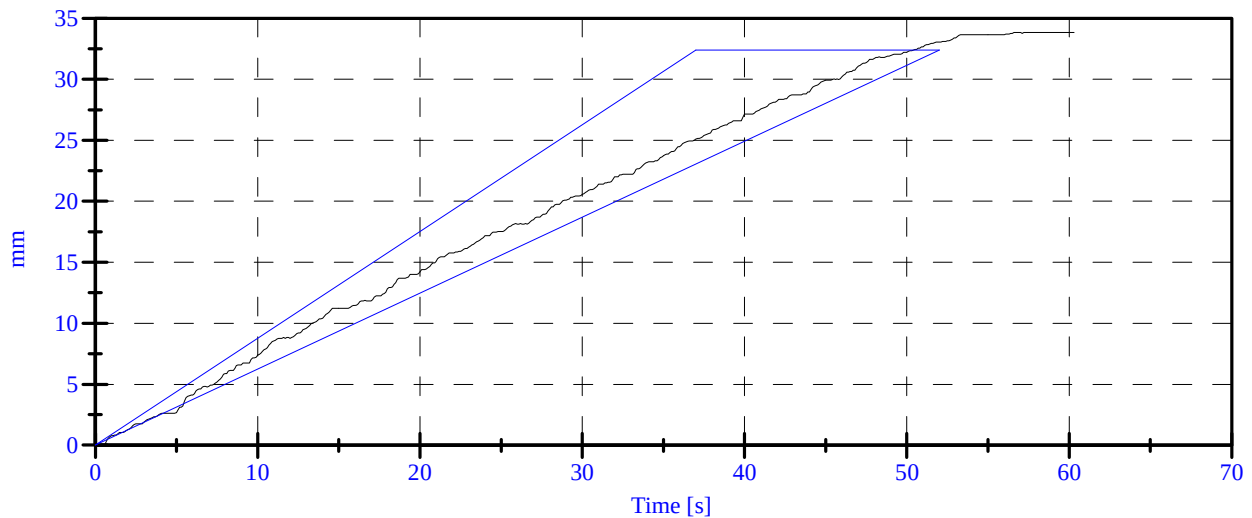
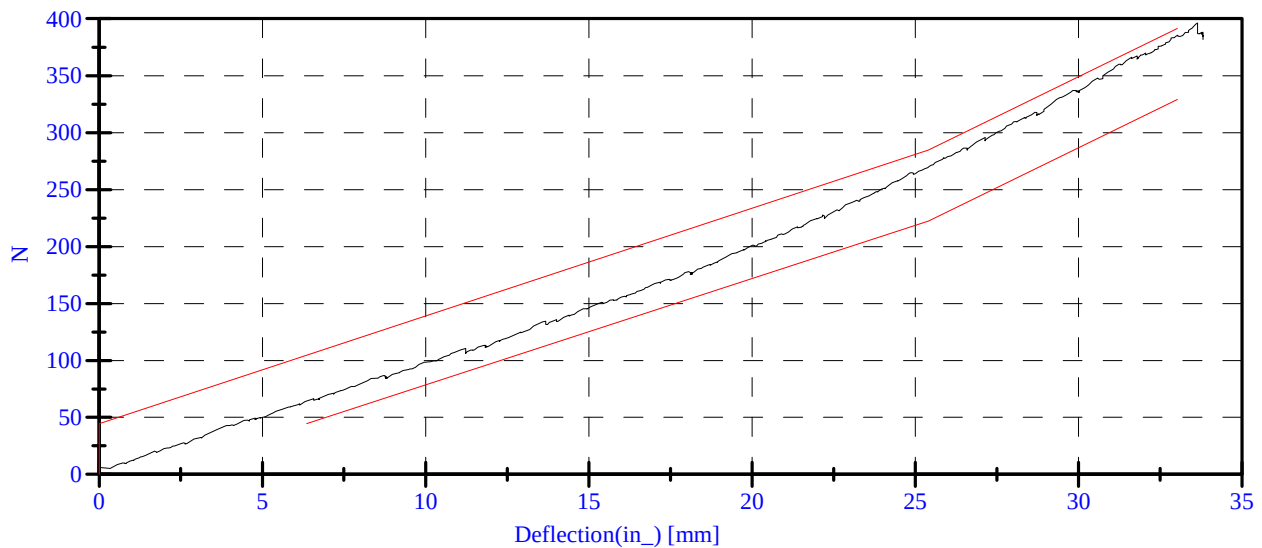
CONFIGURED FOR LEFT SIDE IMPACT

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

Sequential Test Number: 1 File: 270AB 06-19-06
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	125.13 N	Passed
Force at 19.05 mm :	162.98-220.99 N	187.48 N	Passed
Force at 25.40 mm :	221.97-280.02 N	269.40 N	Passed
Force at 33.02 mm :	324.99-391.00 N	385.39 N	Passed

ABDOMINAL COMPRESSION TEST



**Lumbar Spine
POST TEST**

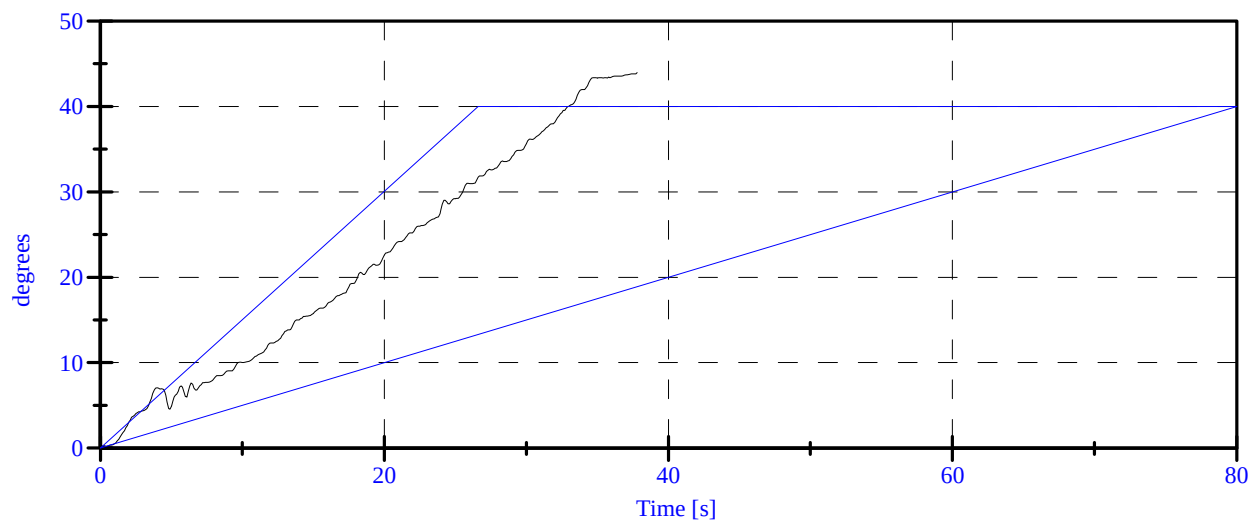
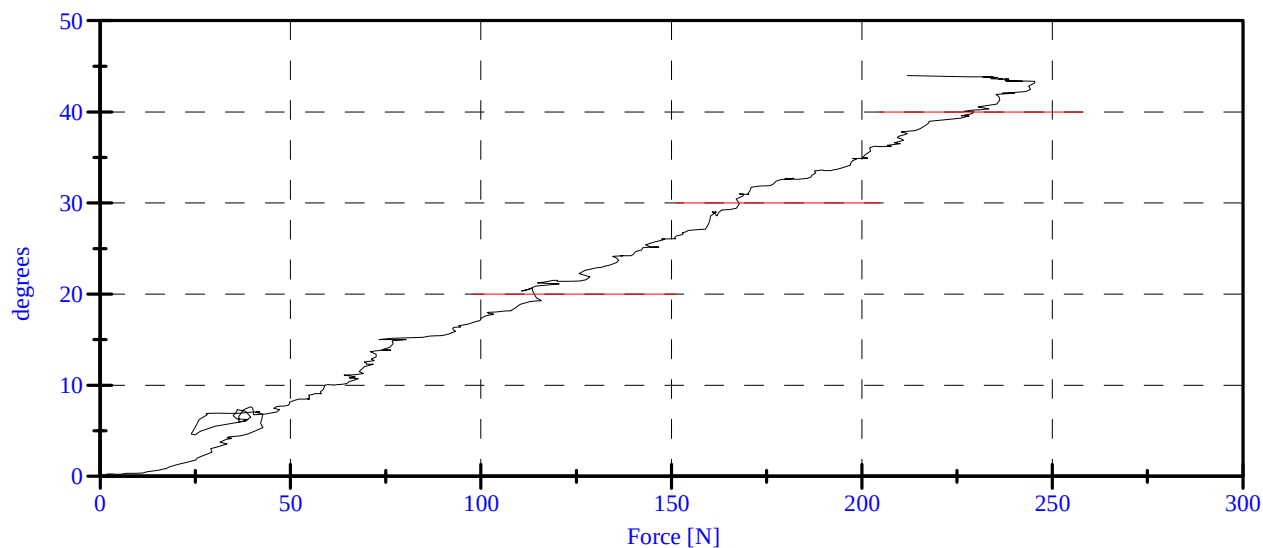
CONFIGURED FOR LEFT SIDE IMPACT

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

Sequential Test Number: 1 File: 270SP 06-19-06
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	1.44 N	Passed
Force at 20 Deg:	97.86-151.24 N	114.00 N	Passed
Force at 30 Deg:	151.24-204.62 N	167.80 N	Passed
Force at 40 Deg:	204.62-258.00 N	229.43 N	Passed
Return Angle	12 Deg Max	4.17 deg	Passed

LUMBAR SPINE FLEXION TEST



POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

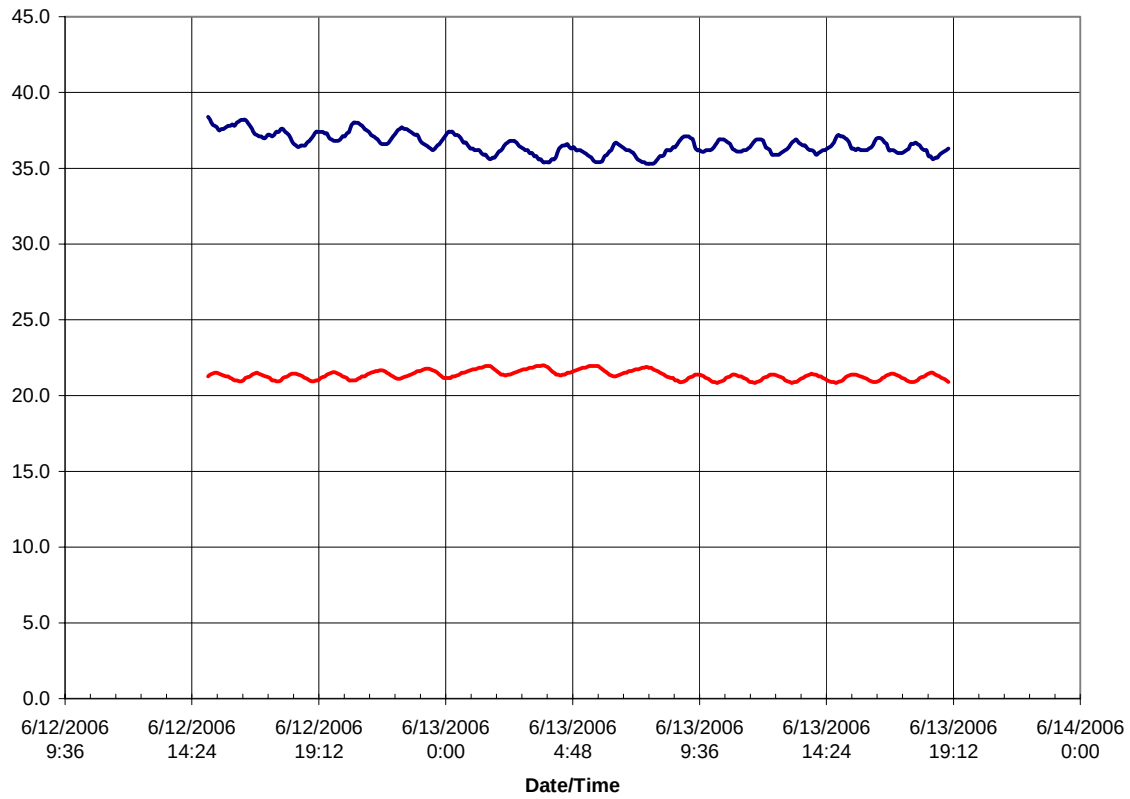
SID H3 Serial No.: 270 Sequential Test Number: 1
Date: June 16, 2006 Laboratory Technician: B. Swiecicki

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

REMARKS: None

TEMPERATURE TRACE

Honda Civic 2-Door Coupe C65304 Environmental Conditions



APPENDIX D

TEST EQUIPMENT AND CALIBRATION INFORMATION

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

SID/HIII INSTRUMENTATION

	FRONT SID/HIII NO.: 269		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P22943	ENDEVCO	13-Jan-06
HEAD AY	AC-P17236	ENDEVCO	13-Jan-06
HEAD AZ	AC-P16597	ENDEVCO	13-Jan-06
UPPER NECK FX	LC-442Fx	DENTON	27-Jun-05
UPPER NECK FY	LC-442Fy	DENTON	27-Jun-05
UPPER NECK FZ	LC-442Fz	DENTON	27-Jun-05
UPPER NECK MX	LC-442Mx	DENTON	27-Jun-05
UPPER NECK MY	LC-442My	DENTON	27-Jun-05
UPPER NECK MZ	LC-442Mz	DENTON	27-Jun-05
UPPER RIB	AC-P39731	ENDEVCO	13-Jan-06
LOWER RIB	AC-P38896	ENDEVCO	13-Jan-06
LOWER SPINE	AC-P38188	ENDEVCO	13-Jan-06
PELVIS	AC-P38132	ENDEVCO	13-Jan-06
UPPER RIB REDUNDANT	AC-P39740	ENDEVCO	13-Jan-06
LOWER RIB REDUNDANT	AC-P35786	ENDEVCO	13-Jan-06
LOWER SPINE REDUNDANT	AC-P38216	ENDEVCO	13-Jan-06
PELVIS REDUNDANT	AC-P35757	ENDEVCO	13-Jan-06

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

REMARKS: None

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

VEHICLE AND MDB INSTRUMENTATION

	VEHICLE AND MDB INSTRUMENTS		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
RIGHT FRONT SILL (X)	AC-P23161	ENDEVCO	19-Dec-05
RIGHT FRONT SILL (Y)	AC-P24011	ENDEVCO	19-Dec-05
RIGHT FRONT SILL (Z)	AC-P19111	ENDEVCO	19-Dec-05
RIGHT REAR SILL (X)	AC-P18628	ENDEVCO	20-Dec-05
RIGHT REAR SILL (Y)	AC-P18545	ENDEVCO	20-Dec-05
RIGHT REAR SILL (Z)	AC-P23976	ENDEVCO	20-Dec-05
REAR FLOORPAN ABOVE AXLE (X)	AC-J32838	ENDEVCO	21-Dec-05
REAR FLOORPAN ABOVE AXLE (Y)	AC-P23358	ENDEVCO	21-Dec-05
REAR FLOORPAN ABOVE AXLE (Z)	AC-J32143	ENDEVCO	21-Dec-05
LEFT REAR SILL (Y)	AC-P23174	ENDEVCO	19-Dec-05
LEFT FRONT SILL (Y)	AC-J31011	ENDEVCO	10-Mar-06
LEFT FRONT DOOR CENTERLINE (Y)	-	-	-
RIGHT REAR SEAT OCCUPANT COMP. (Y)	AC-8083-037	ICS	12-Jan-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-P23155	ENDEVCO	20-Dec-05
MIDDLE LEFT B-PILLAR (Y)	AC-P19253	ENDEVCO	19-Dec-05
LOWER LEFT A-PILLAR (Y)	AC-P32204	ENDEVCO	20-Dec-05
UPPER LEFT A-PILLAR (Y)	AC-P21399	ENDEVCO	20-Dec-05
FRONT SEAT TRACK (Y)	AC-P23164	ENDEVCO	20-Dec-05
REAR SEAT TRACK (Y)	AC-P18718	ENDEVCO	3-Apr-06
VEHICLE CG (X)	AC-P16625	ENDEVCO	21-Dec-05
VEHICLE CG (Y)	AC-J33843	ENDEVCO	21-Dec-05
VEHICLE CG (Z)	AC-P23178	ENDEVCO	21-Dec-05
MDB CG (X)	AC-C16433	ENDEVCO	8-Jan-06
MDB CG (Y)	AC-C16416	ENDEVCO	8-Jan-06
MDB CG (Z)	AC-C16499	ENDEVCO	8-Nov-06
MDB REAR FRAME MEMBER (X)	AC-C14948	ENDEVCO	8-Jan-06
MDB REAR FRAME MEMBER (Y)	AC-C16680	ENDEVCO	8-Nov-06

REMARKS: None