REPORT NUMBER: 214-CAL-08-02

SAFETY COMPLIANCE TESTING FOR FMVSS 214
SIDE IMPACT PROTECTION
INDICANT

CHRYSLER LLC
2008 DODGE CHARGER
4-DOOR SEDAN

NHTSA NUMBER: C80300

PREPARED BY:
CALSPAN CORPORATION
P.O. BOX 400
BUFFALO, NEW YORK 14225

Test Date: January 15, 2008

FINAL REPORT

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
MAIL CODE: NVS-220, WEST BUILDING 4TH FLOOR
1200 NEW JERSEY AVENUE, SE
WASHINGTON, DC 20590

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Prepared by: _____ Date: January 18, 2008

James Czarnecki, Project Engineer

Reviewed by: _____ Date: _____

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Transportation Sciences Center

Technical Report Documentation Page

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4. Title and Subtitle Final Report of FMVSS 214 Compliance Side Impact Testing of a 2008 Dodge Charger 4-door Sedan NHTSA No.: C80300		*5. Report Date* January 15, 2008 *6. Performing Organization Code* CAL
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15. *Supplementary Notes*		

16. Abstract

A 55/28 km/h 90° Moving Deformable Barrier FMVSS 214 Indicant side impact was conducted on the subject 2008 Dodge Charger 4-door Sedan 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 January 15, 2008. The impact velocity of the Moving Deformable Barrier (MDB) was 62.1 km/h, and the ambient temperature at the struck side (driver side) of the vehicle was 21°C. The target vehicle's maximum post test static crush was 291 mm at level 2. The test vehicle's occupant performance is as follows:

	DRIVER	PASS.
Left Upper Rib (LUR) Accel., g	53.5	45.5
Left Lower Rib (LLR) Accel., g	60.1	51.1
Lower Spine (T_{12}) Accel., g	66.86	48.5
Thoracic Trauma Index (TTI)	63	50
Pelvis (PEV) Accel., g	53	45
HIC	263.0	445.9

The doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.

17. Key Words Compliance Testing Side Impact Protection FMVSS 214 Side Impact Dummy (SID)	*18. Distribution Statement* Copies of this report are available from: NHTSA Technical Information Services National Highway Traffic Safety Admin. 1200 New Jersey Avenue, SE Washington, DC 20590

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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. DTNH22-07-D-00064. The purpose of this indicant test was to evaluate side impact protection in a 2008 Dodge Charger 4-door Sedan 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-07, dated January 1, 2003).

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-07, dated January 1, 2003).

A model year 2008 Dodge Charger 4-door Sedan was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 62.1 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 1897 kg and the test weight of the MDB was 1362.5 kg. The test was conducted at the Calspan Corporation Transportation Sciences Center on January 15, 2008.

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 291 mm at level 2, 1050 mm rearward of the left vertical impact point. The driver and passenger SID/HIII's, Serial Nos. 905 and 906 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	263.0	31.6	37.0	63	53
Passenger	445.9	52.1	62.5	50	45

SUPPLEMENTAL RESTRAINT INFORMATION

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

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:	2008 Dodge Charger	NHTSA No.	C80300
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 15, 2008

TEST VEHICLE INFORMATION AND VEHICLE OPTIONS

Make	Chrysler LLC	Driver Front Airbag	Yes
Model	Charger	Driver Side Curtain Airbag	No
Body Style	4-door Sedan	Driver Side Torso Airbag	No
NHTSA No.	C80300	Driver Pretensioners	Yes
VIN	2B3KA43G88H190662	Driver Load Limiters	Yes
Color	Black	Driver Power Seats	No
Engine Disp.(L)	3.5	Rear Pass. Side Curtain Airbag	No
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	Rear	Tilt Wheel	Yes
Air Conditioning	Yes	Anti-lock Brakes	Yes
Power Steering	Yes	Traction Control	Yes
Power Brakes	Yes	Power Windows	Yes
Delivery Date	12/10/07	Power Door Locks	Yes
Odometer Reading (km)	27	Automatic Door Locks (ADL)	Yes
Dealer	West Herr Dodge LLC	Owner's Manual Details Instructions on Disabling ADLs	Yes

DATA FROM CERTIFICATION LABEL

Manufactured By	Chrysler LLC	GVWR (kg)	2246
		GAWR Front (kg)	1275
Date of Manufacture	11/07	GAWR Rear (kg)	1275

VEHICLE CAPACITY DATA

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Split Bench		
Number Of Occupants	2	3		5
Capacity Wt. (VCW) (kg)				392.0
Cargo Wt. (RCLW) (kg)				51.8

DATA SHEET NO. 1 (continued)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle:	2008 Dodge Charger	NHTSA No.	C80300
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 15, 2008

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	455.0	449.0		504.5	450.5		498	479	
Right	kg	380.5	405.5		480.5	471.5		451	469	
Ratio	%	49.4	50.6		51.7	48.3		50.0	50.0	
Totals	kg	835.5	854.5	1690.0	985.0	922.0	1907.0	949.0	948.0	1897.0

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1690
Weight of 2 P572M ATDs (81.2 kg each)	kg	162.4
Rated Cargo/Luggage Weight (RCLW)	kg	51.8
Calculated Vehicle Target Weight (TVTW)	kg	1904.2

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

Weight of Ballast (including instrumentation package and cameras): 44.6 kg

TEST VEHICLE ATTITUDES

	Units	LF	RF	LR	RR
As Delivered	mm	814	808	826	815
Fully Loaded	mm	797	798	790	791
As Tested	mm	804	804	794	794

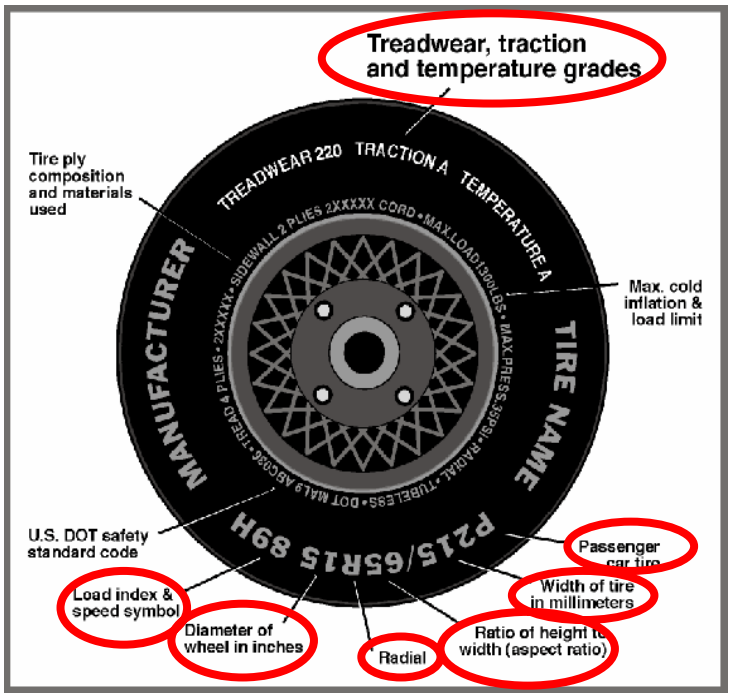
TEST VEHICLE VERTICAL IMPACT LINE AND CG

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	3046
Target Impact Point Aft of Front Axle	mm	583
Actual Impact Point Aft of Front Axle	mm	578
As Tested CG (aft of front axle)	mm	1522.2

DATA SHEET NO. 2

TEST VEHICLE TIRE INFORMATION

Test Vehicle:	2008 Dodge Charger	NHTSA No.	C80300
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 15, 2008



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	300	300
Cold / Test Pressure (kPa)	210	210
Recommended Tire Size	P215/65R17	P215/65R17
Tire Size on Vehicle	P215/65R17	P215/65R17
Tire Manufacturer	Goodyear	Goodyear
Tire Name	Integrity	Integrity
Tire Type	Passenger	Passenger
Tire Width (mm)	215	215
Ratio of Height to Width (aspect ratio)	65	65
Radial	YES	YES
Wheel Diameter	17	17
Load Index & Speed Symbol	98T	98T
Treadwear	460	460
Traction Grade	A	A
Temperature Grade	B	B

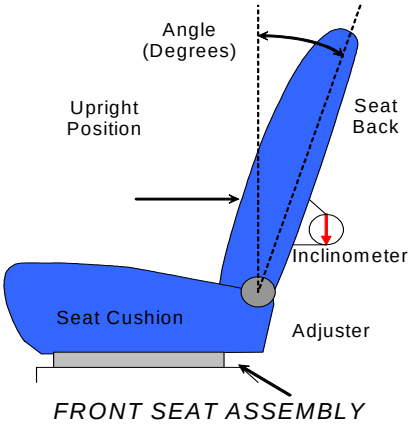
DATA SHEET NO. 3

TEST VEHICLE INFORMATION

Test Vehicle:	2008 Dodge Charger	NHTSA No.	C80300
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 15, 2008

NORMAL DESIGN RIDING POSITION

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



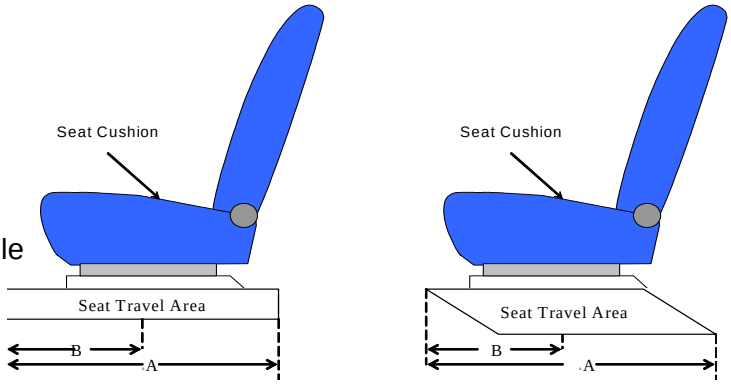
FRONT SEAT ASSEMBLY

SEAT BACK POSITION

	Driver Seat	Rear Seat
Test Detent (forward-most detent defined as 0)	NA	Not Adjustable
Angle (deg. from forward-most locking position)	NA	Not Adjustable
Alternative Measurements to Verify Test Position	Head restraint post 14° 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)	264	Fixed
Test Position (B) (mm)	132	Fixed
Test Detent (forward-most detent defined as 0)	Midtrack	NA
Total Number of Detents (including 0)	Infinite	NA

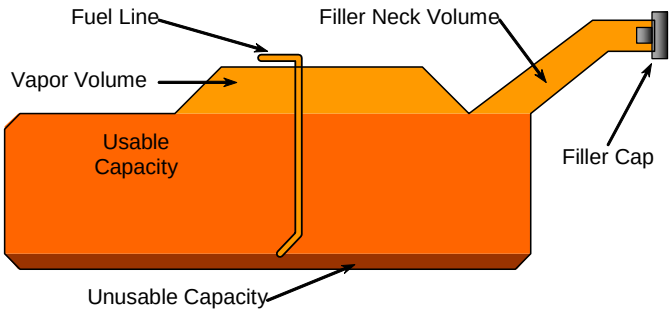
DATA SHEET NO. 3 (CONTINUED)

TEST VEHICLE INFORMATION

Test Vehicle:	2008 Dodge Charger	NHTSA No.	C80300
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 15, 2008

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.



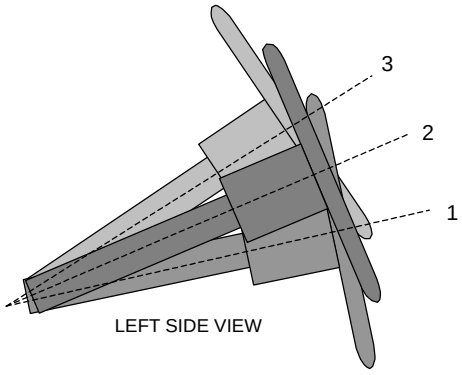
VEHICLE FUEL TANK ASSEMBLY

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard" Fuel Tank	71.9
Usable Capacity of "Optional" Fuel Tank	NA
Stoddard Used For Test (92%-94% of Fuel Tank Usable Capacity)	67.6

STEERING COLUMN ADJUSTMENT

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



STEERING COLUMN ASSEMBLY

STEERING COLUMN POSITION

	Fore/Aft Position (mm)	Tilt (degrees)	Tilt (detent)
Lowermost Position No. 1	0	71	-
Geometric Center Position No. 2 *	30	68.5	-
Uppermost Position No. 3	60	66	-

DATA SHEET NO. 4

MOVING DEFORMABLE BARRIER (MDB) SUMMARY OF RESULTS

Test Vehicle:	2008 Dodge Charger	NHTSA No.	C80300
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 15, 2008

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	62.1
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	62.1
Impact angle with respect to impactor	º	88.5º to 91.5º	90.0

POST TEST OBSERVATIONS

MDB LEFT EDGE IMPACT POINT DATA

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	5 mm forward
Vertical Offset	mm	+/-20	6 mm above

DATA SHEET NO. 5

POST TEST OBSERVATIONS

Test Vehicle:	2008 Dodge Charger	NHTSA No.	C80300
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 15, 2008

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat SID/HIII	Rear Seat SID/HIII
Dummy Type / Serial No.	SID/HIII / 905	SID/HIII / 906
Head Contact	B-pillar / Seat Belt Anchorage	Side of head to Rear Pillar
Upper Torso Contact	Door Trim	Door Trim / Seat Side Cushion
Lower Torso Contact	Door Trim	Seat Side Cushion
Left Knee Contact	Door Trim	Door Trim
Right Knee Contact	Left Knee	Left Knee

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

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

POST TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	No Separation
Sill Separation	None
Windshield Damage	Portion in front of driver sustained some cracks
Window Damage	Left Rear Passenger Window Broke
Other Notable Effects	None

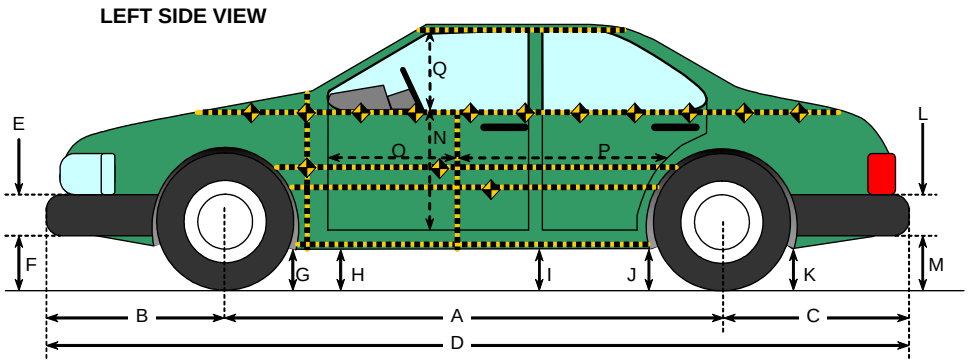
SUPPLEMENTAL RESTRAINT INFORMATION

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

DATA SHEET NO. 6

VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle:	2008 Dodge Charger	NHTSA No.	C80300
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 15, 2008



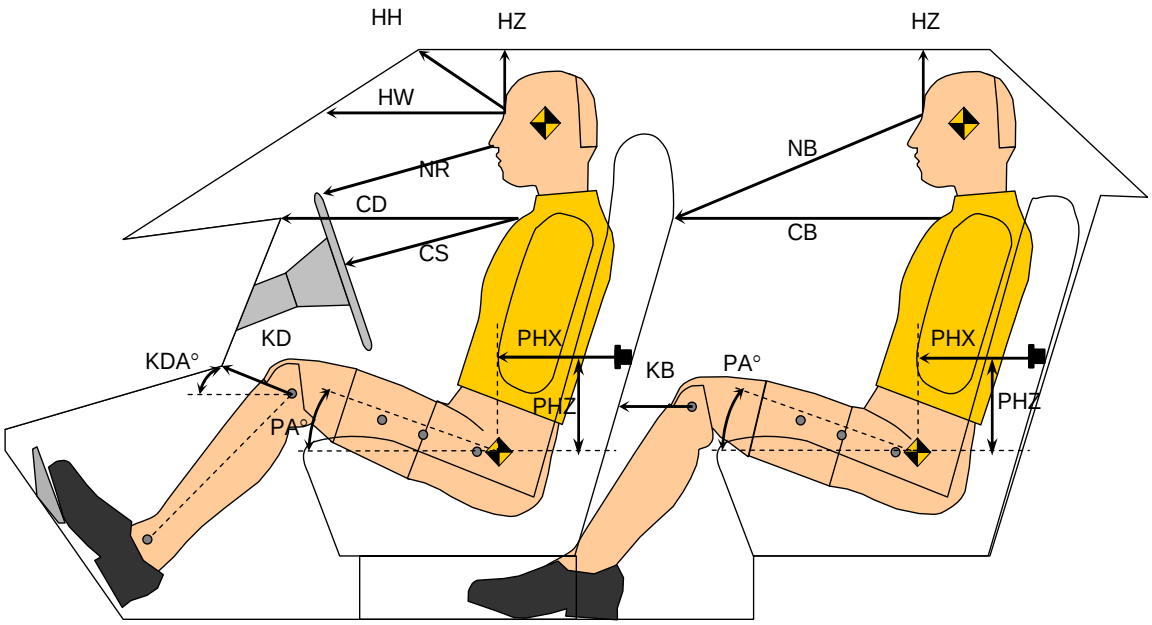
All Measurements in mm

Code	Measurement Description	Pre-Test (delivered)	Pre-Test (as tested)	Post-Test (as tested)	Difference
A	Wheelbase	3049	3046	3015	31
B	Front Axle to FSOV	926	929	941	-12
C	Rear Axle to RSOV	1113	1113	1114	-1
D	Total Length at Centerline	5088	5088	5070	18
E	Front Bumper Thickness	180	180	180	0
F	Front Bumper Bottom to Ground	326	320	345	-25
G	Sill Height at Front Wheel Well	168	151	169	-18
H	Sill Height at Front Door Leading Edge	175	157	170	-13
I	Sill Height at "B" Pillar	183	162	170	-8
J1	Sill Height at Rear Wheel Well	186	160	167	-7
J2	Pinch Weld Height at Rear Wheel Well	186	160	178	-18
K	Sill Height Aft of Rear Wheel Well	270	230	251	-21
L	Rear Bumper Thickness	360	360	360	0
M	Rear Bumper Bottom to Ground	386	349	368	-19
N	Sill Height to Window Bottom Sill	730	730	651	79
O	Front Door Leading Edge to Impact CL	695	695	681	14
P	Rear Door Trailing Edge to Impact CL	1318	1318	1195	123
Q	Front Window Opening	388	388	378	10
R	Right Side Length	4936	4936	4925	11
S	Left Side Length	4929	4929	4906	23
T	Vehicle Width at "B" Post	1896	1896	1635	261

DATA SHEET NO. 7

SID/HIII LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle:	2008 Dodge Charger	NHTSA No.	C80300
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 15, 2008

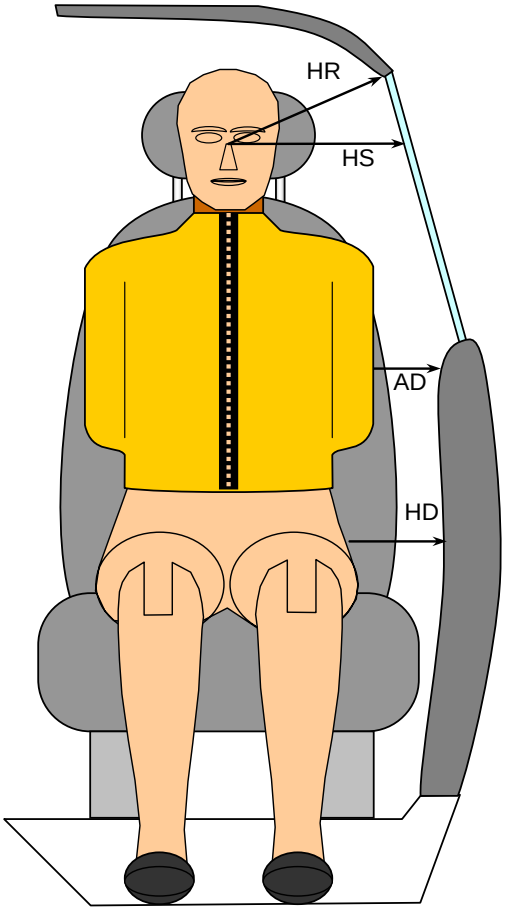


Driver Code	Pass. Code	Measurement Description	Driver S/N 905		Passenger S/N 906	
			Length(mm)	Angle(°)	Length(mm)	Angle(°)
HH		Head to Header	671			
HW		Head to Windshield	852			
HZ	HZ	Head to Roof	170		129	
NR	NB	Nose to Rim/Nose to Seatback	511		654	
CD	CB	Chest to Dash or Seatback	615		679	
CS		Chest to Steering Wheel	330			
KDL	KBL	Left Knee to Dash or Seatback	187	27	239	22
KDR	KBR	Right Knee to Dash or Seatback	206	29	239	18
PA	PA	Pelvic Angle		23.8		23.2
PHX	PHX	H-Point to Striker (X-Axis)	173		220	
PHZ	PHZ	H-Point to Striker (Z-Axis)	118		296	

DATA SHEET NO. 8

SID/HIII LATERAL CLEARANCE DIMENSIONS

Test Vehicle:	2008 Dodge Charger	NHTSA No.	C80300
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 15, 2008



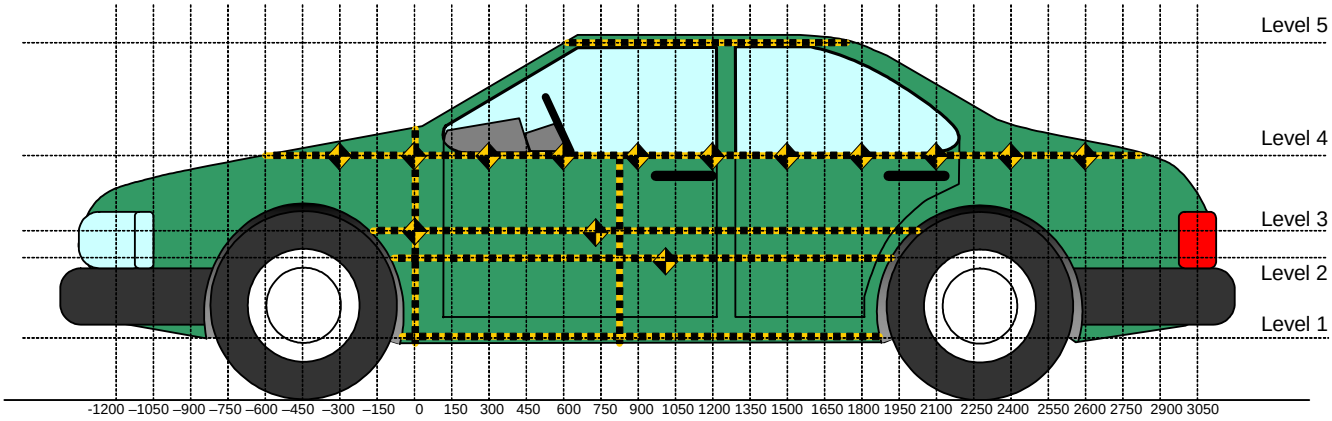
FRONT VIEW OF DUMMY

Code	Measurement Description	Units	Driver S/N 905	Passenger S/N 906
HR	Head to Side Header	mm	165	189
HS	Head to Side Window	mm	312	211
AD_1	Arm to Door (at upper rib level)	mm	131	120
AD_2	Arm to Door (at lower rib level)	mm	139	135
HD	H-Point to Door	mm	166	154

DATA SHEET NO. 9

VEHICLE SIDE MEASUREMENTS

Test Vehicle:	2008 Dodge Charger	NHTSA No.	C80300
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 15, 2008



All Measurements Shown in mm

LEFT SIDE VIEW

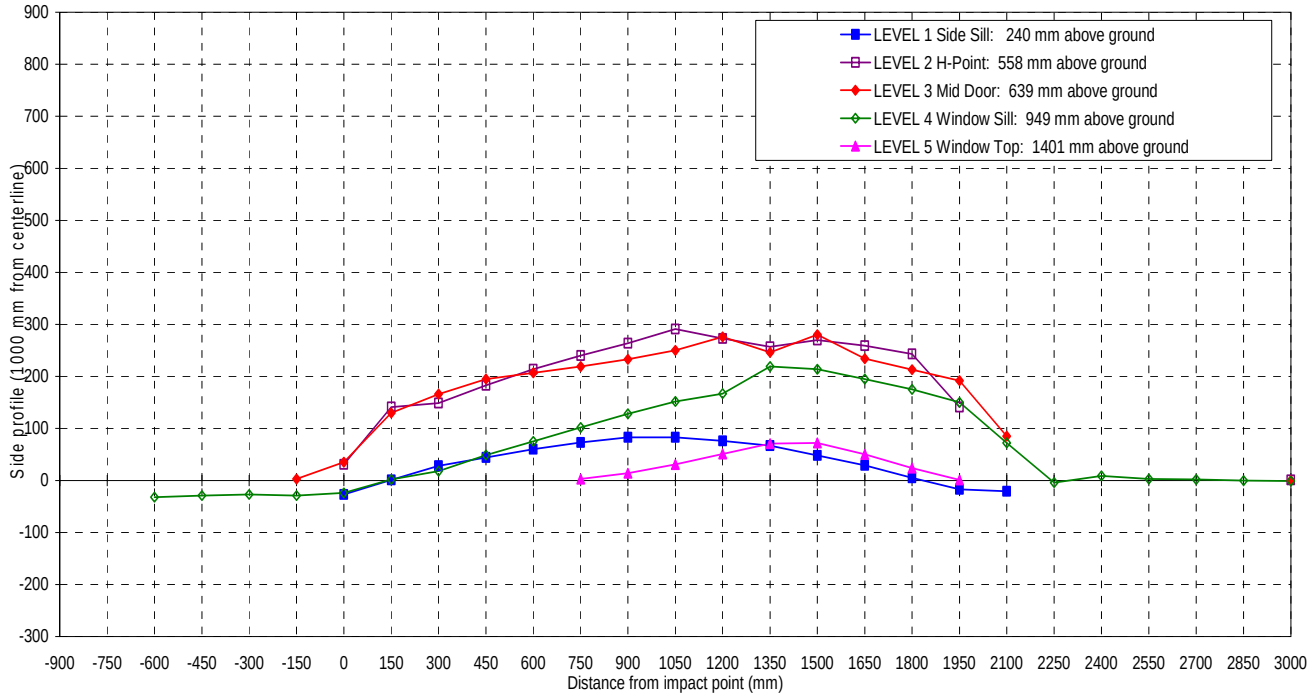
Measurements are taken with vehicle in the as tested condition.
Measurements along the vertical 750 mm.
All measurements below in mm.

Level	Measurement Description	Maximum Exterior Static Crush	Height Above Ground	Distance From Impact
1	Sill Top	83	240	900
2	Occupant H-Point	291	558	1050
3	Mid Door	280	639	1500
4	Window Sill	219	949	1350
5	Window	72	1401	1500
	Maximum Penetration	291		

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES

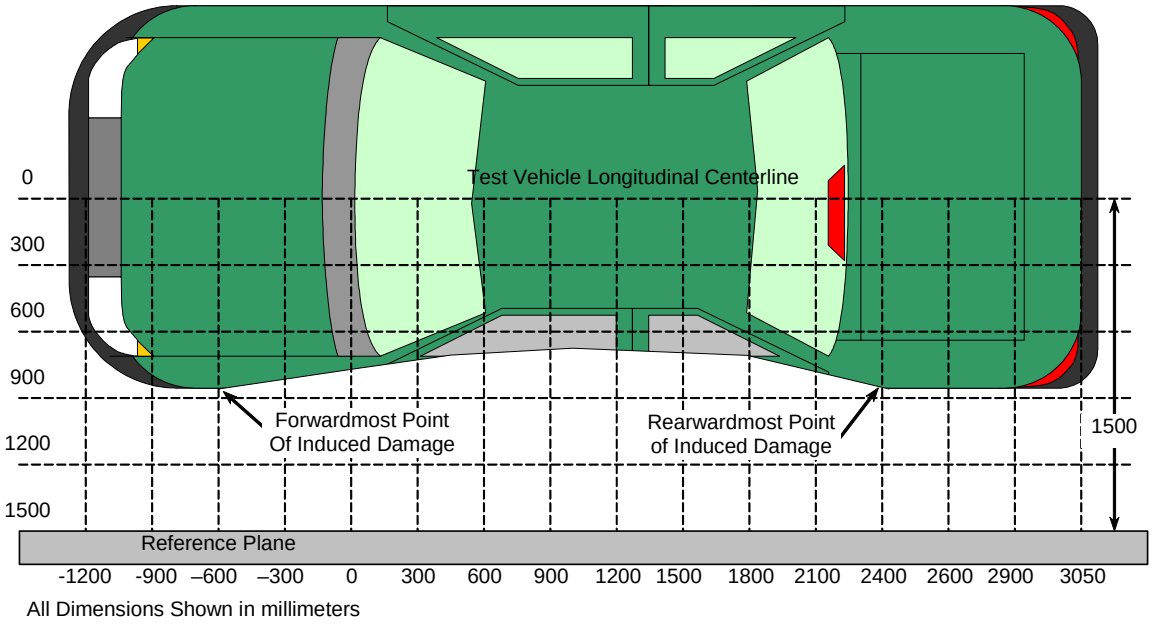
Test Vehicle:	2008 Dodge Charger	NHTSA No.	C80300
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 15, 2008



DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle:	2008 Dodge Charger	NHTSA No.	C80300
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 15, 2008



TOP VIEW

DAMAGE PROFILE DISTANCES

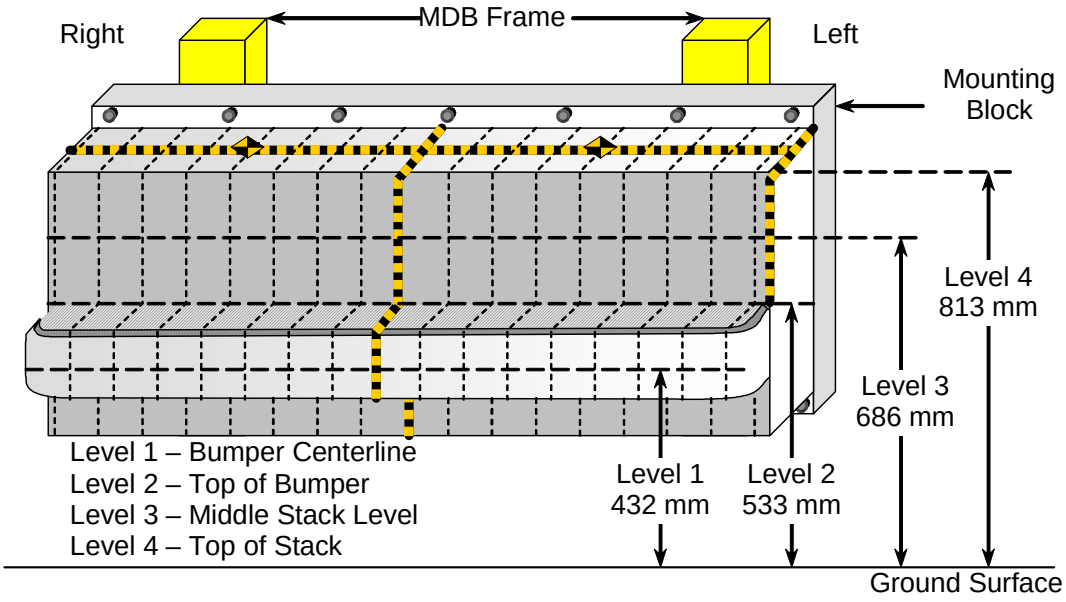
DPD	Distance from Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max Static Crush (mm)
1 (LR)	2250	949	94	90	-4
2	1770	558	71	317	246
3	1290	558	70	334	264
4	810	558	70	319	249
5	330	639	71	242	171
6 (LF)	-150	639	67	70	3

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

DATA SHEET NO. 12

DEFORMABLE BARRIER HONEYCOMB FACE STATIC CRUSH

Test Vehicle:	2008 Dodge Charger	NHTSA No.	C80300
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 15, 2008



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

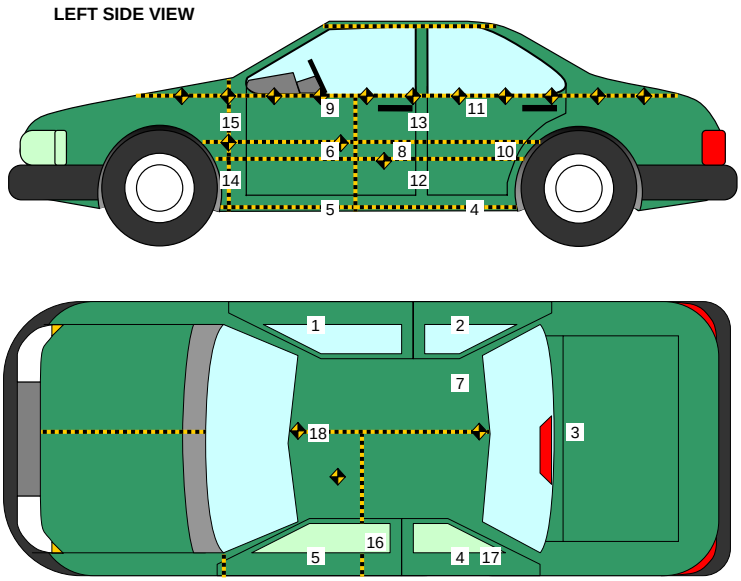
			DISTANCE RIGHT OF CENTER (mm)									DISTANCE LEFT OF CENTER (mm)							
LEVEL	HEIGHT AT CL (mm)*		-800	-700	-600	-500	-400	-300	-200	-100	0	100	200	300	400	500	600	700	800
LEVEL 4		PRE	411	412	412	412	412	412	413	413	413	413	413	413	413	413	413	413	412
TOP	-811	POST	357	380	393	386	364	382	385	385	383	373	364	353	346	329	295	244	229
STACK		CRUSH	54	32	19	26	48	30	28	28	30	40	49	60	67	84	118	169	183
LEVEL 3		PRE	411	411	412	412	412	412	412	412	413	412	412	412	412	412	412	412	412
MID	-682	POST	331	379	397	385	370	383	397	403	402	400	398	389	381	368	343	294	311
LEVEL		CRUSH	80	32	15	27	42	29	15	9	11	12	14	23	31	44	69	118	101
LEVEL 2		PRE	411	412	412	412	412	412	412	412	413	412	412	412	412	412	412	412	412
TOP	-542	POST	351	355	350	347	353	364	372	365	357	350	344	336	329	321	307	293	281
BUMPER		CRUSH	60	57	62	65	59	48	40	47	56	62	68	76	83	91	105	119	131
LEVEL 1		PRE	501	513	513	513	513	513	513	514	514	514	514	514	514	514	514	514	505
MID	-430	POST	409	422	419	397	405	412	420	424	419	412	405	398	391	381	358	322	316
BUMPER		CRUSH	92	91	94	116	108	101	93	90	95	102	109	116	123	133	156	192	189

*Heights measured above ground level.

DATA SHEET NO. 13

VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle:	2008 Dodge Charger	NHTSA No.	C80300
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 15, 2008



Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Right Sill at Front Seat	3243	724	-312
2	Right Sill at Rear Seat	2229	719	-297
3	Rear Floorpan Above Axle	1327	23	-580
4	Left Sill at Rear Door	2228	-707	-279
5	Left Sill at Front Door	3220	-708	-293
6	Left Front Door C/L**	-	-	-
7	Rear Occupant Compartment	2086	413	-222
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	2321	-691	-357
13	Left Middle B-Post	2272	-709	-852
14	Left Lower A-Post	3385	-699	-508
15	Left Middle A-Post	3360	-697	-1034
16	Front Seat Track	2417	-568	-274
17	Rear Seat Track or Structure	2088	-708	-284
18	Vehicle CG	2472	38	-506

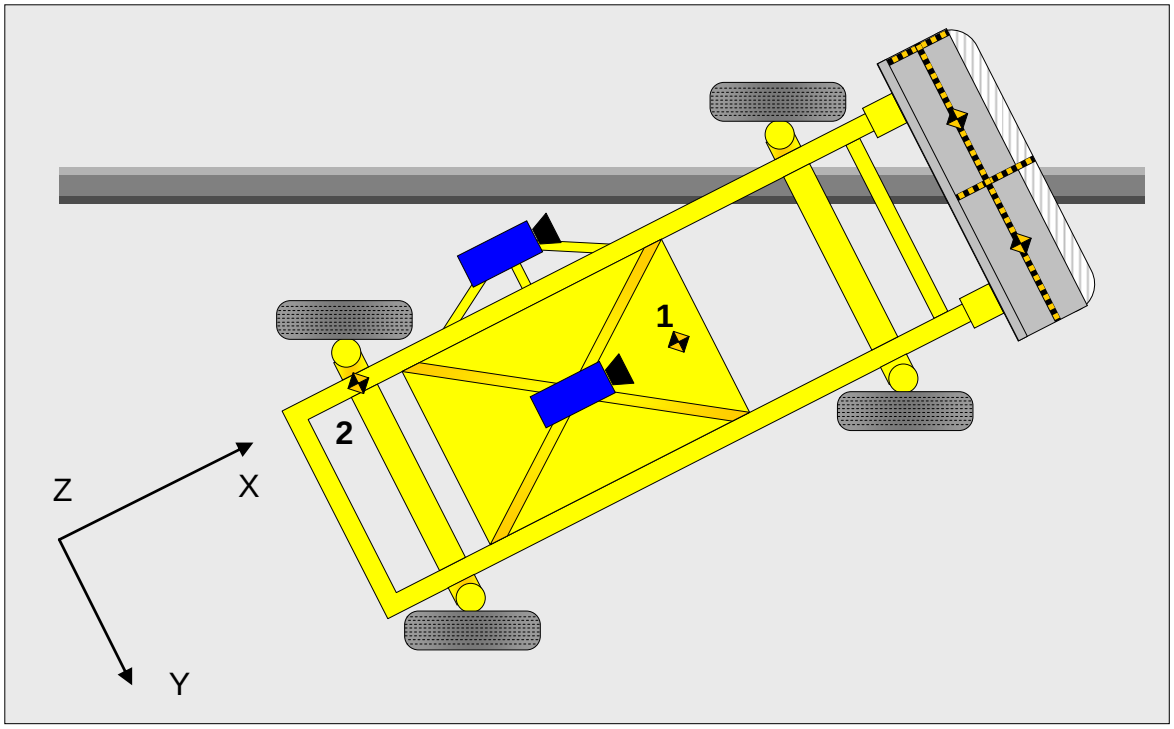
Reference Points X - Test Vehicle Rear Bumper (+ forward)
Y - Test Vehicle Centerline (+ to right)
Z - Ground Plane (+ down)

** Accelerometer was not requested by the COTR.

DATA SHEET NO. 14

MDB ACCELEROMETER LOCATIONS

Test Vehicle:	2008 Dodge Charger	NHTSA No.	C80300
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 15, 2008



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

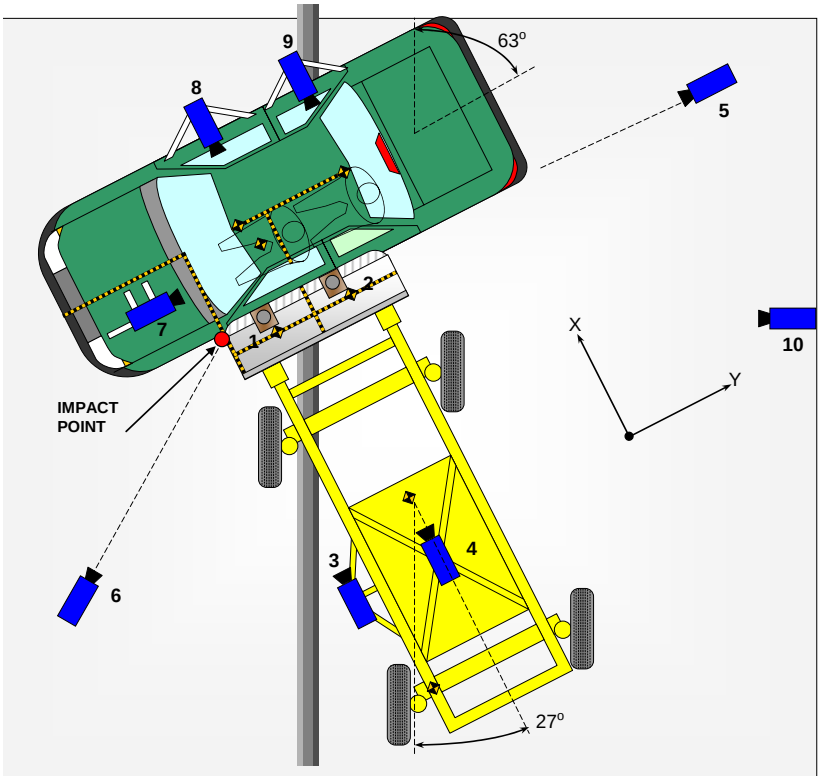
Test Vehicle:	2008 Dodge Charger	NHTSA No.	C80300
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 15, 2008

	Elements	Pre-Test (mm)
1	Total Length	5088
2	Total Width	1896
3	Bumper Top Height	504
4	Bumper Bottom Height	357
5	Longitudinal Member Top Height	543
6	Distance between Longitudinal Members	908
7	Longitudinal Member Width	45
8	Engine Top Height	913
9	Engine Bottom Height	175
10	Engine and gearbox width	619
11	Front bumper-engine distance	540
12	Front shock absorber fixing height	859
13	Bonnet leading edge height	867
14	Front shock absorber fixing width	989
15	Front bumper – front axle distance	926
16	Front axle – a pillar distance	1247
17	A-pillar – B-pillar distance	1098
18	B-Pillar – rear axle distance	1182
19	B-pillar – C-pillar distance	1027
20	Roof sill bottom height	1373
21	Roof sill top height	1425
22	Floor sill bottom height	174
23	Floor sill top height	265

DATA SHEET NO. 16

HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle:	2008 Dodge Charger	NHTSA No.	C80300
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 15, 2008



No.	Camera View	Location (mm)			Angle (deg)	Lens (mm)	Film Speed (fps)
		X	Y	Z			
1	Overhead Close-up	72	812	-4880	-90	8	500
2	Overhead Overall	195	855	-4880	-90	28	500
3	MDB Onboard, Impact Point Close-up	-1470	0	-847	0	13	500
4	MDB Onboard, Centerline of Impact	-1140	838	-1587	-17	7.5	500
5	Right Side, Ground Level, Overall	0	7629	-917	-1.9	25	500
6	Left Side, Ground Level, Overall	-2016	-1790	-930	-3.9	28	500
7	Vehicle Onboard Front SID/HIII, Front	546	-450	-1325	-11.4	25	1000
8	Vehicle Onboard Front SID/HIII, Side	1685	948	-1125	-4.3	12.5	1000
9	Vehicle Onboard Rear SID/HIII, Side	1365	1810	-1130	-7.8	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

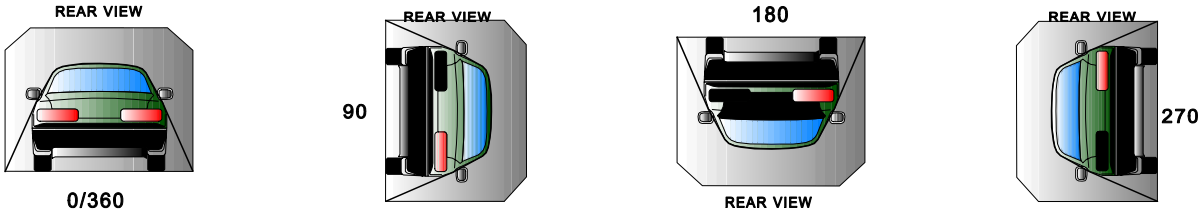
Test Vehicle:	2008 Dodge Charger	NHTSA No.	C80300
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 15, 2008

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	
0º - 90º	1	minutes	13	seconds	5	minutes	6	minutes	13	seconds	7	minutes
90º - 180º	1	minutes	12	seconds	5	minutes	6	minutes	12	seconds	7	minutes
180º-270º	1	minutes	13	seconds	5	minutes	6	minutes	13	seconds	7	minutes
270º-360º	1	minutes	10	seconds	5	minutes	6	minutes	10	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)
0º - 90º	0	0	0	0
90º - 180º	0	0	0	0
180º-270º	0	0	0	0
270º-360º	0	0	0	0
FMVSS 301 Maximum Allowable (for each 90º stage)	142	28	28	28

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

APPENDIX A

PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

TABLE OF PHOTOGRAPHS (continued)

Figure A-1: As Received Left Front ¾ View

Figure A-2: As Received Right Rear ¾ 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 ¾ View

Figure A-8: Post-Test Left Front ¾ View

Figure A-9: Pre-Test Left Side View

Figure A-10: Post-Test Left Side View

Figure A-11: Pre-Test Left Rear ¾ View

Figure A-12: Post-Test Left Rear ¾ View

Figure A-13: Pre-Test Rear View

Figure A-14: Post-Test Rear View

Figure A-15: Pre-Test Right Rear ¾ View

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

Figure A-17: Pre-Test Right Side View

Figure A-18: Post-Test Right Side View

Figure A-19: Pre-Test Right Front ¾ View

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

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

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

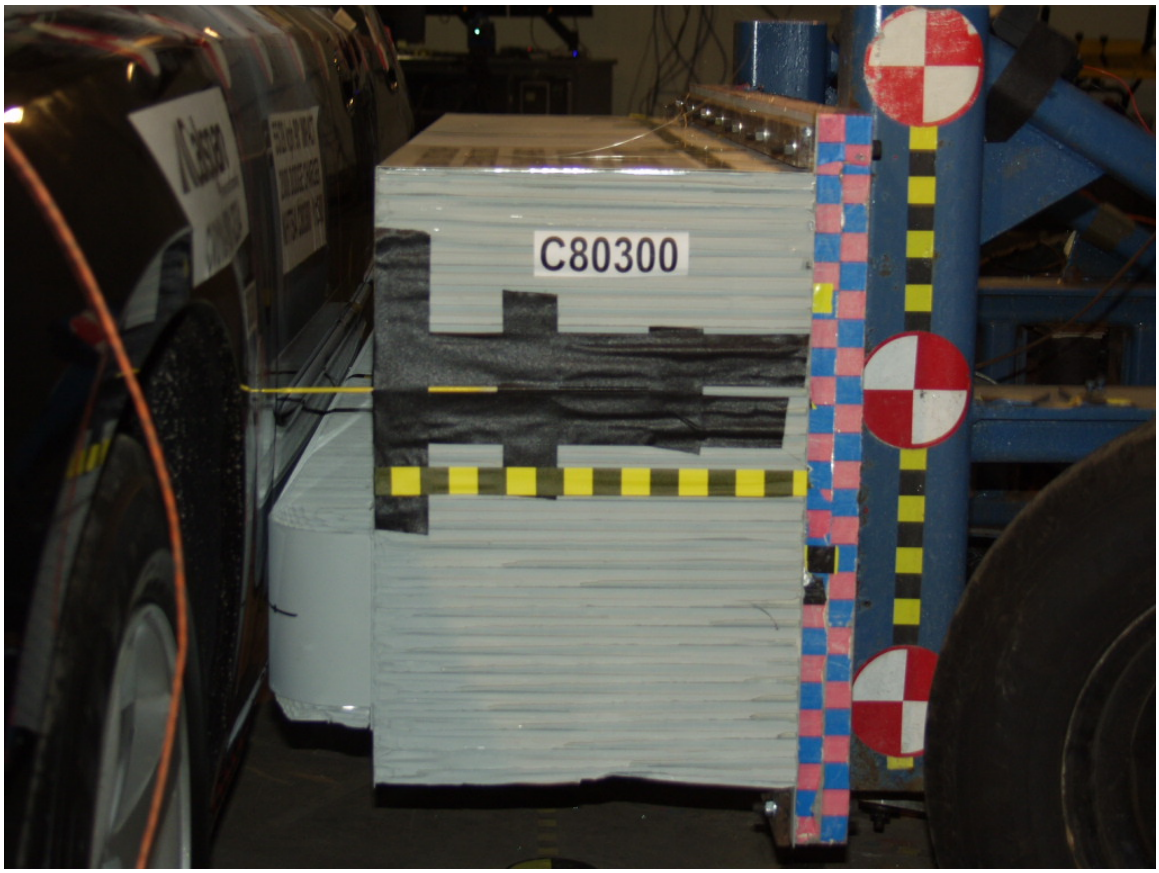


Figure A-23:Pre-Test Left Side View of MDB Impactor Face

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

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

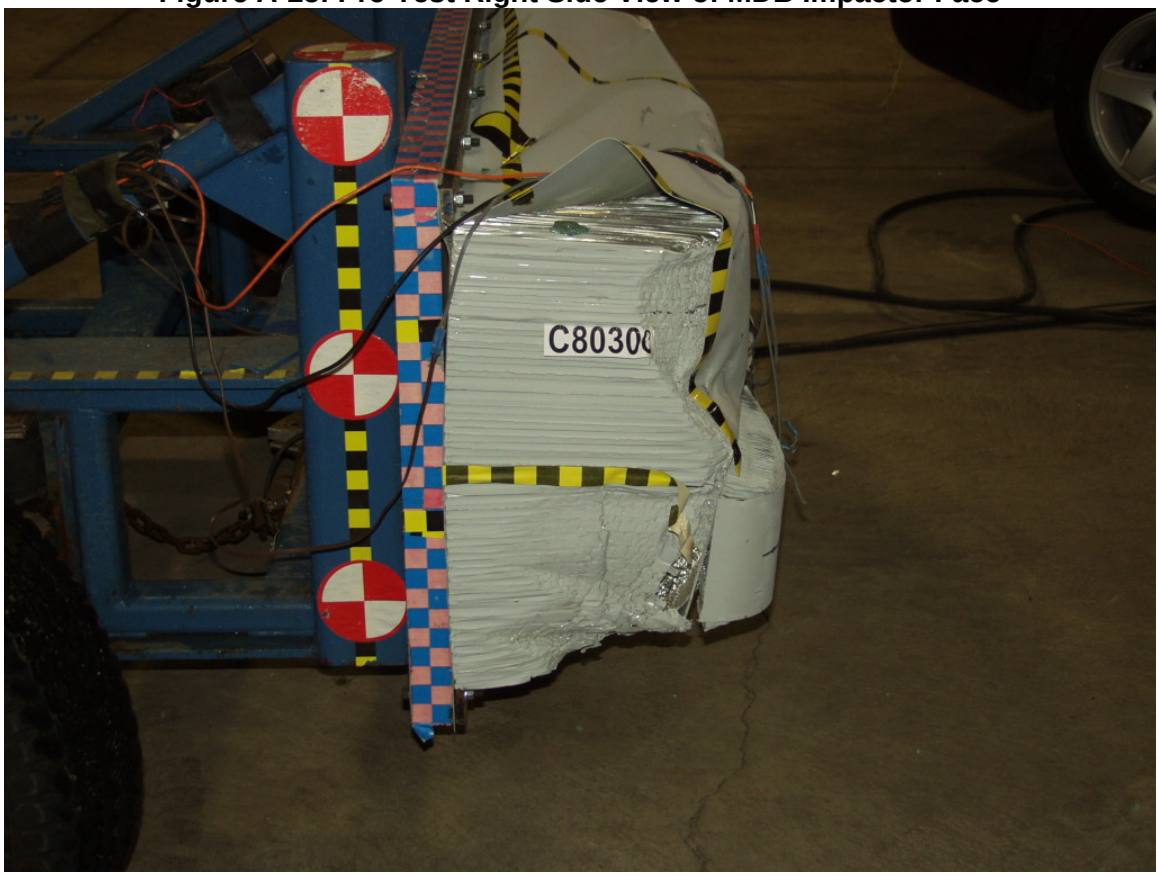


Figure A-26: Post-Test Right Side View of MDB Impactor Face

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

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

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

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

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

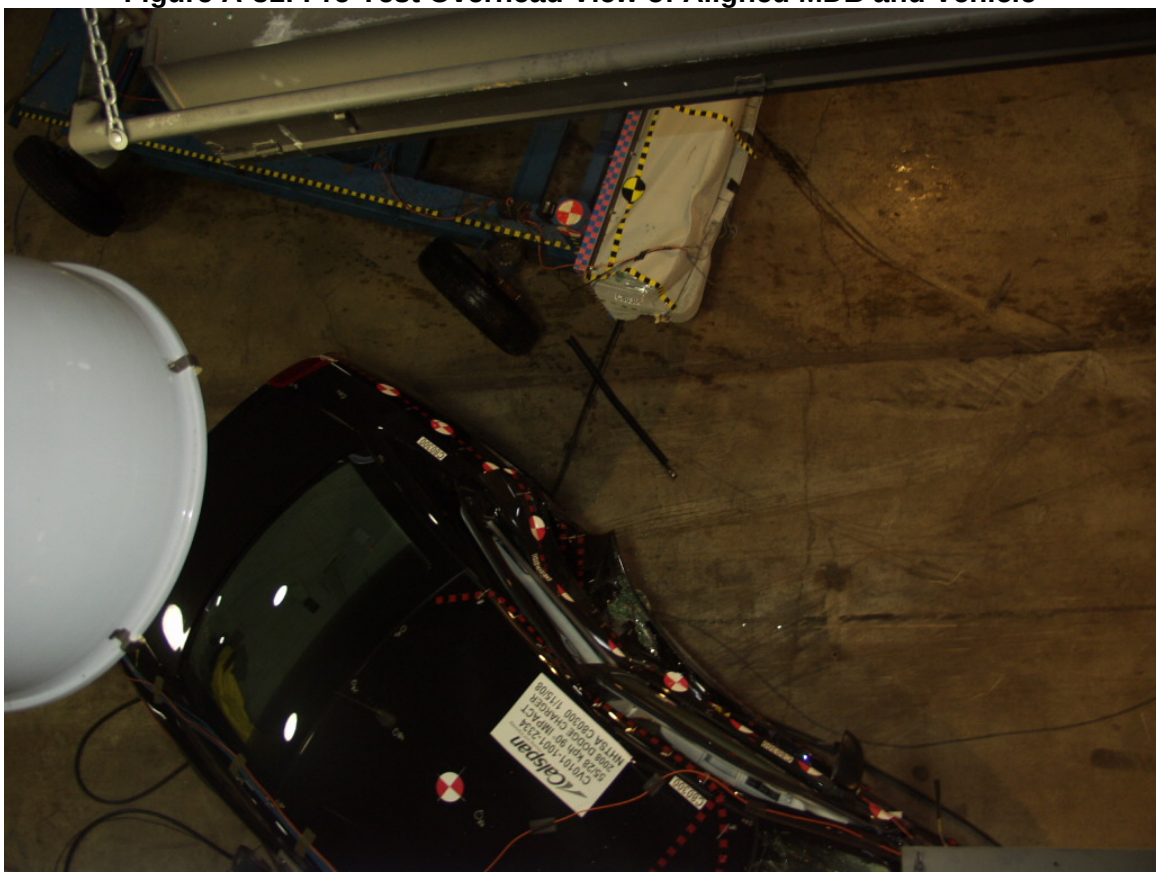


Figure A-32: Post-Test Overhead View of MDB and Vehicle

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

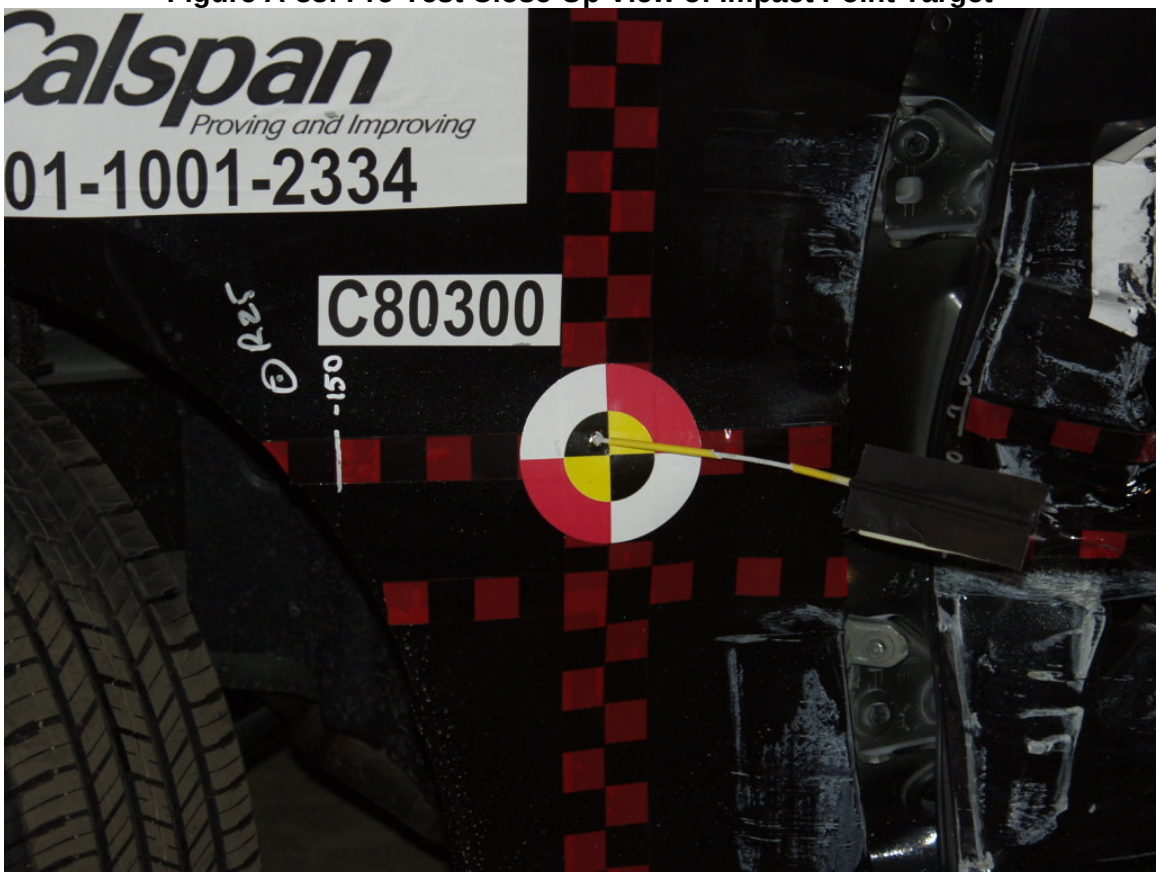


Figure A-34: Post-Test Close-Up View of Impact Point Target

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

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

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

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

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

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

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

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

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

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

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

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

Figure A-47: Pre-Test Left Front ¾ View of Left Side Doors

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

Figure A-49: Pre-Test Left Rear ¾ View of Left Side Doors

Figure A-50: Post-Test Left Rear ¾ View of Left Side Doors

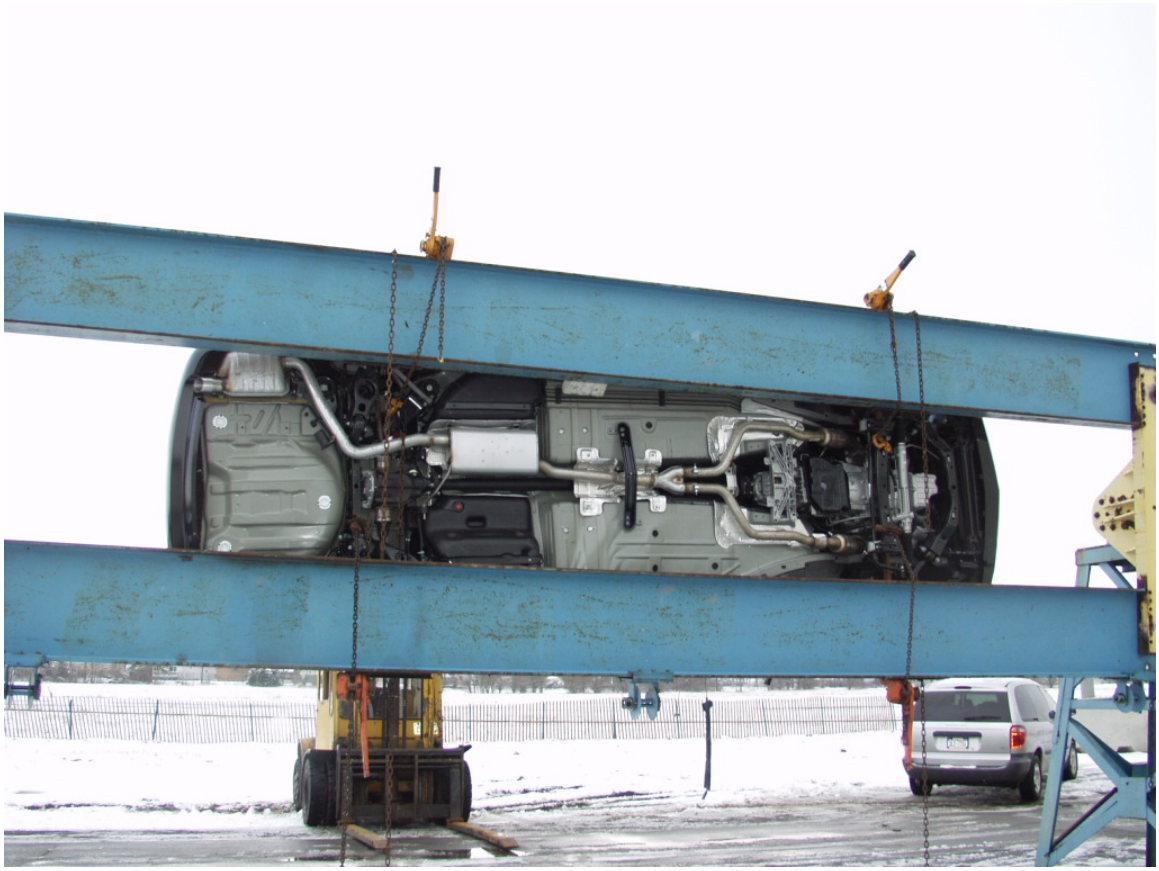


Figure A-51: Rollover 90 Degrees

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

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

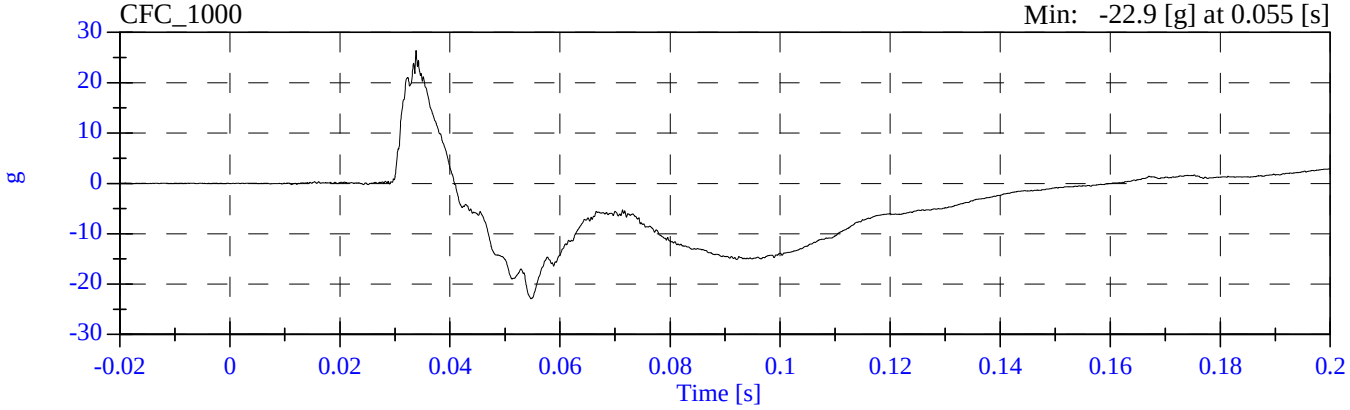
V2P1 Head Ax
V2P1 Head Ay
V2P1 Head Az
V2P1 Upper Neck Fx
V2P1 Upper Neck Fy
V2P1 Upper Neck Fz
V2P1 Upper Neck Mx
V2P1 Upper Neck My
V2P1 Upper Neck Mz
V2P1 Upper Rib Ay
V2P1 Upper Rib Redundant Ay
V2P1 Lower Rib Ay
V2P1 Lower Rib Redundant Ay
V2P1 Lower Spine Ay
V2P1 Lower Spine Redundant Ay
V2P1 Pelvic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

TEST NOTES

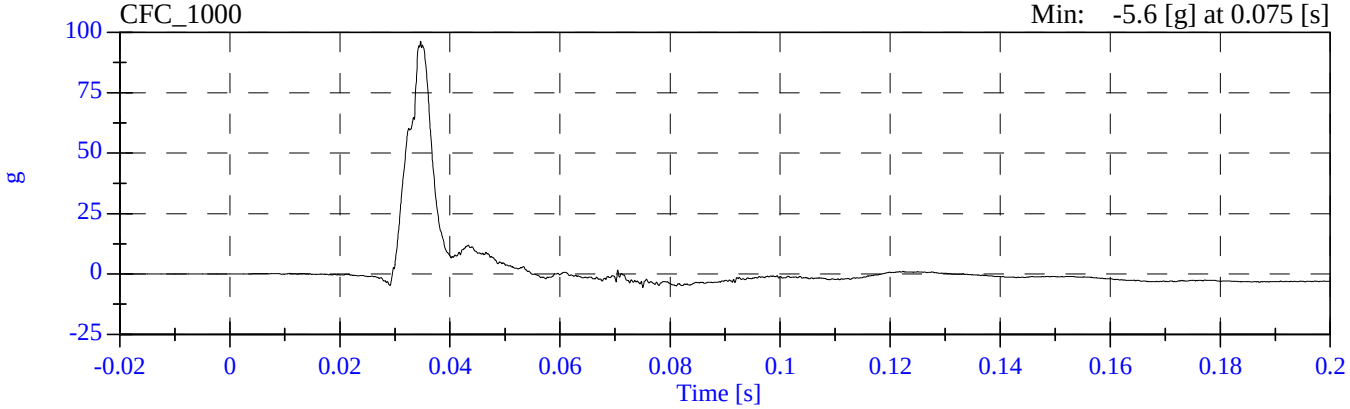
The following channel anomalies occurred:

2008 FMVSS 214D Test 2 2008 Dodge Charger
C80300 - January 15, 2008

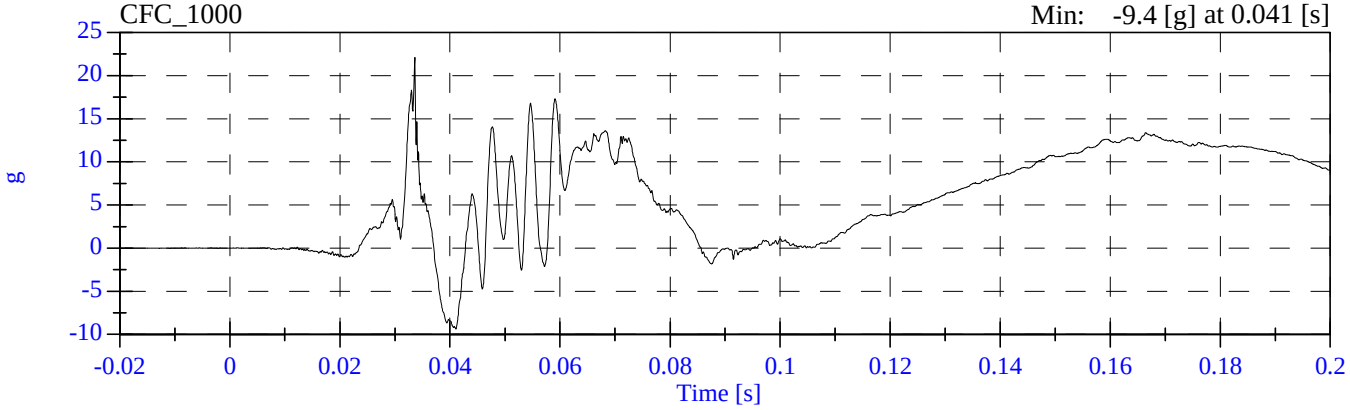
V2P1 Head x
CFC_1000
Max: 26.4 [g] at 0.034 [s]
Min: -22.9 [g] at 0.055 [s]



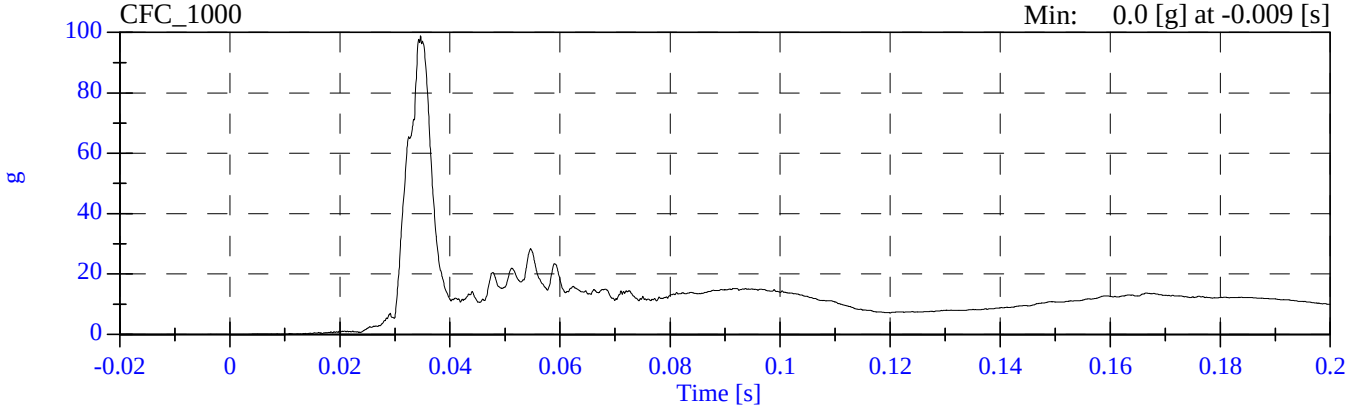
V2P1 Head y
CFC_1000
Max: 96.3 [g] at 0.035 [s]
Min: -5.6 [g] at 0.075 [s]



V2P1 Head z
CFC_1000
Max: 22.1 [g] at 0.034 [s]
Min: -9.4 [g] at 0.041 [s]

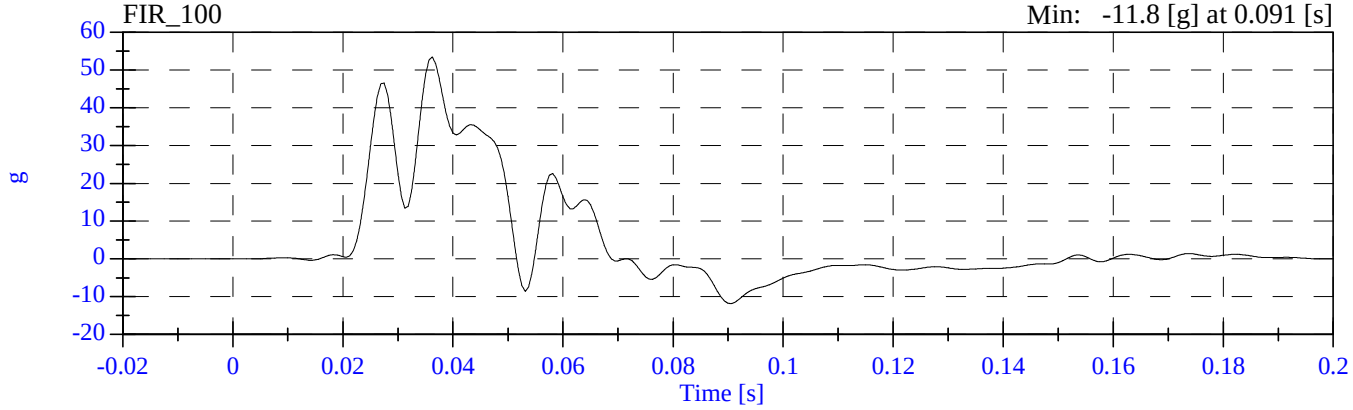


V2P1 Head Resultant
CFC_1000
Max: 98.9 [g] at 0.035 [s]
Min: 0.0 [g] at -0.009 [s]

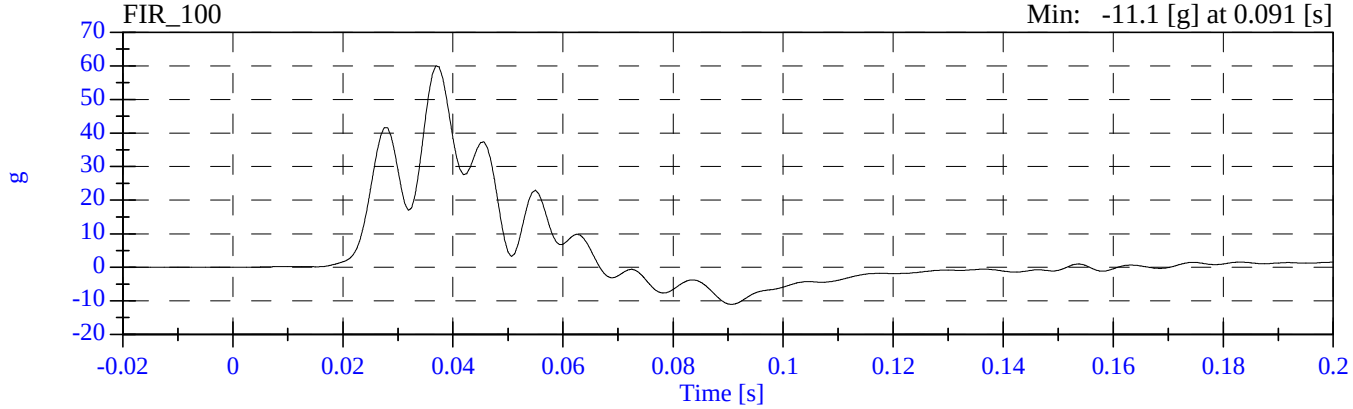


2008 FMVSS 214D Test 2 2008 Dodge Charger
C80300 - January 15, 2008

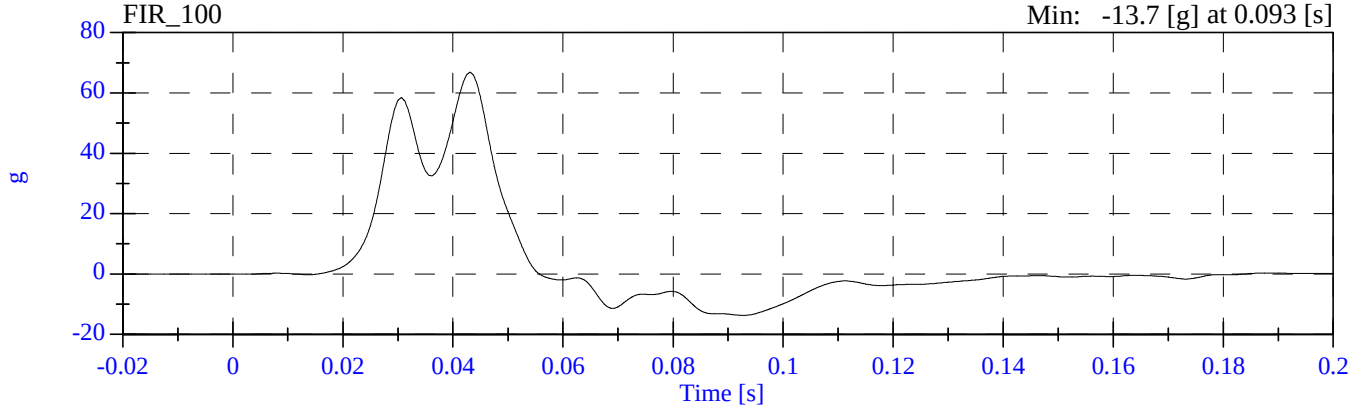
V2P1 Upper Rib y
FIR_100
Max: 53.5 [g] at 0.036 [s]
Min: -11.8 [g] at 0.091 [s]



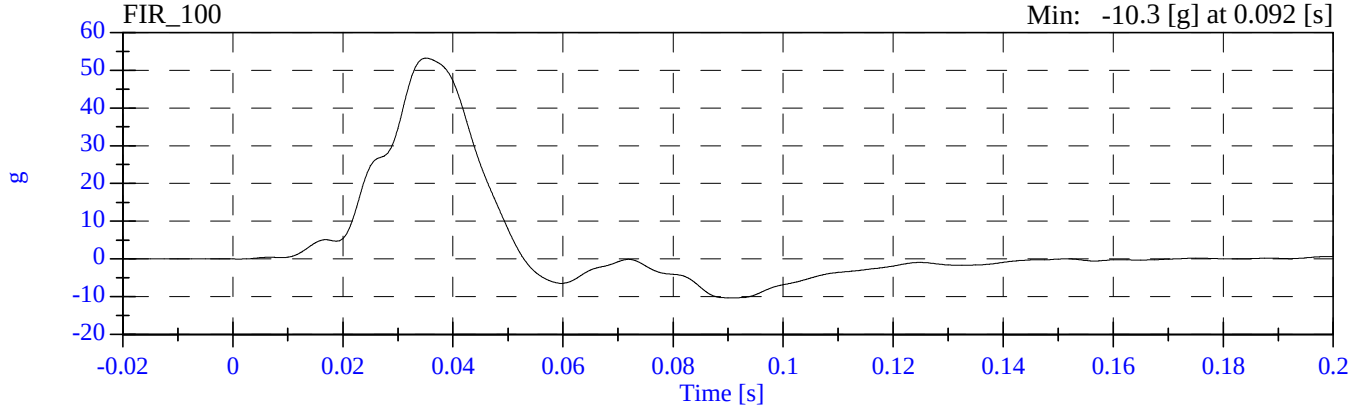
V2P1 Lower Rib y
FIR_100
Max: 60.1 [g] at 0.037 [s]
Min: -11.1 [g] at 0.091 [s]



V2P1 Lower Spine y
FIR_100
Max: 66.9 [g] at 0.043 [s]
Min: -13.7 [g] at 0.093 [s]

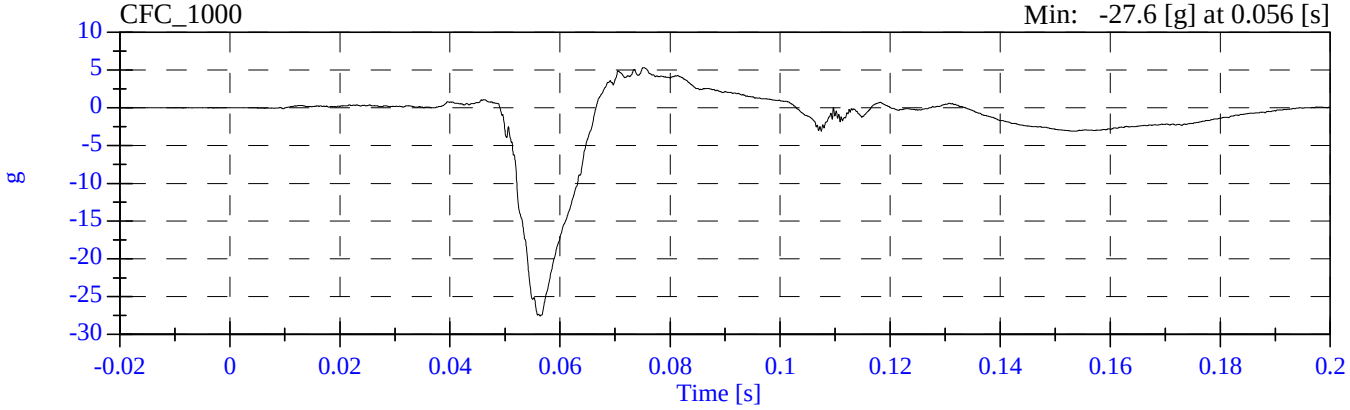


V2P1 Pelvic y
FIR_100
Max: 53.2 [g] at 0.035 [s]
Min: -10.3 [g] at 0.092 [s]

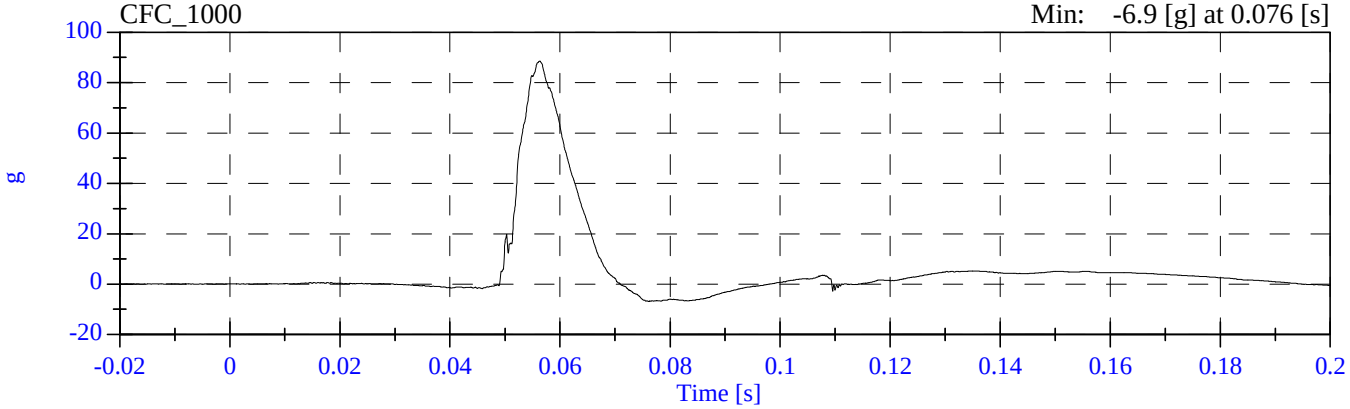


2008 FMVSS 214D Test 2 2008 Dodge Charger
C80300 - January 15, 2008

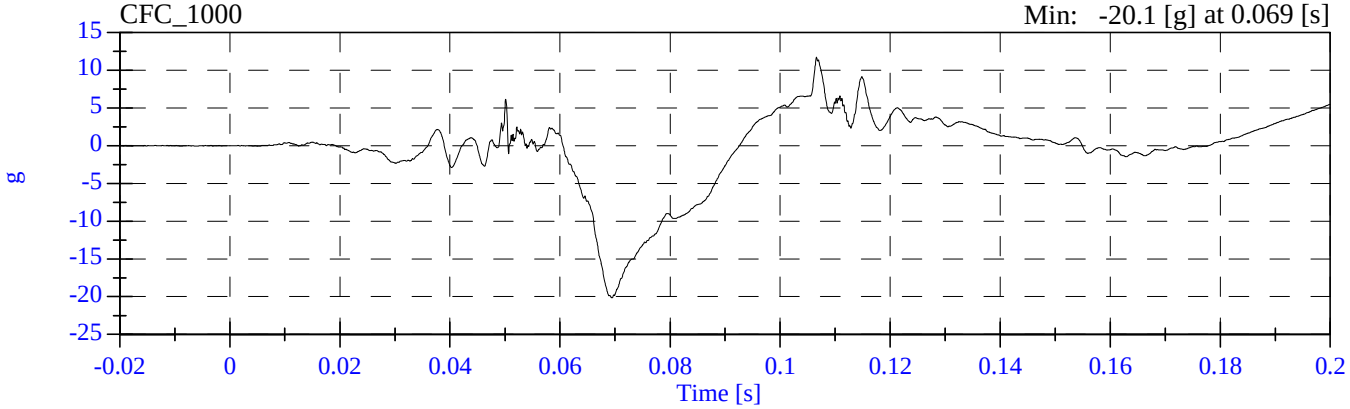
V2P4 Head x
CFC_1000
Max: 5.3 [g] at 0.075 [s]
Min: -27.6 [g] at 0.056 [s]



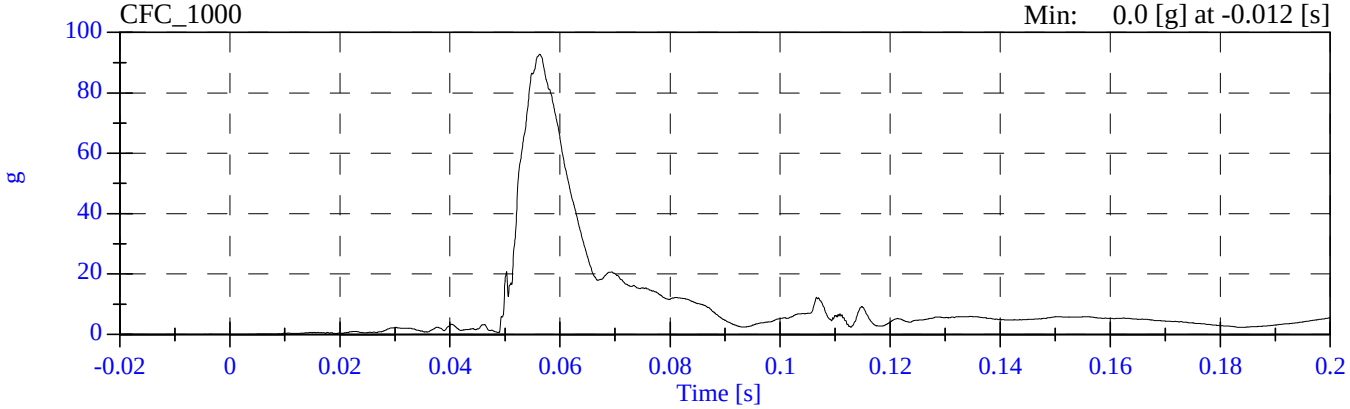
V2P4 Head y
CFC_1000
Max: 88.6 [g] at 0.056 [s]
Min: -6.9 [g] at 0.076 [s]



V2P4 Head z
CFC_1000
Max: 11.7 [g] at 0.107 [s]
Min: -20.1 [g] at 0.069 [s]

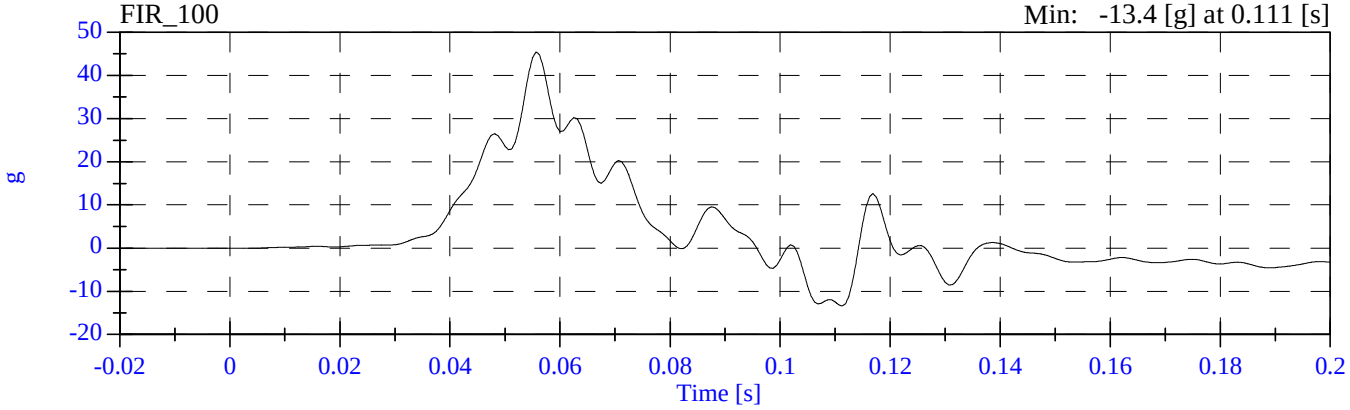


V2P4 Head Resultant
CFC_1000
Max: 92.8 [g] at 0.056 [s]
Min: 0.0 [g] at -0.012 [s]

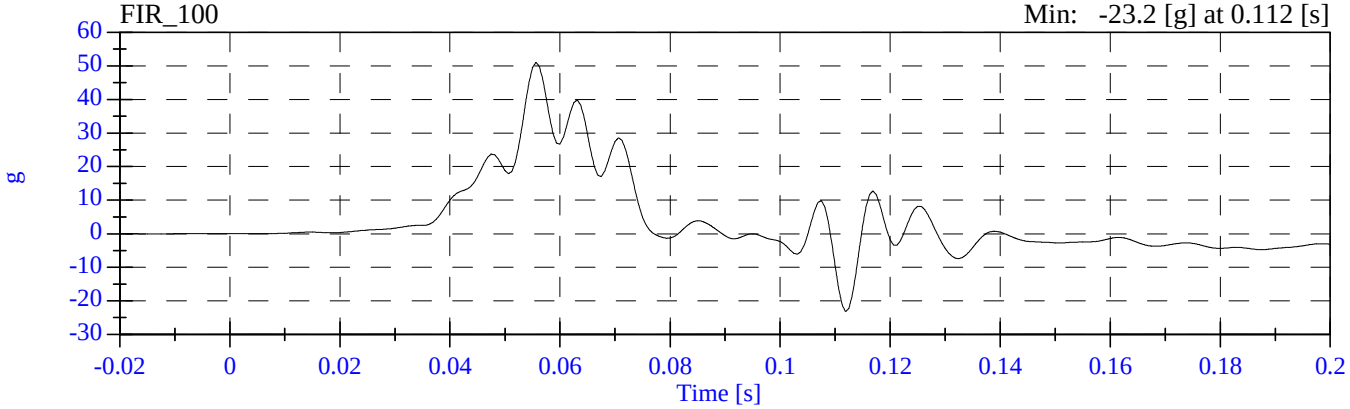


2008 FMVSS 214D Test 2 2008 Dodge Charger
C80300 - January 15, 2008

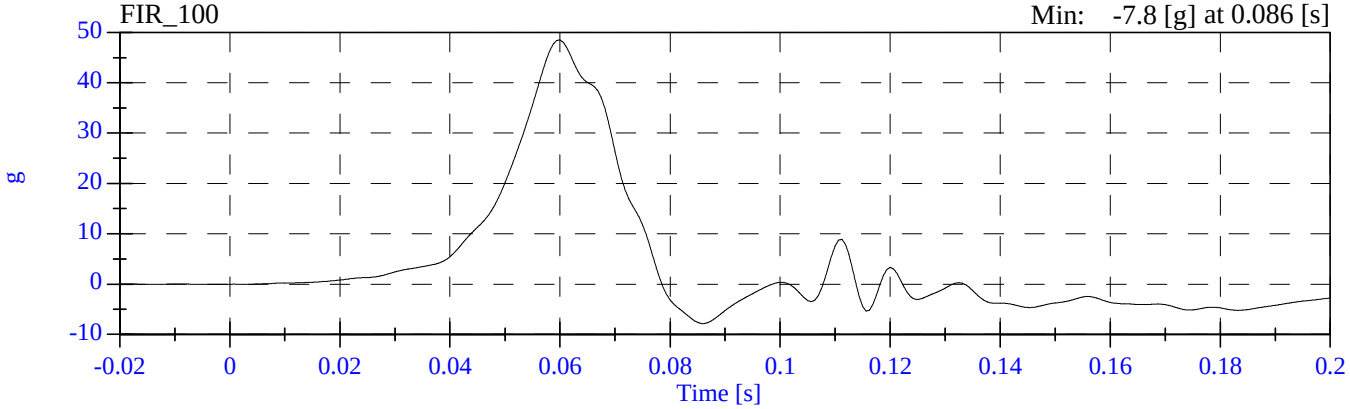
V2P4 Upper Rib y
FIR_100
Max: 45.5 [g] at 0.056 [s]
Min: -13.4 [g] at 0.111 [s]



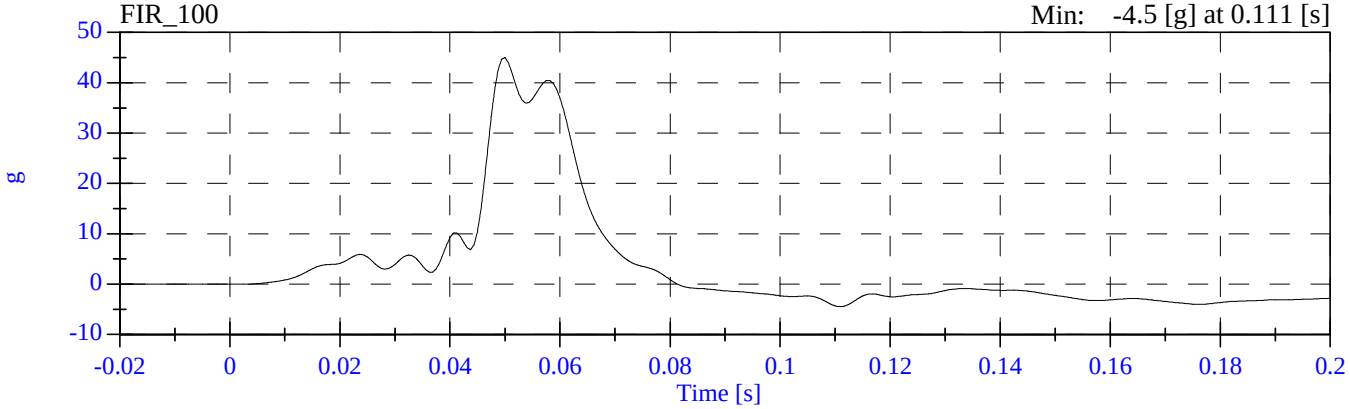
V2P4 Lower Rib y
FIR_100
Max: 51.0 [g] at 0.056 [s]
Min: -23.2 [g] at 0.112 [s]



V2P4 Lower Spine y
FIR_100
Max: 48.5 [g] at 0.060 [s]
Min: -7.8 [g] at 0.086 [s]



V2P4 Pelvic y
FIR_100
Max: 45.0 [g] at 0.050 [s]
Min: -4.5 [g] at 0.111 [s]



APPENDIX C

DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID H3 PRE & POST TEST CALIBRATION

CONFIGURED FOR LEFT SIDE IMPACT

Date: 1/23/08 Sequential Test Number: 4
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	SID H3 NO.: 905		SID H3 NO.: 906	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	899	899	899	902
RH- Rib Height (mm)	501 - 521	508	505	505	503
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	234	234	234	234
KV- Knee Pivot from Back Line (mm)	511 - 526	518	516	518	513
SW- Knee Pivot to Floor (mm)	490 - 505	493	495	493	495
HW- Hip Width (mm)	356 - 391	386	381	386	384
THORAX IMPACTS					
TEMPERATURE (C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE. HUMIDITY (%)	10 -70	47	18	13	18
PROBE SPEED (m/s)	4.27 - 4.33	4.28	4.27	4.28	4.27
UPPER RIB (g's)	37 - 46	38.76	43.51	39.40	38.11
LOWER RIB (g's)	37 - 46	38.22	42.60	37.63	37.78
LOWER SPINE (g's)	15 -22	19.90	21.53	21.28	20.43
PELVIS IMPACT					
TEMPERATURE (C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	35	18	33	20
PROBE SPEED (m/s)	4.27 - 4.33	4.28	4.28	4.29	4.27
PELVIS (g's)	40 -60	42.40	44.31	41.86	56.21

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: 3
Date: 1/08/08 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: 3
Date: 1/08/08 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	518
KV- Knee Pivot to Floor (mm)	490 – 505	493
HW- Hip Width (mm)	356 - 391	386

REMARKS: None

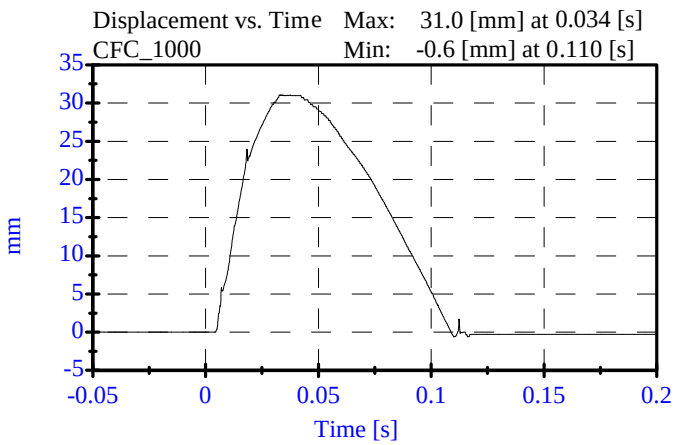
Shock Impact Low (3.05 m/s)
PRE TEST

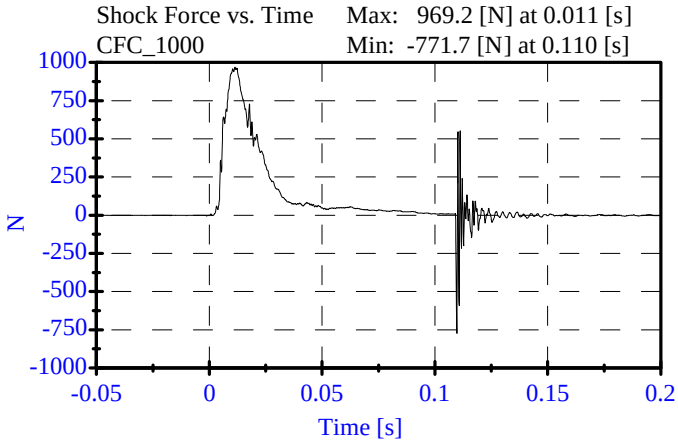
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905 Sequential Test Number: 1 File: 905SL 08-1-07
Date: 08-01-07 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:	30.00-35.00 mm	31.05 mm	Passed
Maximum Force:	836.00-1125.00 N	969.22 N	Passed

Impact Test Velocity: 3.05 m/s
Damper Identification: 905
Damper Setting: 5





Shock Impact Med (4.27 m/s)

PRE TEST

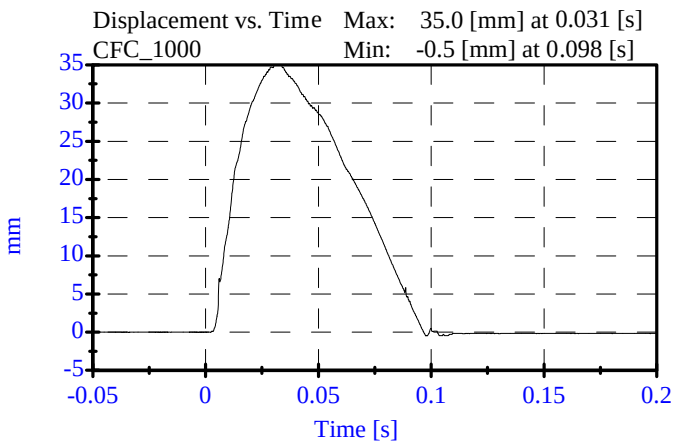
CONFIGURED FOR LEFT SIDE IMPACT

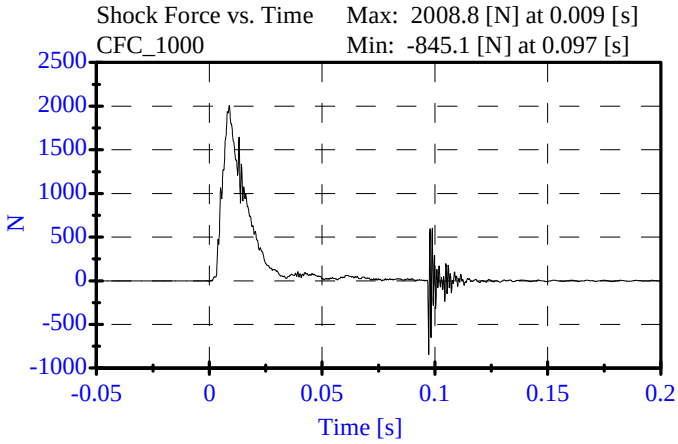
ATD Serial No: 905 Sequential Test Number: 1 File: 905SM 08-1-07

Date: 08-01-07 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:	32.00-37.00 mm	34.98 mm	Passed
Maximum Force:	1730.00-2099.00 N	2008.82 N	Passed

Impact Test Velocity: 4.27 m/s
Damper Identification: 905
Damper Setting: 5





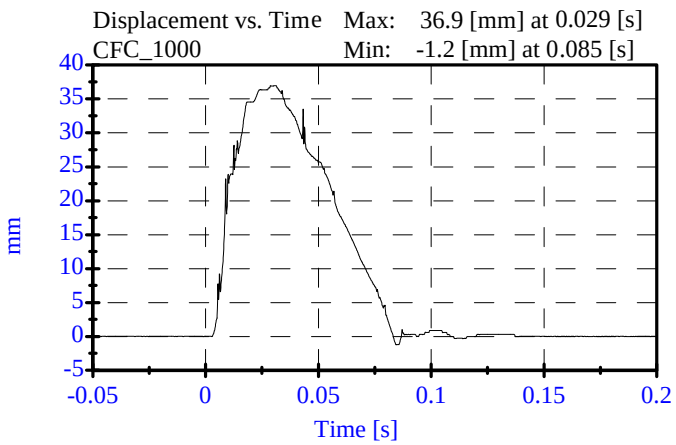
Shock Impact High (6.10 m/s)
PRE TEST

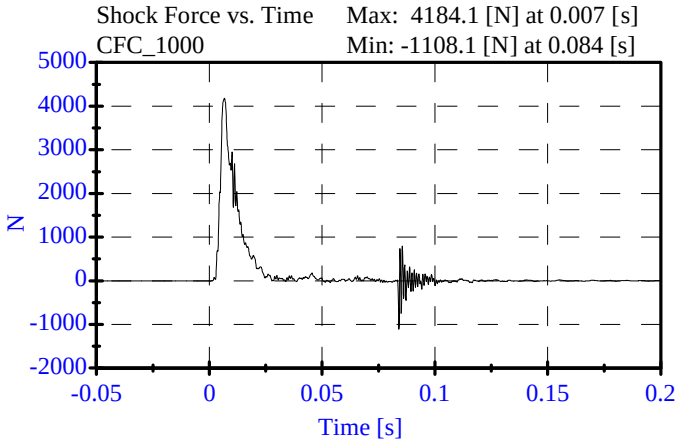
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905 Sequential Test Number: 1 File: 905SH 08-1-07
Date: 08-01-07 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	36.94 mm	Passed
Maximum Force:	3741.00-4448.00 N	4184.07 N	Passed

Impact Test Velocity: 6.10 m/s
Damper Identification: 905
Damper Setting: 5





Thorax Side Impact

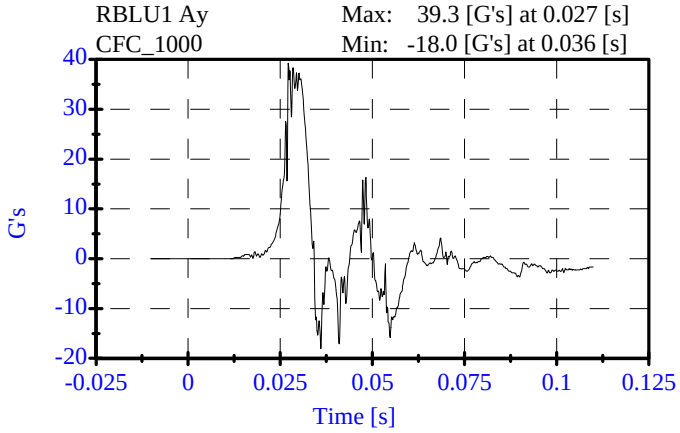
Pre-Test

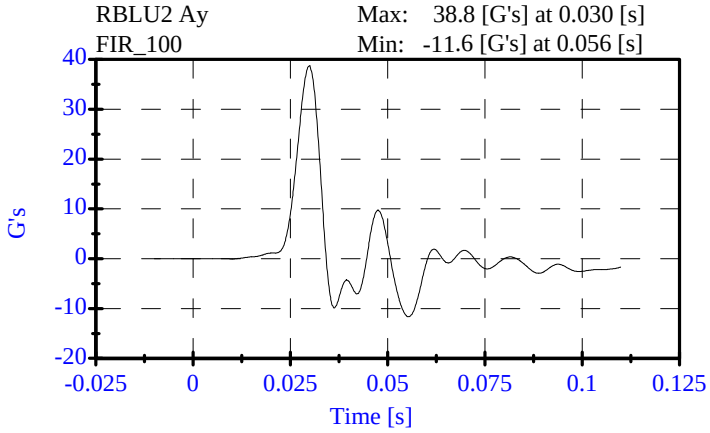
CONFIGURED FOR LEFT SIDE IMPACT

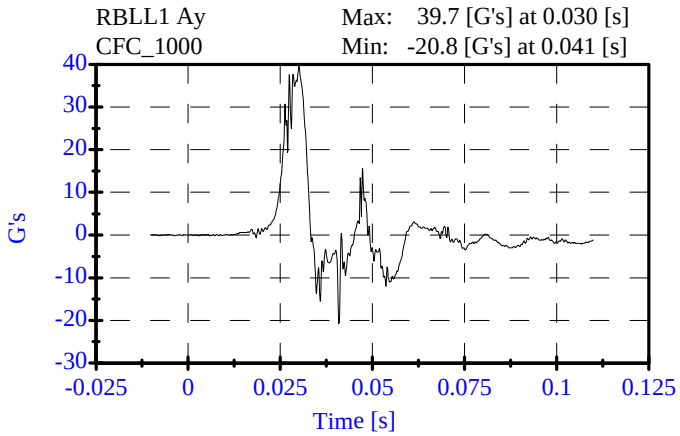
ATD Serial No: 905 Sequential Test Number: 1 File: 905T3 1-7-08

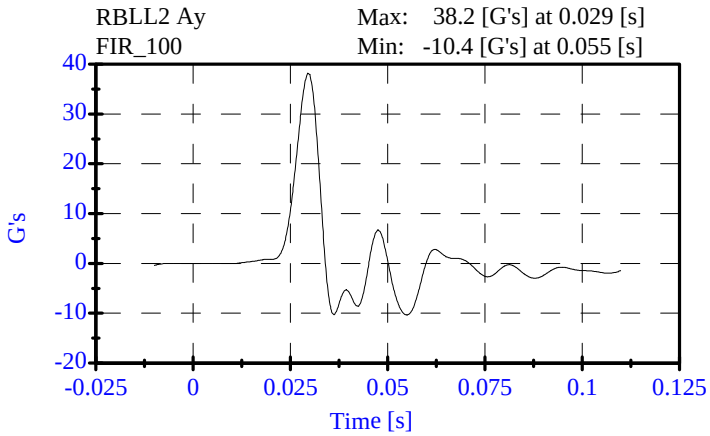
Date: 1-7-08 Laboratory Technician: B. Swiecicki

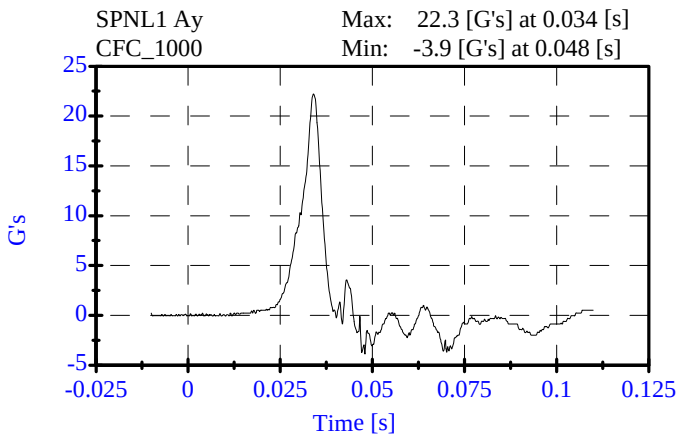
TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	47.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	38.76 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	38.22 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	19.90 G's	Passed

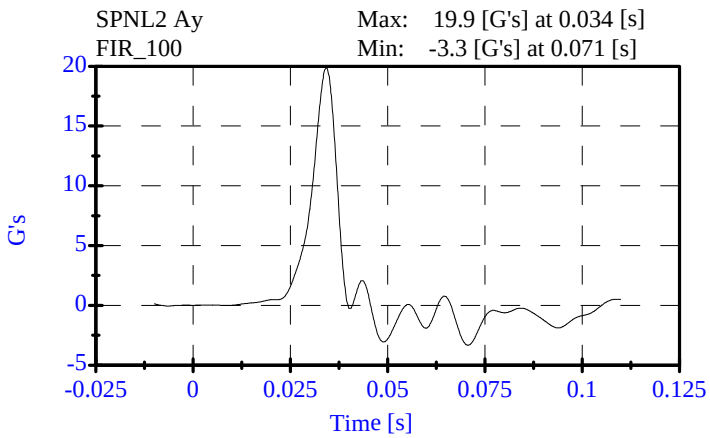












Pelvis Impact Left Side

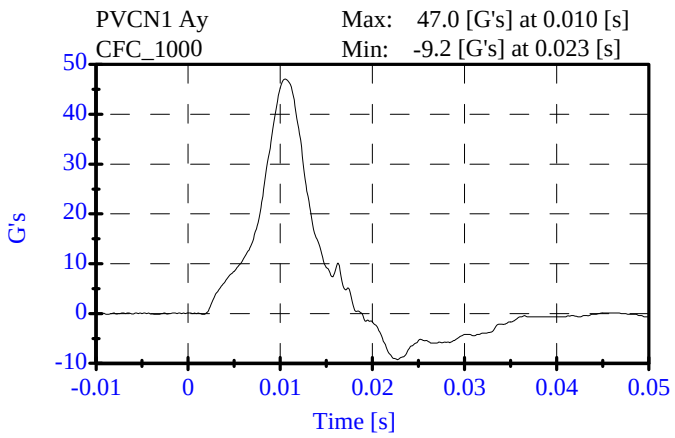
Pre-Test

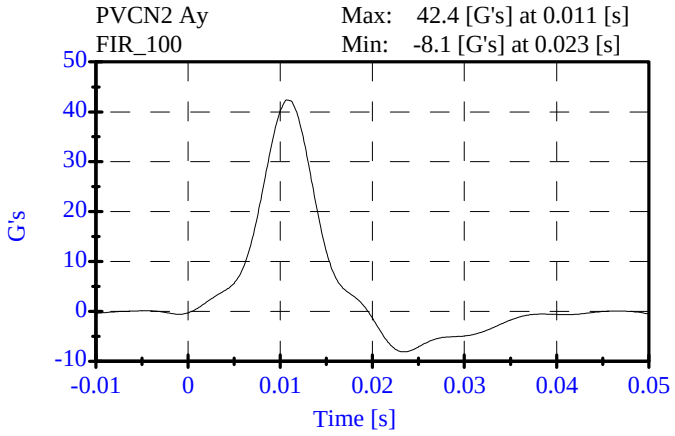
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905 Sequential Test Number: 1 File: 905P 12-27-07

Date: 12-27-07 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	42.40 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	6.4 ms	Passed





Head Drop

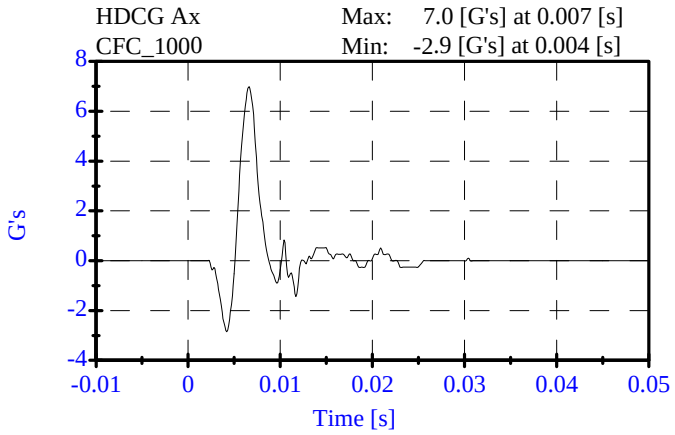
Pre-Test

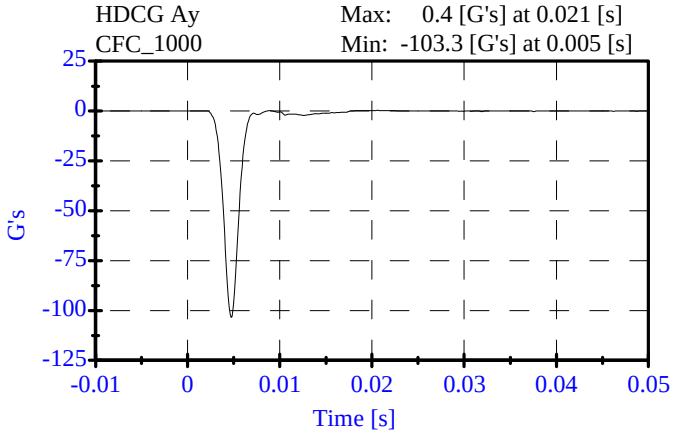
CONFIGURED FOR LEFT SIDE IMPACT

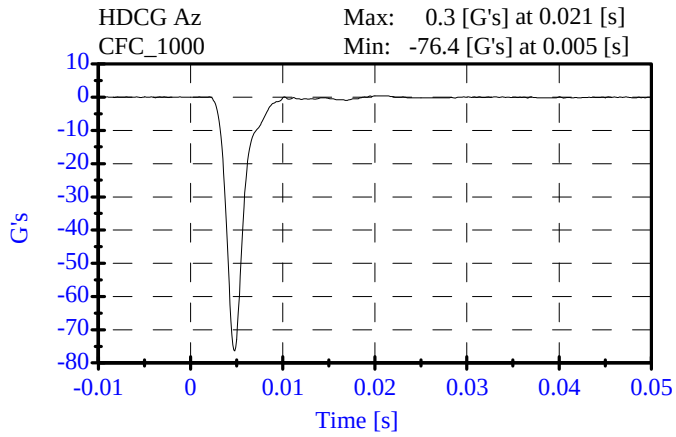
ATD Serial No: 905 Sequential Test Number: 1 File: 905H2 1-10-08

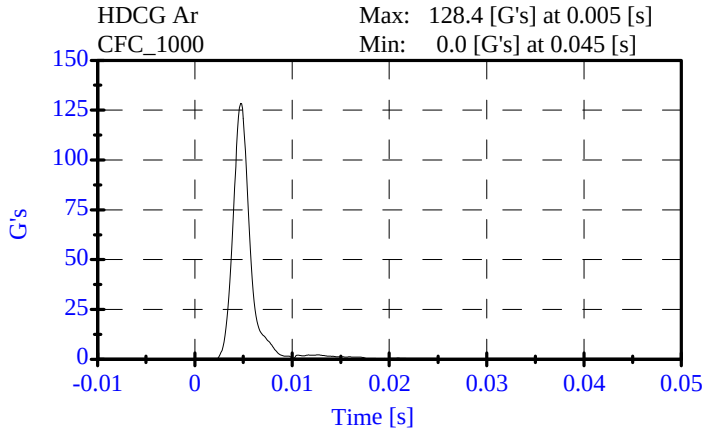
Date: 1-10-08 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	32.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	128.36 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	6.99 Gs	Passed
Curve PerCent NonModal:	< 15%	1.79 %	Passed









Neck test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905 Sequential Test Number: 1 File: 905N8 12-20-07

Date: 12-20-07 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
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	6.93 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.09 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.26 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	5.88 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	6.98 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	70.34 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	59.40 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	86.51 N-m	Passed
Occiptal Moment Decay:	49.0-64.0 ms	51.00 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	6.40 ms	Passed

Neck test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

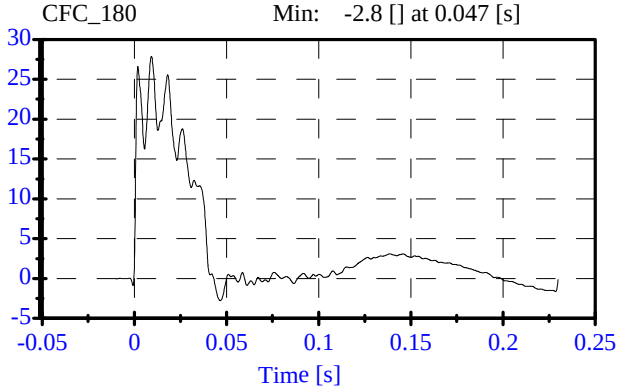
ATD Serial No: 905

Sequential Test Number: 1 File: 905N8 12-20-07

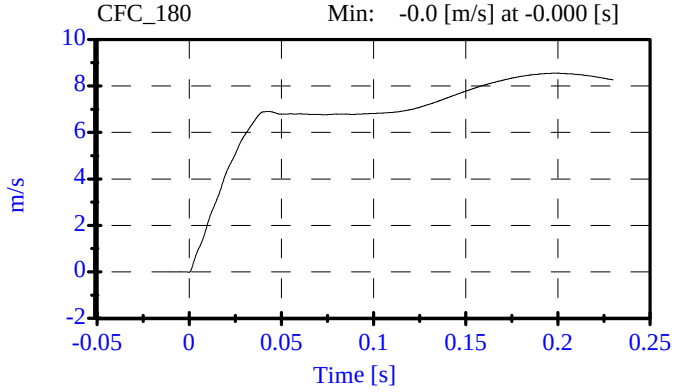
Date: 12-20-07

Laboratory Technician: B. Swiecicki

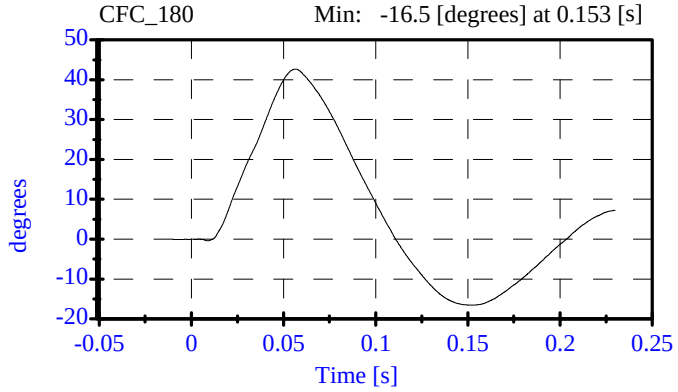
Pend Ax
CFC_180
Max: 27.9 [] at 0.009 [s]
Min: -2.8 [] at 0.047 [s]



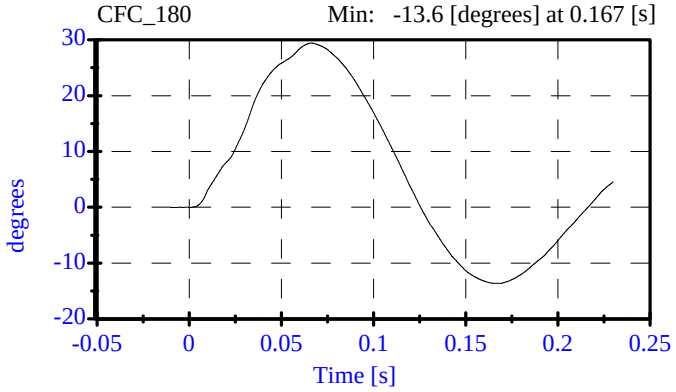
Pend Vx
CFC_180
Max: 8.5 [m/s] at 0.199 [s]
Min: -0.0 [m/s] at -0.000 [s]



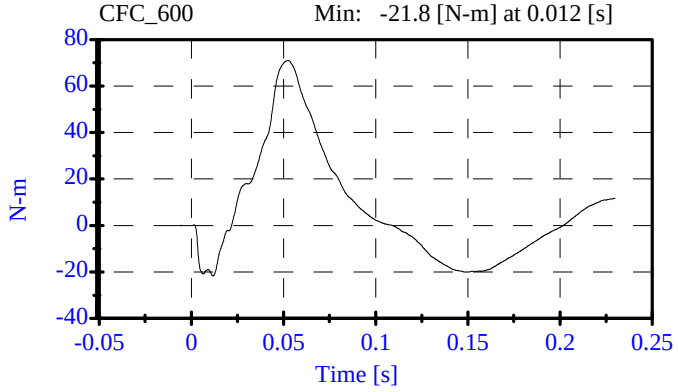
Head Rot
CFC_180
Max: 42.7 [degrees] at 0.056 [s]
Min: -16.5 [degrees] at 0.153 [s]



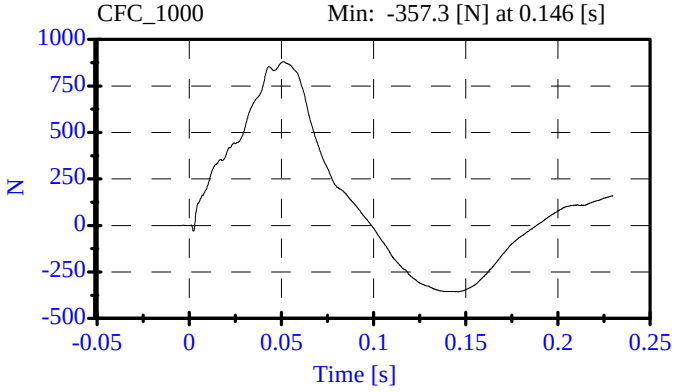
Arm Rot
CFC_180
Max: 29.4 [degrees] at 0.066 [s]
Min: -13.6 [degrees] at 0.167 [s]



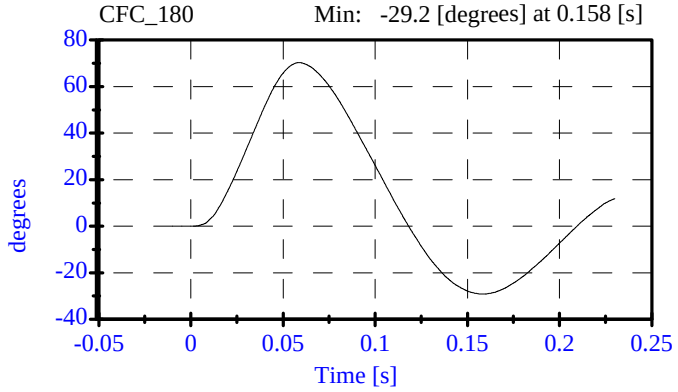
Neck Mx
CFC_600
Max: 71.0 [N-m] at 0.053 [s]
Min: -21.8 [N-m] at 0.012 [s]



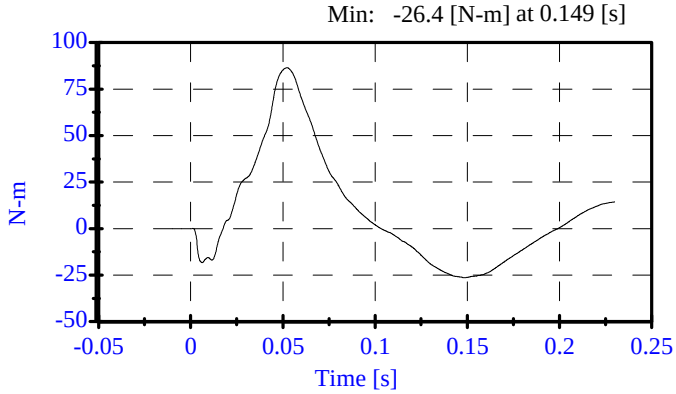
Neck Fy
CFC_1000
Max: 880.6 [N] at 0.051 [s]
Min: -357.3 [N] at 0.146 [s]



Tot Rot
CFC_180
Max: 70.3 [degrees] at 0.059 [s]
Min: -29.2 [degrees] at 0.158 [s]



MOCX
Max: 86.5 [N-m] at 0.052 [s]
Min: -26.4 [N-m] at 0.149 [s]



Abdomen Test

Pre-Test

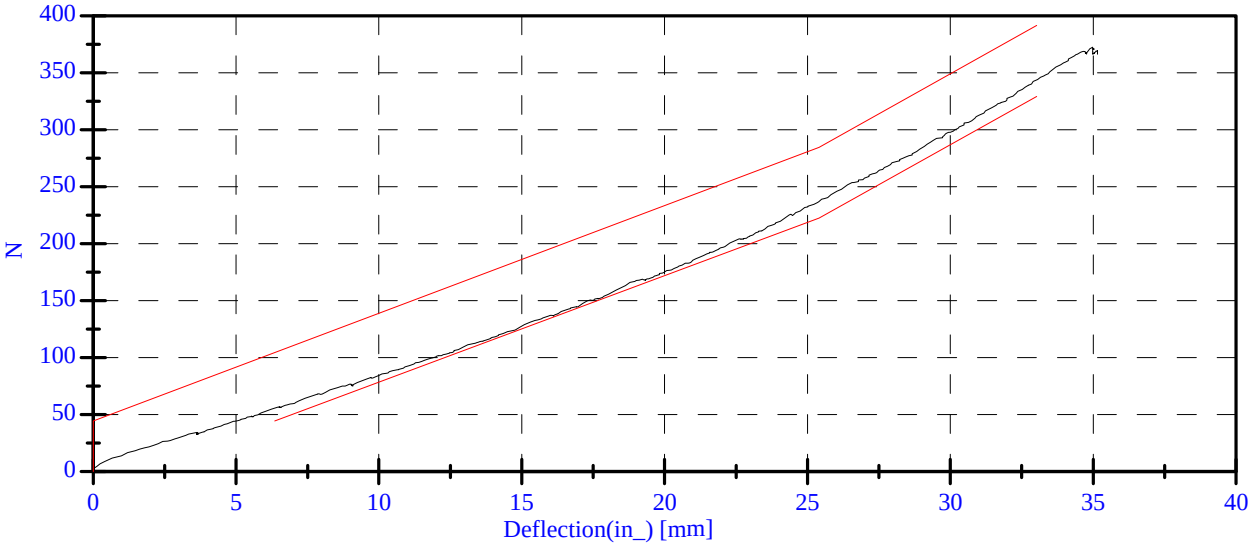
CONFIGURED FOR LEFT SIDE IMPACT

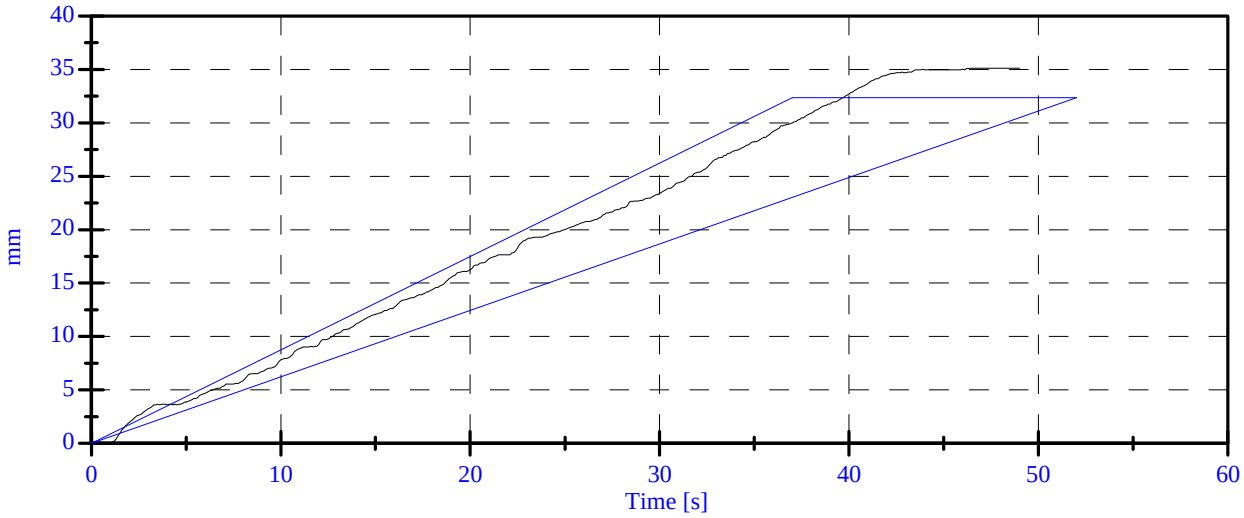
ATD Serial No: 905 Sequential Test Number: 1 File: 905 Ab2 1-9-08

Date: 01-09-08 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	109.27 N	Passed
Force at 19.05 mm :	162.98-220.99 N	167.63 N	Passed
Force at 25.40 mm :	221.97-280.02 N	236.87 N	Passed
Force at 33.02 mm :	324.99-391.00 N	344.16 N	Passed

ABDOMINAL COMPRESSION TEST





Lumbar Spine Flexion Test

PRE TEST

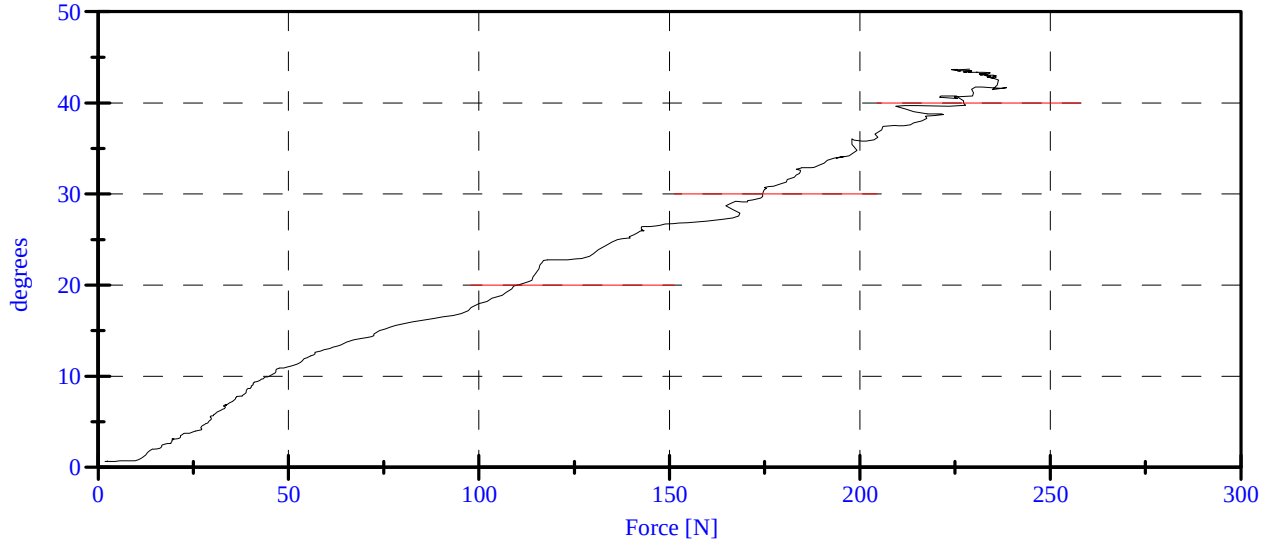
CONFIGURED FOR LEFT SIDE IMPACT

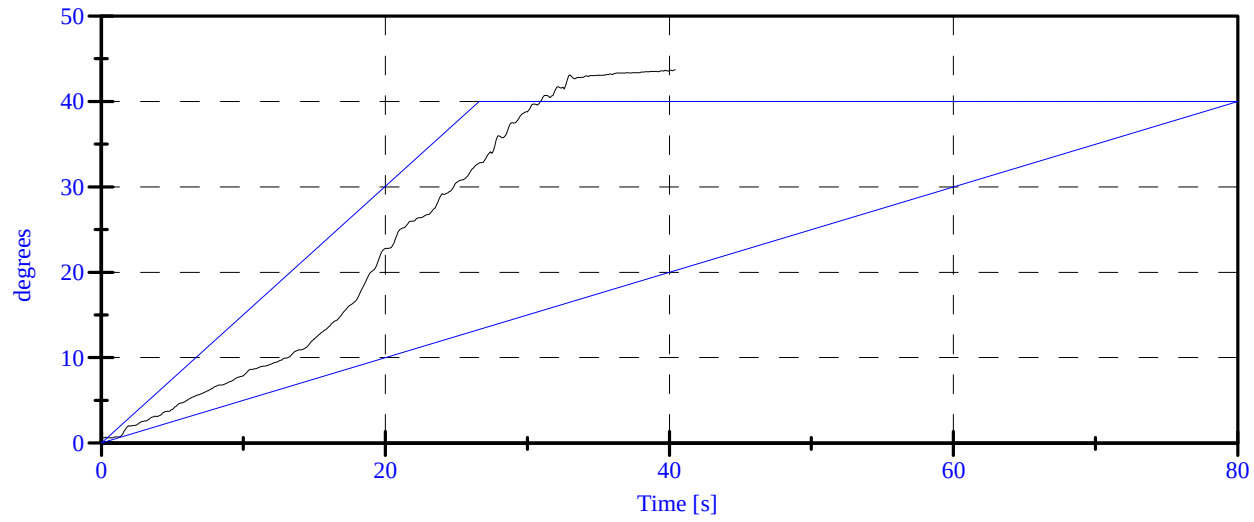
ATD Serial No: 905 Sequential Test Number: 1 File: 905 Spine 12-28-07

Date: 12-28-07 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	1.83 N	Passed
Force at 20 Deg:	97.86-151.24 N	110.73 N	Passed
Force at 30 Deg	151.24-204.62 N	174.45 N	Passed
Force at 40 Deg	204.62-258.00 N	227.20 N	Passed
Return Angle	12 Deg Max	11.73 deg	Passed

LUMBAR SPINE FLEXION TEST





PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 905 Sequential Test Number: 3
Date: 1/08/08 Laboratory Technician: B. Swiecicki

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

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID H3 NO.: 906

CONFIGURED FOR LEFT SIDE IMPACT

CALIBRATION TEST RESULTS SUMMARY
PRE-TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 906 Sequential Test Number: 3
Date: 1/08/08 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: 3
Date: 1/08/08 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	899
RH- Rib Height (mm)	502 - 520	505
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	234
KH- Knee Pivot from Back Line (mm)	511 - 526	518
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	386

REMARKS: None

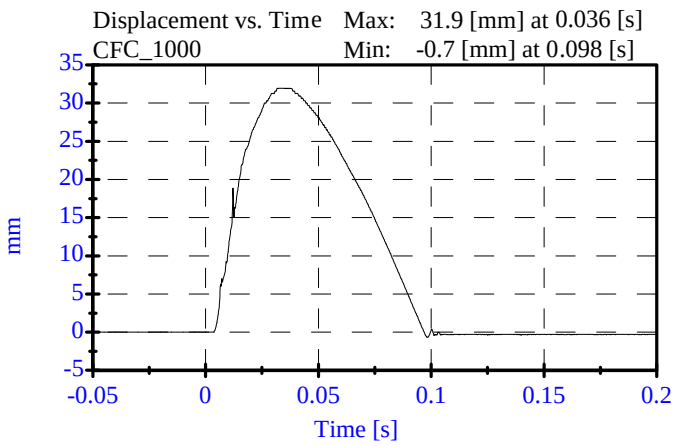
Shock Impact Low (3.05 m/s)
PRE TEST

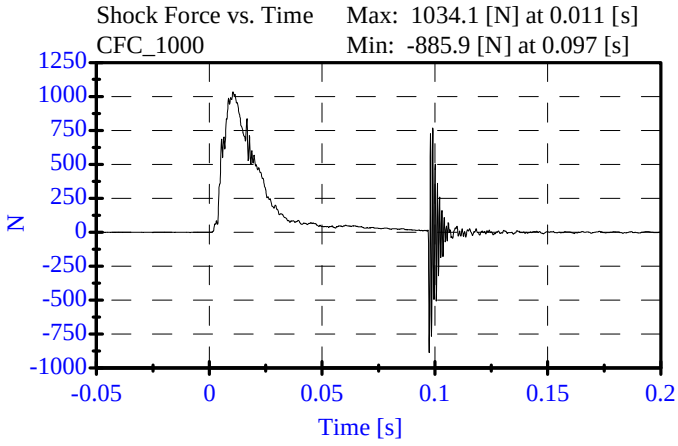
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906 Sequential Test Number: 1 File: 906SL 08-1-07
Date: 08-01-07 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:	30.00-35.00 mm	31.95 mm	Passed
Maximum Force:	836.00-1125.00 N	1034.07 N	Passed

Impact Test Velocity: 3.05 m/s
Damper Identification: 906
Damper Setting: 5





Shock Impact Med (4.27 m/s)

PRE TEST

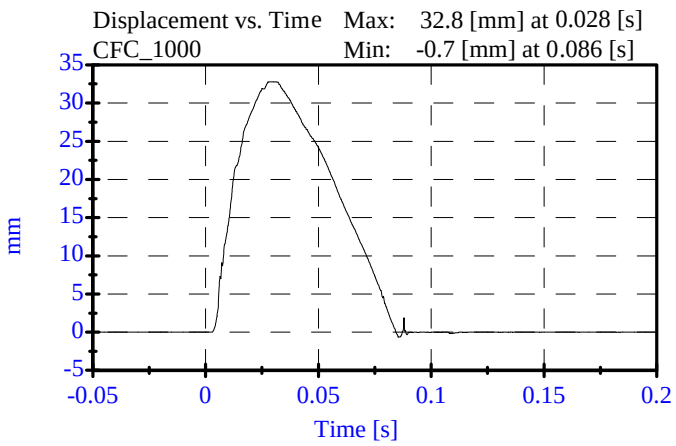
CONFIGURED FOR LEFT SIDE IMPACT

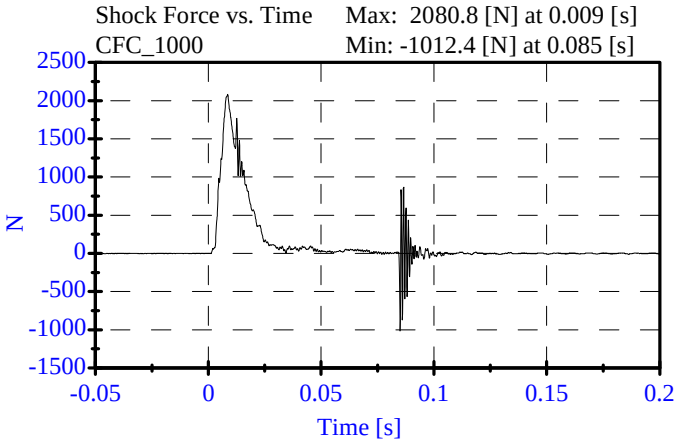
ATD Serial No: 906 Sequential Test Number: 1 File: 906SM 08-1-07

Date: 08-01-07 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:	32.00-37.00 mm	32.78 mm	Passed
Maximum Force:	1730.00-2099.00 N	2080.78 N	Passed

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





Shock Impact high (6.10 m/s)

PRE TEST

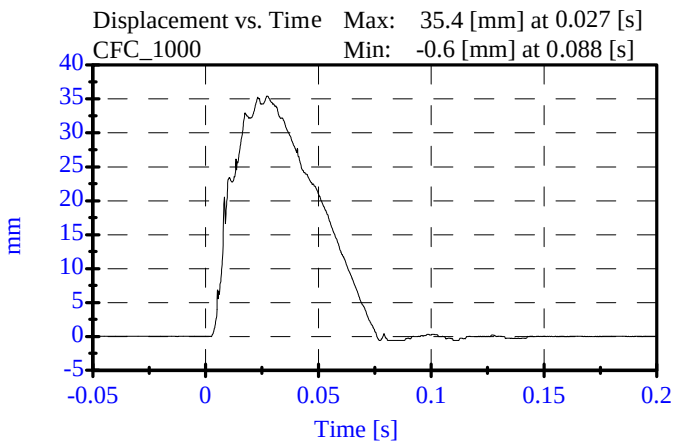
CONFIGURED FOR LEFT SIDE IMPACT

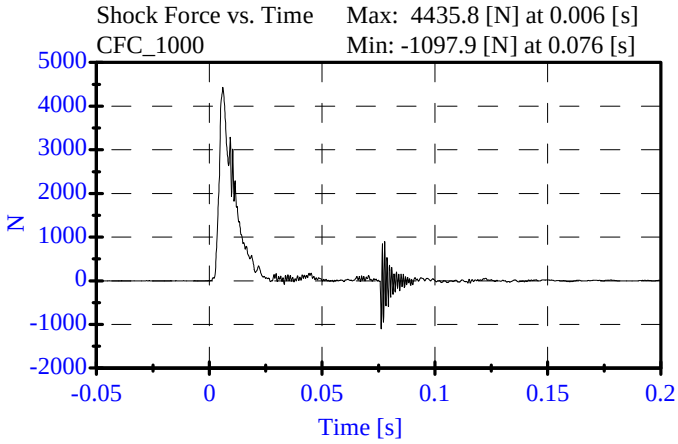
ATD Serial No: 906 Sequential Test Number: 1 File: 906SH 08-1-07

Date: 08-01-07 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	35.42 mm	Passed
Maximum Force:	3741.00-4448.00 N	4435.77 N	Passed

Impact Test Velocity: 6.10 m/s
Damper Identification: 906
Damper Setting: 5





Thorax Impact

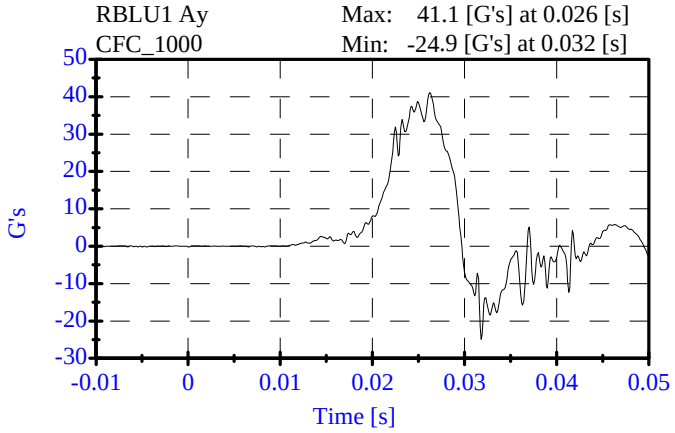
Pre-Test

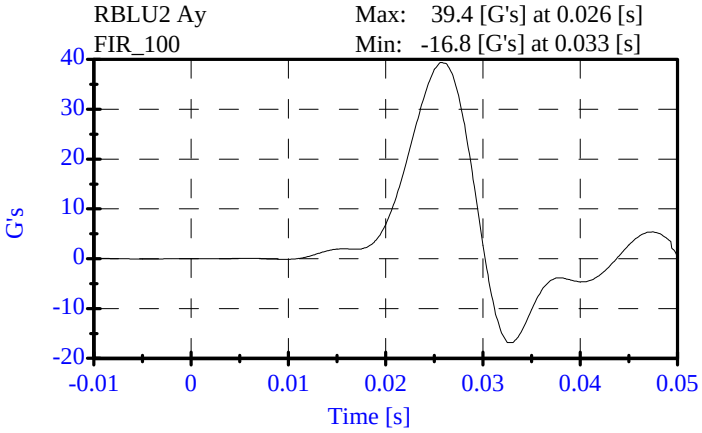
CONFIGURED FOR LEFT SIDE IMPACT

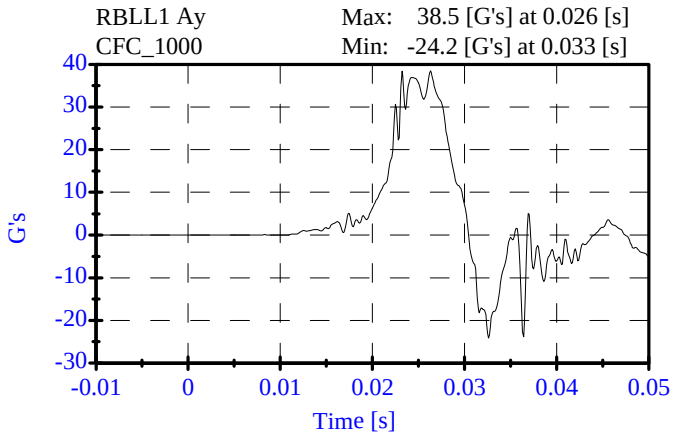
ATD Serial No: 906 Sequential Test Number: 1 File: 906T5 1-3-08

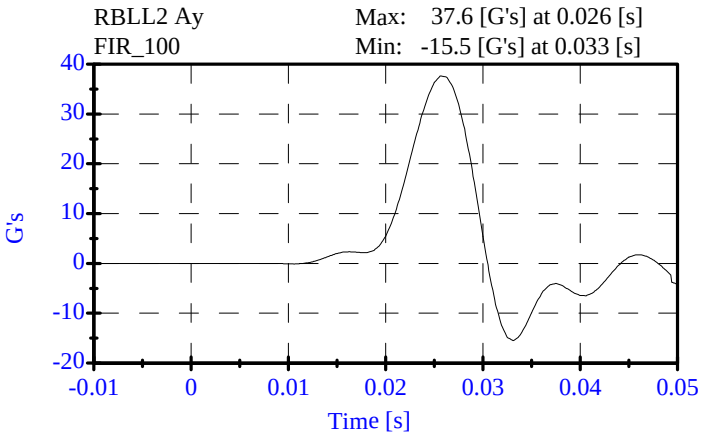
Date: 12-3-07 Laboratory Technician: B. Swiecicki

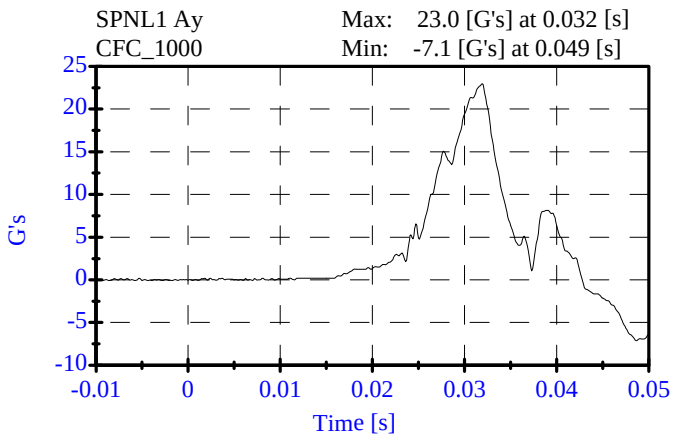
TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	13.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	39.40 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	37.63 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	21.28 G's	Passed

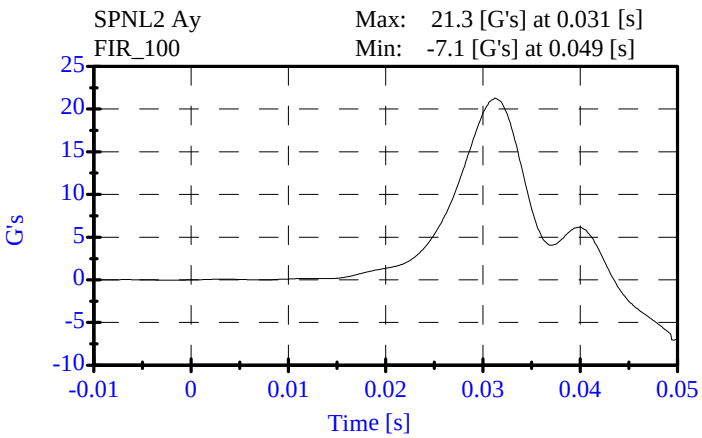












Pelvis Impact

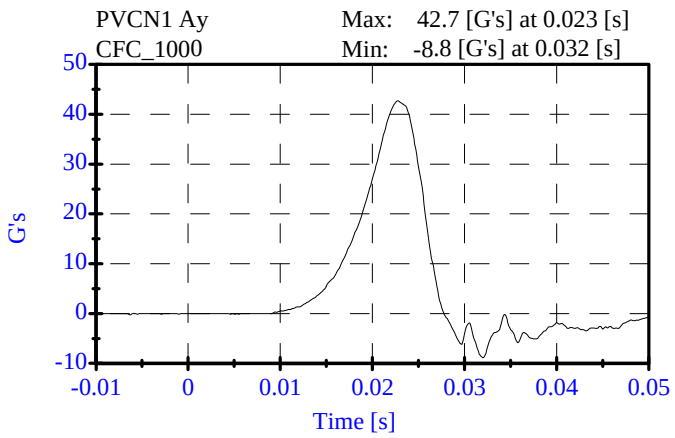
Pre-Test

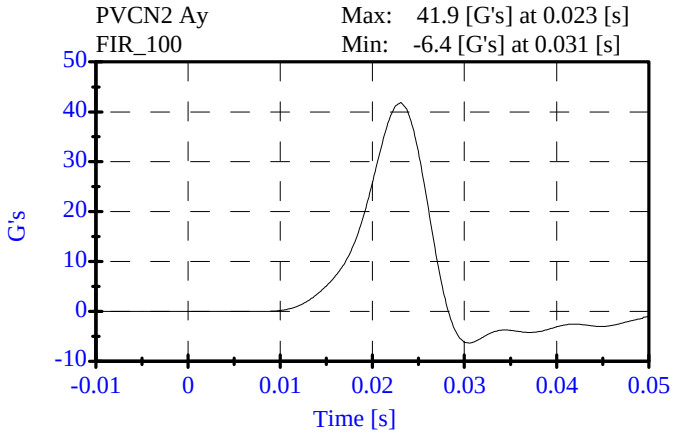
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906 Sequential Test Number: 1 File: 906P5 12-26-07

Date: 12-26-07 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.29 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	41.86 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	6.9 ms	Passed





Head Drop

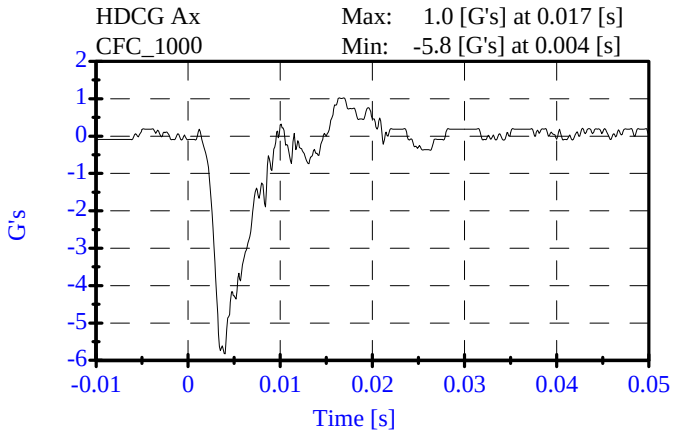
Pre-Test

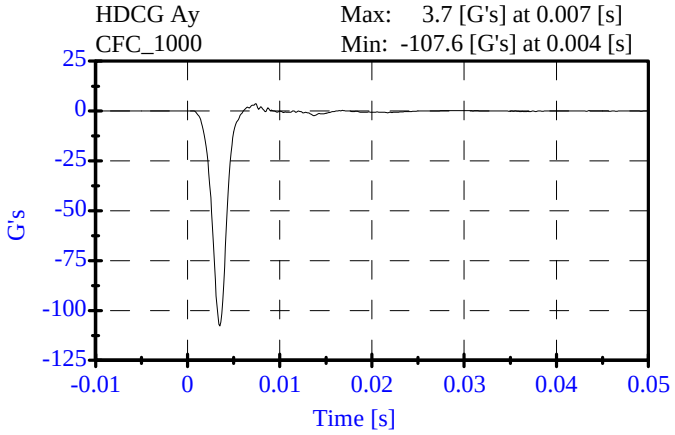
CONFIGURED FOR LEFT SIDE IMPACT

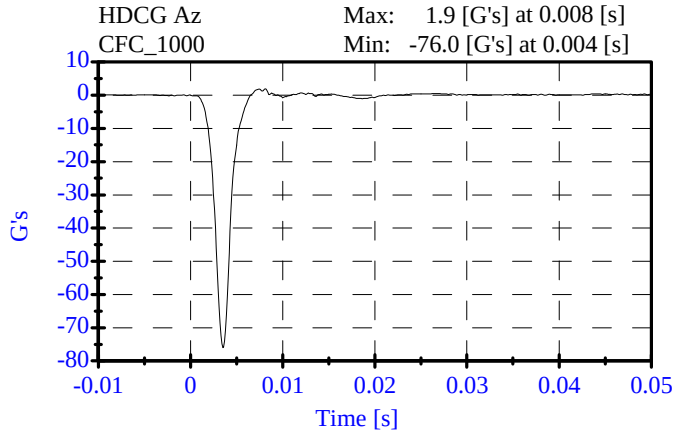
ATD Serial No: 906 Sequential Test Number: 1 File: 906H 1-10-08

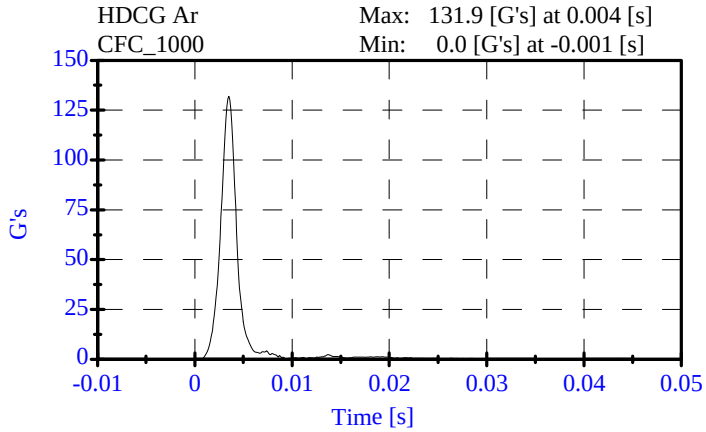
Date: 1-10-08 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.7 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	131.91 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	1.03 Gs	Passed
Curve PerCent NonModal:	< 15%	3.27 %	Passed









Neck Flexion Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906 Sequential Test Number: 1 File: 906N 12-20-07

Date: 12-20-07 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
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	2.02 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.15 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	5.98 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.06 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	69.53 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	58.30 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	84.66 N-m	Passed
Occiptal Moment Decay:	49.0-64.0 ms	54.10 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	8.00 ms	Passed

Neck Flexion Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

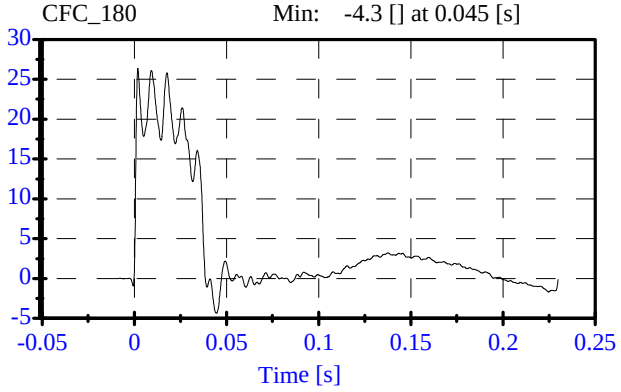
ATD Serial No: 906

Sequential Test Number: 1 File: 906N 12-20-07

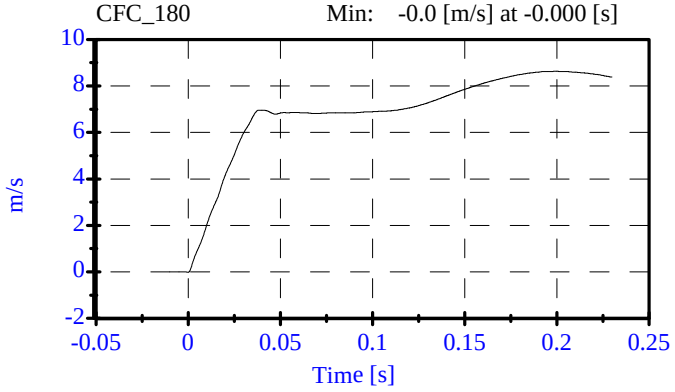
Date: 12-20-07

Laboratory Technician: B. Swiecicki

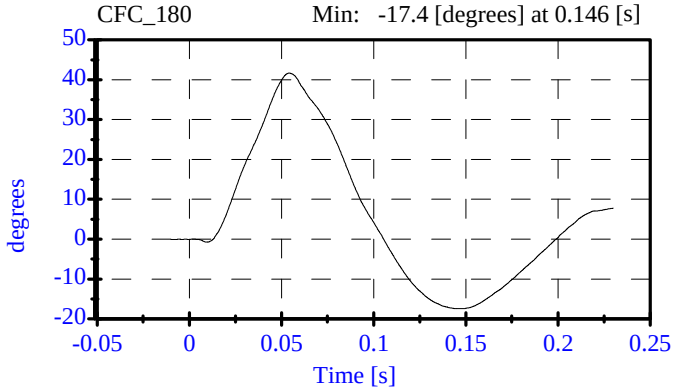
Pend Ax Max: 26.4 [] at 0.002 [s]
CFC_180 Min: -4.3 [] at 0.045 [s]



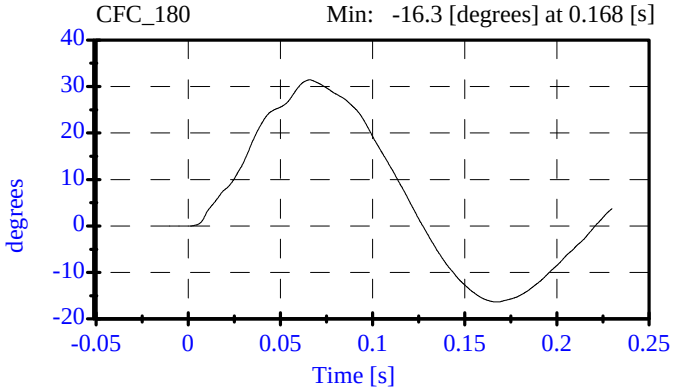
Pend Vx Max: 8.6 [m/s] at 0.199 [s]
CFC_180 Min: -0.0 [m/s] at -0.000 [s]



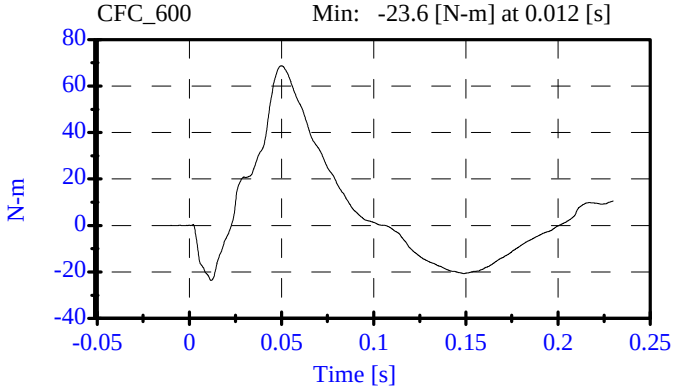
Head Rot Max: 41.7 [degrees] at 0.054 [s]
CFC_180 Min: -17.4 [degrees] at 0.146 [s]



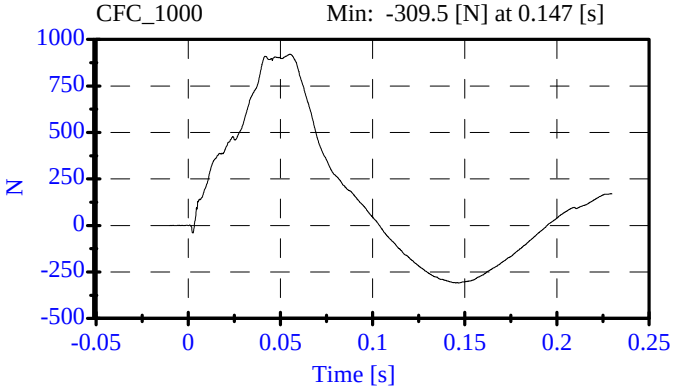
Arm Rot Max: 31.4 [degrees] at 0.066 [s]
CFC_180 Min: -16.3 [degrees] at 0.168 [s]



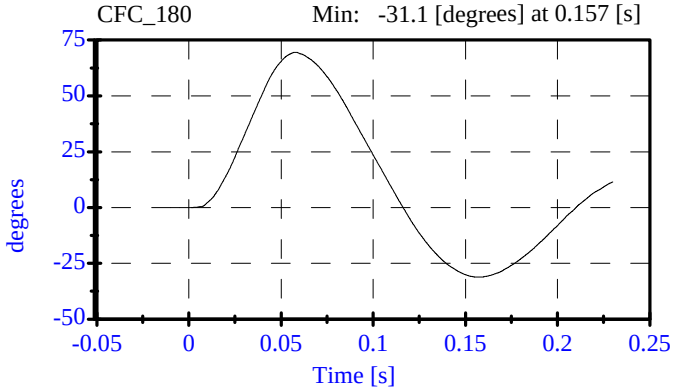
Neck Mx Max: 68.7 [N-m] at 0.050 [s]
CFC_600 Min: -23.6 [N-m] at 0.012 [s]



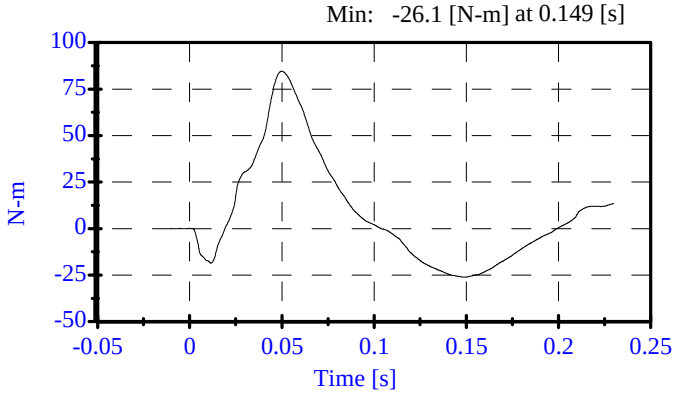
Neck Fy Max: 920.8 [N] at 0.055 [s]
CFC_1000 Min: -309.5 [N] at 0.147 [s]



Tot Rot Max: 69.5 [degrees] at 0.058 [s]
CFC_180 Min: -31.1 [degrees] at 0.157 [s]



MOCX Max: 84.7 [N-m] at 0.050 [s]
Min: -26.1 [N-m] at 0.149 [s]



Abdomen Test

Pre-Test

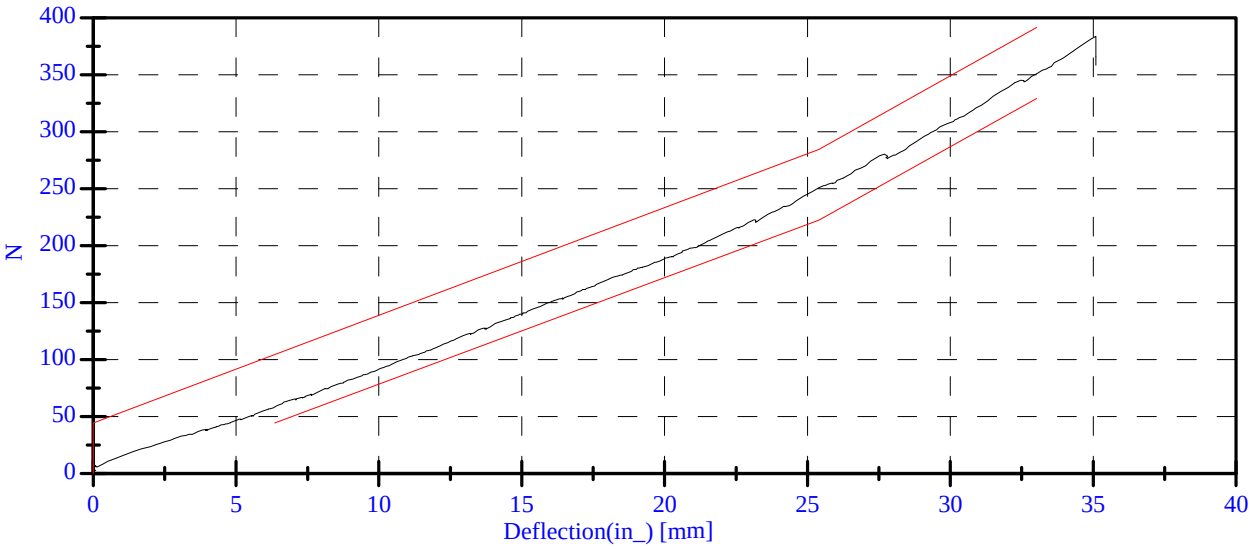
CONFIGURED FOR LEFT SIDE IMPACT

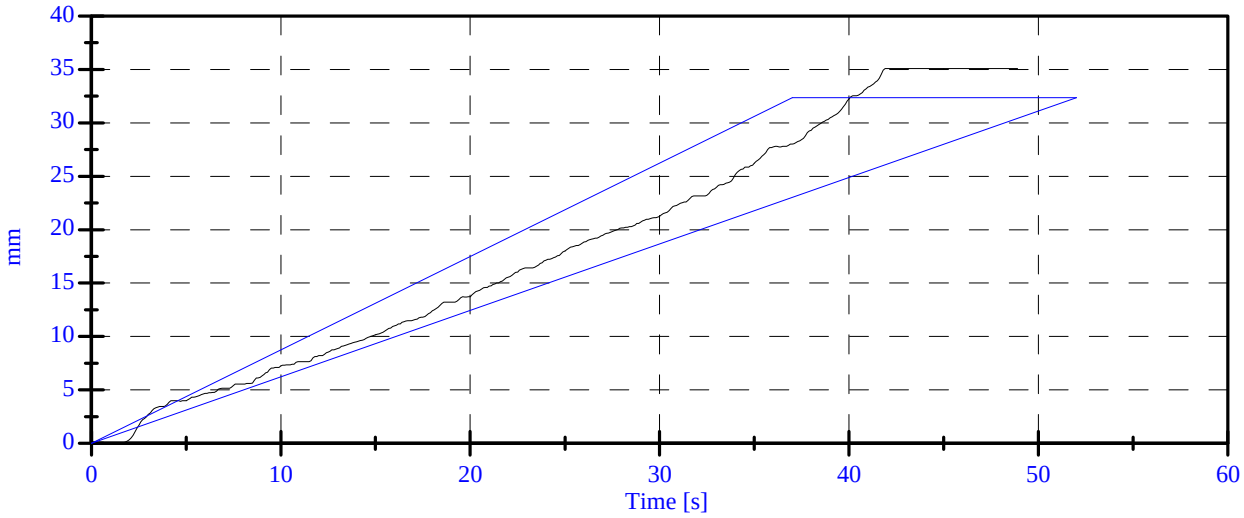
ATD Serial No: 906 Sequential Test Number: 1 File: 906 Ab 1-9-08

Date: 1-09-08 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 %	32.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	120.87 N	Passed
Force at 19.05 mm :	162.98-220.99 N	180.32 N	Passed
Force at 25.40 mm :	221.97-280.02 N	250.64 N	Passed
Force at 33.02 mm :	324.99-391.00 N	351.41 N	Passed

ABDOMINAL COMPRESSION TEST





Lumbar Spine Flexion test

Pre-Test

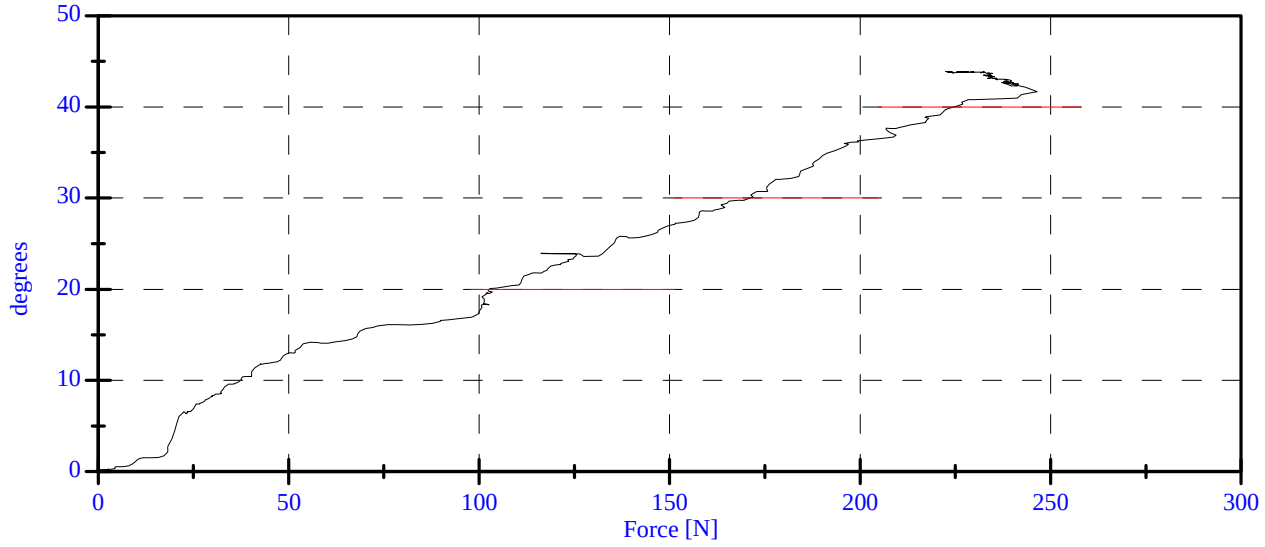
CONFIGURED FOR LEFT SIDE IMPACT

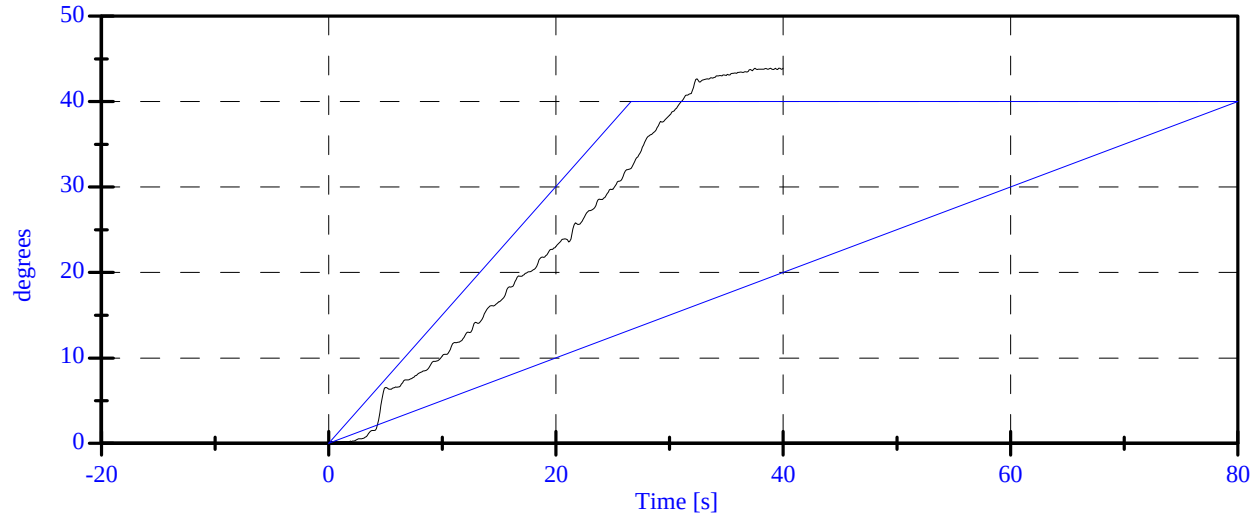
ATD Serial No: 906 Sequential Test Number: 1 File: 906 Spine 12-28-07

Date: 12-28-07 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	0.26 N	Passed
Force at 20 Deg:	97.86-151.24 N	102.89 N	Passed
Force at 30 Deg	151.24-204.62 N	170.27 N	Passed
Force at 40 Deg	204.62-258.00 N	224.59 N	Passed
Return Angle	12 Deg Max	10.35 deg	Passed

LUMBAR SPINE FLEXION TEST





PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 906 Sequential Test Number: 3
Date: 1/08/08 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: 4
Date: 1/23/08 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: 4
Date: 1/23/08 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 Side Impact

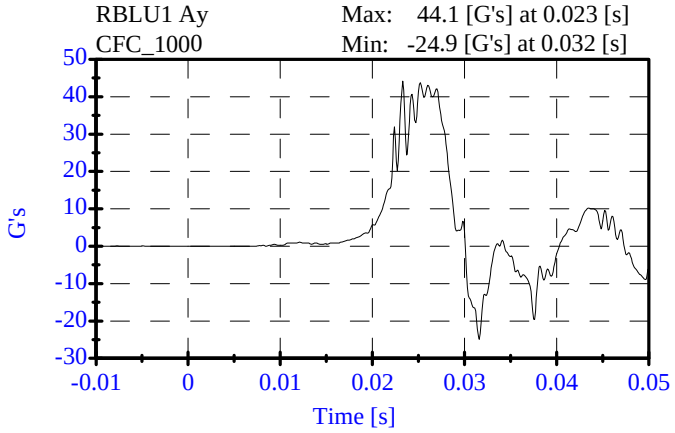
Post-Test

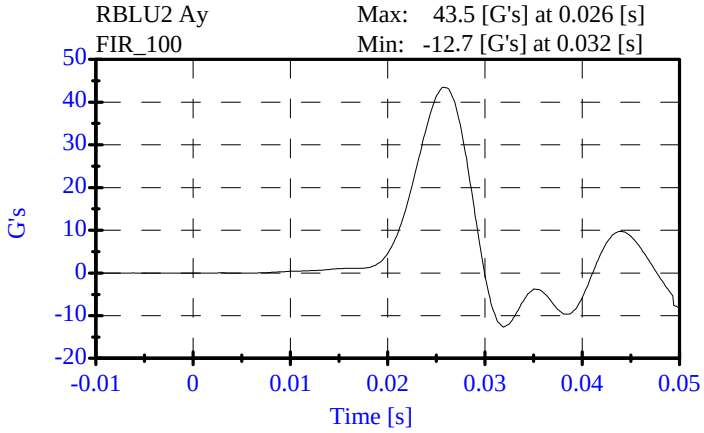
CONFIGURED FOR LEFT SIDE IMPACT

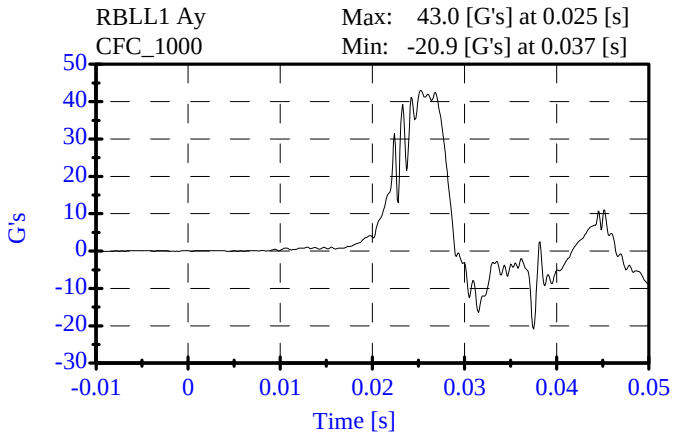
ATD Serial No: 905 Sequential Test Number: 1 File: 905T1 01-18-08

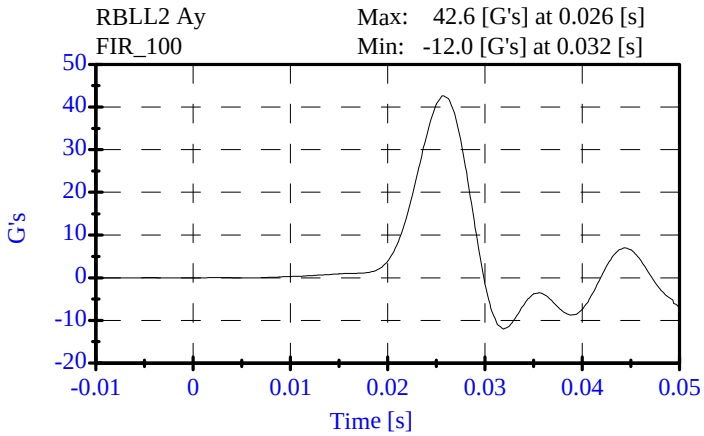
Date: 01-18-08 Laboratory Technician: B. Swiecicki

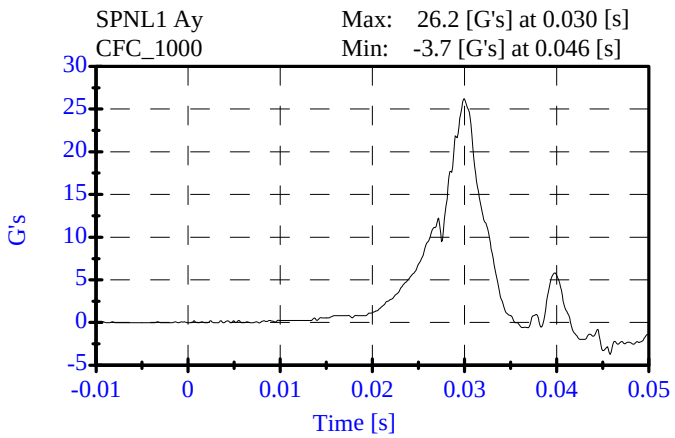
TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	18.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.27 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	43.51 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	42.60 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	21.53 G's	Passed

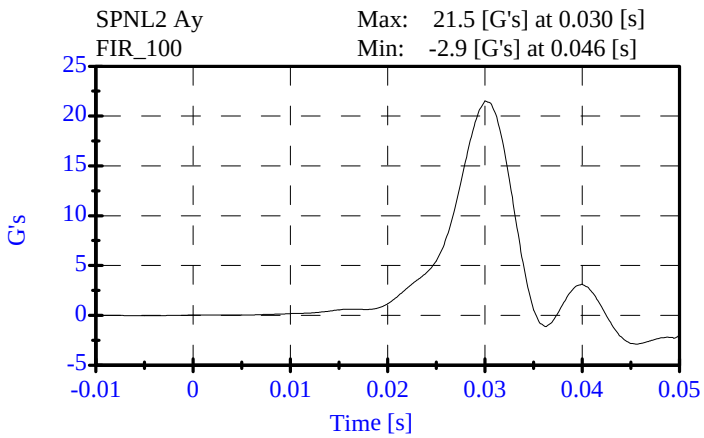












Pelvis Side Impact

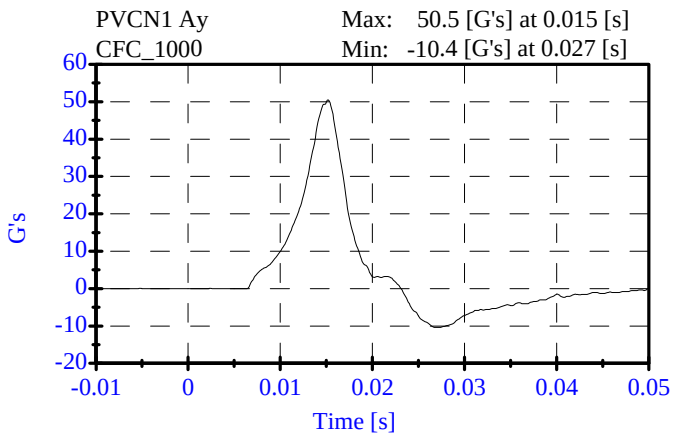
Post-Test

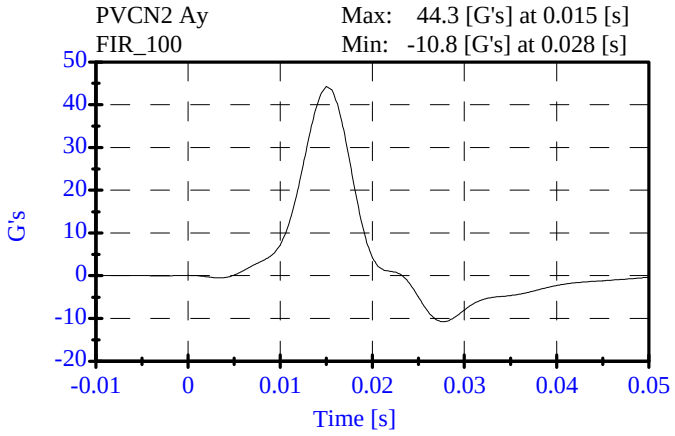
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905 Sequential Test Number: 1 File: 905P 01-18-08

Date: 01-18-08 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 %	18.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	44.31 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	6.2 ms	Passed





Head Drop

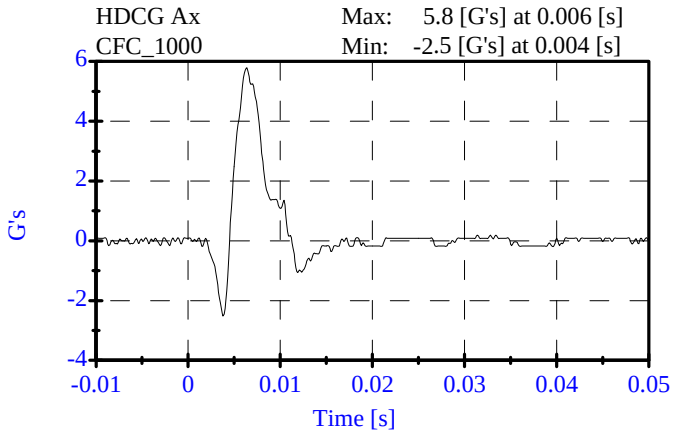
Post-Test

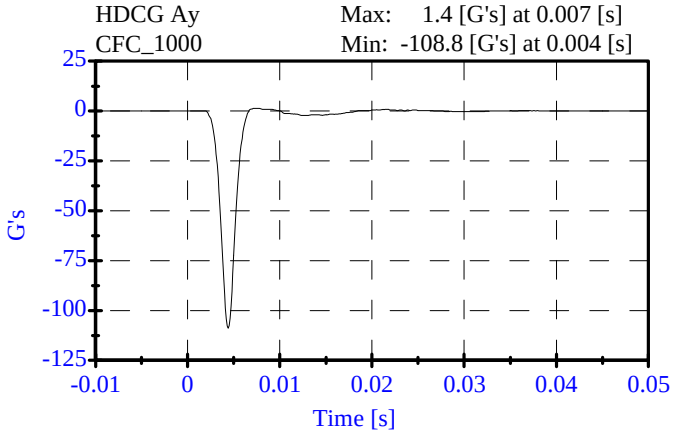
CONFIGURED FOR LEFT SIDE IMPACT

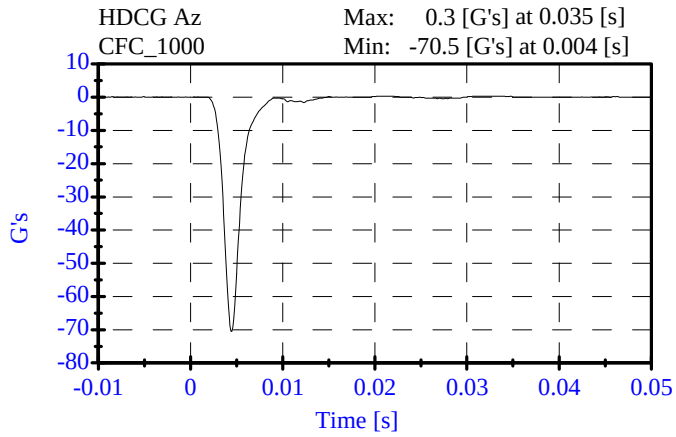
ATD Serial No: 905 Sequential Test Number: 1 File: 905H 01-16-08

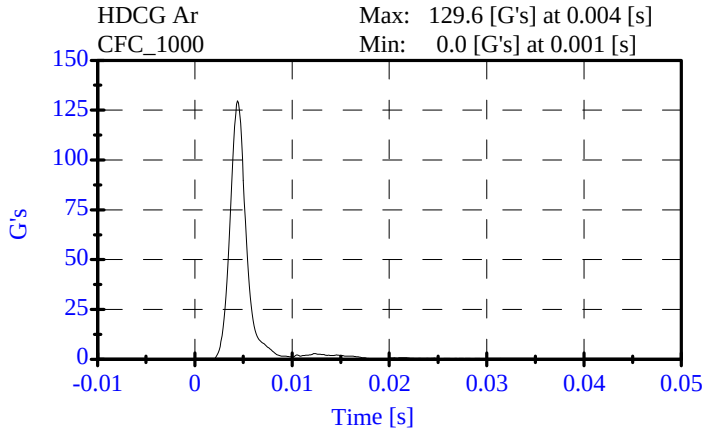
Date: 01-16-08 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.7 C	Passed
Lab Humidity:	10-70 %	20.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	129.63 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	5.78 Gs	Passed
Curve PerCent NonModal:	< 15%	2.28 %	Passed









Neck Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905 Sequential Test Number: 1 File: 905N1 01-17-08

Date: 01-17-08 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	21.00 %	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	2.20 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.41 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.05 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.16 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	69.98 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	58.80 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	85.82 N-m	Passed
Occiptal Moment Decay:	49.0-64.0 ms	53.10 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	7.00 ms	Passed

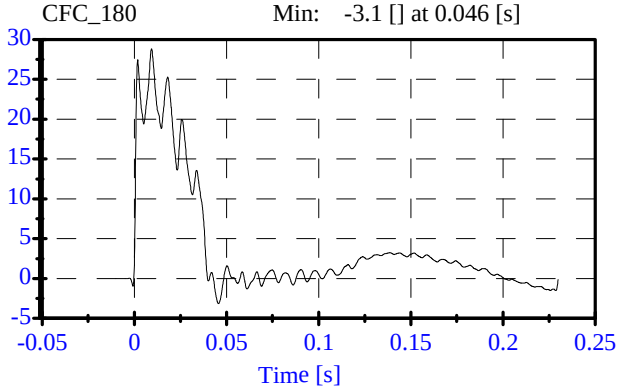
Neck Test
Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

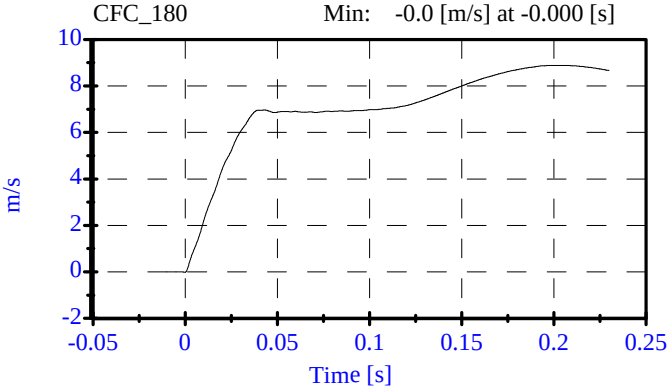
ATD Serial No: 905
Date: 01-17-08

Sequential Test Number: 1 File: 905N1 01-17-08
Laboratory Technician: B. Swiecicki

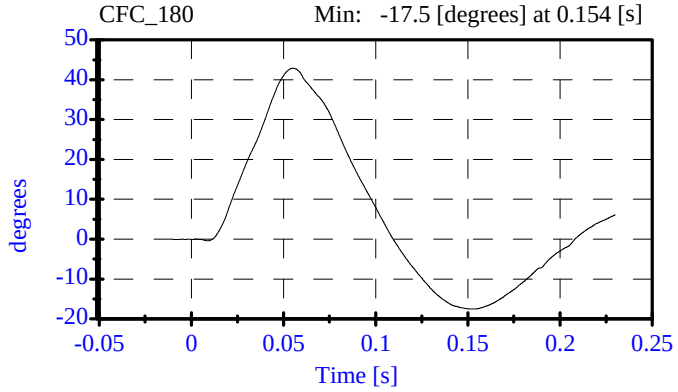
Pend Ax
CFC_180
Max: 28.8 [] at 0.009 [s]
Min: -3.1 [] at 0.046 [s]



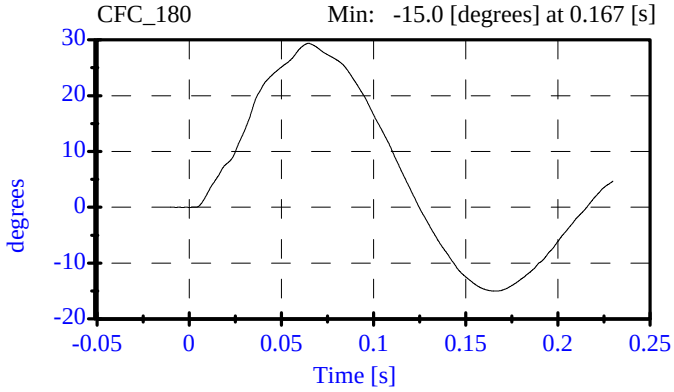
Pend Vx
CFC_180
Max: 8.9 [m/s] at 0.201 [s]
Min: -0.0 [m/s] at -0.000 [s]



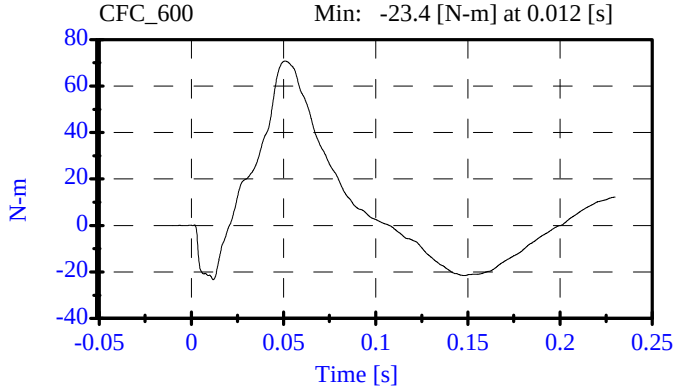
Head Rot
CFC_180
Max: 42.9 [degrees] at 0.055 [s]
Min: -17.5 [degrees] at 0.154 [s]



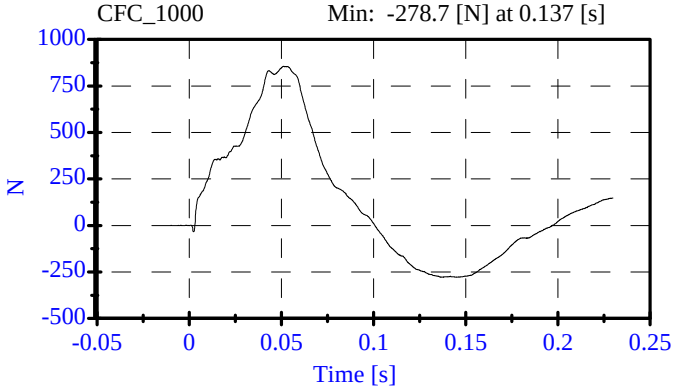
Arm Rot
CFC_180
Max: 29.4 [degrees] at 0.065 [s]
Min: -15.0 [degrees] at 0.167 [s]



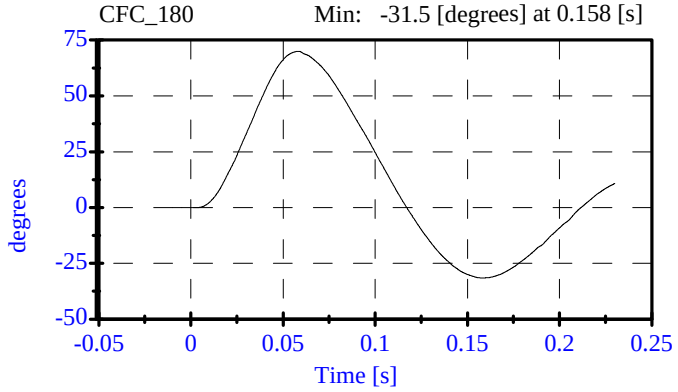
Neck Mx
CFC_600
Max: 70.6 [N-m] at 0.051 [s]
Min: -23.4 [N-m] at 0.012 [s]



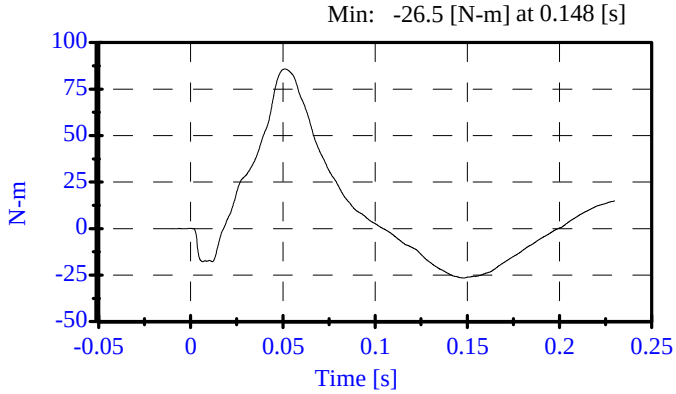
Neck Fy
CFC_1000
Max: 856.1 [N] at 0.051 [s]
Min: -278.7 [N] at 0.137 [s]



Tot Rot
CFC_180
Max: 70.0 [degrees] at 0.058 [s]
Min: -31.5 [degrees] at 0.158 [s]



MOCX
Max: 85.8 [N-m] at 0.051 [s]
Min: -26.5 [N-m] at 0.148 [s]



Abdominal Compression Test
Post-Test

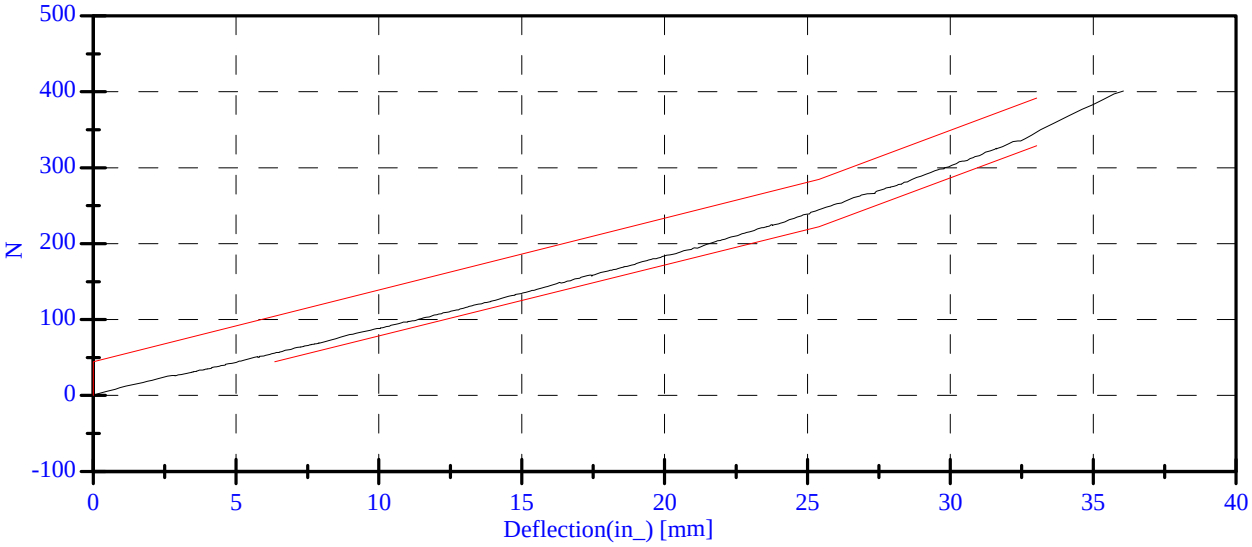
CONFIGURED FOR LEFT SIDE IMPACT

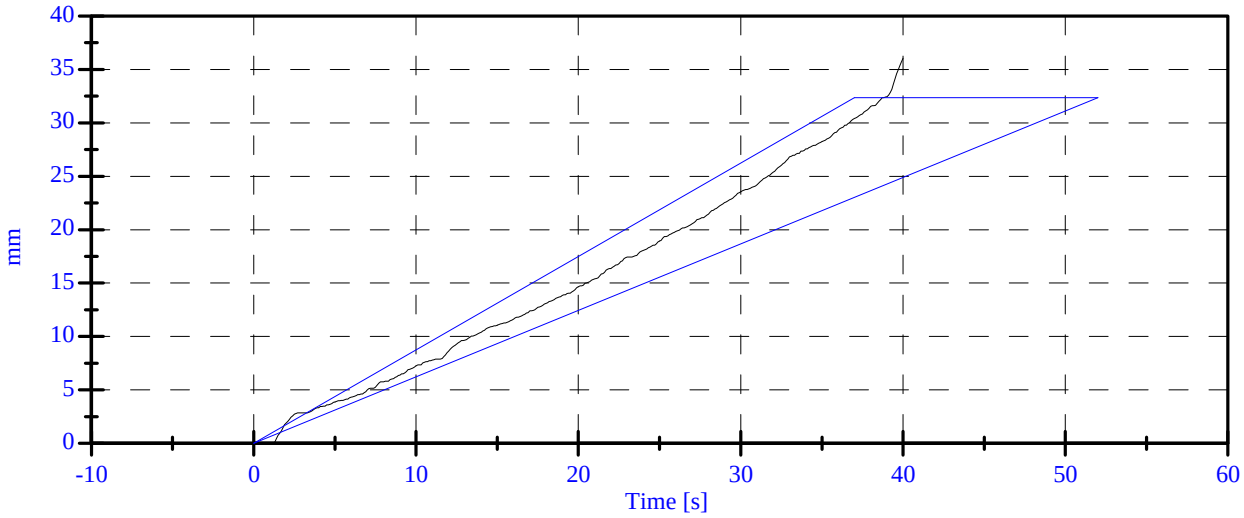
ATD Serial No: 905
Date: 01-21-08

Sequential Test Number: 1 File: 905 Ab1 01-21-08
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 %	18.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	115.07 N	Passed
Force at 19.05 mm :	162.98-220.99 N	174.16 N	Passed
Force at 25.40 mm :	221.97-280.02 N	244.48 N	Passed
Force at 33.02 mm :	324.99-391.00 N	349.96 N	Passed

ABDOMINAL COMPRESSION TEST





Spine Test
Post-Test

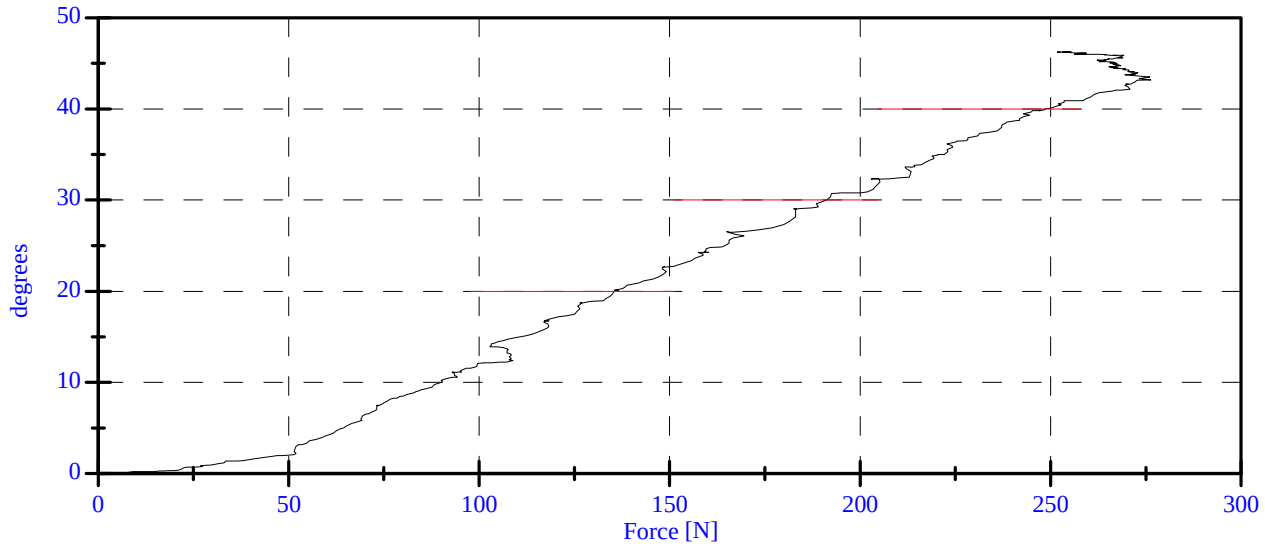
CONFIGURED FOR LEFT SIDE IMPACT

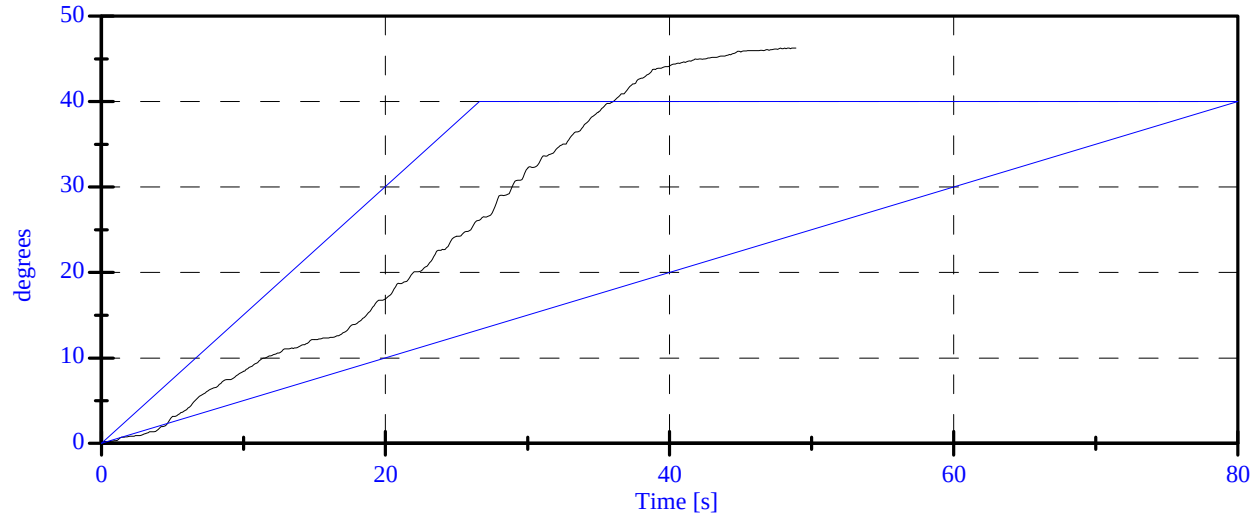
ATD Serial No: 905
Date: 01-21-08

Sequential Test Number: 1 File: 905 Spine1 01-21-08
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 %	18.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	7.31 N	Passed
Force at 20 Deg:	97.86-151.24 N	135.80 N	Passed
Force at 30 Deg	151.24-204.62 N	190.90 N	Passed
Force at 40 Deg	204.62-258.00 N	248.36 N	Passed
Return Angle	12 Deg Max	6.88 deg	Passed

LUMBAR SPINE FLEXION TEST





POST TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 905 Sequential Test Number: 4
Date: 1/23/08 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: 4
Date: 1/23/08 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: 4
Date: 1/23/08 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	503
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	234
KH- Knee Pivot from Back Line (mm)	511 - 526	513
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	384

REMARKS: None

Thorax Impact

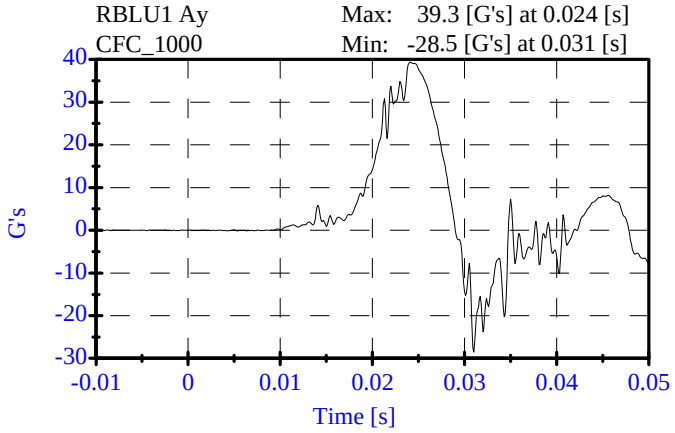
Post-Test

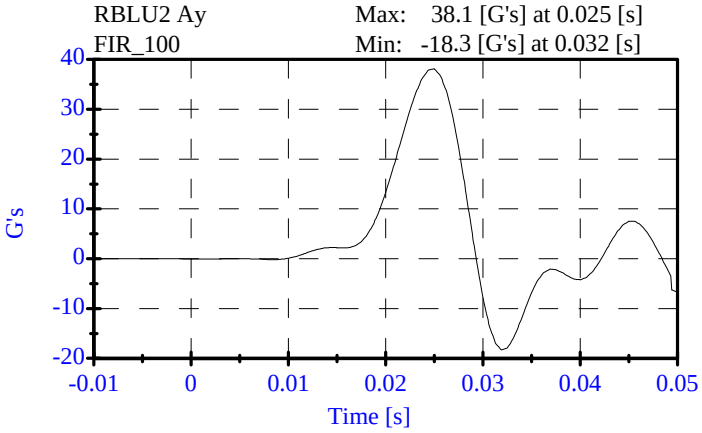
CONFIGURED FOR LEFT SIDE IMPACT

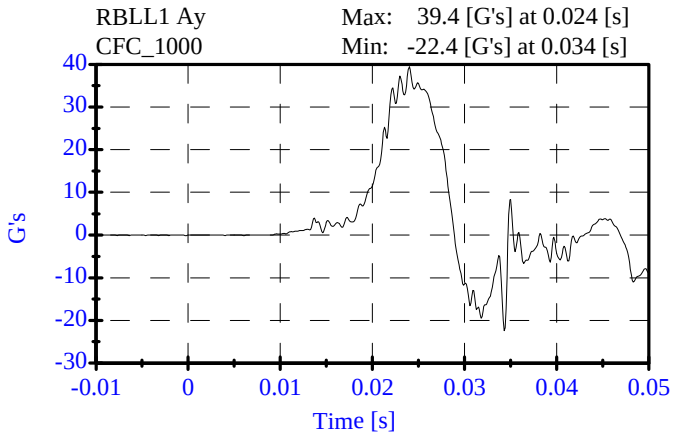
ATD Serial No: 906 Sequential Test Number: 1 File: 906T7 01-21-08

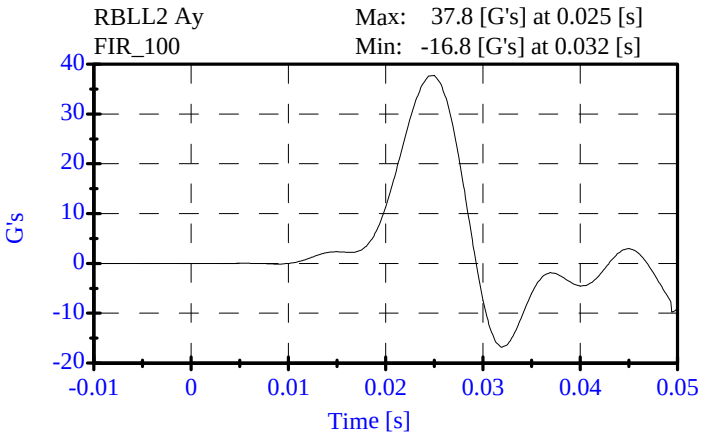
Date: 01-21-08 Laboratory Technician: B. Swiecicki

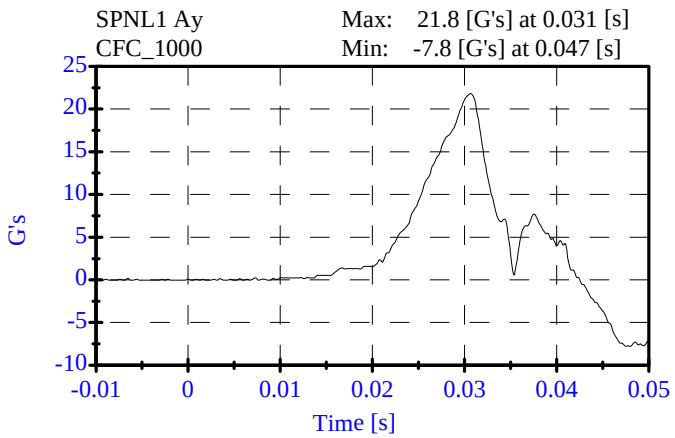
TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	18.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.27 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	38.11 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	37.78 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	20.43 G's	Passed

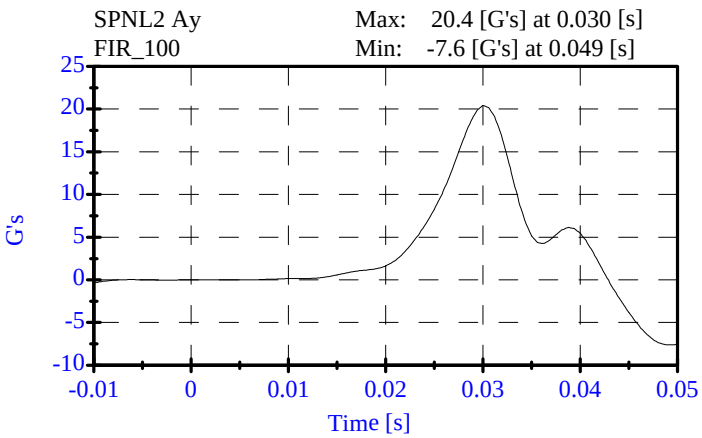












Pelvis Impact

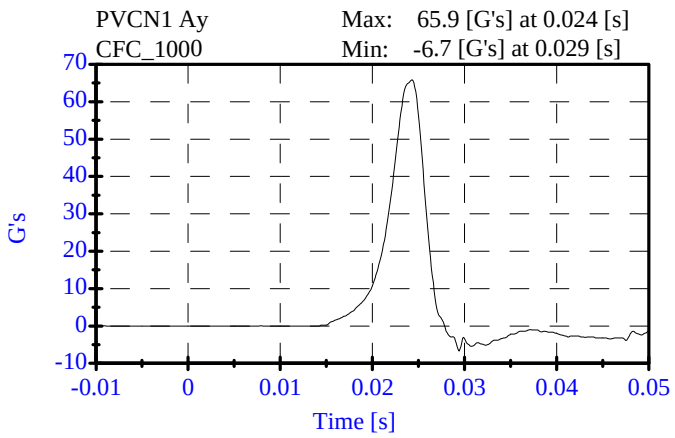
Post-Test

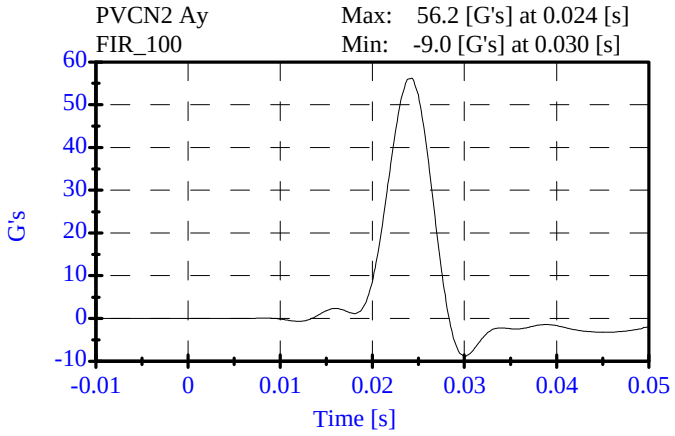
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906 Sequential Test Number: 1 File: 906P 01-17-08

Date: 01-18-08 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 %	20.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.27 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	56.21 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	6.1 ms	Passed





Head Drop

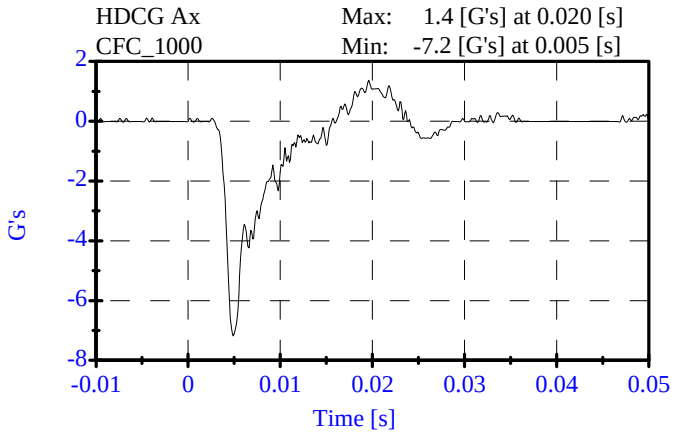
Post-Test

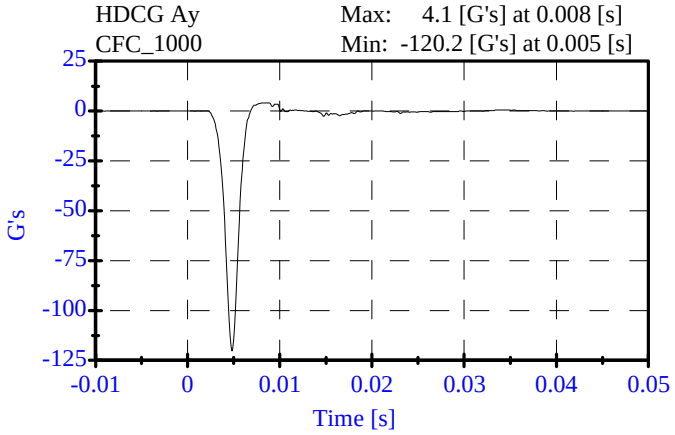
CONFIGURED FOR LEFT SIDE IMPACT

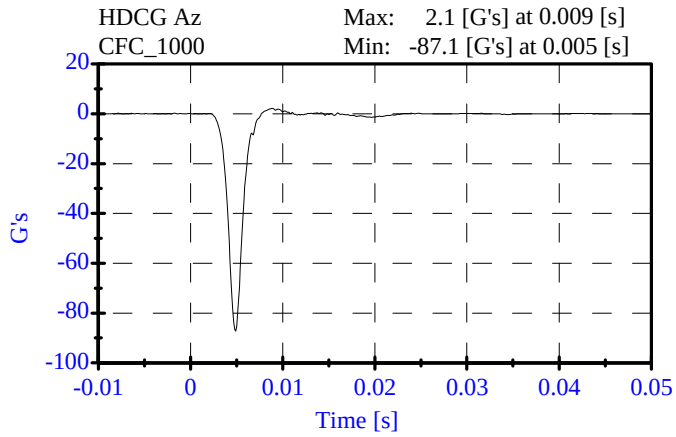
ATD Serial No: 906 Sequential Test Number: 1 File: 906H 01-16-08

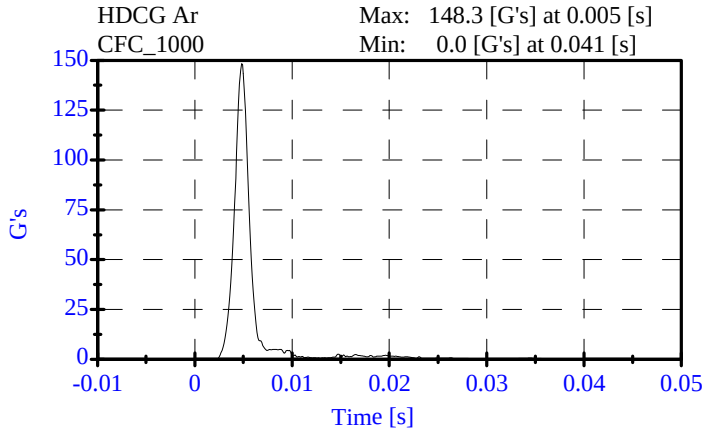
Date: 01-16-08 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	20.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	148.33 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	1.36 Gs	Passed
Curve PerCent NonModal:	< 15%	6.25 %	Passed









Neck Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906 Sequential Test Number: 1 File: 906N 01-17-08

Date: 01-17-08 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	21.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.00 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.35 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.77 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.72 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.03 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	72.05 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	58.50 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	86.47 N-m	Passed
Occiptal Moment Decay:	49.0-64.0 ms	56.10 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	8.90 ms	Passed

Neck Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

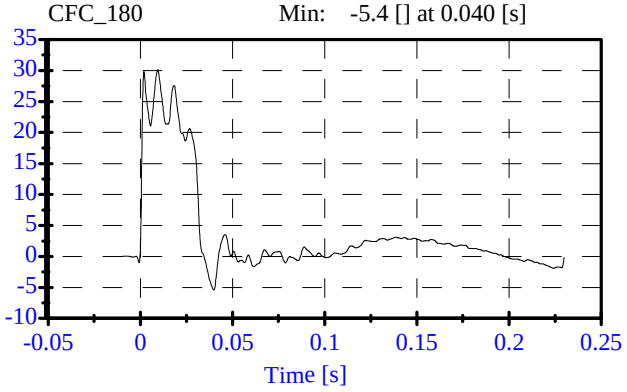
ATD Serial No: 906

Sequential Test Number: 1 File: 906N 01-17-08

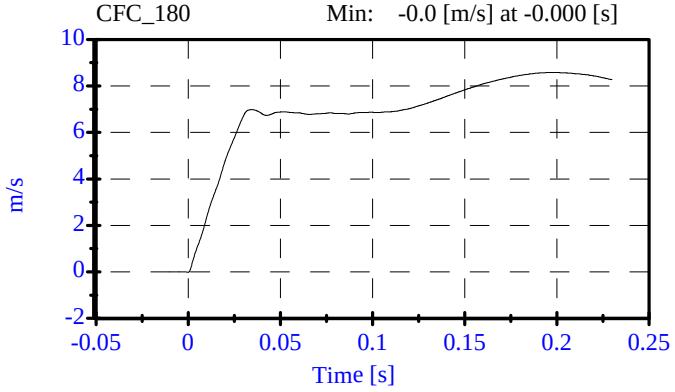
Date: 01-17-08

Laboratory Technician: B. Swiecicki

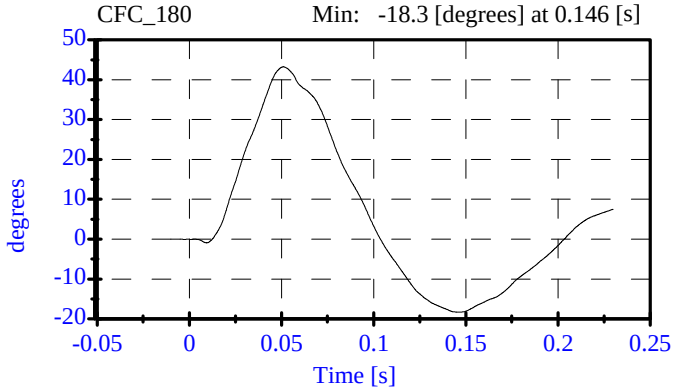
Pend Ax
CFC_180
Max: 30.1 [] at 0.009 [s]
Min: -5.4 [] at 0.040 [s]



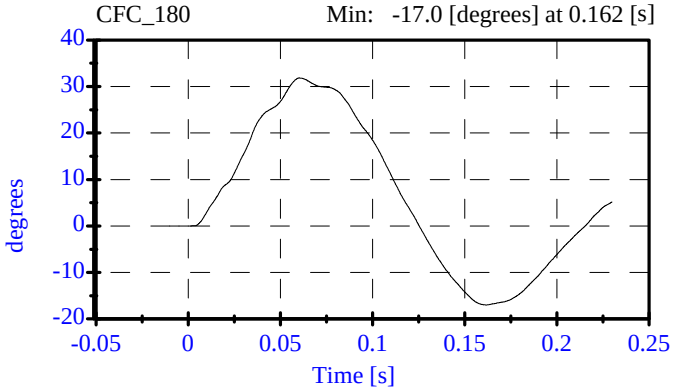
Pend Vx
CFC_180
Max: 8.6 [m/s] at 0.197 [s]
Min: -0.0 [m/s] at -0.000 [s]



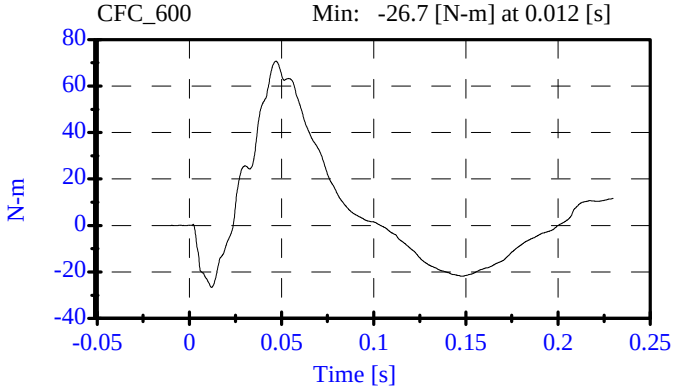
Head Rot
CFC_180
Max: 43.3 [degrees] at 0.051 [s]
Min: -18.3 [degrees] at 0.146 [s]



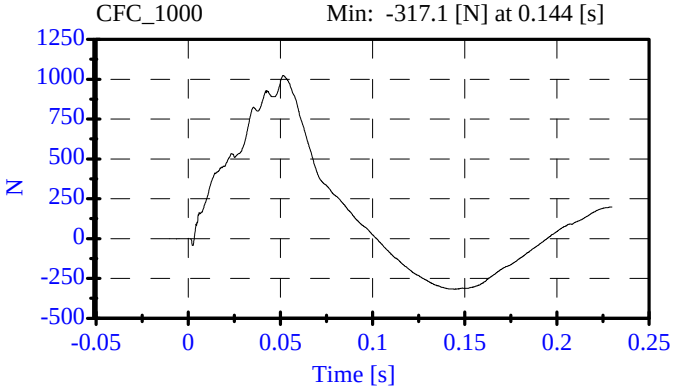
Arm Rot
CFC_180
Max: 31.8 [degrees] at 0.060 [s]
Min: -17.0 [degrees] at 0.162 [s]



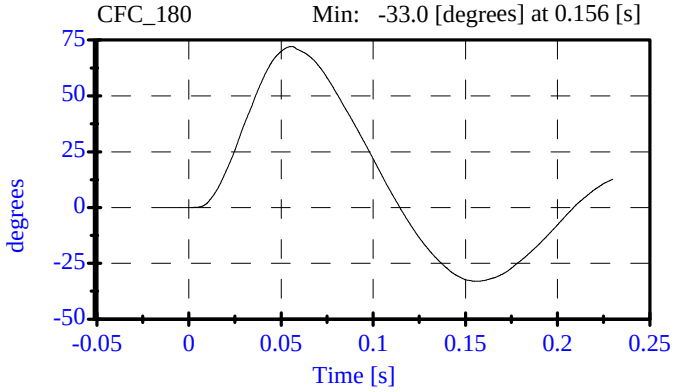
Neck Mx
CFC_600
Max: 70.6 [N-m] at 0.047 [s]
Min: -26.7 [N-m] at 0.012 [s]



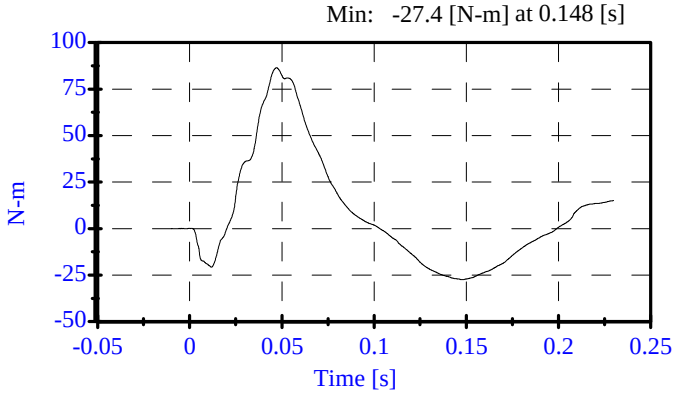
Neck Fy
CFC_1000
Max: 1024.0 [N] at 0.051 [s]
Min: -317.1 [N] at 0.144 [s]



Tot Rot
CFC_180
Max: 72.1 [degrees] at 0.056 [s]
Min: -33.0 [degrees] at 0.156 [s]



MOCX
Max: 86.5 [N-m] at 0.047 [s]
Min: -27.4 [N-m] at 0.148 [s]



Abdominal Compression Test
Post-Test

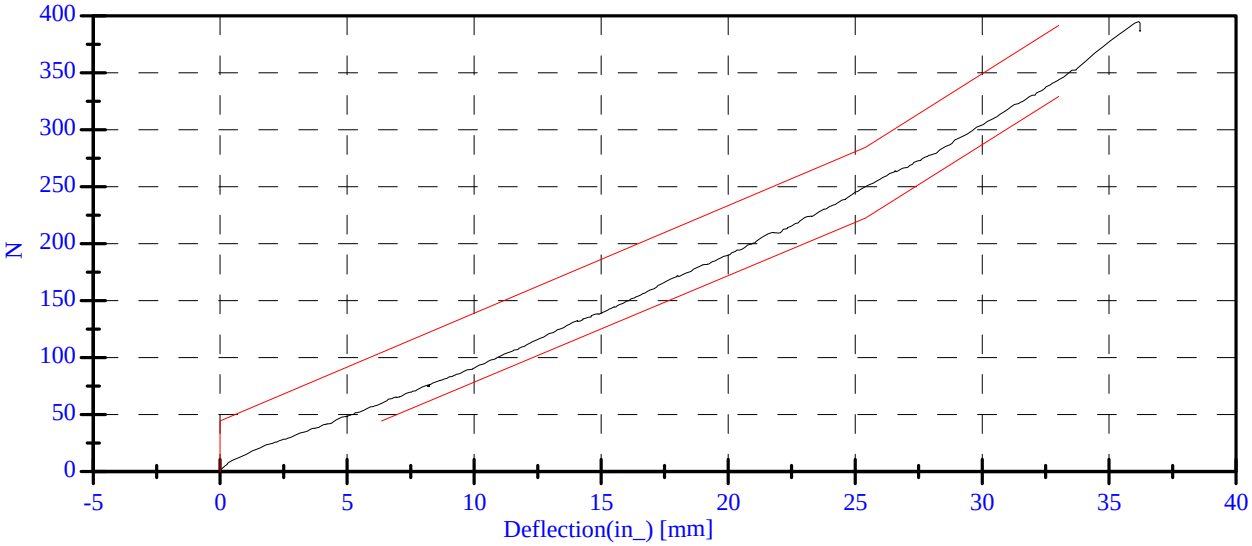
CONFIGURED FOR LEFT SIDE IMPACT

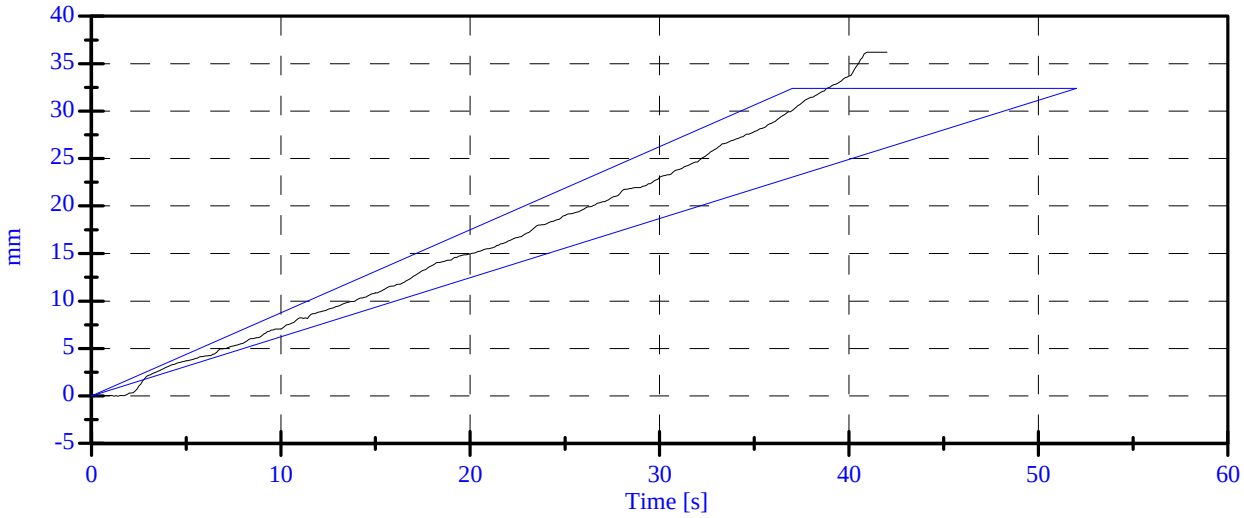
ATD Serial No: 906
Date: 01-21-08

Sequential Test Number: 1 File: 906 Ab 01-21-08
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 %	18.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	120.87 N	Passed
Force at 19.05 mm :	162.98-220.99 N	181.41 N	Passed
Force at 25.40 mm :	221.97-280.02 N	249.92 N	Passed
Force at 33.02 mm :	324.99-391.00 N	344.52 N	Passed

ABDOMINAL COMPRESSION TEST





Spine Test
Post-Test

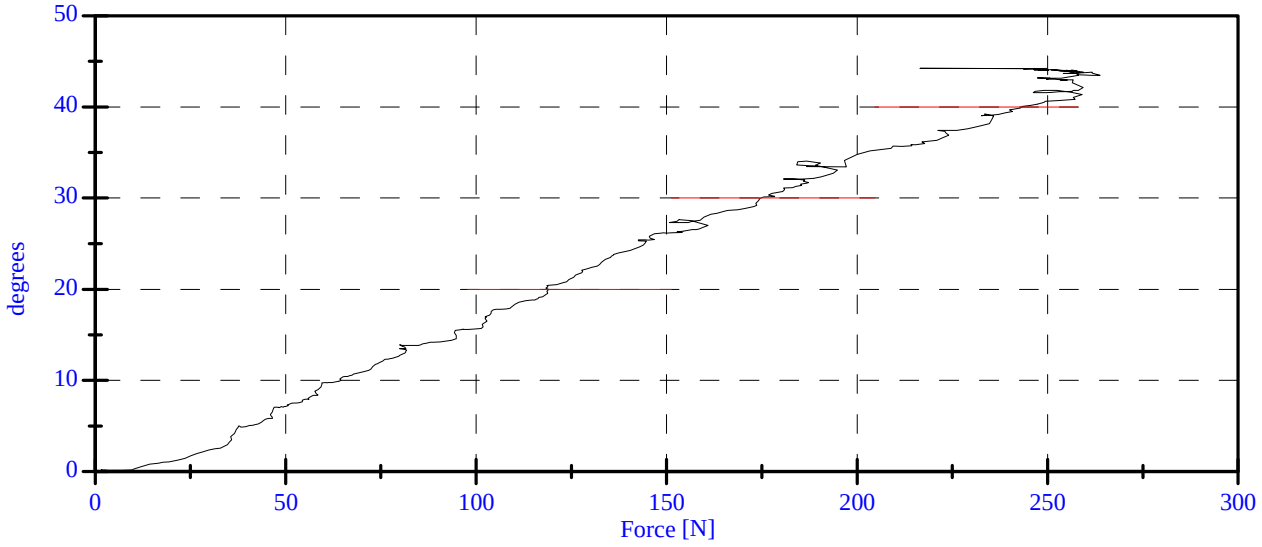
CONFIGURED FOR LEFT SIDE IMPACT

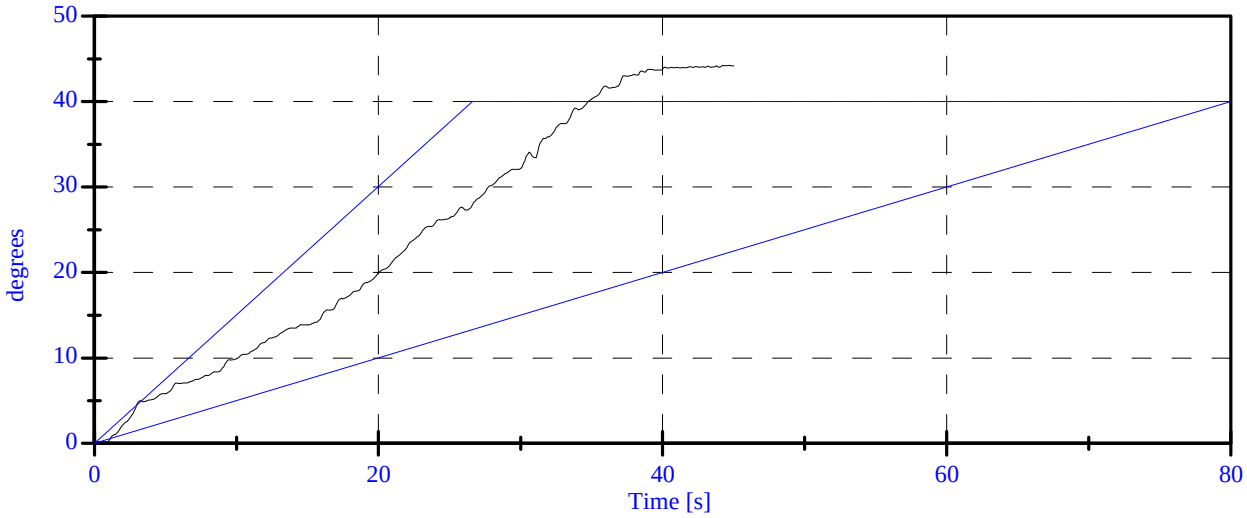
ATD Serial No: 906
Date: 01-21-08

Sequential Test Number: 1 File: 906 Spine 01-21-08
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 %	18.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	1.56 N	Passed
Force at 20 Deg:	97.86-151.24 N	119.08 N	Passed
Force at 30 Deg	151.24-204.62 N	174.45 N	Passed
Force at 40 Deg	204.62-258.00 N	243.39 N	Passed
Return Angle	12 Deg Max	4.66 deg	Passed

LUMBAR SPINE FLEXION TEST





POST TEST DUMMY INSPECTION LIST

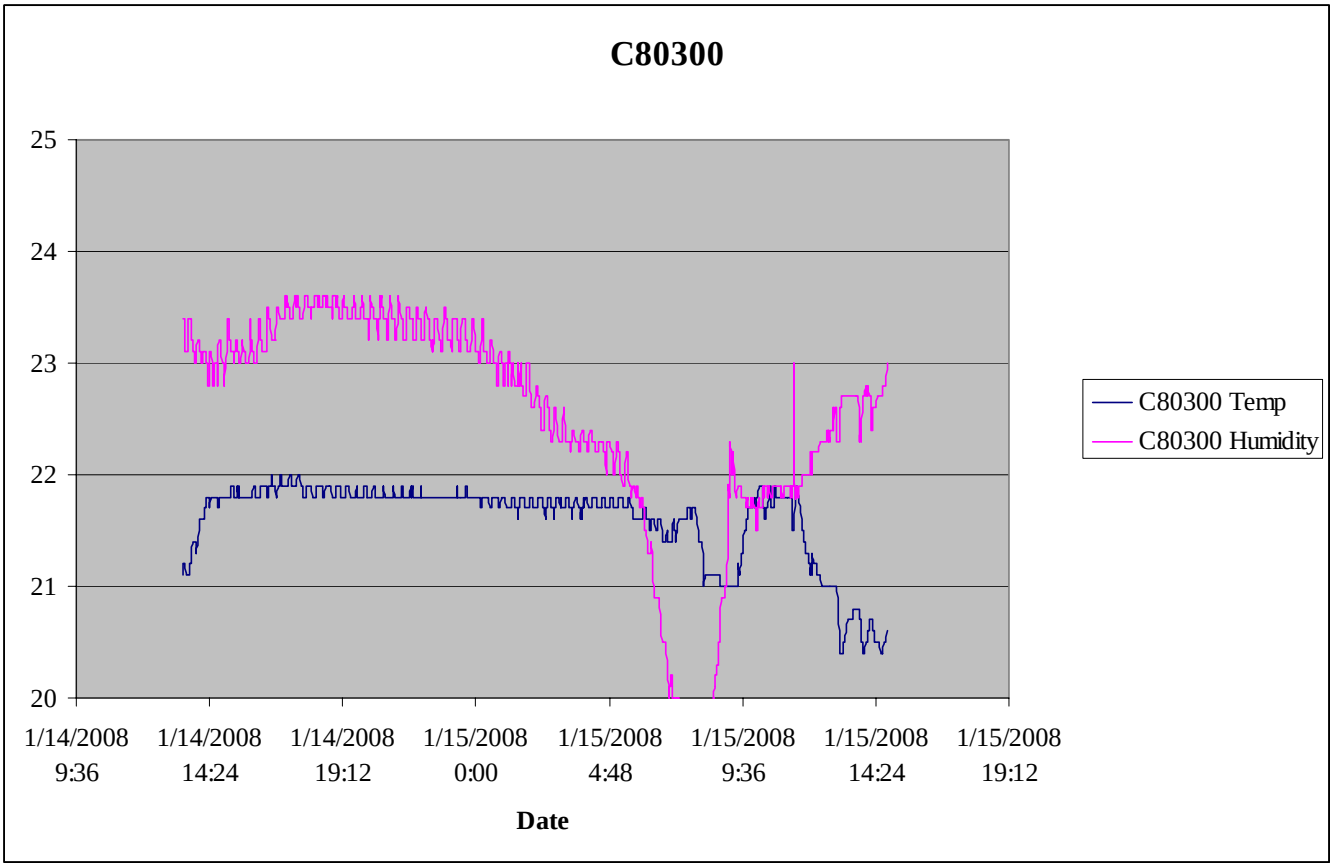
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 906 Sequential Test Number: 4
Date: 1/23/08 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



APPENDIX D

TEST EQUIPMENT AND CALIBRATION INFORMATION

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

SID/HIII INSTRUMENTATION

	FRONT SID/HIII NO.: 905		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	P21373	ENDEVCO	8/13/2007
HEAD AY	P23128	ENDEVCO	8/13/2007
HEAD AZ	P21297	ENDEVCO	9/13/2007
UPPER NECK FX	1626Fx	DENTON	7/13/2007
UPPER NECK FY	1626Fy	DENTON	7/13/2007
UPPER NECK FZ	1626Fz	DENTON	7/13/2007
UPPER NECK MX	1626Mx	DENTON	7/13/2007
UPPER NECK MY	1626My	DENTON	7/13/2007
UPPER NECK MZ	1626Mz	DENTON	7/13/2007
UPPER RIB	P15736	ENDEVCO	8/13/2007
LOWER RIB	P16289	ENDEVCO	8/13/2007
LOWER SPINE	P16761	ENDEVCO	8/13/2007
PELVIS	P35804	ENDEVCO	8/13/2007
UPPER RIB REDUNDANT	P16593	ENDEVCO	8/13/2007
LOWER RIB REDUNDANT	P23142	ENDEVCO	8/13/2007
LOWER SPINE REDUNDANT	P21516	ENDEVCO	8/13/2007
PELVIS REDUNDANT	P32221	ENDEVCO	8/13/2007

	REAR SID/HIII NO.: 906		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	P35764	ENDEVCO	8/12/2007
HEAD AY	P39736	ENDEVCO	8/12/2007
HEAD AZ	P39729	ENDEVCO	8/12/2007
UPPER NECK FX	798Fx	DENTON	7/12/2007
UPPER NECK FY	798Fy	DENTON	7/12/2007
UPPER NECK FZ	798Fz	DENTON	7/12/2007
UPPER NECK MX	798Mx	DENTON	7/12/2007
UPPER NECK MY	798My	DENTON	7/12/2007
UPPER NECK MZ	798Mz	DENTON	7/12/2007
UPPER RIB	P39575	ENDEVCO	8/12/2007
LOWER RIB	P16866	ENDEVCO	8/12/2007
LOWER SPINE	P16645	ENDEVCO	8/12/2007
PELVIS	P23139	ENDEVCO	8/12/2007
UPPER RIB REDUNDANT	P15526	ENDEVCO	8/12/2007
LOWER RIB REDUNDANT	P16656	ENDEVCO	8/12/2007
LOWER SPINE REDUNDANT	P19343	ENDEVCO	8/12/2007
PELVIS REDUNDANT	P17539	ENDEVCO	8/12/2007

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)	P18792	ENDEVCO	11/14/2007
RIGHT FRONT SILL (Y)	P17535	ENDEVCO	11/14/2007
RIGHT FRONT SILL (Z)	P23134	ENDEVCO	11/14/2007
RIGHT REAR SILL (X)	P23164	ENDEVCO	9/11/2007
RIGHT REAR SILL (Y)	P23939	ENDEVCO	8/9/2007
RIGHT REAR SILL (Z)	P23993	ENDEVCO	8/9/2007
REAR FLOORPAN ABOVE AXLE (X)	P18524	ENDEVCO	8/7/2007
REAR FLOORPAN ABOVE AXLE (Y)	P18518	ENDEVCO	8/7/2007
REAR FLOORPAN ABOVE AXLE (Z)	P32295	ENDEVCO	8/7/2007
LEFT REAR SILL (Y)	P16823	ENDEVCO	11/26/2007
LEFT FRONT SILL (Y)	P18785	ENDEVCO	8/9/2007
LEFT FRONT DOOR CENTERLINE (Y)	-	-	-
RIGHT REAR SEAT OCCUPANT COMP. (Y)	P24145	ENDEVCO	11/8/2007
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)	P17242	ENDEVCO	8/9/2007
MIDDLE LEFT B-PILLAR (Y)	P16863	ENDEVCO	8/7/2007
LOWER LEFT A-PILLAR (Y)	P18948	ENDEVCO	8/9/2007
UPPER LEFT A-PILLAR (Y)	J37854	ENDEVCO	8/10/2007
FRONT SEAT TRACK (Y)	P23904	ENDEVCO	11/7/2007
REAR SEAT TRACK (Y)	P23926	ENDEVCO	8/9/2007
VEHICLE CG (X)	P32455	ENDEVCO	8/7/2007
VEHICLE CG (Y)	P32464	ENDEVCO	8/6/2007
VEHICLE CG (Z)	P32139	ENDEVCO	8/7/2007
MDB CG (X)	C15007	ENDEVCO	9/12/2007
MDB CG (Y)	C16416	ENDEVCO	9/12/2007
MDB CG (Z)	C16499	ENDEVCO	9/12/2007
MDB REAR FRAME MEMBER (X)	C14948	ENDEVCO	9/12/2007
MDB REAR FRAME MEMBER (Y)	C16680	ENDEVCO	9/12/2007

REMARKS: None