REPORT NUMBER: 214-CAL-09-05

SAFETY COMPLIANCE TESTING FOR FMVSS 214
SIDE IMPACT PROTECTION
INDICANT

NISSAN MOTOR COMPANY
2009 NISSAN CUBE
4-DOOR MPV

NHTSA NUMBER: C95211

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

Test Date: June 11 ,2009

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
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This final test report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, in response to Contract Number DTNH22-07-D-00064.

Prepared by:  Date: July 13, 2009

Vincent M. Paolini, Project Engineer

Reviewed by:  Date: July 13, 2009

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Technical Report Documentation Page

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16. Abstract

A 55/28 km/h 90° Moving Deformable Barrier FMVSS 214 Indicant side impact was conducted on the subject 2009 Nissan Cube 4-Door MPV to obtain new car assessment and research data indicant of FMVSS No. 214D performance. This test was conducted at the Calspan Corporation Crash Test Facility in Buffalo, New York, on June 11 ,2009. The impact velocity of the Moving Deformable Barrier (MDB) was 62.8 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 241 mm at level 3. The test vehicle's occupant performance is as follows:

	DRIVER	PASS.
Left Upper Rib (LUR) Accel., g	45.5	42.1
Left Lower Rib (LLR) Accel., g	28.1	49.9
Lower Spine (T_{12}) Accel., g	29.2	70.8
Thoracic Trauma Index (TTI)	37	60
Pelvis (PEV) Accel., g	55	71
HIC	105.7	163.6

The left rear (struck side) door unlatched from the left rear door striker during the side impact event. The left front (struck side) door 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 2009 Nissan Cube 4-Door MPV when tested at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-08, dated December 15, 2006).

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-08, dated December 15, 2006).

A model year 2009 Nissan Cube 4-Door MPV was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 62.8 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 1497.5 kg and the test weight of the MDB was 1362.5 kg. The test was conducted at the Calspan Corporation Transportation Sciences Center on June 11 ,2009.

One (1) real-time motion picture camera and ten (10) high-speed motion picture cameras were used to document the impact event. The pre-test and post-test conditions were recorded by one (1) real-time motion picture camera. Camera locations and pertinent camera information are documented in the data sheets. Pre- and post-test photographs of the vehicle and Side Impact Dummies (SID/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 241 mm at level 3, 1050 mm rearward of the left vertical impact point. The driver and passenger SID/HIII's, Serial Nos. 269 and 270 respectively, were calibrated just prior to this test.

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

The occupant data is summarized below:

ATD position	HIC(36)	T_1	T_2	TTI (G's)	Peak Pelvis (G's)
Driver	105.7	47.5	83.5	37	55
Passenger	163.6	54.5	90.5	60	71

SUPPLEMENTAL RESTRAINT INFORMATION

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

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

DATA SHEET NO. 1

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle:	2009 Nissan Cube	NHTSA No.	C95211
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 11 ,2009

TEST VEHICLE INFORMATION AND VEHICLE OPTIONS

Make	Nissan Motor Company	Driver Front Airbag	Yes
Model	Cube	Driver Side Curtain Airbag	Yes
Body Style	4-Door MPV	Driver Side Torso Airbag	Yes
NHTSA No.	C95211	Driver Pretensioners	Yes
VIN	JN8AZ28R99T100784	Driver Load Limiters	Yes
Color	Blue	Driver Power Seats	No
Engine Disp.(L)	1.8	Rear Pass. Side Curtain Airbag	Yes
Engine Cylinders	4	Rear Pass. Side Torso Airbag	No
Engine Placement	Longitudinal/Lateral	Rear Pass. Pretensioners	No
Transmission Type	Automatic	Rear Pass. Load Limiters	No
Transmission Speeds	Continuous Variable Transmission (CVT)	Rear Pass. Power Seats	NA
Final Drive	Front	Tilt Wheel	Yes
Air Conditioning	Yes	Anti-lock Brakes	Yes
Power Steering	Yes	Traction Control	No
Power Brakes	Yes	Power Windows	Yes
Delivery Date	5/28/09	Power Door Locks	Yes
Odometer Reading (km)	32	Automatic Door Locks (ADL)	Yes
Dealer	Mike Barney Nissan Amherst, NY 14226	Owner's Manual Details Instructions on Disabling ADLs	Yes

DATA FROM CERTIFICATION LABEL

Manufactured By	Nissan Motor Company	GVWR (kg)	1750
		GAWR Front (kg)	900
Date of Manufacture	2/09	GAWR Rear (kg)	860

VEHICLE CAPACITY DATA

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench		
Number Of Occupants	2	3		5
Capacity Wt. (VCW) (kg)				390
Cargo Wt. (RCLW) (kg)				49.8

DATA SHEET NO. 1 (continued)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle:	2009 Nissan Cube	NHTSA No.	C95211
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 11 ,2009

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	388.5	264.0		433.0	365.0		427.0	358.5	
Right	kg	383.0	256.0		390.5	318.0		391.0	321.0	
Ratio	%	59.7	40.3		54.7	45.3		54.6	45.4	
Totals	kg	771.5	520.0	1291.5	823.5	683.0	1506.5	818.0	679.5	1497.5

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1291.5
Weight of 2 P572E ATDs (81.2 kg each)	kg	162.4
Rated Cargo/Luggage Weight (RCLW)	kg	49.8
Calculated Vehicle Target Weight (TVTW)	kg	1503.7

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

Weight of Ballast (including instrumentation package and cameras): 43.6 kg

TEST VEHICLE ATTITUDES

	Units	LF	RF	LR	RR
As Delivered	mm	691	689	688	690
Fully Loaded	mm	674	682	651	659
As Tested	mm	682	685	652	660

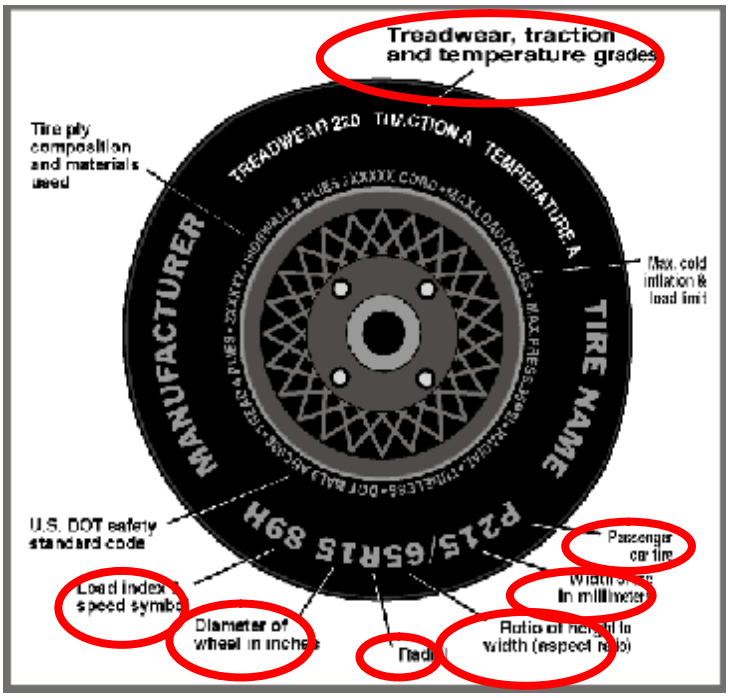
TEST VEHICLE VERTICAL IMPACT LINE AND CG

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2522
Target Impact Point Aft of Front Axle	mm	321
Actual Impact Point Aft of Front Axle	mm	331
As Tested CG (aft of front axle)	mm	1144

DATA SHEET NO. 2

TEST VEHICLE TIRE INFORMATION

Test Vehicle:	2009 Nissan Cube	NHTSA No.	C95211
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 11 ,2009



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	350	350
Cold / Test Pressure (kPa)	228	228
Recommended Tire Size	P195/60R15	P195/60R15
Tire Size on Vehicle	P195/60R15	P195/60R15
Tire Manufacturer	Toyo	Toyo
Tire Name	A20	A20
Tire Type	Passenger	Passenger
Tire Width (mm)	195	195
Ratio of Height to Width (aspect ratio)	60	60
Radial	Yes	Yes
Wheel Diameter	15	15
Load Index & Speed Symbol	87H	87H
Treadwear	300	300
Traction Grade	A	A
Temperature Grade	A	A

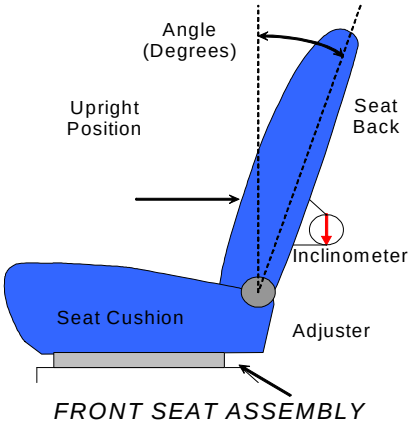
DATA SHEET NO. 3

TEST VEHICLE INFORMATION

Test Vehicle:	2009 Nissan Cube	NHTSA No.	C95211
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 11 ,2009

NORMAL DESIGN RIDING POSITION

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



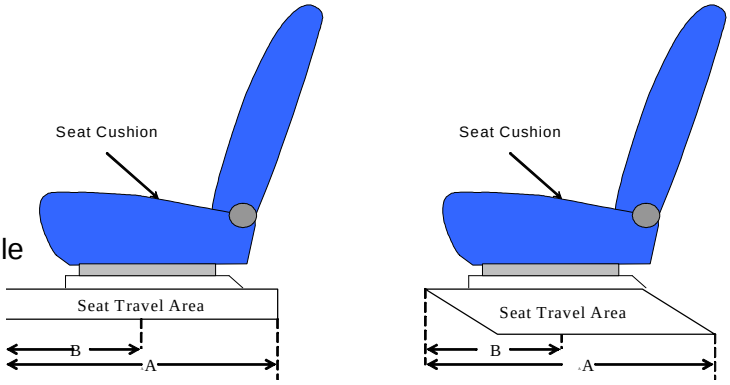
FRONT SEAT ASSEMBLY

SEAT BACK POSITION

	Driver Seat	Rear Seat
Test Detent (forward-most detent defined as 0)	5	12
Angle (deg. from forward-most locking position)	49.2	24
Alternative Measurements to Verify Test Position	-3.9 degrees measured at Head Restraint Post	Not Applicable

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

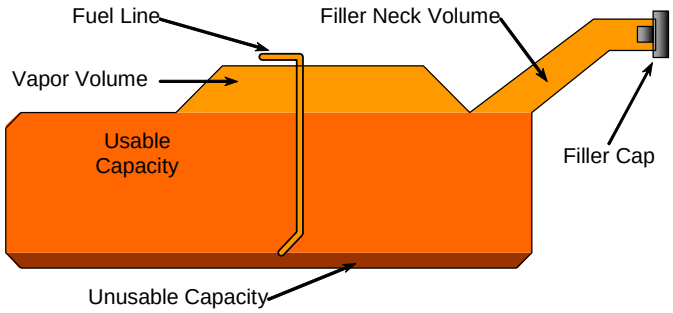
	Driver Seat	Rear Seat
Total Fore/Aft Travel (A) (mm)	288	158
Test Position (B) (mm)	144	158
Test Detent (forward-most detent defined as 0)	10	2
Total Number of Detents (including 0)	24	2

DATA SHEET NO. 3 (CONTINUED)
TEST VEHICLE INFORMATION

Test Vehicle:	2009 Nissan Cube	NHTSA No.	C95211
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 11 ,2009

FUEL SYSTEM INFORMATION

The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the left rear fender. The standard fuel tank occupies the area under the rear seat.



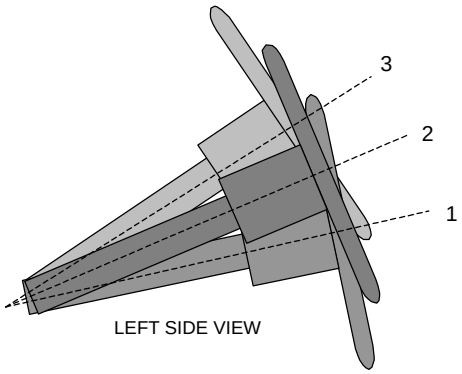
VEHICLE FUEL TANK ASSEMBLY

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard" Fuel Tank	50.0
Usable Capacity of "Optional" Fuel Tank	-
Stoddard Used For Test (92%-94% of Fuel Tank Usable Capacity)	46.6

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	Not Applicable	26.2	Not Applicable
Geometric Center Position No. 2 *	Not Applicable	28.4	Not Applicable
Uppermost Position No. 3	Not Applicable	30.6	Not Applicable

* Test position

DATA SHEET NO. 4

MOVING DEFORMABLE BARRIER (MDB) SUMMARY OF RESULTS

Test Vehicle:	2009 Nissan Cube	NHTSA No.	C95211
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 11 ,2009

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	62.8
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	62.8
Impact angle with respect to impactor	º	88.5º to 91.5º	88.9

POST TEST OBSERVATIONS

MDB LEFT EDGE IMPACT POINT DATA

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	10 mm rearward
Vertical Offset	mm	+/-20	5 mm above

DATA SHEET NO. 5

POST TEST OBSERVATIONS

Test Vehicle:	2009 Nissan Cube	NHTSA No.	C95211
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 11 ,2009

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat SID/HIII	Rear Seat SID/HIII
Dummy Type / Serial No.	SID/HIII / 269	SID/HIII / 270
Head Contact	Side of Head – Side Curtain Airbag	Side of Head – Side Curtain Airbag
Upper Torso Contact	Seat Torso Airbag	Rear door trim
Lower Torso Contact	Seat Torso Airbag	Rear door trim
Left Knee Contact	No Contact	No Contact
Right Knee Contact	No Contact	No Contact

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 became unlatched from door striker during test event
Right Side Door Opening	Door remained closed and latched; Door opened without tools	Door remained closed and latched; Door opened without tools
Seat Movement	0	0
Seat Back Failure	None	None

POST TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	No Separation
Sill Separation	None
Windshield Damage	None
Window Damage	Left Front Window Shattered; Left Rear Window intact
Other Notable Effects	None

SUPPLEMENTAL RESTRAINT INFORMATION

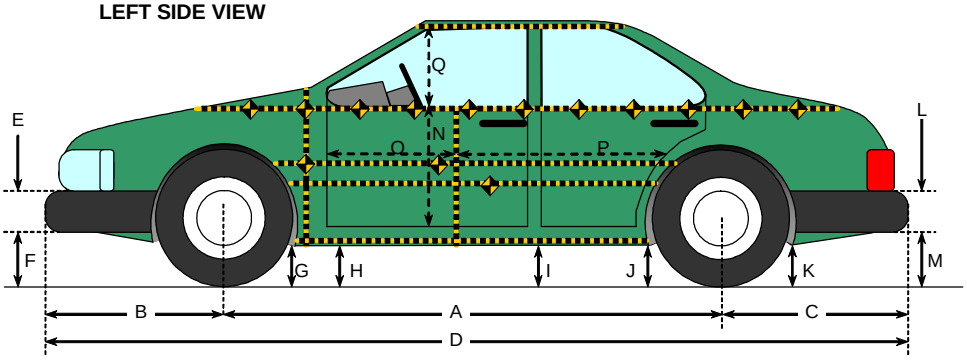
Restraint Type	Left Front (Driver)		Left Rear (Passenger)	
	Installed	Deployed	Installed	Deployed
Front Airbag	Yes	No	NA	NA
Side Torso Airbag	Yes	Yes	NA	NA
Side Head/Torso Combination Airbag	NA	NA	NA	NA
Curtain Airbag	Yes	Yes	Yes	Yes

DATA SHEET NO. 6

VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle:	2009 Nissan Cube	NHTSA No.	C95211
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 11 ,2009

LEFT SIDE VIEW



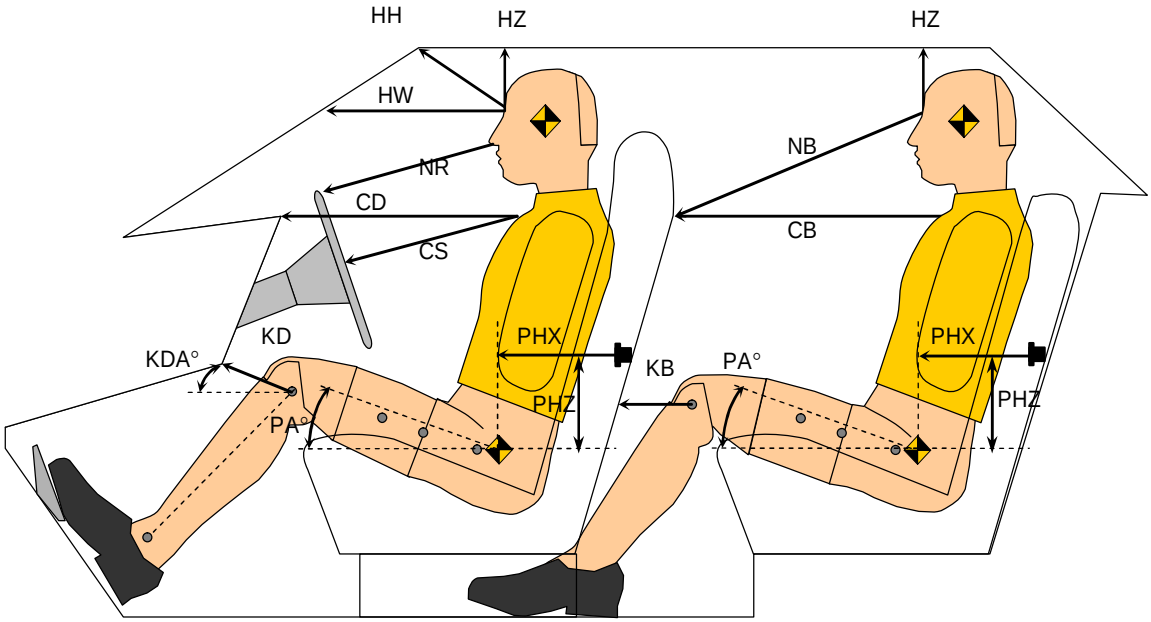
All Measurements in mm

Code	Measurement Description	Pre-Test (delivered)	Pre-Test (as tested)	Post-Test (as tested)	Difference
A	Wheelbase	2522	2522	2529	-7
B	Front Axle to FSOV	781	781	783	-2
C	Rear Axle to RSOV	673	673	669	4
D	Total Length at Centerline	3976	3976	3981	-5
E	Front Bumper Thickness	165	165	165	0
F	Front Bumper Bottom to Ground	400	392	393	-1
G	Sill Height at Front Wheel Well	194	170	178	-8
H	Sill Height at Front Door Leading Edge	197	172	188	-16
I	Sill Height at "B" Pillar	207	178	243	-65
J1	Sill Height at Rear Wheel Well	178	145	198	-53
J2	Pinch Weld Height at Rear Wheel Well	212	180	243	-63
K	Sill Height Aft of Rear Wheel Well	271	230	220	10
L	Rear Bumper Thickness	271	271	270	1
M	Rear Bumper Bottom to Ground	278	242	245	-3
N	Sill Height to Window Bottom Sill	763	763	664	99
O	Front Door Leading Edge to Impact CL	758	758	685	73
P	Rear Door Trailing Edge to Impact CL	1139	1139	1074	65
Q	Front Window Opening	485	485	490	-5
R	Right Side Length	3903	3903	3907	-4
S	Left Side Length	3902	3902	3902	0
T	Vehicle Width at "B" Post	1692	1692	1477	215

DATA SHEET NO. 7

SID/HIII LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle:	2009 Nissan Cube	NHTSA No.	C95211
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 11 ,2009

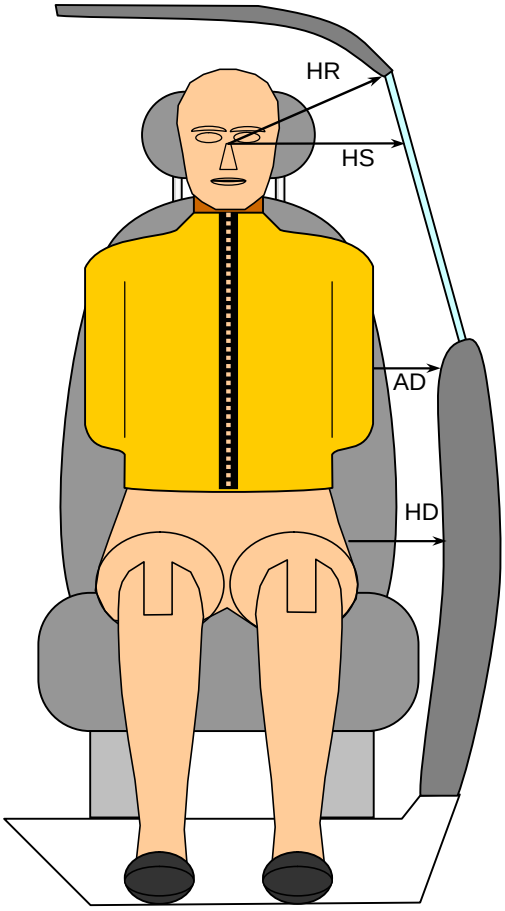


Driver Code	Pass. Code	Measurement Description	Driver S/N 269		Passenger S/N 270	
			Length(mm)	Angle(°)	Length(mm)	Angle(°)
HH		Head to Header	689			
HW		Head to Windshield	868			
HZ	HZ	Head to Roof	266		206	
NR	NB	Nose to Rim/Nose to Seatback	452		672	
CD	CB	Chest to Dash or Seatback	543		587	
CS		Chest to Steering Wheel	262			
KDL	KBL	Left Knee to Dash or Seatback	115	15	265	28
KDR	KBR	Right Knee to Dash or Seatback	125	20	245	25
PA	PA	Pelvic Angle		23.7		23.1
PHX	PHX	H-Point to Striker (X-Axis)	241		179	
PHZ	PHZ	H-Point to Striker (Z-Axis)	130		138	

DATA SHEET NO. 8

SID/HIII LATERAL CLEARANCE DIMENSIONS

Test Vehicle:	2009 Nissan Cube	NHTSA No.	C95211
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 11 ,2009



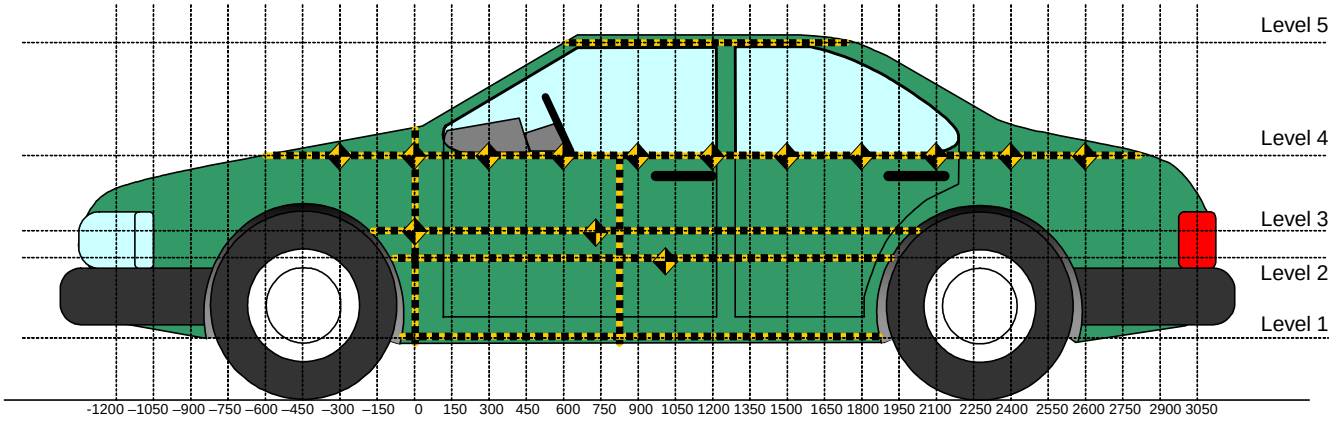
FRONT VIEW OF DUMMY

Code	Measurement Description	Units	Driver S/N 269	Passenger S/N 270
HR	Head to Side Header	mm	352	297
HS	Head to Side Window	mm	405	382
AD_1	Arm to Door (at upper rib level)	mm	107	83
AD_2	Arm to Door (at lower rib level)	mm	105	79
HD	H-Point to Door	mm	145	106

DATA SHEET NO. 9

VEHICLE SIDE MEASUREMENTS

Test Vehicle:	2009 Nissan Cube	NHTSA No.	C95211
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 11 ,2009



All Measurements Shown in mm

LEFT SIDE VIEW

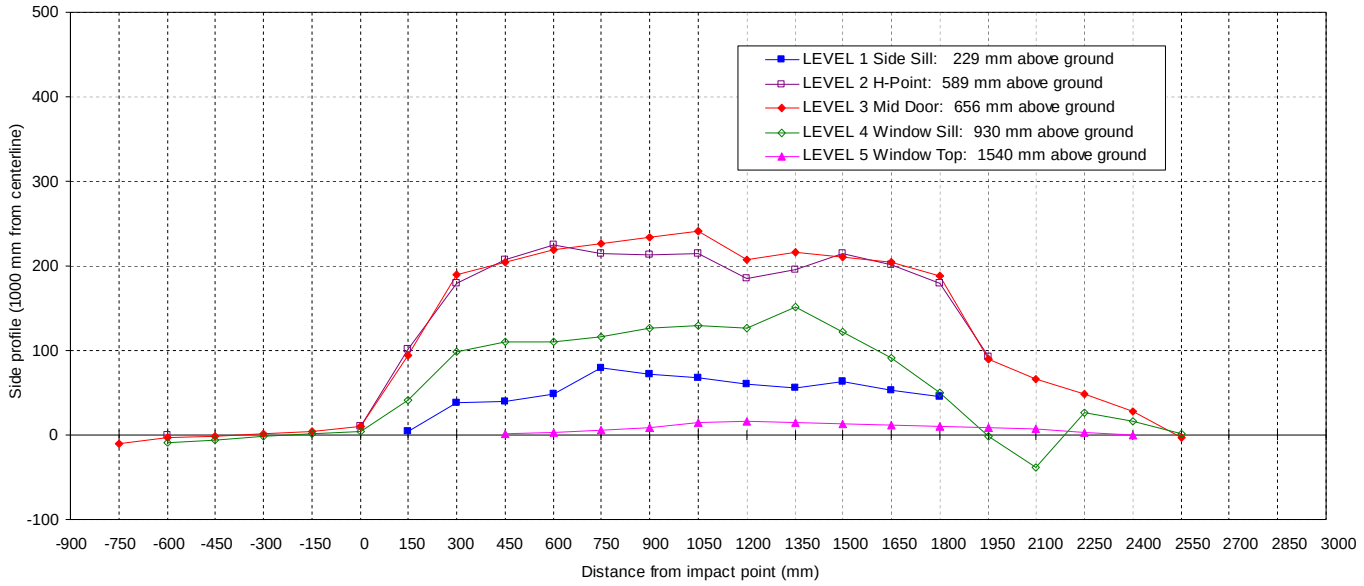
Measurements are taken with vehicle in the as tested condition.
Measurements along the vertical 750 mm.
All measurements below in mm.

Level	Measurement Description	Maximum Exterior Static Crush	Height Above Ground	Distance From Impact
1	Sill Top	79	229	750
2	Occupant H-Point	225	589	600
3	Mid Door	241	656	1050
4	Window Sill	152	930	1350
5	Window	16	1540	1200
	Maximum Penetration	241		

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle:	2009 Nissan Cube	NHTSA No.	C95211
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 11 ,2009



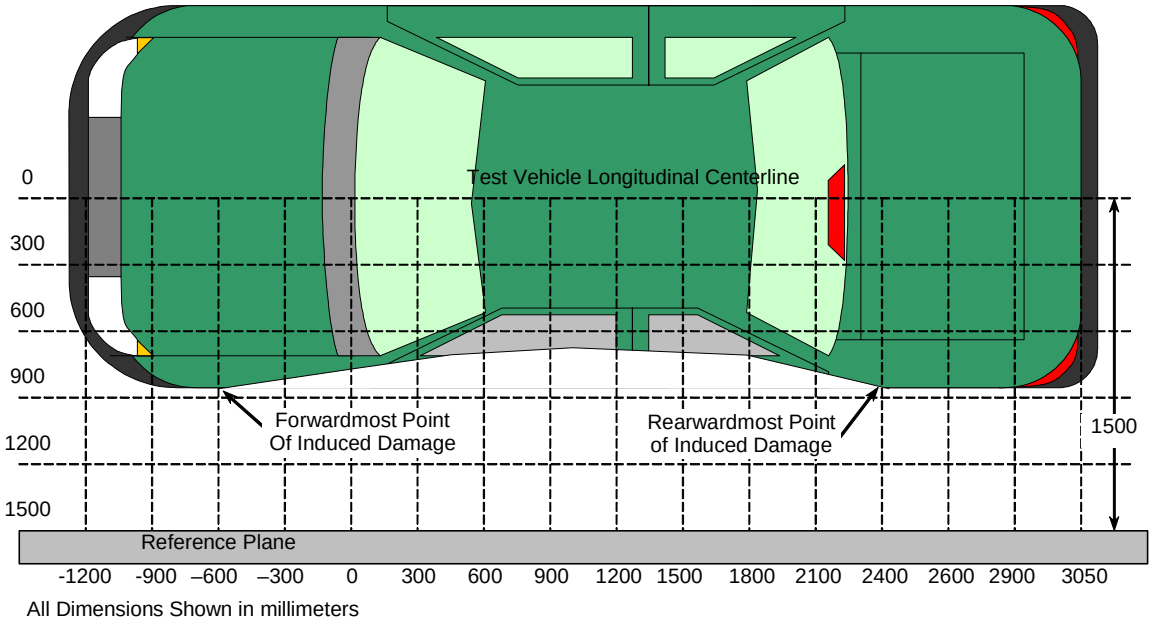
NOTE: All dimensions are in millimeters with a tolerance of ±3 mm

			DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																											
LEVEL	HEIGHT (mm)		-900	-750	-600	-450	-300	-150	0	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000
LEVEL 1 SIDE SILL	229	PRE	--	--	--	--	--	--	--	211	216	214	212	212	211	211	212	214	216	216	210	--	--	--	--	--	--	--	--
		POST	--	--	--	--	--	--	--	215	254	254	260	291	283	278	273	270	279	269	256	--	--	--	--	--	--	--	--
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4	38	40	48	79	**72**	67	61	56	63	53	46	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEVEL 2 H POINT	589	PRE	--	--	157	--	--	--	155	175	167	160	156	153	152	151	152	155	160	167	171	150	--	--	--	--	--	--	--
		POST	--	--	157	--	--	--	166	277	346	367	381	368	365	365	337	351	374	368	351	243	--	--	--	--	--	--	--
		CRUSH	N/A	N/A	0	N/A	N/A	N/A	11	102	179	207	**225**	215	213	214	185	196	214	201	180	93	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEVEL 3 MID DOOR	656	PRE	--	236	180	152	152	152	166	175	168	162	158	155	153	153	154	156	161	167	174	159	147	147	152	210	--	--	--
		POST	--	225	177	151	154	157	176	269	358	367	377	381	387	394	361	372	372	372	362	249	213	196	180	207	--	--	--
		CRUSH	N/A	-11	-3	-1	2	5	10	94	190	205	219	226	234	**241**	207	216	211	205	188	90	66	49	28	-3	N/A	N/A	N/A
LEVEL 4 WINDOW SILL	930	PRE	--	--	294	236	217	206	198	192	188	184	181	179	178	179	180	182	185	188	192	200	204	210	222	276	--	--	--
		POST	--	--	285	230	215	207	203	233	287	295	292	295	304	309	306	334	307	279	242	199	166	236	238	278	--	--	--
		CRUSH	N/A	N/A	-9	-6	-2	1	5	41	99	111	111	116	126	130	126	**152**	122	91	50	-1	-38	26	16	2	N/A	N/A	N/A
LEVEL 5 WINDOW TOP	1540	PRE	--	--	--	--	--	--	--	--	--	373	290	280	274	272	272	273	275	278	283	289	296	305	321	--	--	--	--
		POST	--	--	--	--	--	--	--	--	--	374	293	286	283	286	288	288	288	290	294	298	303	308	321	--	--	--	--
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	3	6	9	14	**16**	15	13	12	11	9	7	3	0	N/A	N/A	N/A	N/A

DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle:	2009 Nissan Cube	NHTSA No.	C95211
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 11 ,2009



TOP VIEW

DAMAGE PROFILE DISTANCES

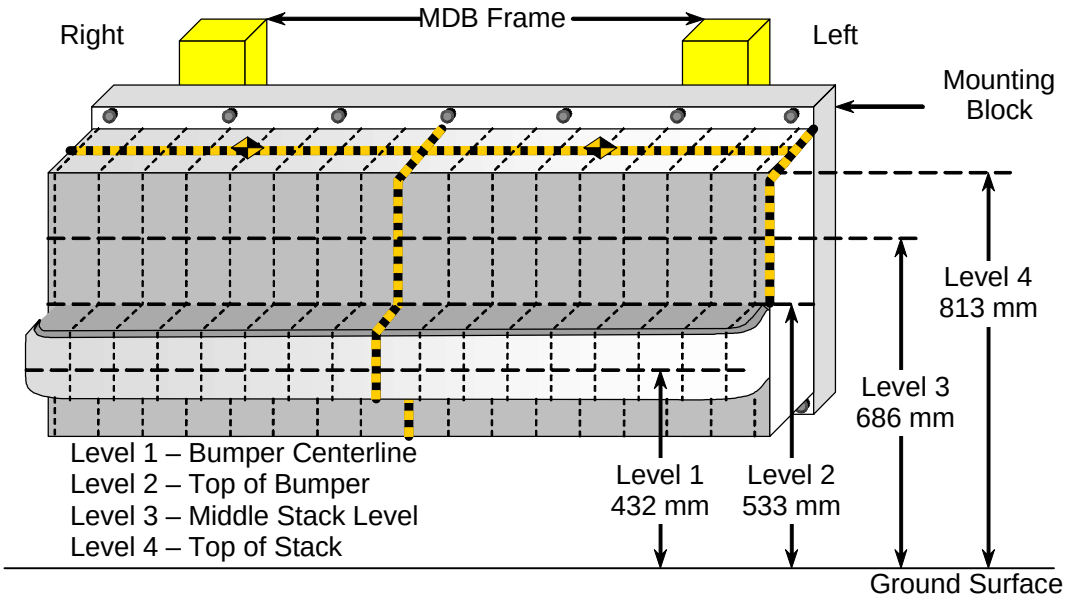
DPD	Distance from Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max Static Crush (mm)
1 (LR)	2400	3	152	180	28
2	1920	2	154	265	111
3	1440	3	159	372	213
4	960	3	153	390	237
5	480	2	159	370	211
6 (LF)	0	2	155	166	11

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:	2009 Nissan Cube	NHTSA No.	C95211
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 11 ,2009



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

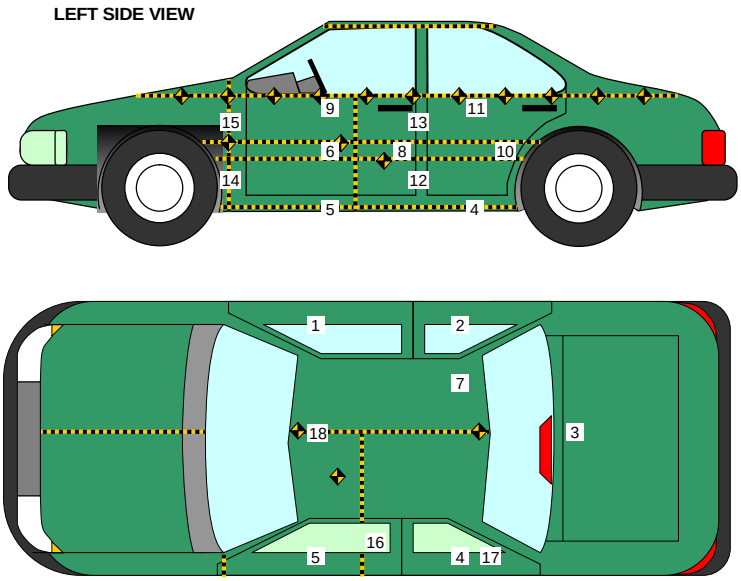
			DISTANCE RIGHT OF CENTER (mm)									DISTANCE LEFT OF CENTER (mm)							
LEVEL	HEIGHT AT CL (mm)*		-800	-700	-600	-500	-400	-300	-200	-100	0	100	200	300	400	500	600	700	800
LEVEL 4		PRE	411	412	412	412	412	412	413	413	413	413	413	413	413	413	413	413	412
TOP	811	POST	335	360	372	382	384	366	357	372	376	381	380	378	374	370	357	337	290
STACK		CRUSH	76	52	40	30	28	46	56	41	37	32	33	35	39	43	56	76	**122**
LEVEL 3		PRE	411	411	412	412	412	412	412	412	413	412	412	412	412	412	412	412	412
MID	682	POST	381	385	389	392	391	385	369	368	394	399	399	398	395	391	384	371	326
LEVEL		CRUSH	30	26	23	20	21	27	43	44	19	13	13	14	17	21	28	41	**86**
LEVEL 2		PRE	411	412	412	412	412	412	412	412	413	412	412	412	412	412	412	412	412
TOP	542	POST	309	314	322	327	331	340	345	341	355	352	352	352	354	357	357	351	327
BUMPER		CRUSH	**102**	98	90	85	81	72	67	71	58	60	60	60	58	55	55	61	85
LEVEL 1		PRE	501	513	513	513	513	513	513	514	514	514	514	514	514	514	514	514	505
MID	430	POST	332	353	365	374	378	379	390	396	401	407	411	417	420	424	421	401	348
BUMPER		CRUSH	**169**	160	148	139	135	134	123	118	113	107	103	97	94	90	93	113	157

*Heights measured above ground level.

DATA SHEET NO. 13

VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle:	2009 Nissan Cube	NHTSA No.	C95211
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 11 ,2009



Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Right Sill at Front Seat	2471	660	282
2	Right Sill at Rear Seat	1585	641	346
3	Rear Floorpan Above Axle	825	-11	440
4	Left Sill at Rear Door	1593	-641	337
5	Left Sill at Front Door	2451	-659	264
6	Left Front Door C/L**	-	-	-
7	Rear Occupant Compartment	1575	8	310
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	1820	-641	329
13	Left Middle B-Post	1657	-638	966
14	Left Lower A-Post	2711	-597	377
15	Left Middle A-Post	2697	-638	1080
16	Front Seat Track	1777	-514	323
17	Rear Seat Track or Structure	828	-500	480
18	Vehicle CG	2147	7	457

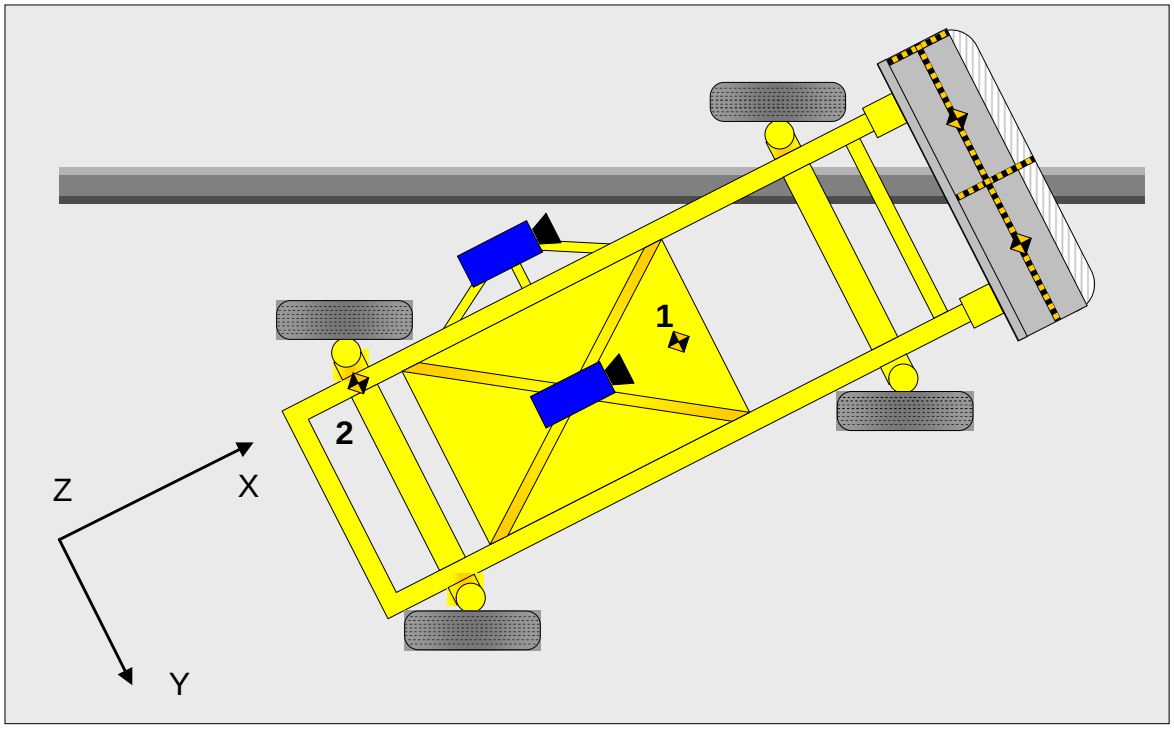
Reference Points X - Test Vehicle Rear Bumper (+ forward)
Y - Test Vehicle Centerline (+ to right)
Z - Ground Plane (+ down)

** Accelerometer was not requested by the COTR.

DATA SHEET NO. 14

MDB ACCELEROMETER LOCATIONS

Test Vehicle:	2009 Nissan Cube	NHTSA No.	C95211
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 11 ,2009



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

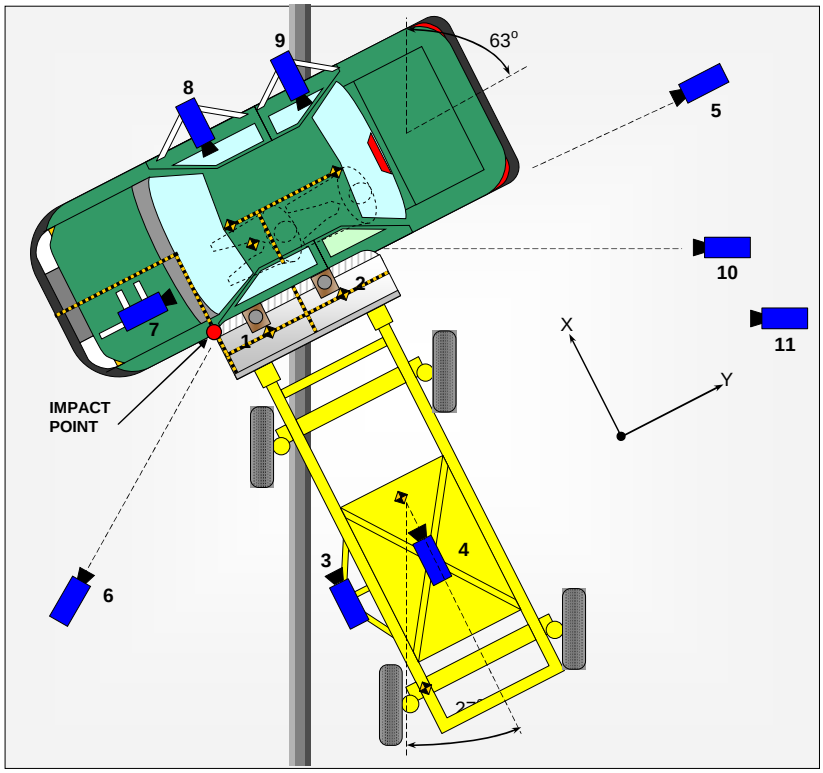
Test Vehicle:	2009 Nissan Cube	NHTSA No.	C95211
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 11 ,2009

	Elements	Pre-Test (mm)
1	Total Length	3976
2	Total Width	1692
3	Bumper Top Height	550
4	Bumper Bottom Height	425
5	Longitudinal Member Top Height	572
6	Distance between Longitudinal Members	889
7	Longitudinal Member Width	41
8	Engine Top Height	866
9	Engine Bottom Height	173
10	Engine and gearbox width	574
11	Front bumper-engine distance	404
12	Front shock absorber fixing height	909
13	Bonnet leading edge height	830
14	Front shock absorber fixing width	1166
15	Front bumper – front axle distance	781
16	Front axle – a pillar distance	403
17	A-pillar – B-pillar distance	1121
18	B-Pillar – rear axle distance	998
19	B-pillar – C-pillar distance	913
20	Roof sill bottom height	1466
21	Roof sill top height	1572
22	Floor sill bottom height	258
23	Floor sill top height	321

DATA SHEET NO. 16

HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle:	2009 Nissan Cube	NHTSA No.	C95211
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 11 ,2009



No.	Camera View	Location (mm)			Angle (deg)	Lens (mm)	Film Speed (fps)
		X	Y	Z			
1	Overhead Overall	72	812	-4880	-90	8	1000
2	Overhead Close-up	195	855	-4880	-90	28	1000
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	-130	10140	950	-1	50	1000
6	Left Side, Ground Level, Overall	-2180	-1750	940	-3	28	1000
7	Vehicle Onboard Front SID/HIII, Front	440	-295	1350	-8	25	1000
8	Vehicle Onboard Front SID/HIII, Side	-1490	820	1120	-7	12.5	1000
9	Vehicle Onboard Rear SID/HIII, Side	-1480	1720	1130	-8	12.5	1000
10	Secondary Impact Point	5162	3555	985	-2	50	500
11	Real Time Coverage						30

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

DATA SHEET NO. 17
SUMMARY OF FMVSS 301 DATA

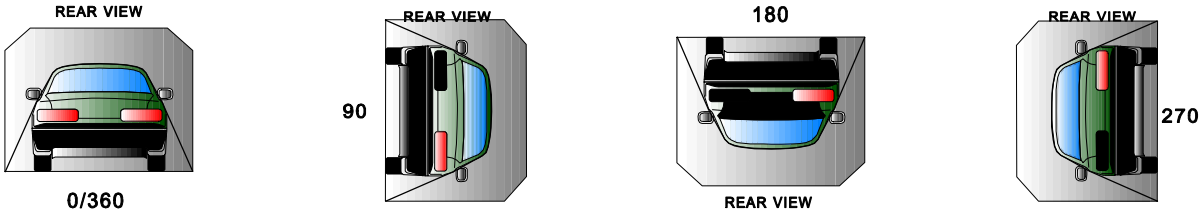
Test Vehicle:	2009 Nissan Cube	NHTSA No.	C95211
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	June 11 ,2009

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	N/A	minutes	N/A	seconds	5	minutes	5	minutes	0	seconds	6	minutes
90º - 180º	N/A	minutes	N/A	seconds	5	minutes	5	minutes	0	seconds	6	minutes
180º-270º	N/A	minutes	N/A	seconds	5	minutes	5	minutes	0	seconds	6	minutes
270º-360º	N/A	minutes	N/A	seconds	5	minutes	5	minutes	0	seconds	6	minutes

Rollover Stage	Spillage (g)			
	First 5 min. from onset of rotation	6th min.	7th min.	8th min. (if required)
0º - 90º	The Static Rollover was not performed			
90º - 180º				
180º-270º				
270º-360º				
FMVSS 301 Maximum Allowable (for each 90º stage)	142	28	28	28

Rollover Stage	Spillage Location(s)
0º - 90º	Not Applicable
90º - 180º	Not Applicable
180º-270º	Not Applicable
270º-360º	Not Applicable

APPENDIX A

PHOTOGRAPHS

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A-39	Pre-Test Left Occupant Compartment View of Driver	A-23
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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

Photograph Not Available

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

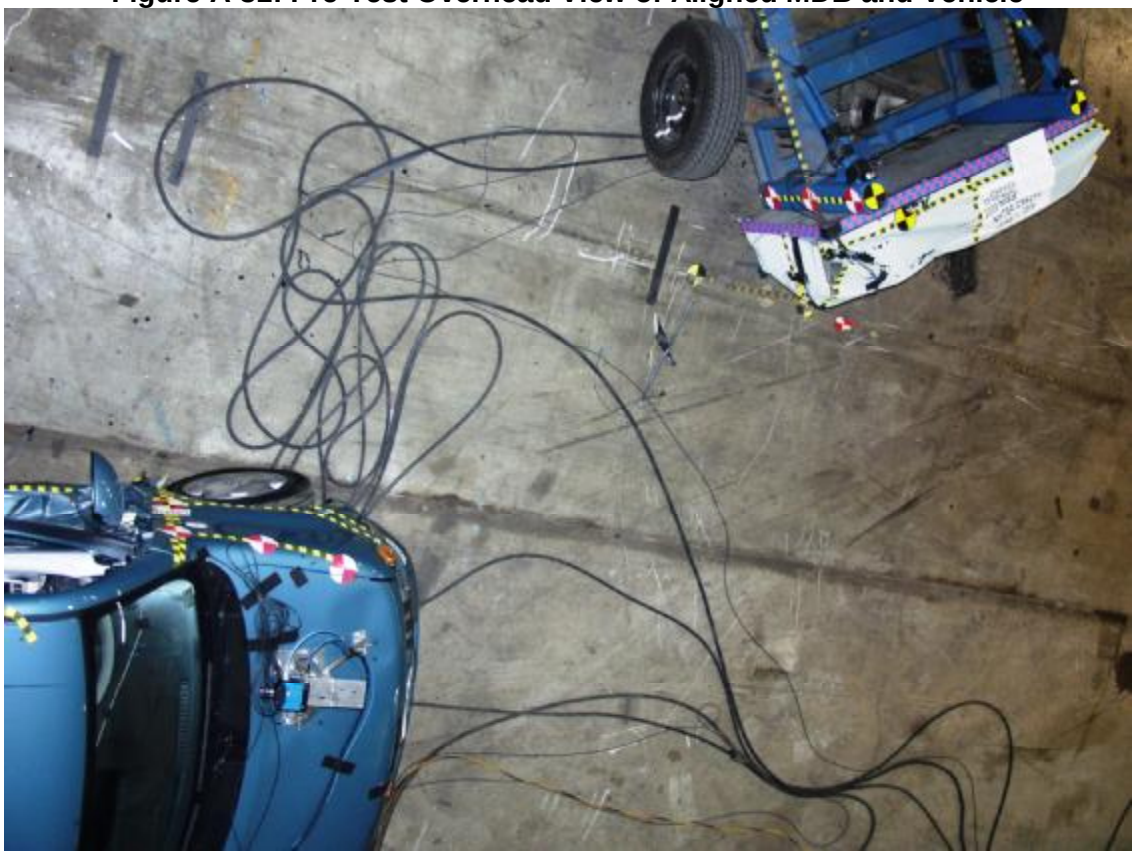

Figure A-32: Post-Test Overhead View of MDB and Vehicle

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

Not Performed
Photograph Not Available

Figure A-51: Rollover 90 Degrees

Not Performed
Photograph Not Available

Figure A-52: Rollover 180 Degrees

Not Performed
Photograph Not Available

Figure A-53: Rollover 270 Degrees

Not Performed
Photograph Not Available

Figure A-54: Rollover 360 Degrees

Figure A-55: Impact Photo

APPENDIX B

SID/HIII, VEHICLE AND MDB RESPONSE DATA

(SAE sign convention)

DATA CHANNEL FILTER CLASS SUMMARY

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

DATA CHANNEL TITLE KEY

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

TABLE OF DATA PLOTS

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

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

V2P1 Head Ax
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 data anomalies occurred:

V2P1 Upper Neck Fz	Spikes in Data
V2P1 Upper Neck Mz	Spikes in Data
V2P4 Lower Spine Ay	Questionable Data
V2A1 Right Front Sill Ay	Channel opened at 66 ms

FMVSS 214I - 2009 Nissan Cube
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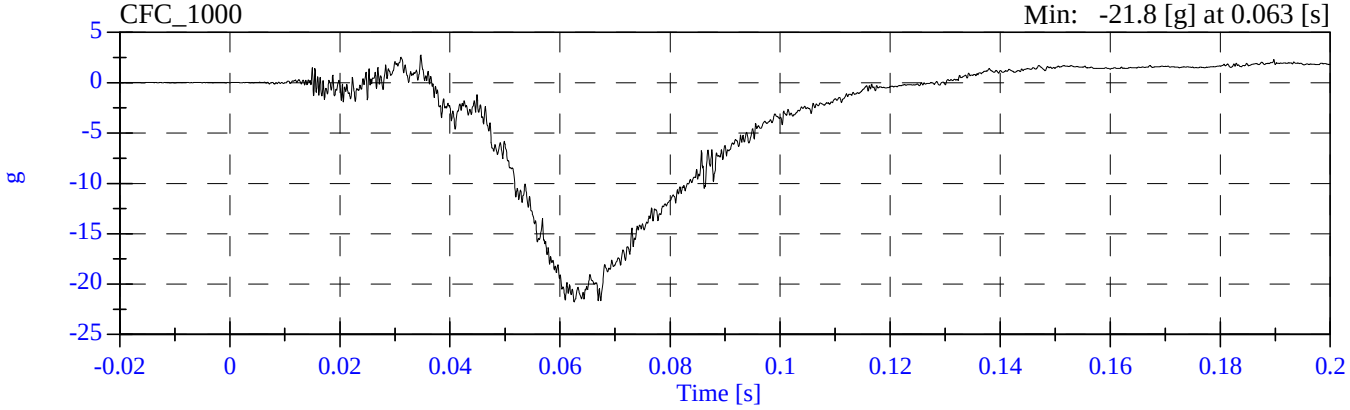
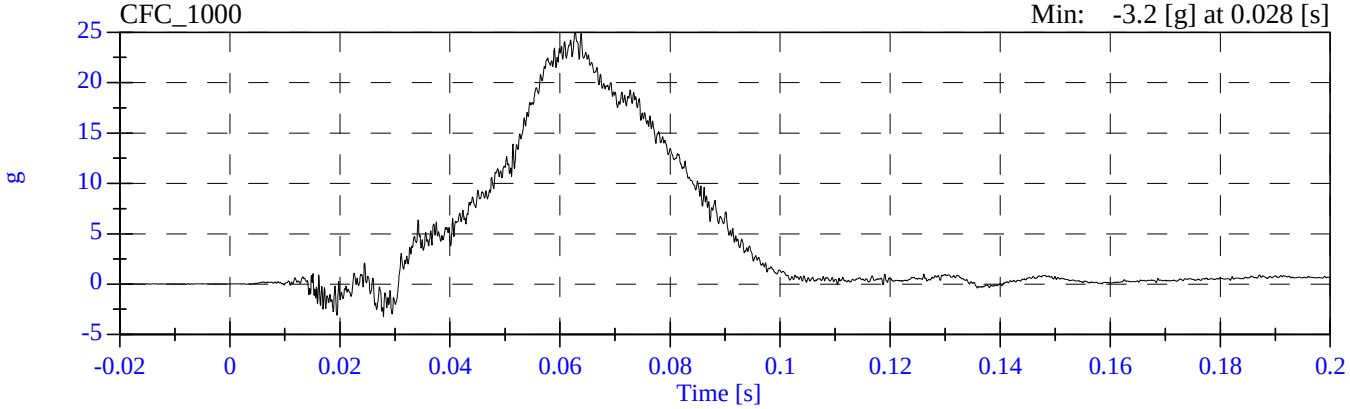
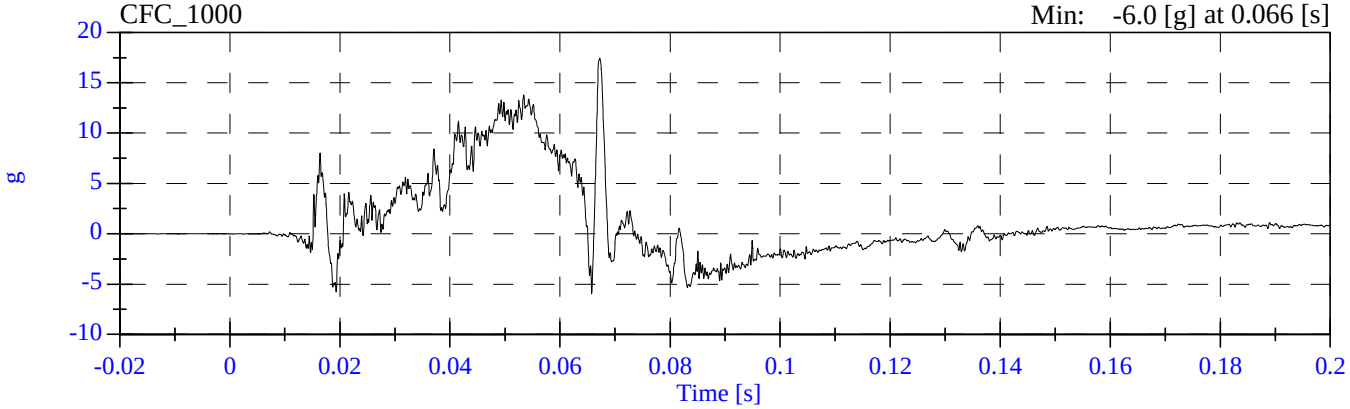
V2P1 Head x
CFC_1000
Max: 2.8 [g] at 0.035 [s]
Min: -21.8 [g] at 0.063 [s]



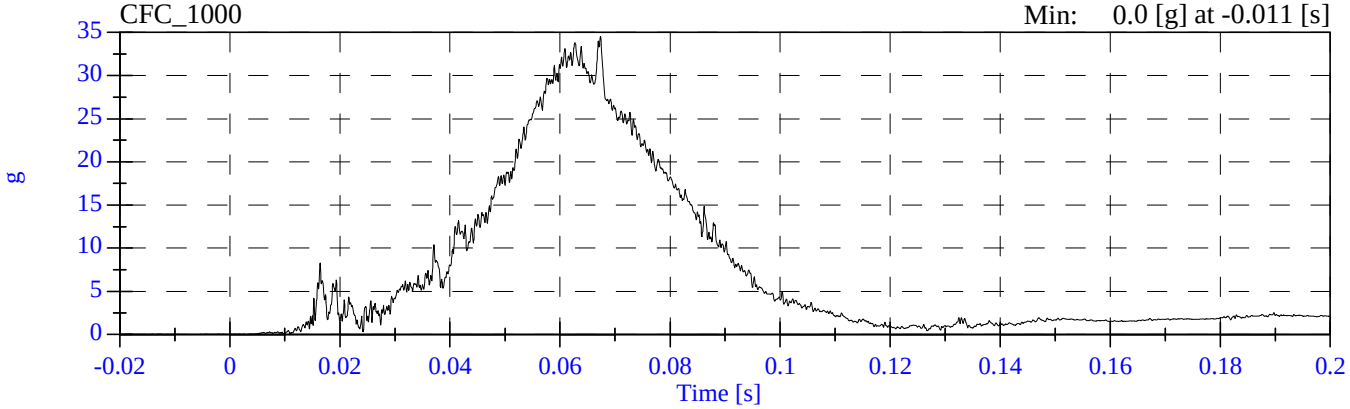
V2P1 Head y
CFC_1000
Max: 25.0 [g] at 0.063 [s]
Min: -3.2 [g] at 0.028 [s]



V2P1 Head z
CFC_1000
Max: 17.4 [g] at 0.067 [s]
Min: -6.0 [g] at 0.066 [s]

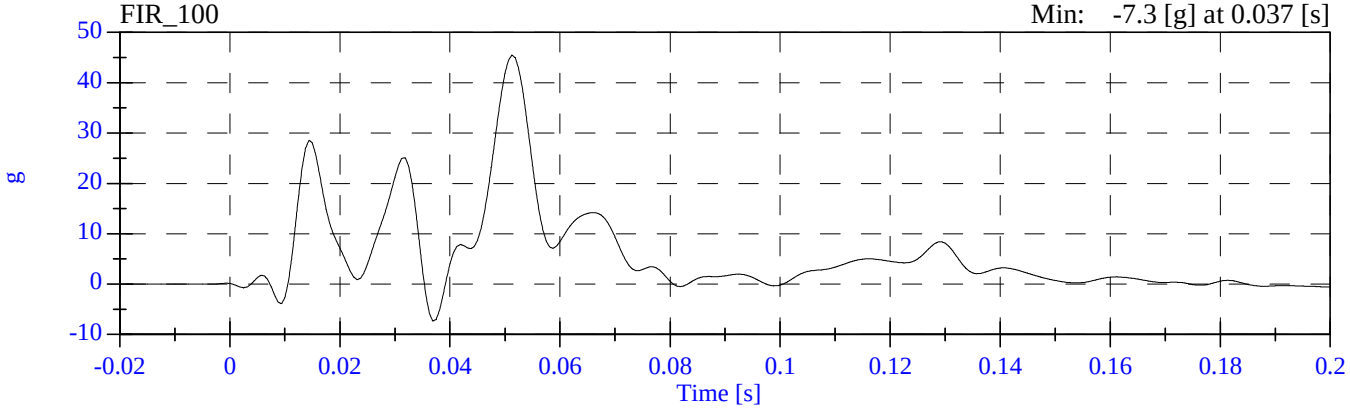


V2P1 Head Resultant
CFC_1000
Max: 34.5 [g] at 0.067 [s]
Min: 0.0 [g] at -0.011 [s]

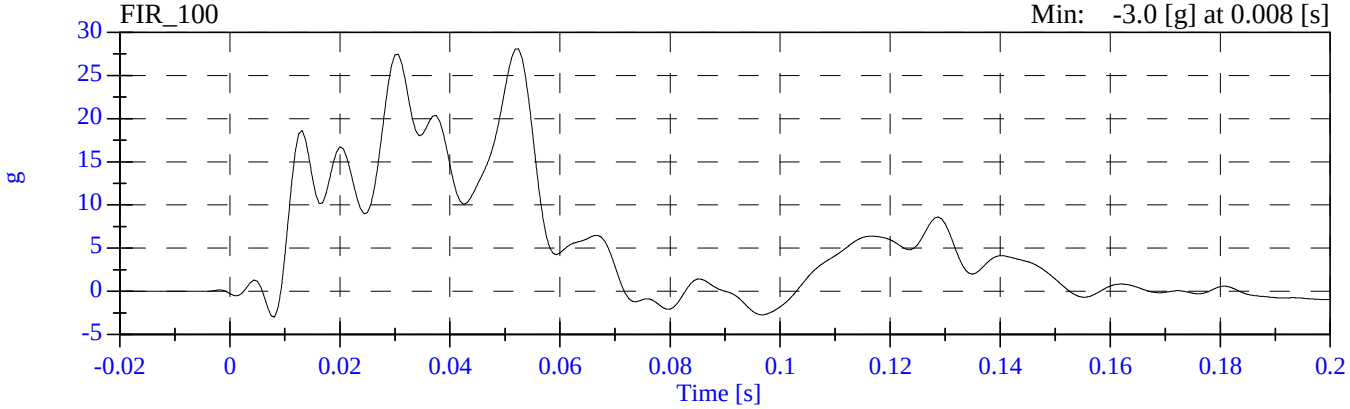


FMVSS 214I - 2009 Nissan Cube
C95211 - June 11, 2009

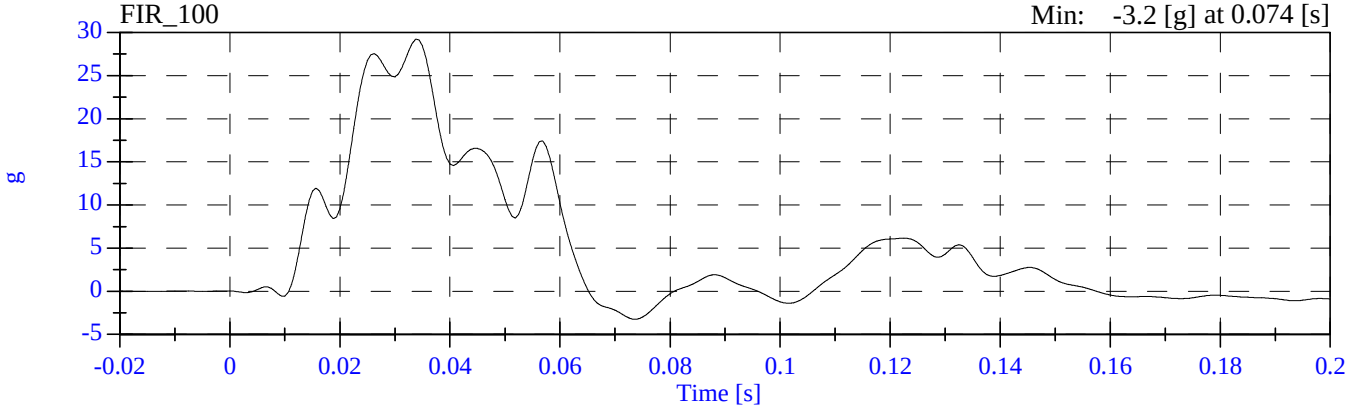
V2P1 Upper Rib y
FIR_100
Max: 45.5 [g] at 0.051 [s]
Min: -7.3 [g] at 0.037 [s]



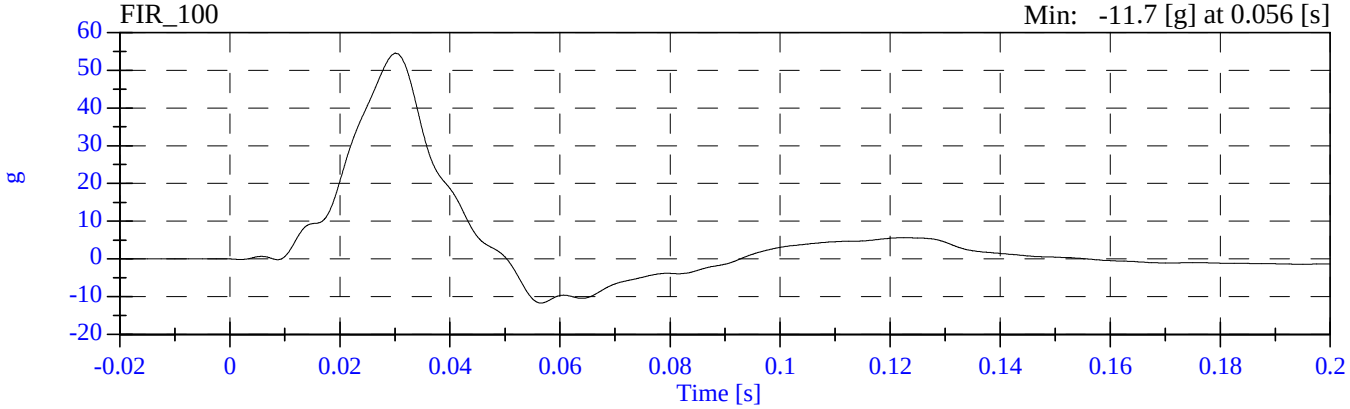
V2P1 Lower Rib y
FIR_100
Max: 28.1 [g] at 0.052 [s]
Min: -3.0 [g] at 0.008 [s]



V2P1 Lower Spine y
FIR_100
Max: 29.2 [g] at 0.034 [s]
Min: -3.2 [g] at 0.074 [s]

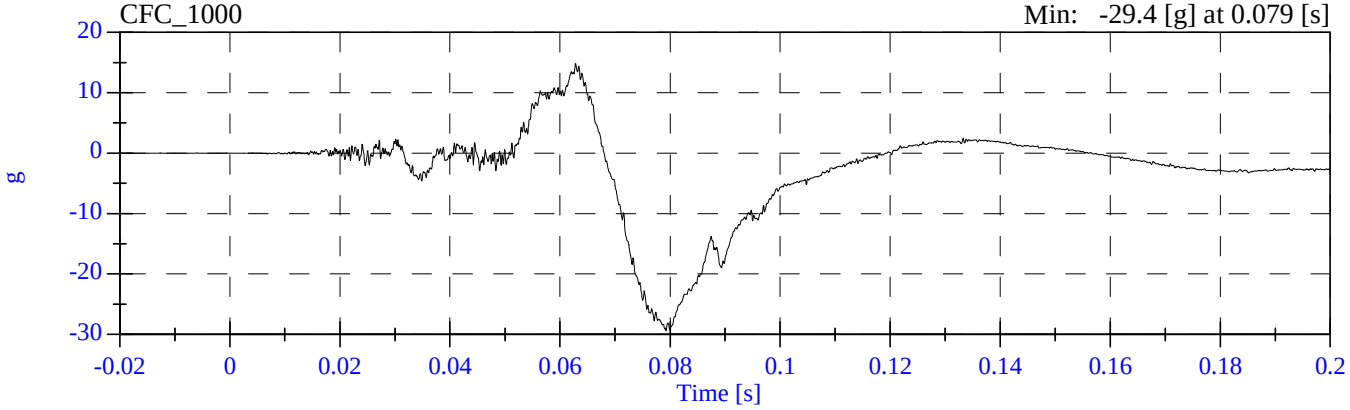


V2P1 Pelvic y
FIR_100
Max: 54.5 [g] at 0.030 [s]
Min: -11.7 [g] at 0.056 [s]

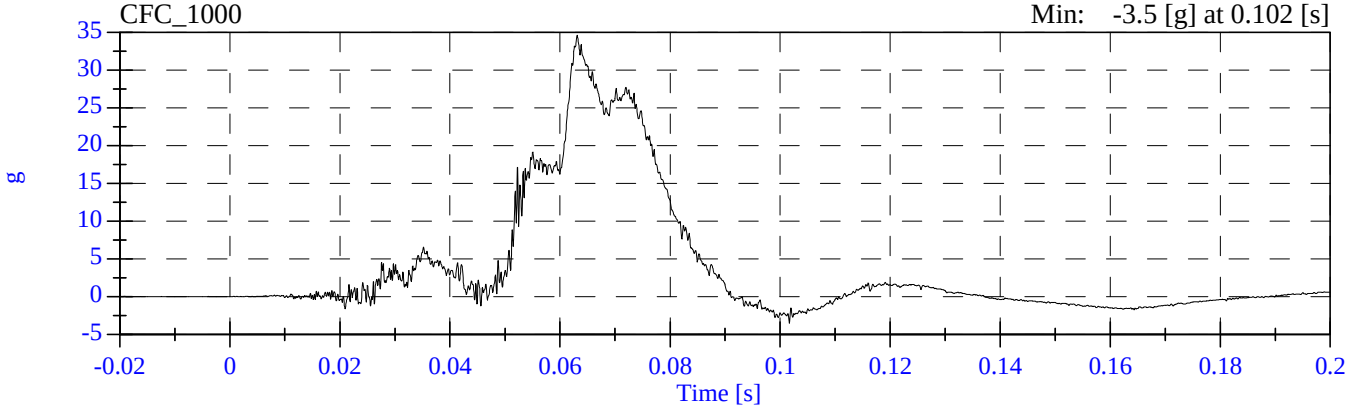


FMVSS 214I - 2009 Nissan Cube
C95211 - June 11, 2009

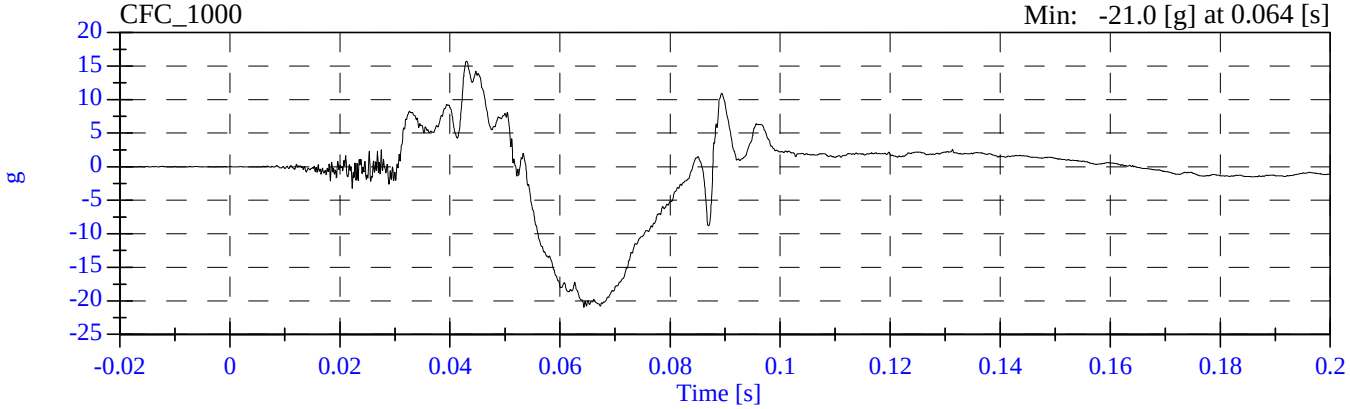
V2P4 Head x
CFC_1000
Max: 14.8 [g] at 0.063 [s]
Min: -29.4 [g] at 0.079 [s]



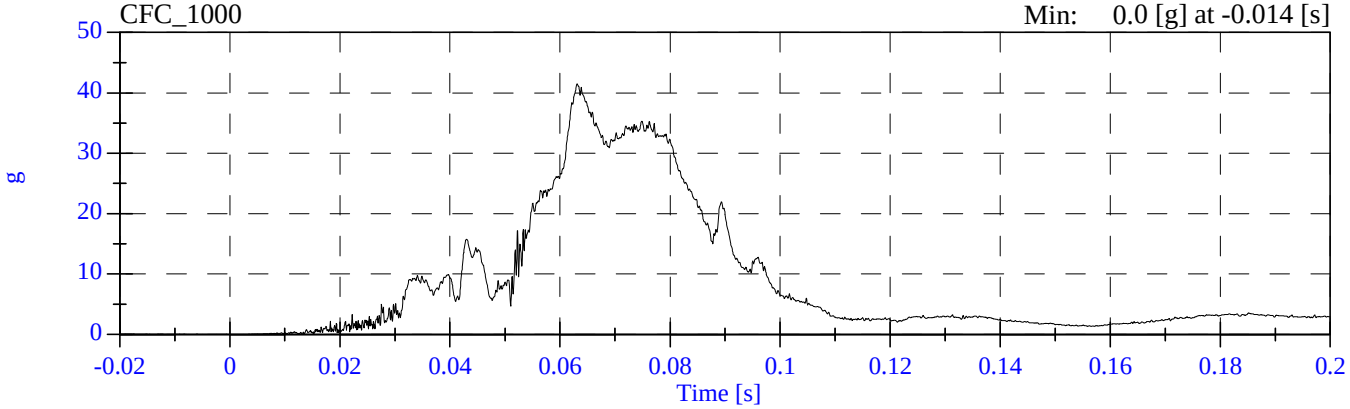
V2P4 Head y
CFC_1000
Max: 34.6 [g] at 0.063 [s]
Min: -3.5 [g] at 0.102 [s]



V2P4 Head z
CFC_1000
Max: 15.7 [g] at 0.043 [s]
Min: -21.0 [g] at 0.064 [s]

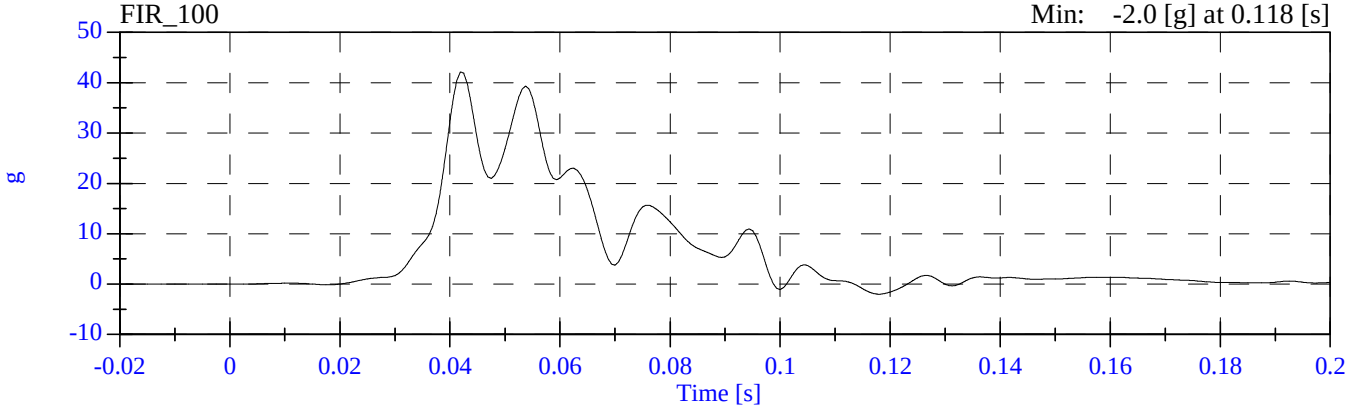


V2P4 Head Resultant
CFC_1000
Max: 41.5 [g] at 0.063 [s]
Min: 0.0 [g] at -0.014 [s]

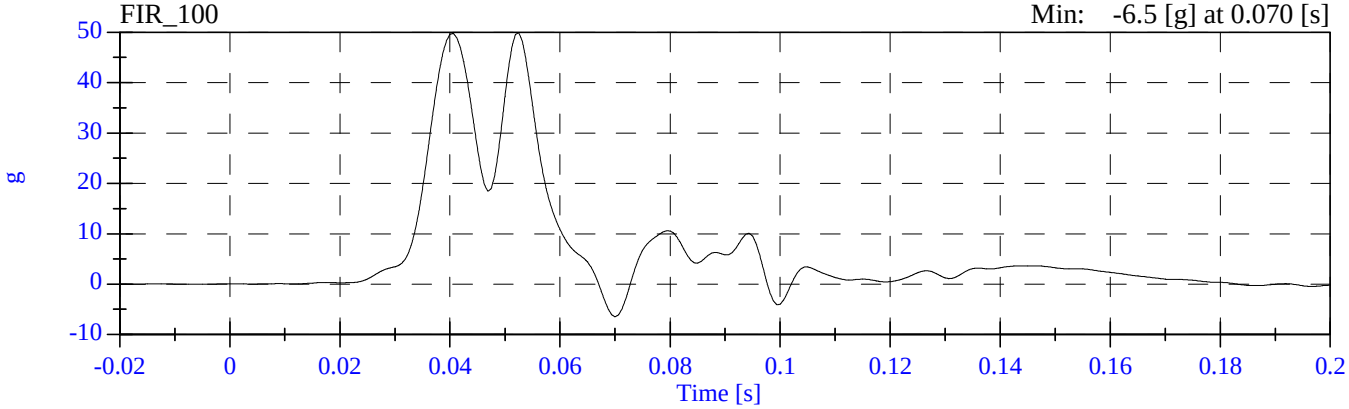


FMVSS 214I - 2009 Nissan Cube
C95211 - June 11, 2009

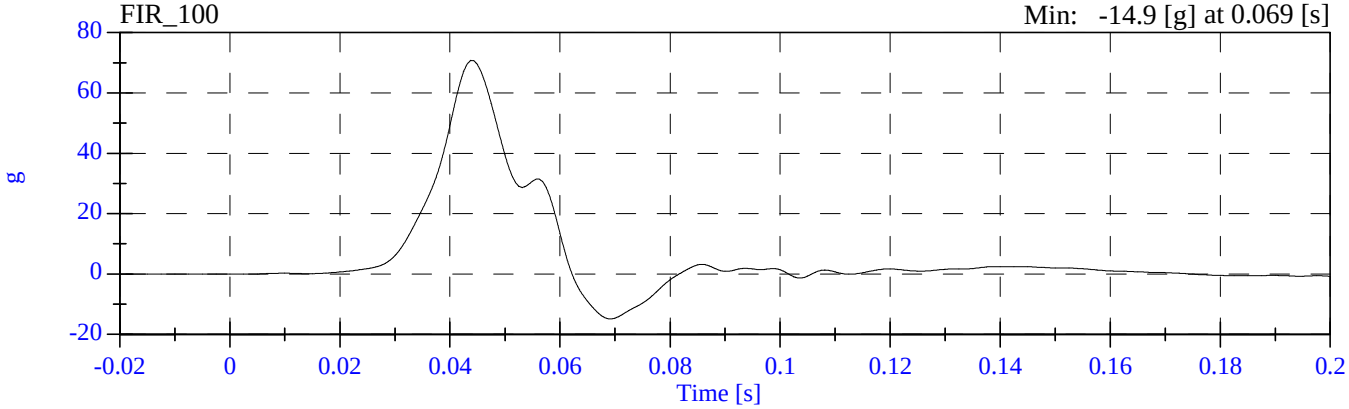
V2P4 Upper Rib y
FIR_100
Max: 42.1 [g] at 0.042 [s]
Min: -2.0 [g] at 0.118 [s]



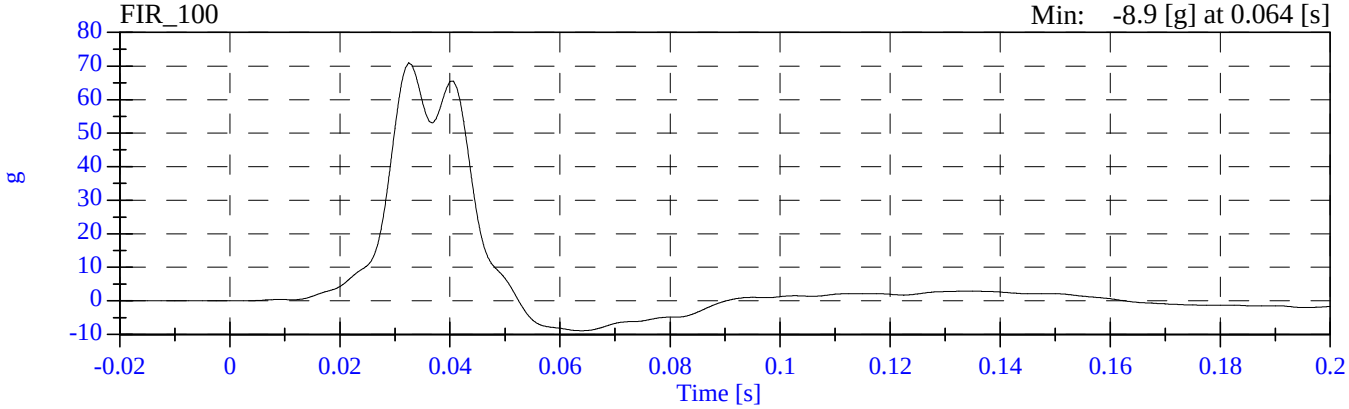
V2P4 Lower Rib y
FIR_100
Max: 49.9 [g] at 0.052 [s]
Min: -6.5 [g] at 0.070 [s]



V2P4 Lower Spine y
FIR_100
Max: 70.8 [g] at 0.044 [s]
Min: -14.9 [g] at 0.069 [s]



V2P4 Pelvic y
FIR_100
Max: 71.0 [g] at 0.032 [s]
Min: -8.9 [g] at 0.064 [s]



APPENDIX C

DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID H3 PRE & POST TEST CALIBRATION

CONFIGURED FOR LEFT SIDE IMPACT

Date: 5/21/09; 7/2/09 Sequential Test Number: 1
Laboratory Technician: A. Rudniski

TEST PARAMETER	SPECIFICATION	SID H3 NO.: 269		SID H3 NO.: 270	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	899	899	899	899
RH- Rib Height (mm)	501 - 521	505	505	505	505
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	516	516	518	518
SW- Knee Pivot to Floor (mm)	490 - 505	495	495	495	495
HW- Hip Width (mm)	356 - 391	381	381	384	384
THORAX IMPACTS					
TEMPERATURE (• C)	18.9 - 25.5	21.7	22.2	22.2	22.2
RELATIVE. HUMIDITY (%)	10 -70	28	62	28	62
PROBE SPEED (m/s)	4.27 - 4.33	4.30	4.31	4.31	4.30
UPPER RIB (g's)	37 - 46	39.25	41.78	41.27	40.86
LOWER RIB (g's)	37 - 46	39.03	41.12	41.60	39.71
LOWER SPINE (g's)	15 -22	17.94	18.75	21.78	20.30
PELVIS IMPACT					
TEMPERATURE (• C)	18.9 - 25.5	21.7	23.3	22.2	22.2
RELATIVE HUMIDITY (%)	10 – 70	21	53	28	62
PROBE SPEED (m/s)	4.27 - 4.33	4.30	4.31	4.31	4.31
PELVIS (g's)	40 -60	42.36	45.95	49.39	43.85

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID H3 NO.: 269

CONFIGURED FOR LEFT SIDE IMPACT

CALIBRATION TEST RESULTS SUMMARY
PRE-TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1
Date: 5/26/09 Laboratory Technician: A. Rudniski

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

* Test not required for SID certification.

REMARKS: None

EXTERNAL DIMENSIONS
PRE-TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1
Date: 5/20/09 Laboratory Technician: A. Rudniski

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

REMARKS: None

Shock Test Low (3.05 m/s)

PRE TEST

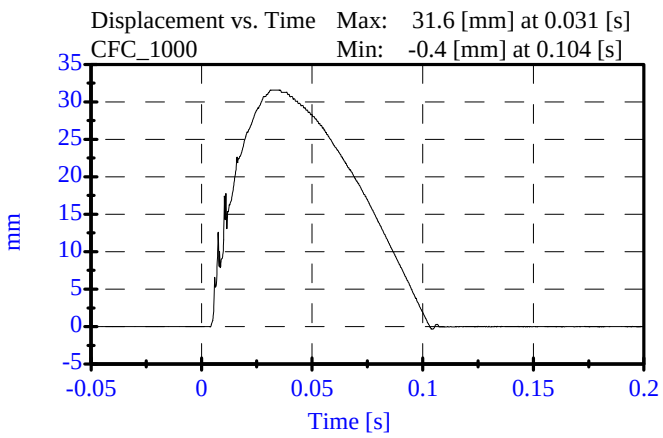
CONFIGURED FOR LEFT SIDE IMPACT

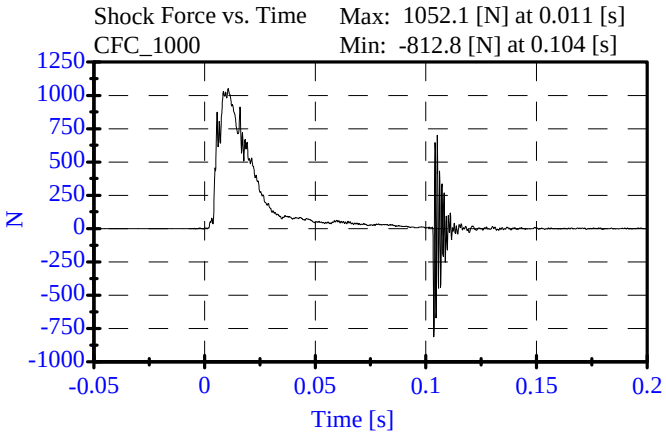
ATD Serial No: 269 Sequential Test Number: 1 File: 269SL 04-06-09

Date: 04-06-09 Laboratory Technician: A. Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	22.2 C	Passed
Lab Humidity:	10-70 %	28.00 %	Passed
Displacement:	30.00-35.00 mm	31.59 mm	Passed
Maximum Force:	836.00-1125.00 N	1052.06 N	Passed

Impact Test Velocity: 3.05 m/s
Damper Identification: 269
Damper Setting: 5





Shock Test Medium (4.27 m/s)

PRE TEST

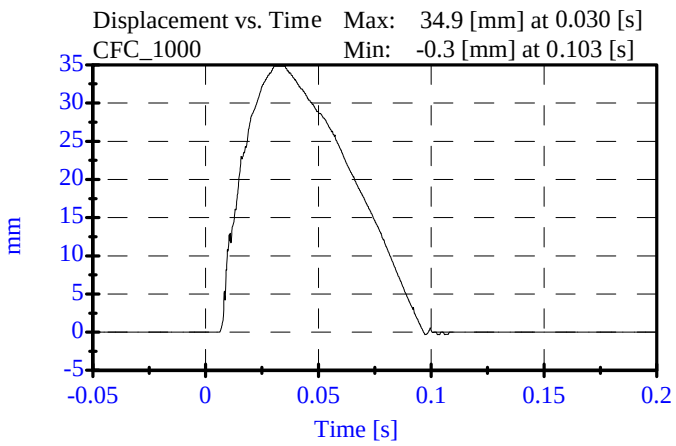
CONFIGURED FOR LEFT SIDE IMPACT

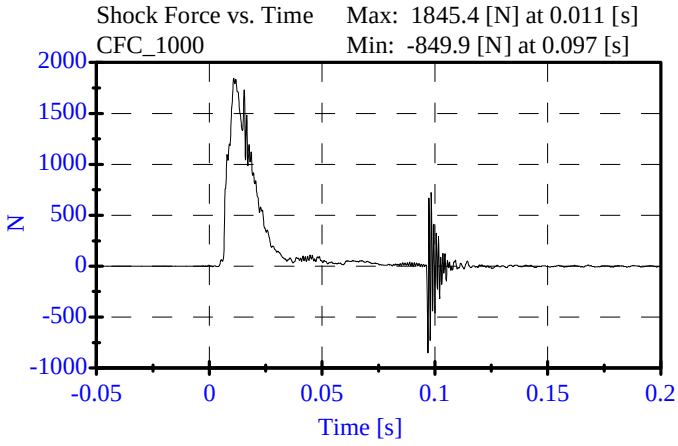
ATD Serial No: 269 Sequential Test Number: 1 File: 269SM 04-06-09

Date: 04-06-09 Laboratory Technician: A. Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	22.2 C	Passed
Lab Humidity:	10-70 %	28.00 %	Passed
Displacement:	32.00-37.00 mm	34.85 mm	Passed
Maximum Force:	1730.00-2099.00 N	1845.37 N	Passed

Impact Test Velocity: 4.27 m/s
Damper Identification: 269
Damper Setting: 5





Shock Test High (6.10 m/s)

PRE TEST

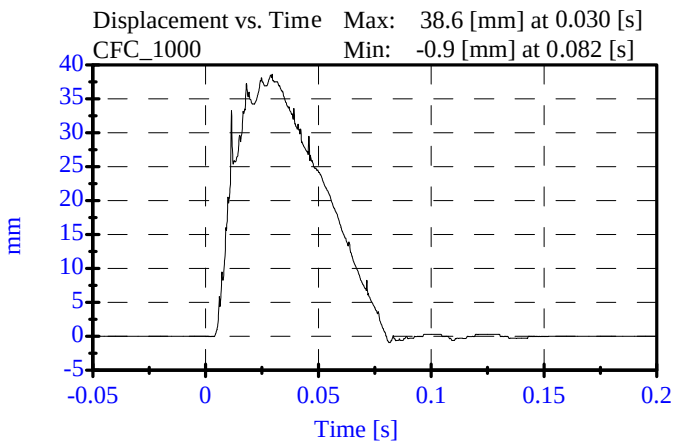
CONFIGURED FOR LEFT SIDE IMPACT

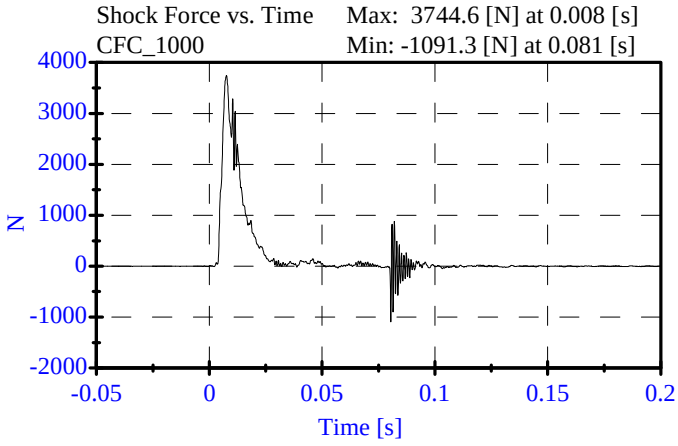
ATD Serial No: 269 Sequential Test Number: 1 File: 269SH 04-06-09

Date: 04-06-09 Laboratory Technician: A. Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	22.2 C	Passed
Lab Humidity:	10-70 %	28.00 %	Passed
Displacement:	33.00-40.00 mm	38.65 mm	Passed
Maximum Force:	3741.00-4448.00 N	3744.61 N	Passed

Impact Test Velocity: 6.10 m/s
Damper Identification: 269
Damper Setting: 5





Thorax Impact Test

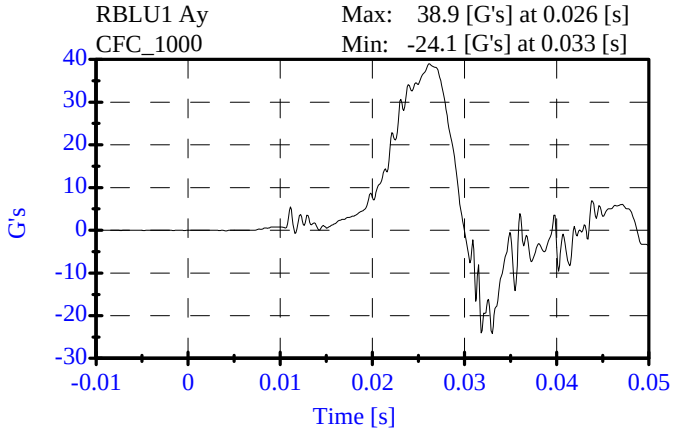
Pre-Test

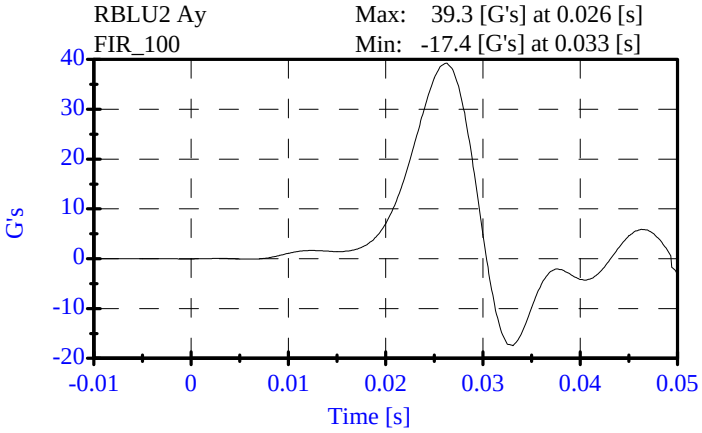
CONFIGURED FOR LEFT SIDE IMPACT

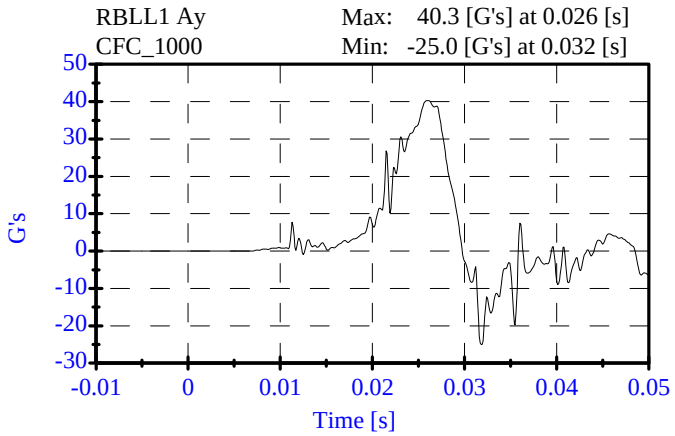
ATD Serial No: 269 Sequential Test Number: 1 File: 269T1 05-21-09

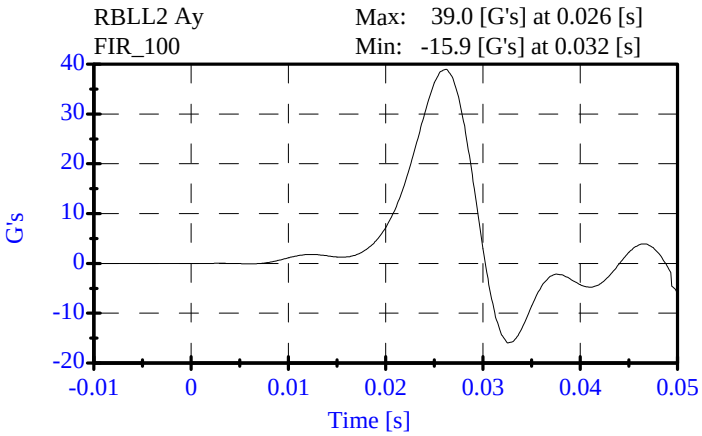
Date: 05-21-09 Laboratory Technician: A. Rudniski

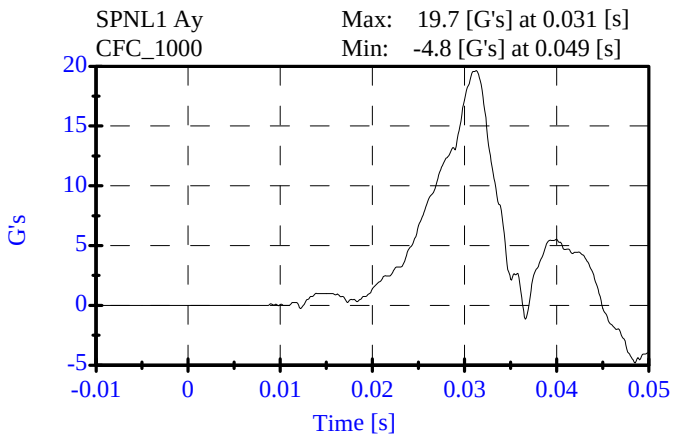
TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.7 C	Passed
Lab Humidity:	10-70 %	28.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.30 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	39.25 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	39.03 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	17.94 G's	Passed

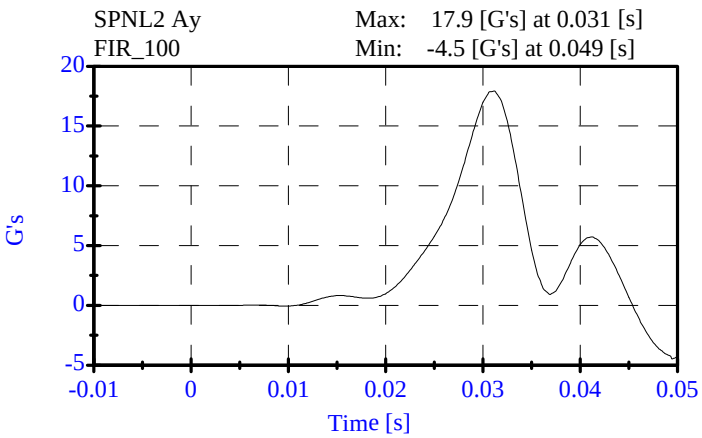












Pelvis Impact Test

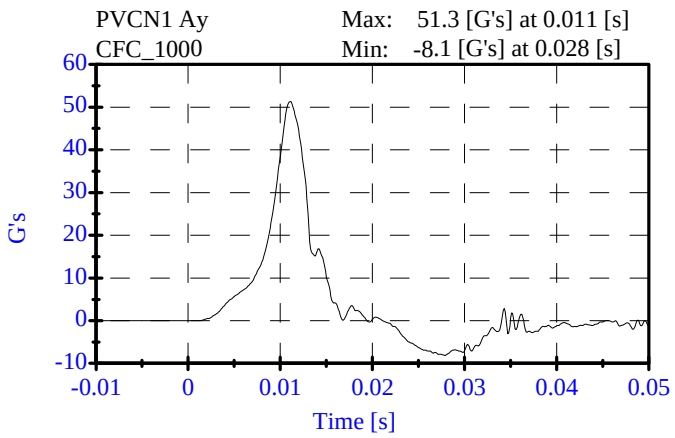
Pre-Test

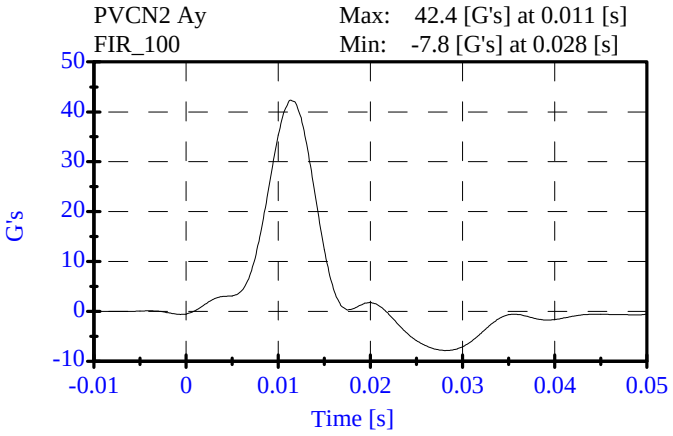
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269 Sequential Test Number: 1 File: 269P 05-21-09

Date: 05-21-09 Laboratory Technician: A. Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.7 C	Passed
Lab Humidity:	10-70 %	21.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.30 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	42.36 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.8 ms	Passed





Head Drop Test

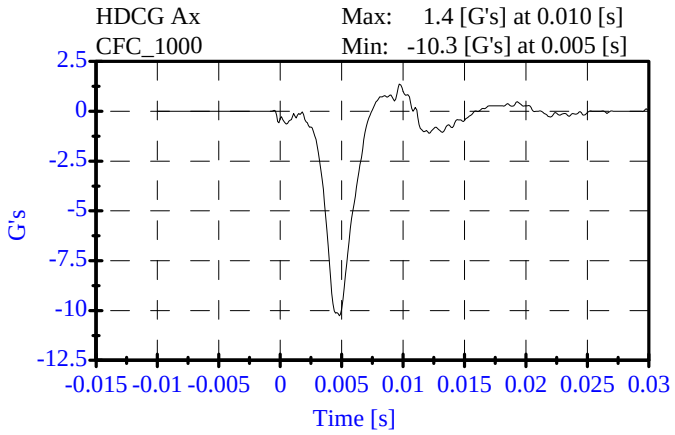
Pre-Test

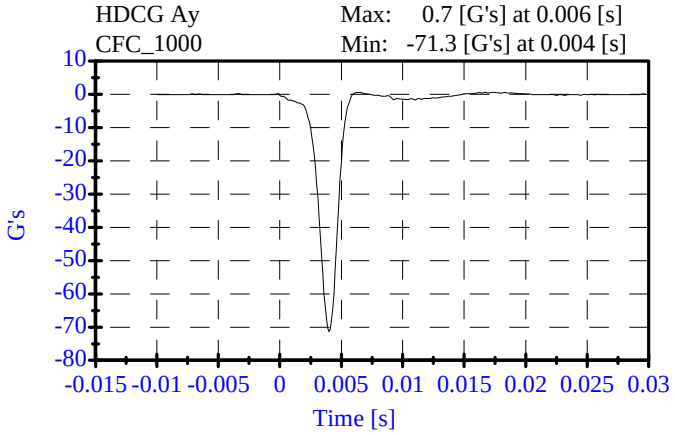
CONFIGURED FOR LEFT SIDE IMPACT

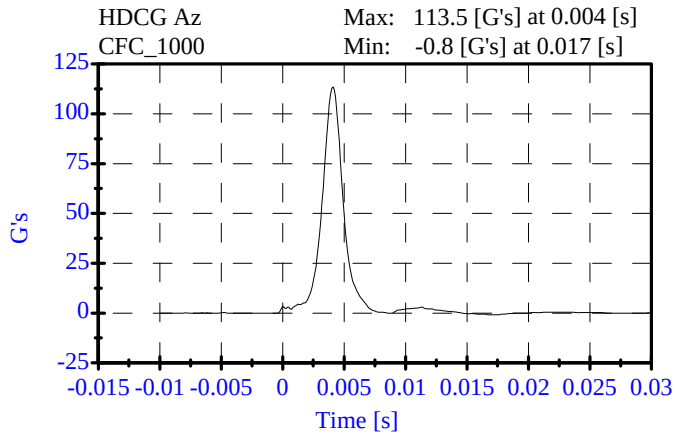
ATD Serial No: 269 Sequential Test Number: 1 File: 269H1 05-20-09

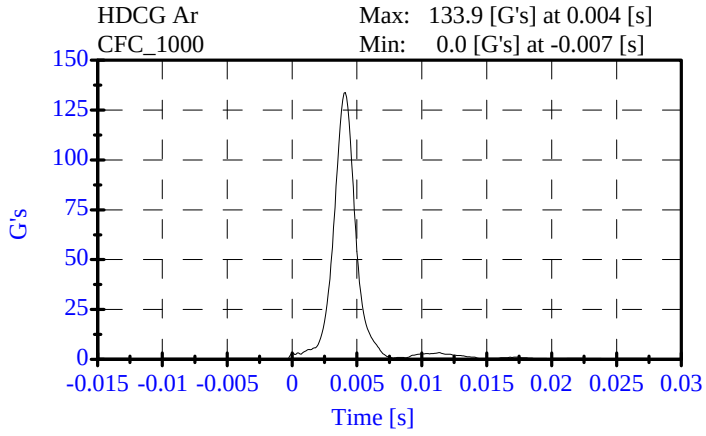
Date: 05-20-09 Laboratory Technician: A.Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	22.2 C	Passed
Lab Humidity:	10-70 %	24.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	133.90 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	1.36 Gs	Passed
Curve PerCent NonModal:	< 15%	2.48 %	Passed









Neck Flexion Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269 Sequential Test Number: 1 File: 269N 05-20-09

Date: 05-20-09 Laboratory Technician: A. Rudnski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	20.6-22.2 C	21.7 C	Passed
Lab Humidity:	10-70 %	25.00 %	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	2.34 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.79 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.69 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.01 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	72.48 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	60.90 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	76.43 N-m	Passed
Occiptal Moment Decay:	49.0-64.0 ms	58.10 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	12.40 ms	Passed

Neck Flexion Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

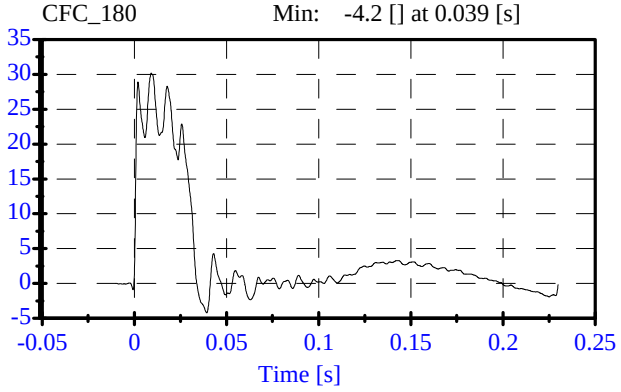
ATD Serial No: 269

Sequential Test Number: 1 File: 269N 05-20-09

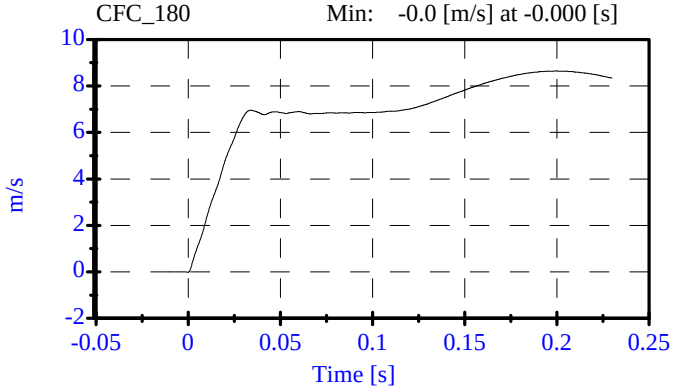
Date: 05-20-09

Laboratory Technician: A. Rudniski

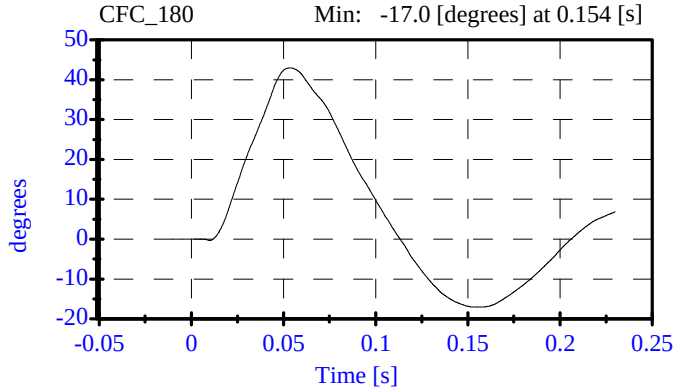
Pend Ax
CFC_180
Max: 30.2 [] at 0.009 [s]
Min: -4.2 [] at 0.039 [s]



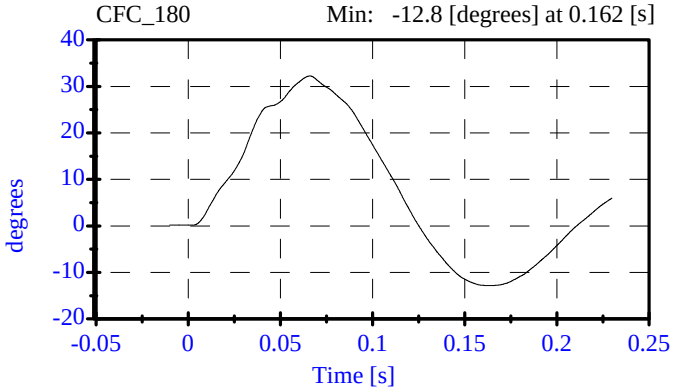
Pend Vx
CFC_180
Max: 8.6 [m/s] at 0.200 [s]
Min: -0.0 [m/s] at -0.000 [s]



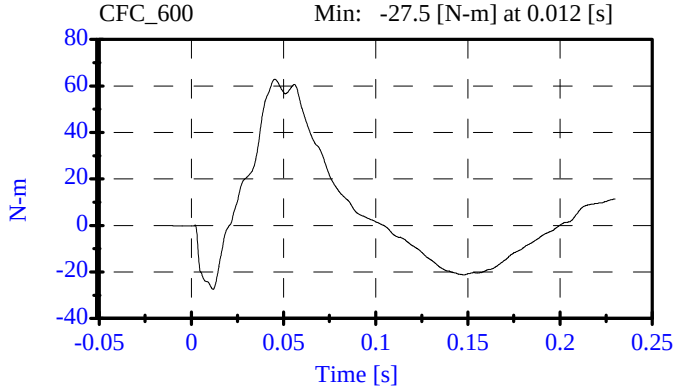
Head Rot
CFC_180
Max: 43.0 [degrees] at 0.053 [s]
Min: -17.0 [degrees] at 0.154 [s]



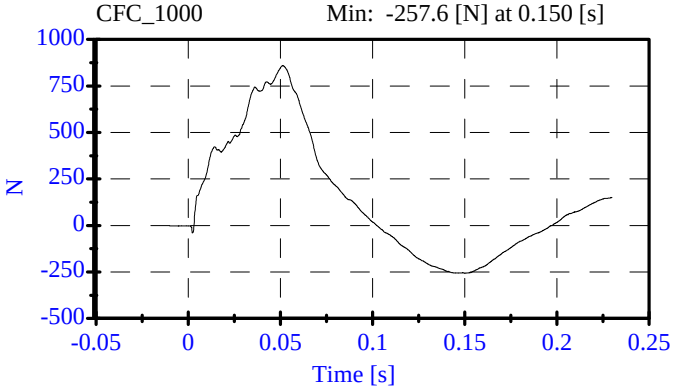
Arm Rot
CFC_180
Max: 32.3 [degrees] at 0.066 [s]
Min: -12.8 [degrees] at 0.162 [s]



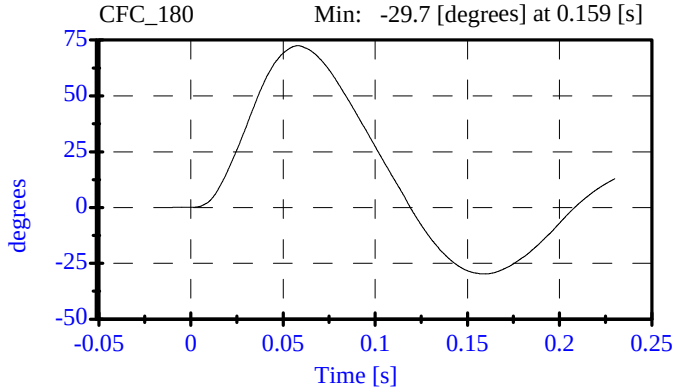
Neck Mx
CFC_600
Max: 62.8 [N-m] at 0.046 [s]
Min: -27.5 [N-m] at 0.012 [s]



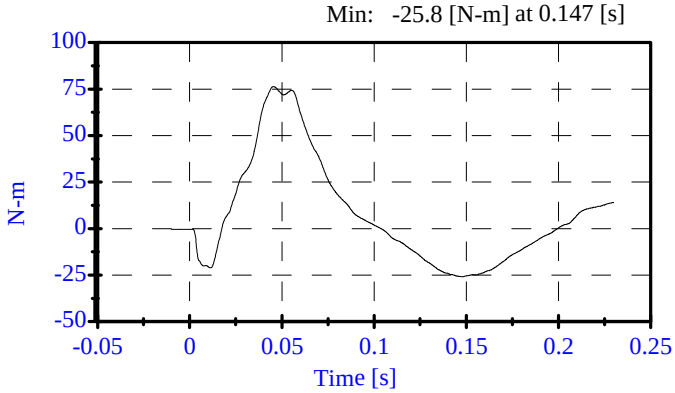
Neck Fy
CFC_1000
Max: 859.0 [N] at 0.051 [s]
Min: -257.6 [N] at 0.150 [s]



Tot Rot
CFC_180
Max: 72.5 [degrees] at 0.058 [s]
Min: -29.7 [degrees] at 0.159 [s]



MOCX
Max: 76.4 [N-m] at 0.046 [s]
Min: -25.8 [N-m] at 0.147 [s]



Abdominal Compression Test

Pre-Test

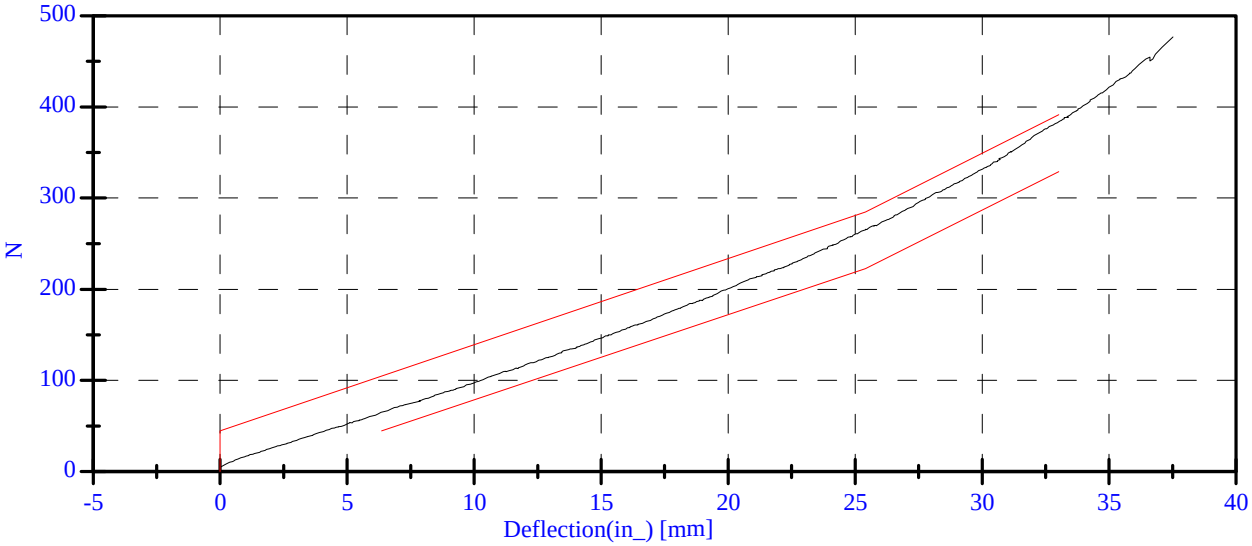
CONFIGURED FOR LEFT SIDE IMPACT

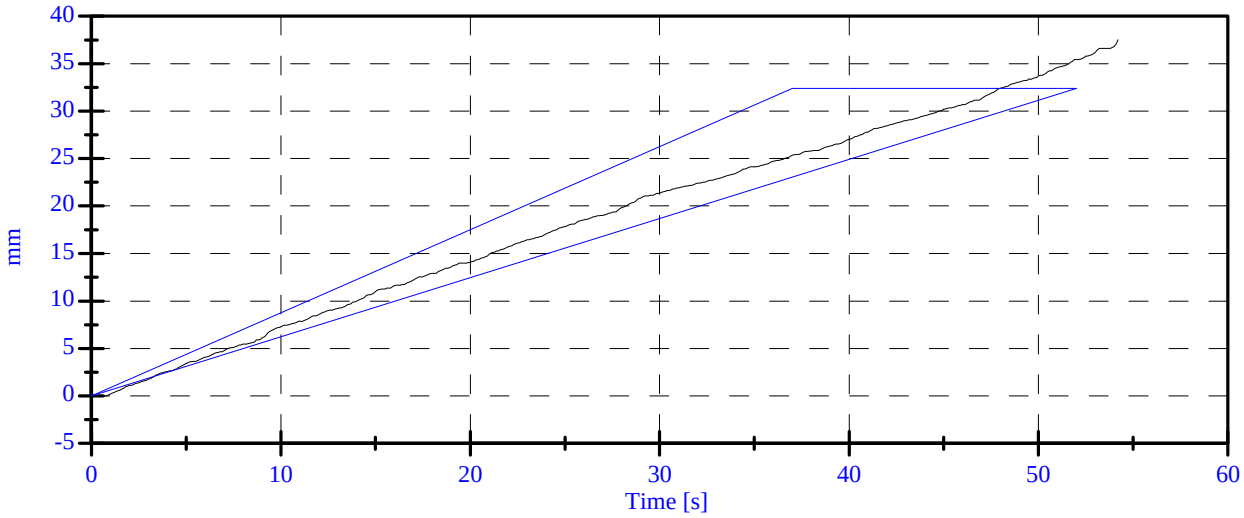
ATD Serial No: 269 Sequential Test Number: 1 File: 269Ab 05-21-09

Date: 05-21-09 Laboratory Technician: A. Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.7 C	Passed
Lab Humidity:	10-70 %	28.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	125.04 N	Passed
Force at 19.05 mm :	162.98-220.99 N	188.47 N	Passed
Force at 25.40 mm :	221.97-280.02 N	265.03 N	Passed
Force at 33.02 mm :	324.99-391.00 N	383.87 N	Passed

ABDOMINAL COMPRESSION TEST





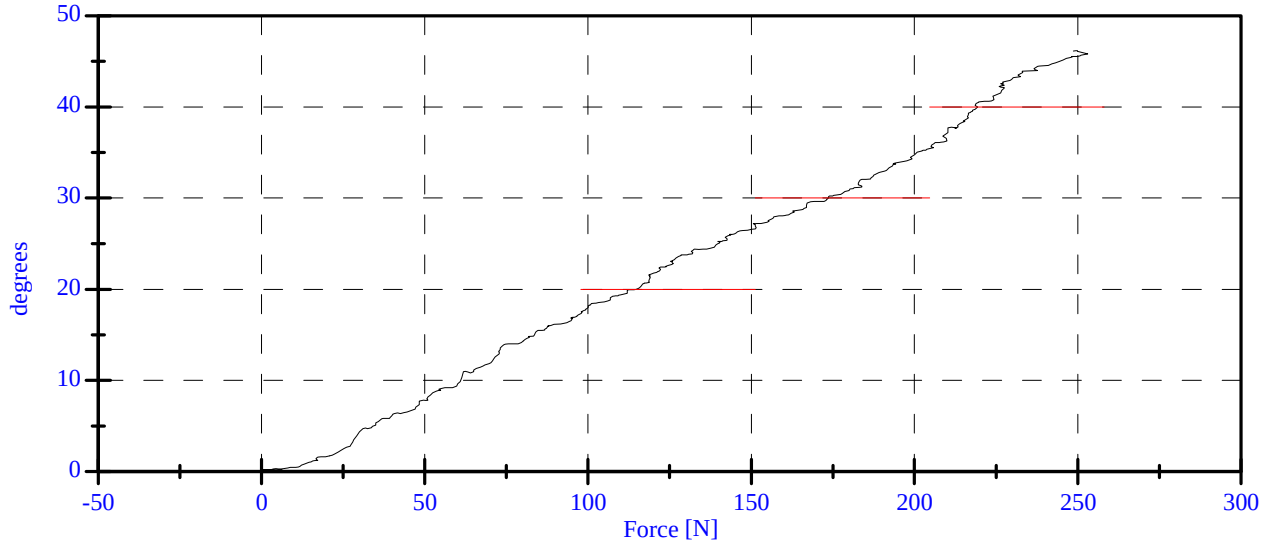
Lumbar Spine Test
Pre-Test

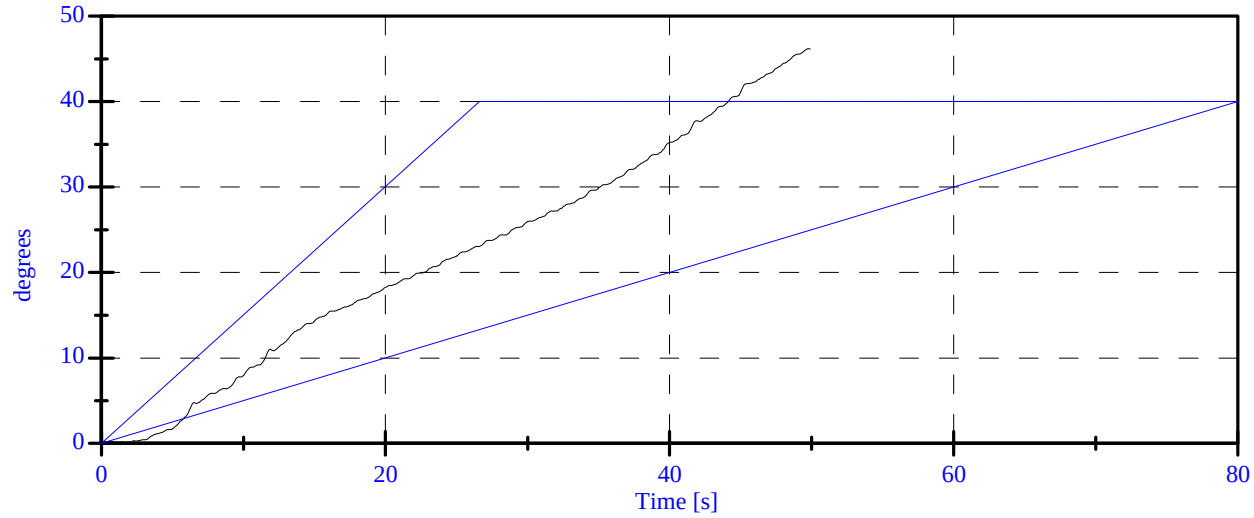
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269 Sequential Test Number: 1 File: 269 Spine 05-26-09
Date: 05-26-09 Laboratory Technician: A. Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.7 C	Passed
Lab Humidity:	10-70 %	24.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	5.74 N	Passed
Force at 20 Deg:	97.86-151.24 N	114.64 N	Passed
Force at 30 Deg	151.24-204.62 N	173.67 N	Passed
Force at 40 Deg	204.62-258.00 N	219.37 N	Passed
Return Angle	12 Deg Max	6.81 deg	Passed

LUMBAR SPINE FLEXION TEST





PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1
Date: 5/19/09 Laboratory Technician: A. Rudniski

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

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID H3 NO.: 270

CONFIGURED FOR LEFT SIDE IMPACT

CALIBRATION TEST RESULTS SUMMARY
PRE-TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 1
Date: 4/7/09 Laboratory Technician: A. Rudniski

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

* Test not required for SID certification.

REMARKS: None

EXTERNAL DIMENSIONS
PRE-TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 1
Date: 4/7/09 Laboratory Technician: A. Rudniski

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	495
HW- Hip Width (mm)	356 - 391	384

REMARKS: None

Shock Test Low (3.05 m/s)

PRE TEST

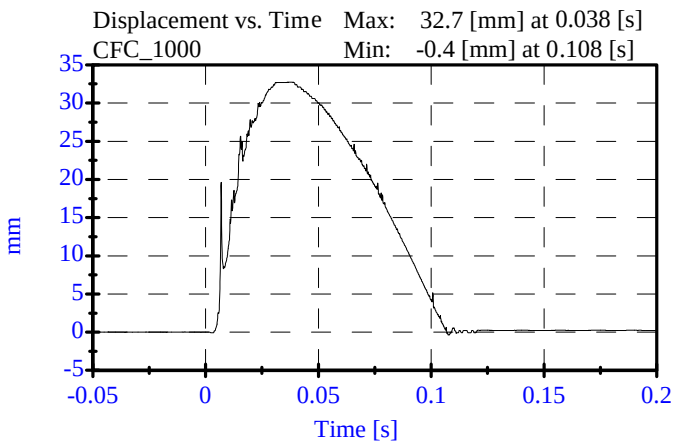
CONFIGURED FOR LEFT SIDE IMPACT

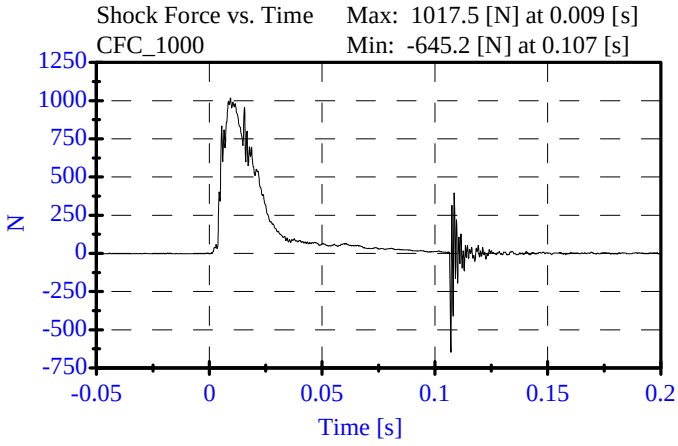
ATD Serial No: 270 Sequential Test Number: 1 File: 270SL 04-06-09

Date: 04-06-09 Laboratory Technician: A. Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	22.2 C	Passed
Lab Humidity:	10-70 %	28.00 %	Passed
Displacement:	30.00-35.00 mm	32.73 mm	Passed
Maximum Force:	836.00-1125.00 N	1017.49 N	Passed

Impact Test Velocity: 3.05 m/s
Damper Identification: 270
Damper Setting: 5





Shock Test Medium (4.27 m/s)

PRE TEST

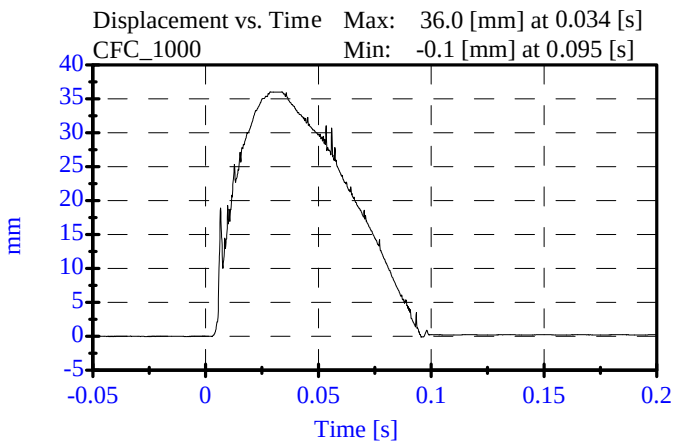
CONFIGURED FOR LEFT SIDE IMPACT

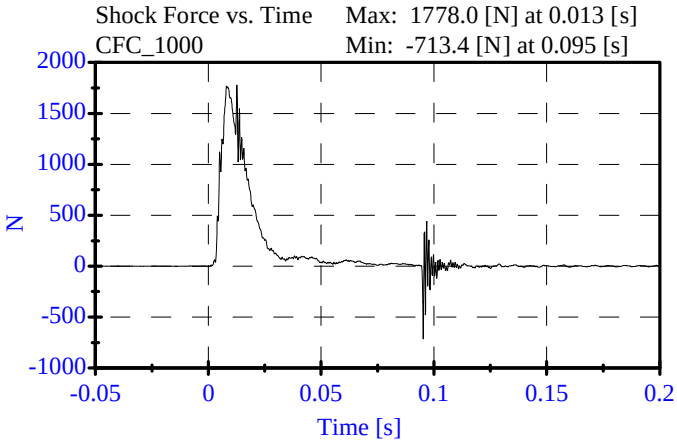
ATD Serial No: 270 Sequential Test Number: 1 File: 270SM 04-06-09

Date: 04-06-09 Laboratory Technician: A. Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	22.2 C	Passed
Lab Humidity:	10-70 %	28.00 %	Passed
Displacement:	32.00-37.00 mm	36.02 mm	Passed
Maximum Force:	1730.00-2099.00 N	1778.00 N	Passed

Impact Test Velocity: 4.27 m/s
Damper Identification: 270
Damper Setting: 5





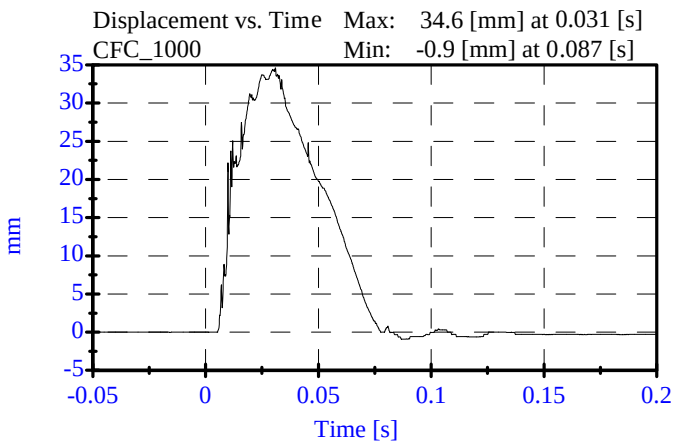
Shock Test High (6.10 m/s)
PRE TEST

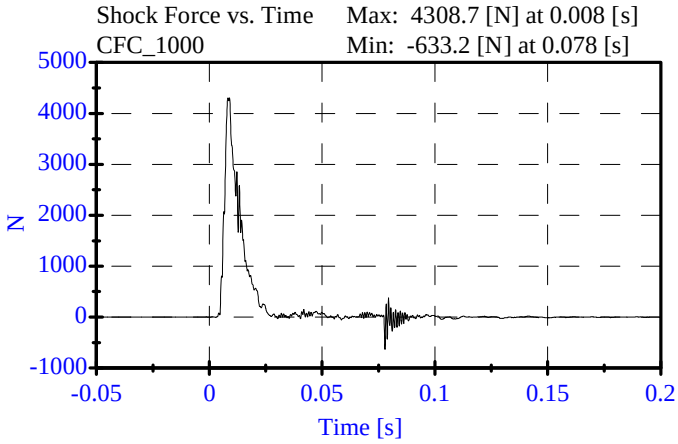
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270 Sequential Test Number: 1 File: 270SH2 04-06-09
Date: 04-06-09 Laboratory Technician: A. Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	22.2 C	Passed
Lab Humidity:	10-70 %	28.00 %	Passed
Displacement:	33.00-40.00 mm	34.65 mm	Passed
Maximum Force:	3741.00-4448.00 N	4308.68 N	Passed

Impact Test Velocity: 6.10 m/s
Damper Identification: 270
Damper Setting: 5





Thorax Impact

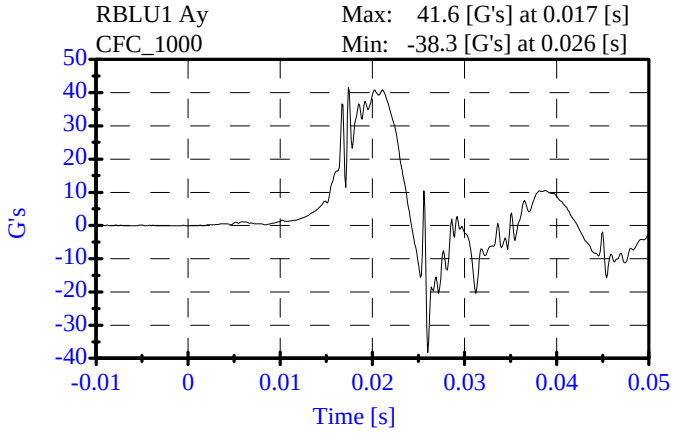
Pre-Test

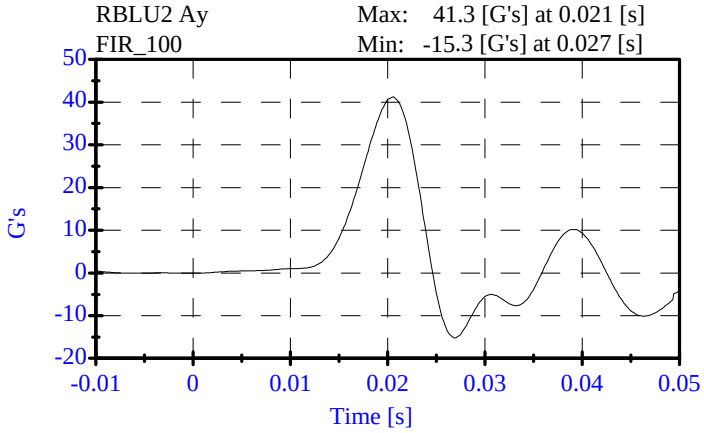
CONFIGURED FOR LEFT SIDE IMPACT

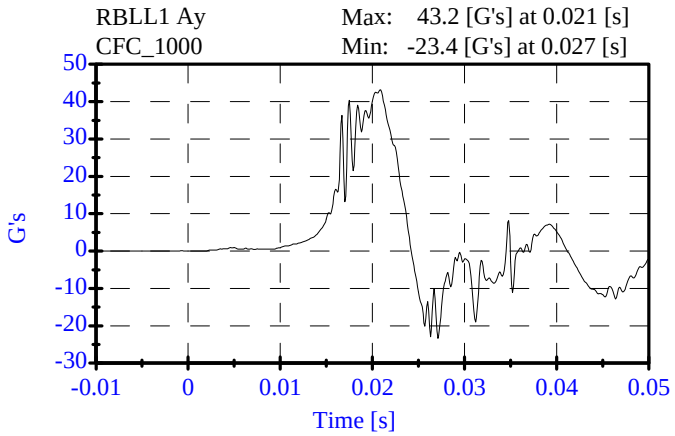
ATD Serial No: 270 Sequential Test Number: 1 File: 270T2 04-06-09

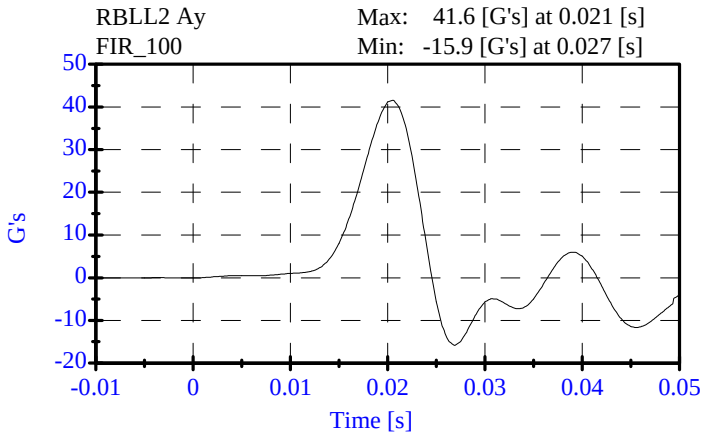
Date: 04-06-09 Laboratory Technician: A. Rudniski

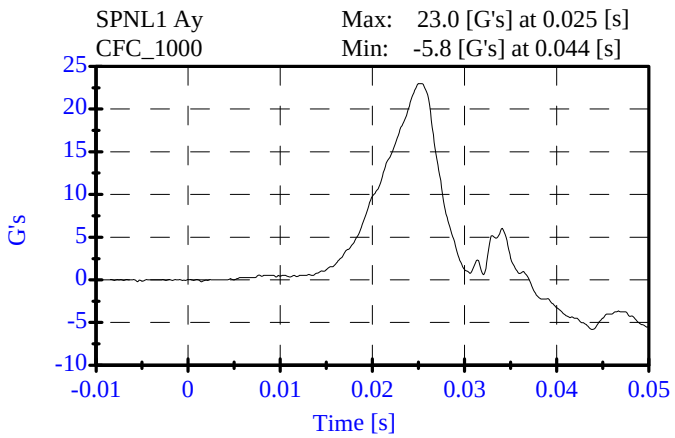
TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	22.2 C	Passed
Lab Humidity:	10-70 %	28.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.31 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	41.27 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	41.60 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	21.78 G's	Passed

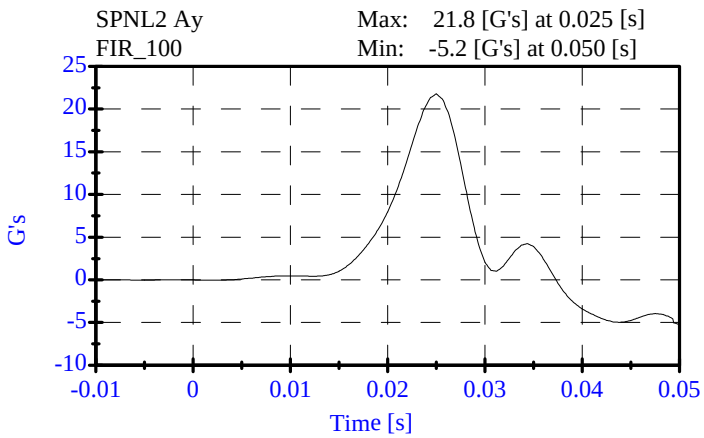












Pelvis Impact

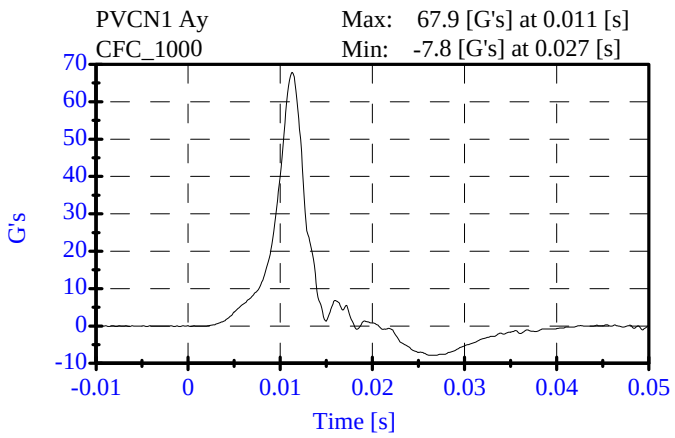
Pre-Test

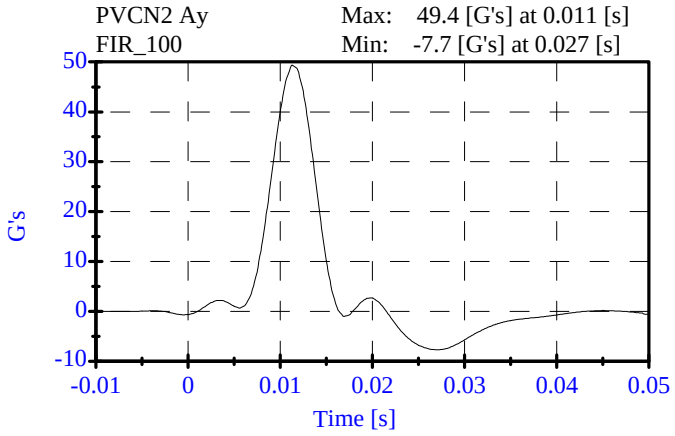
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270 Sequential Test Number: 1 File: 270P 04-06-09

Date: 04-06-09 Laboratory Technician: A. Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	22.2 C	Passed
Lab Humidity:	10-70 %	28.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.31 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	49.39 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.7 ms	Passed





Head Drop Test

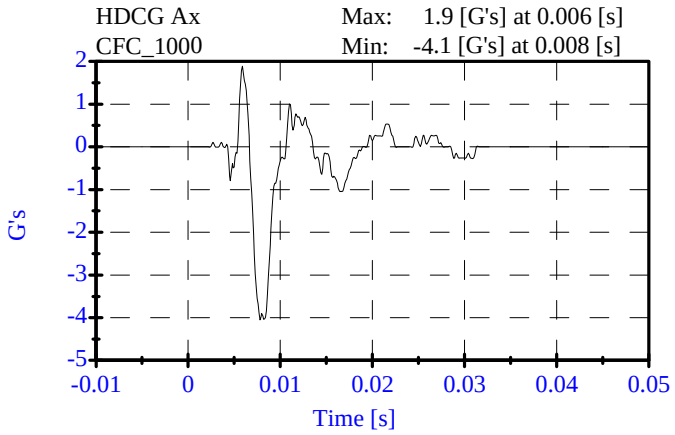
Pre-Test

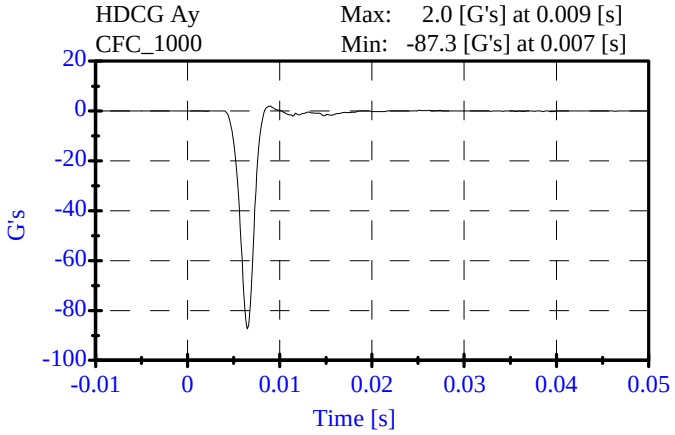
CONFIGURED FOR LEFT SIDE IMPACT

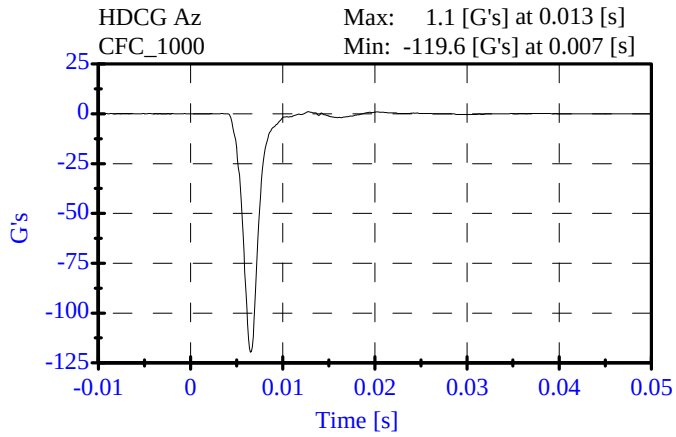
ATD Serial No: 270 Sequential Test Number: 1 File: 270H1 04-02-09

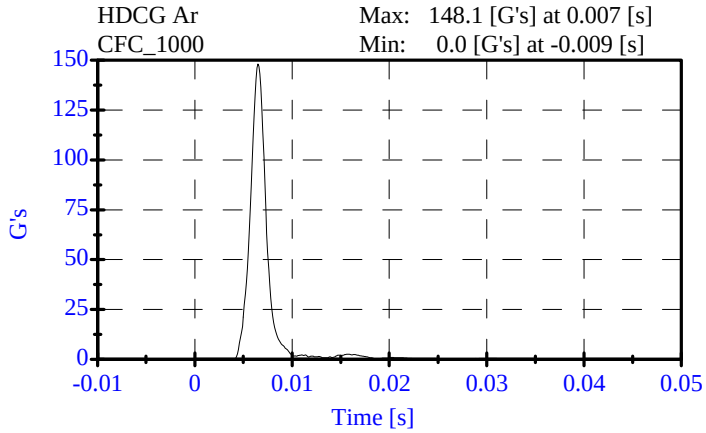
Date: 04-02-09 Laboratory Technician: A.Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	25.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	148.08 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	1.89 Gs	Passed
Curve PerCent NonModal:	< 15%	1.75 %	Passed









Neck Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270 Sequential Test Number: 1 File: 270N1 04-02-09

Date: 04-02-09 Laboratory Technician: A. Rudnski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	20.6-22.2 C	21.7 C	Passed
Lab Humidity:	10-70 %	24.00 %	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	2.31 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.67 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.57 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.50 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	70.66 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	82.06 N-m	Passed
Occiptal Moment Decay:	49.0-64.0 ms	55.30 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	12.10 ms	Passed

Neck Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

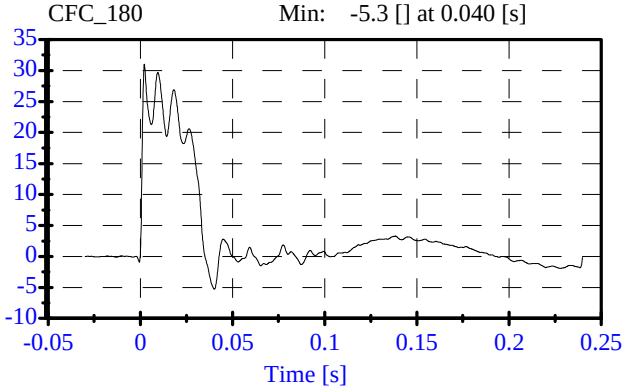
ATD Serial No: 270

Sequential Test Number: 1 File: 270N1 04-02-09

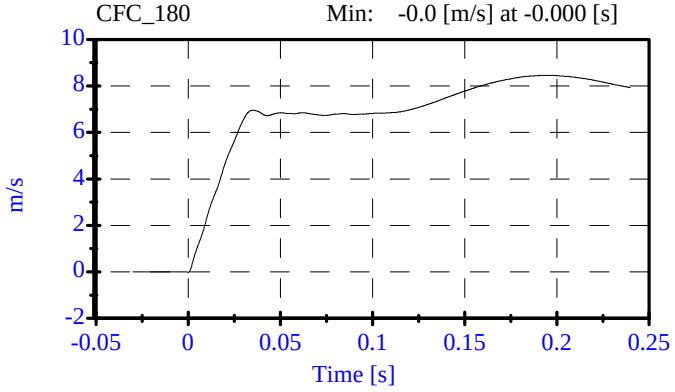
Date: 04-02-09

Laboratory Technician: A. Rudniski

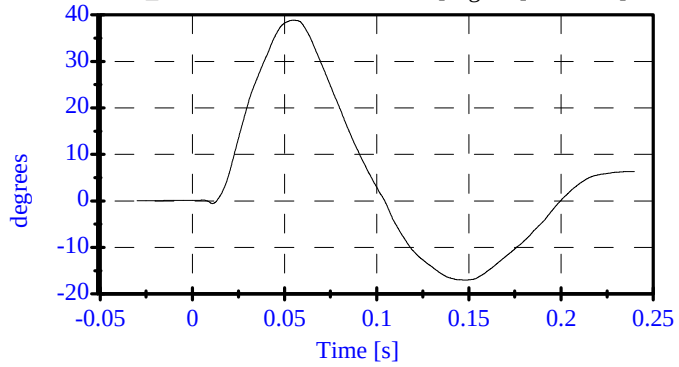
Pend Ax
CFC_180
Max: 31.0 [] at 0.002 [s]
Min: -5.3 [] at 0.040 [s]



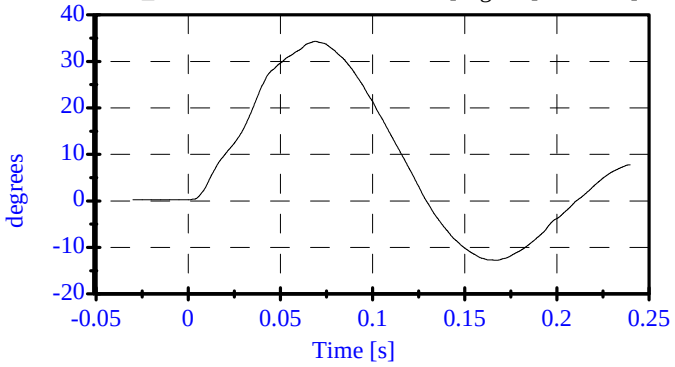
Pend Vx
CFC_180
Max: 8.5 [m/s] at 0.193 [s]
Min: -0.0 [m/s] at -0.000 [s]



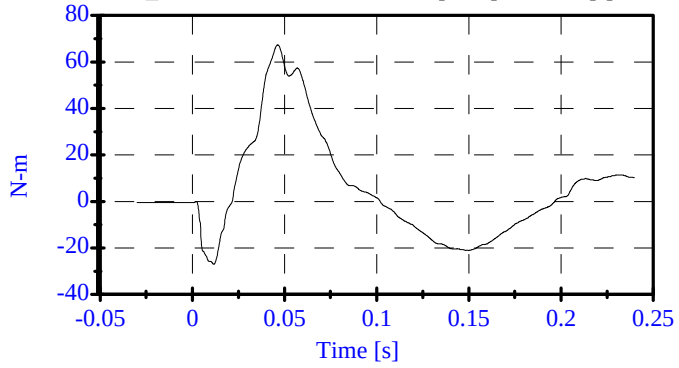
Head Rot
CFC_180
Max: 38.9 [degrees] at 0.054 [s]
Min: -17.0 [degrees] at 0.148 [s]



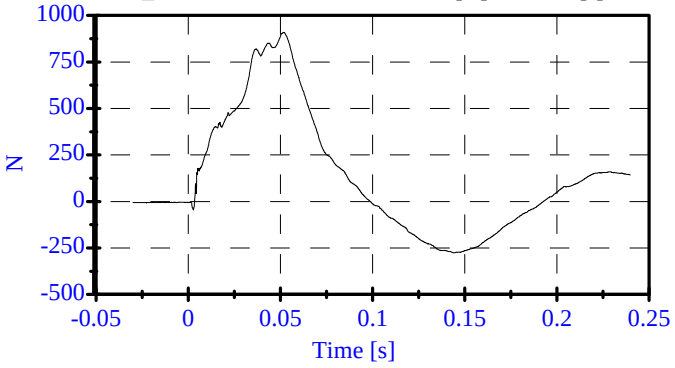
Arm Rot
CFC_180
Max: 34.3 [degrees] at 0.069 [s]
Min: -12.7 [degrees] at 0.167 [s]



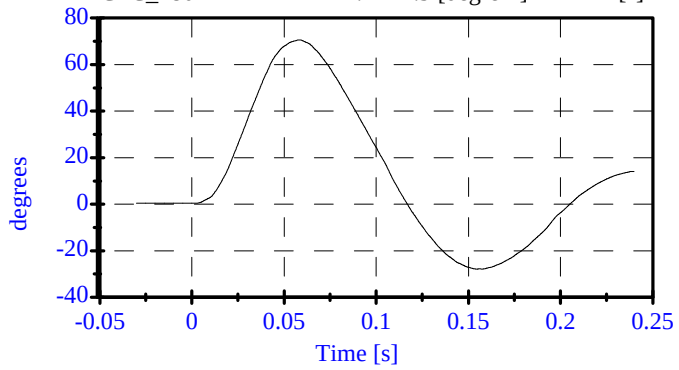
Neck Mx
CFC_600
Max: 67.4 [N-m] at 0.046 [s]
Min: -27.0 [N-m] at 0.012 [s]



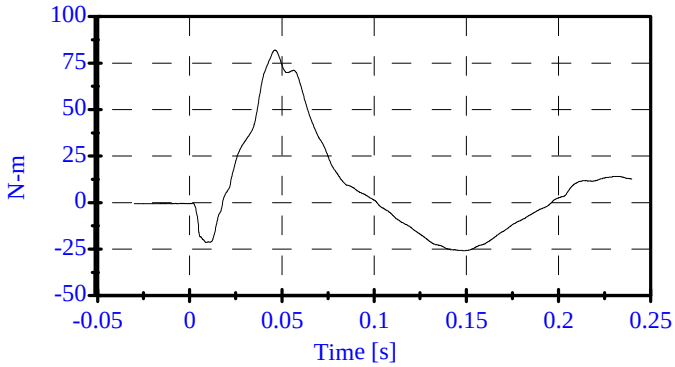
Neck Fy
CFC_1000
Max: 909.0 [N] at 0.052 [s]
Min: -275.7 [N] at 0.144 [s]



Tot Rot
CFC_180
Max: 70.7 [degrees] at 0.058 [s]
Min: -27.9 [degrees] at 0.154 [s]



MOCX
Max: 82.1 [N-m] at 0.046 [s]
Min: -25.9 [N-m] at 0.148 [s]



Abdominal Compression Test

Pre-Test

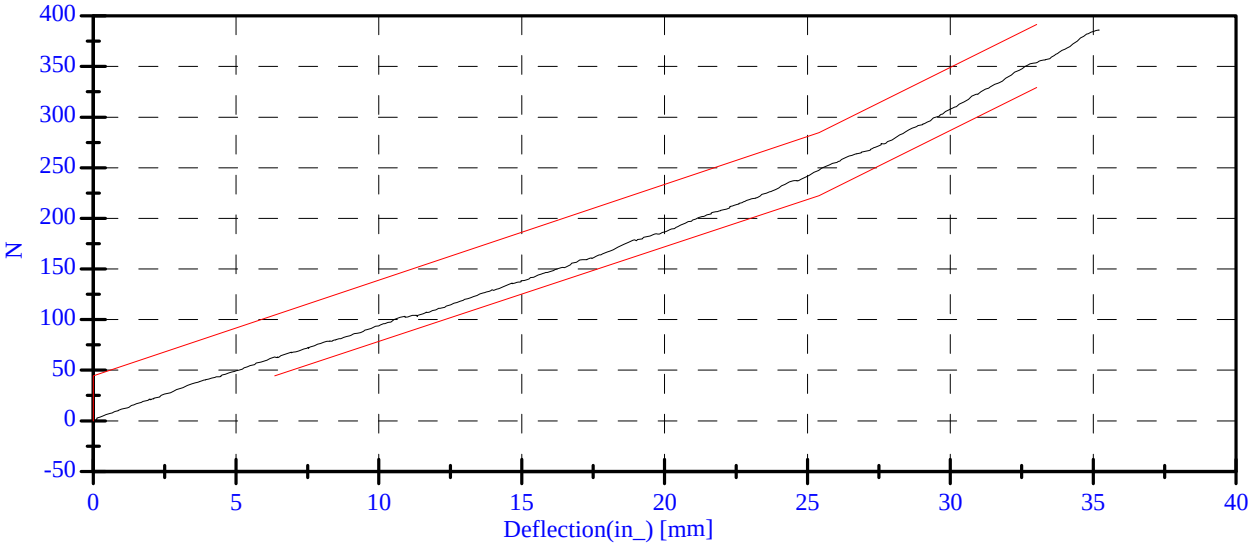
CONFIGURED FOR LEFT SIDE IMPACT

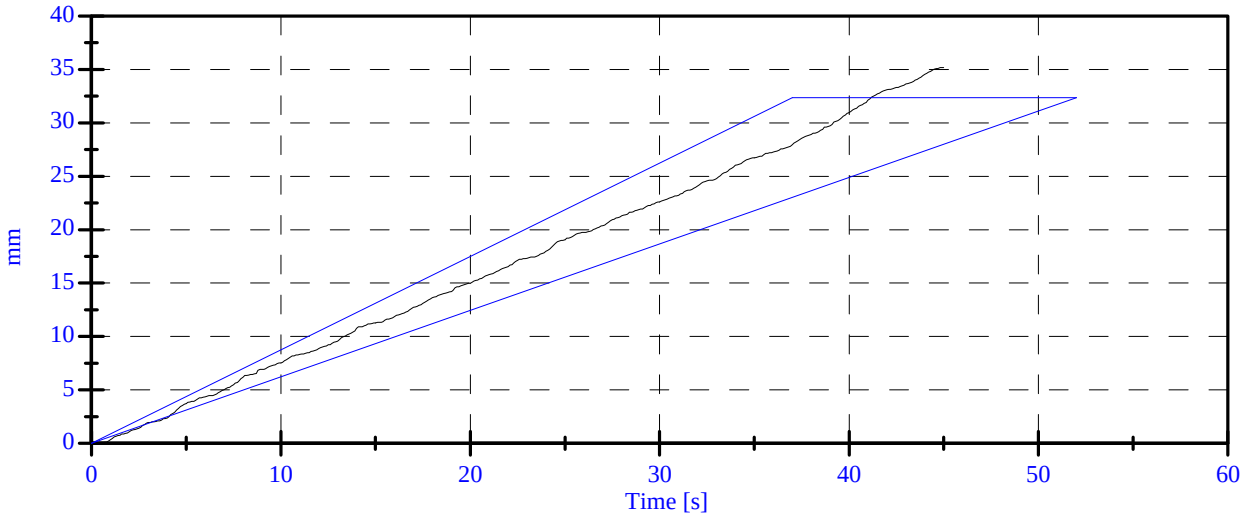
ATD Serial No: 270 Sequential Test Number: 1 File: 270Ab 04-02-09

Date: 04-02-09 Laboratory Technician: A. Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	23.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	119.17 N	Passed
Force at 19.05 mm :	162.98-220.99 N	179.03 N	Passed
Force at 25.40 mm :	221.97-280.02 N	247.30 N	Passed
Force at 33.02 mm :	324.99-391.00 N	353.52 N	Passed

ABDOMINAL COMPRESSION TEST





Lumbar Spine Test

Pre-Test

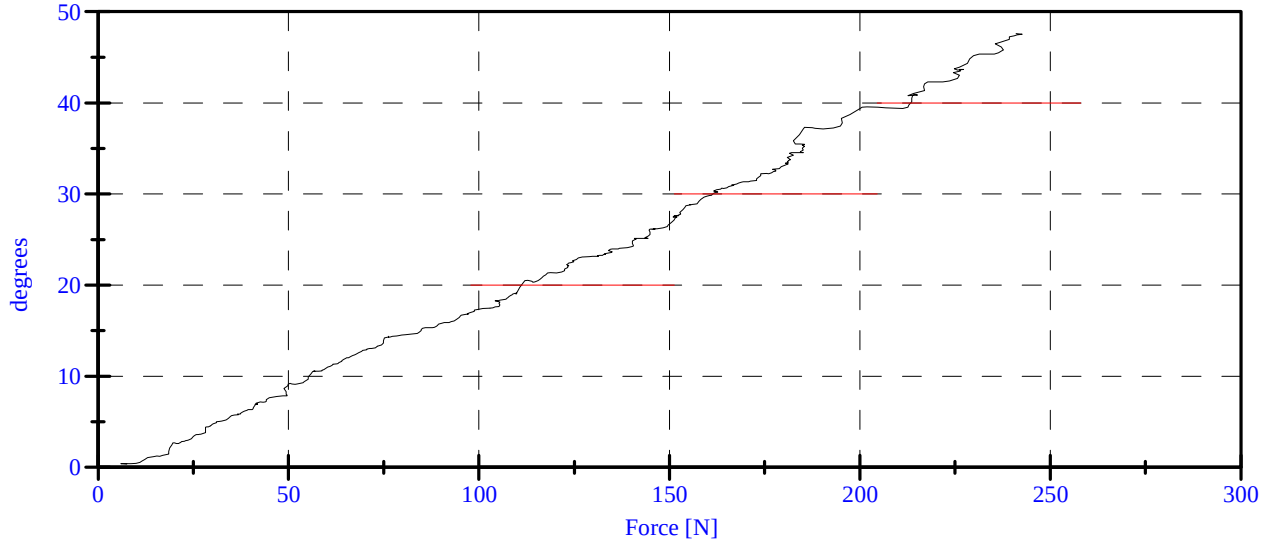
CONFIGURED FOR LEFT SIDE IMPACT

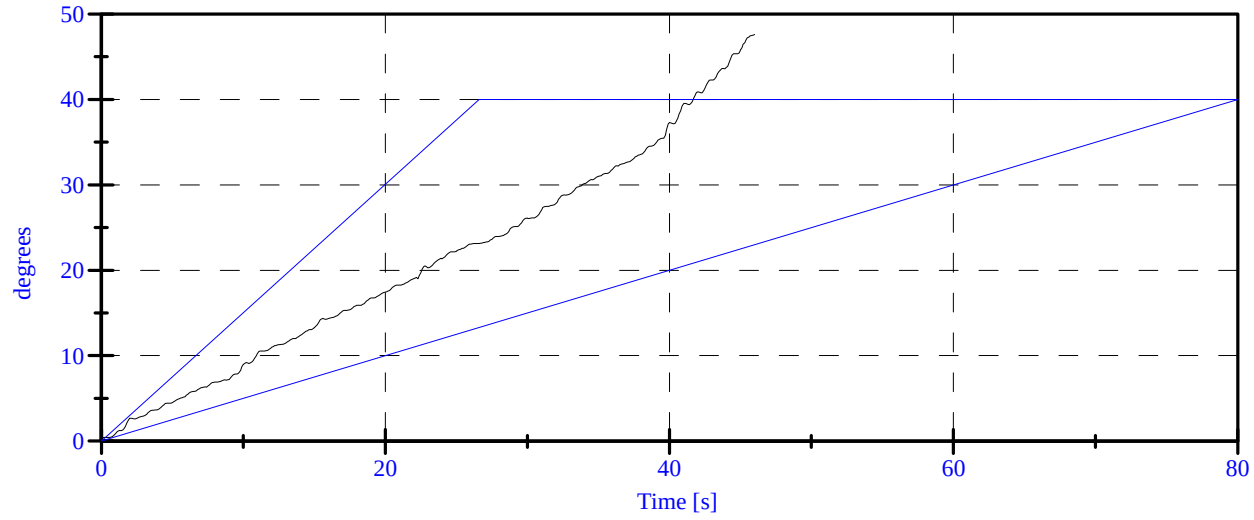
ATD Serial No: 270 Sequential Test Number: 1 File: 270Spine 04-03-09

Date: 04-03-09 Laboratory Technician: A. Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.7 C	Passed
Lab Humidity:	10-70 %	44.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	7.57 N	Passed
Force at 20 Deg:	97.86-151.24 N	111.51 N	Passed
Force at 30 Deg	151.24-204.62 N	161.65 N	Passed
Force at 40 Deg	204.62-258.00 N	213.62 N	Passed
Return Angle	12 Deg Max	7.52 deg	Passed

LUMBAR SPINE FLEXION TEST





PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 1
Date: 4/1/09 Laboratory Technician: A. Rudniski

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

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 269

CONFIGURED FOR LEFT SIDE IMPACT

CALIBRATION TEST RESULTS SUMMARY
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1
Date: 7/2/09 Laboratory Technician: A. Rudniski

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

* Test not required for SID certification.

REMARKS: None

EXTERNAL DIMENSIONS
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1
Date: 6/26/09 Laboratory Technician: A. Rudniski

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

REMARKS: None

Thorax Impact Test

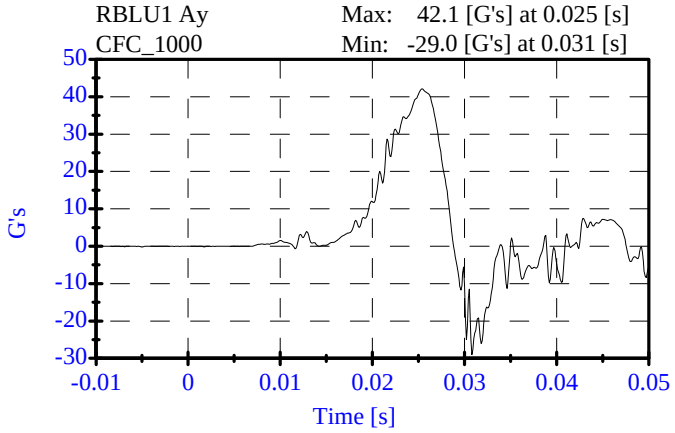
Post-Test

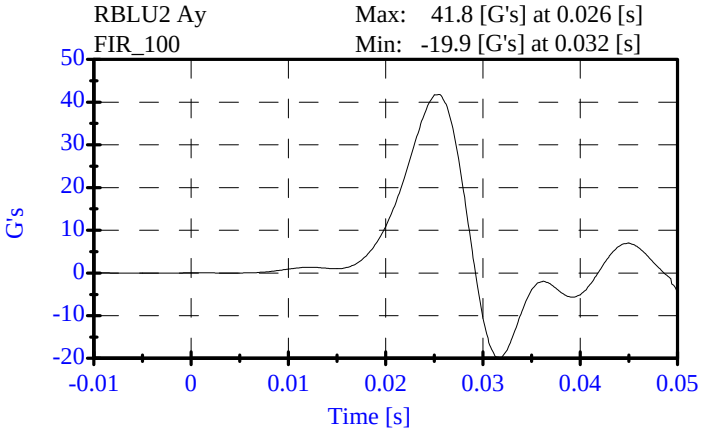
CONFIGURED FOR LEFT SIDE IMPACT

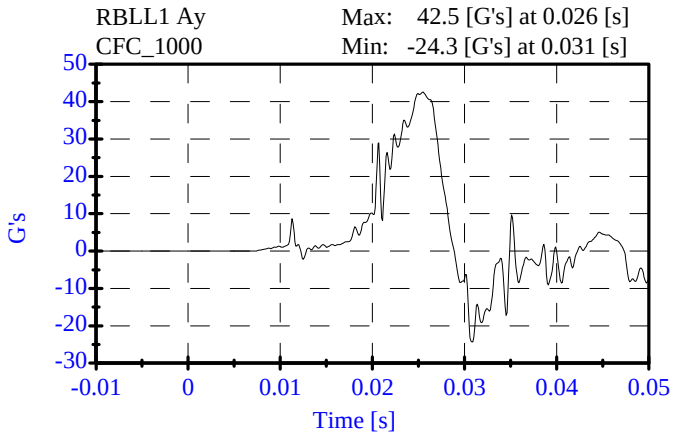
ATD Serial No: 269 Sequential Test Number: 1 File: 269T1 07-02-09

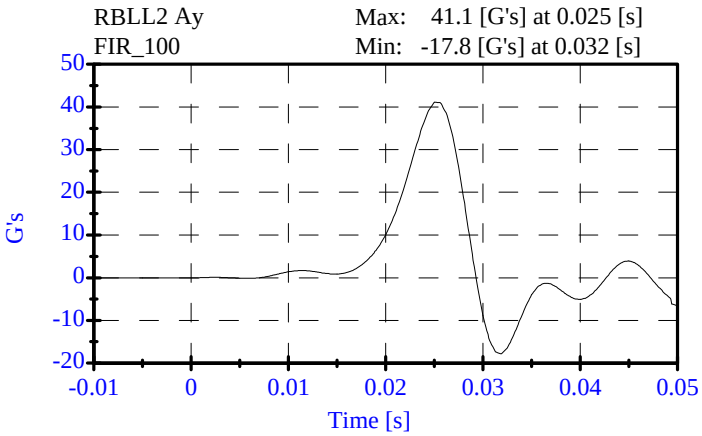
Date: 07-02-09 Laboratory Technician: A. Rudniski

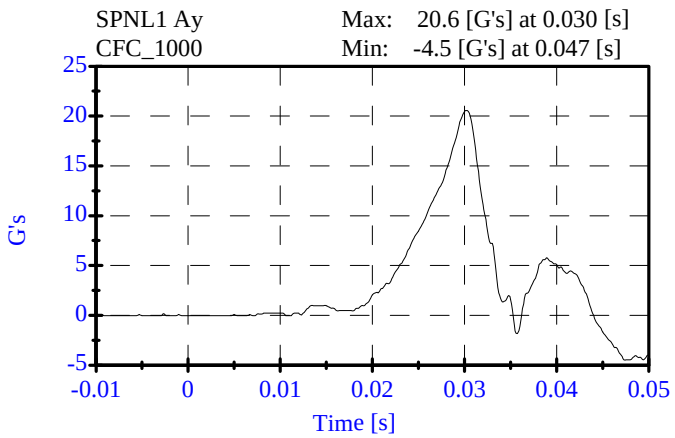
TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	22.2 C	Passed
Lab Humidity:	10-70 %	62.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.31 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	41.78 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	41.12 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	18.75 G's	Passed

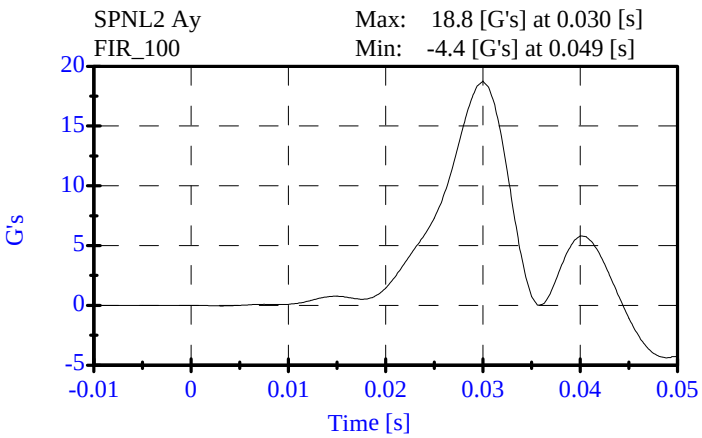












Pelvis Impact Test

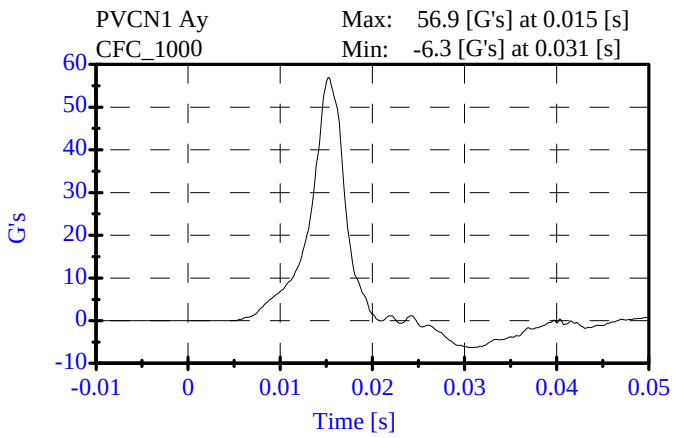
Post-Test

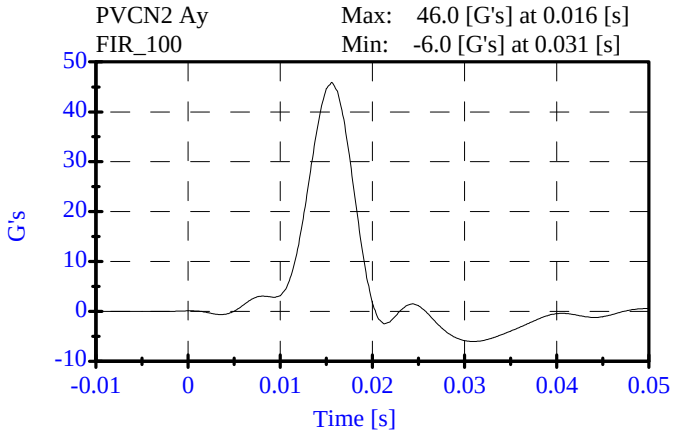
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269 Sequential Test Number: 1 File: 269P 07-01-09

Date: 07-01-09 Laboratory Technician: A. Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	23.3 C	Passed
Lab Humidity:	10-70 %	53.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.31 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	45.95 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.7 ms	Passed





Head Drop Test

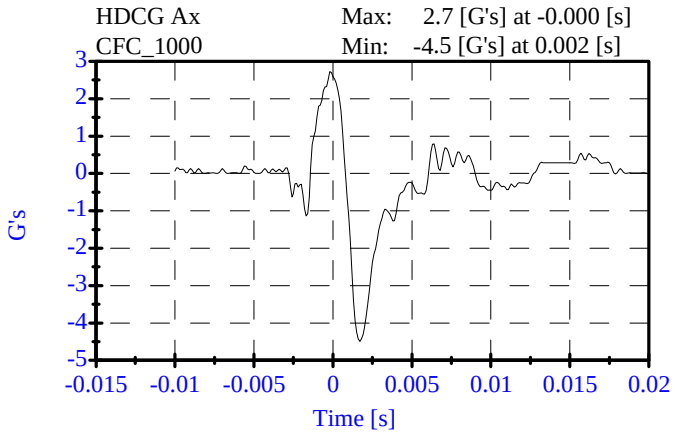
Post-Test

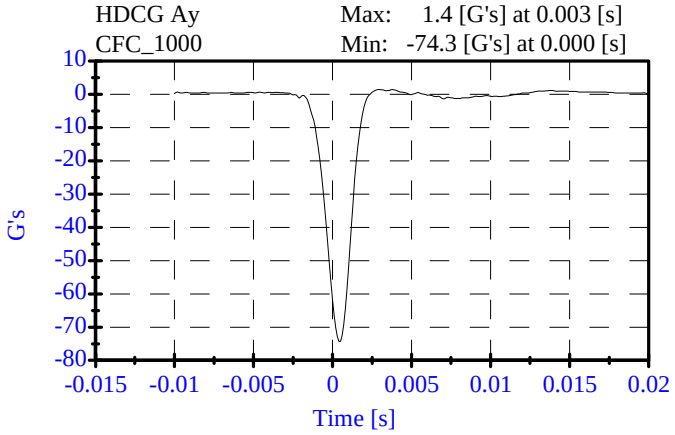
CONFIGURED FOR LEFT SIDE IMPACT

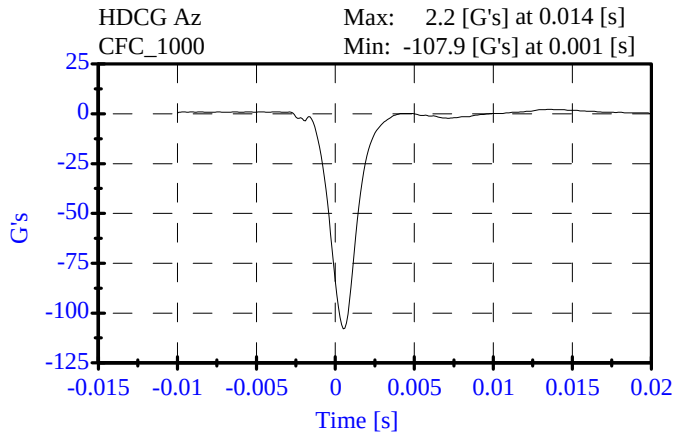
ATD Serial No: 269 Sequential Test Number: 1 File: 269H1 06-26-09

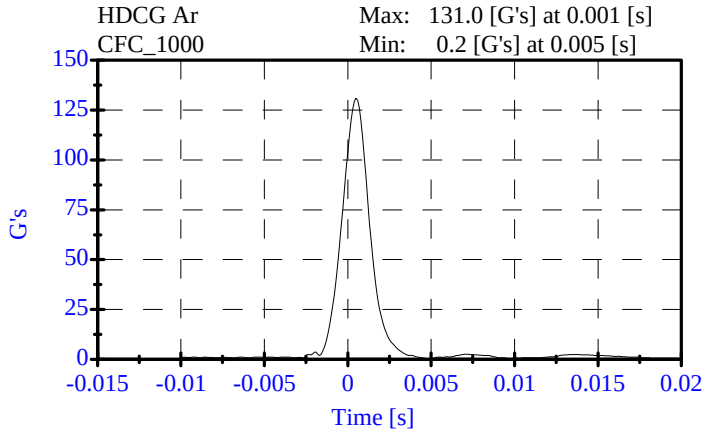
Date: 06-26-09 Laboratory Technician: A.Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	23.3 C	Passed
Lab Humidity:	10-70 %	66.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	130.96 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	2.73 Gs	Passed
Curve PerCent NonModal:	< 15%	2.06 %	Passed









Neck Flexion Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269 Sequential Test Number: 1 File: 269N 06-26-09

Date: 06-29-09 Laboratory Technician: A. Rudnski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	20.6-22.2 C	21.7 C	Passed
Lab Humidity:	10-70 %	62.00 %	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	2.09 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.33 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.23 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.44 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	72.16 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	62.70 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	76.20 N-m	Passed
Occiptal Moment Decay:	49.0-64.0 ms	57.40 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	10.90 ms	Passed

Neck Flexion Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

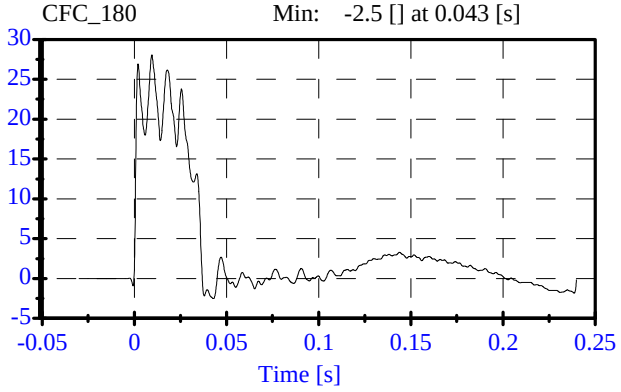
ATD Serial No: 269

Sequential Test Number: 1 File: 269N 06-26-09

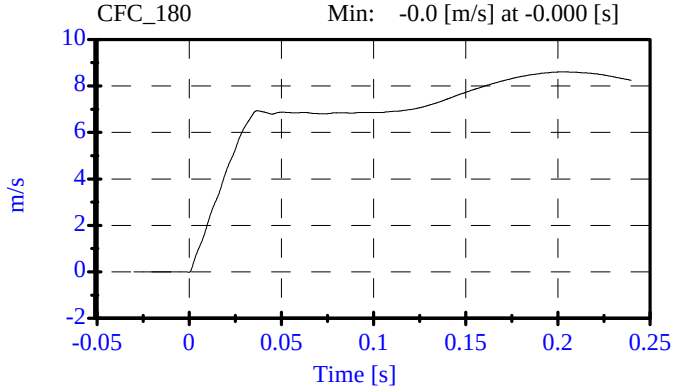
Date: 06-29-09

Laboratory Technician: A. Rudniski

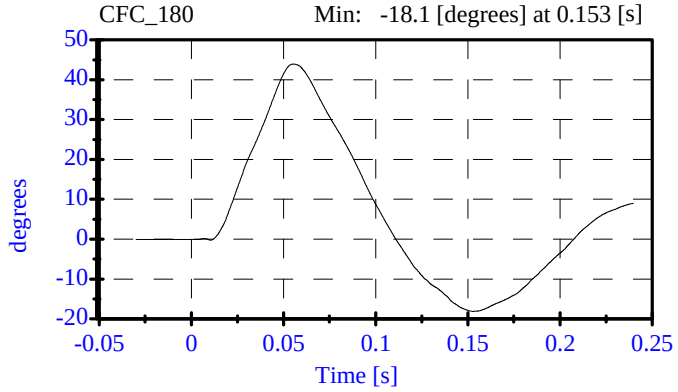
Pend Ax
CFC_180
Max: 28.1 [] at 0.010 [s]
Min: -2.5 [] at 0.043 [s]



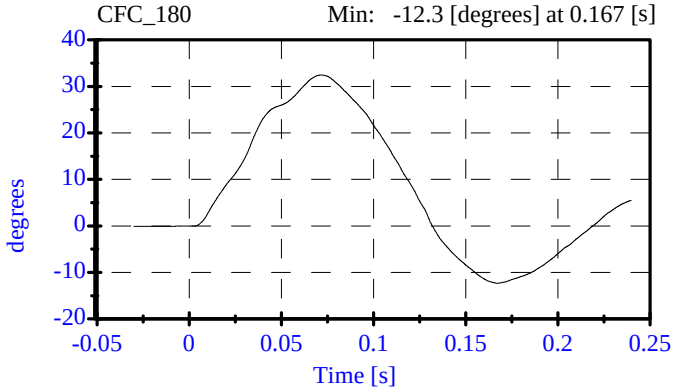
Pend Vx
CFC_180
Max: 8.6 [m/s] at 0.201 [s]
Min: -0.0 [m/s] at -0.000 [s]



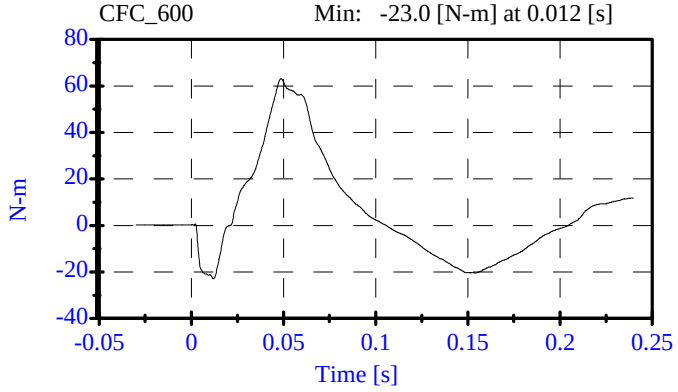
Head Rot
CFC_180
Max: 43.9 [degrees] at 0.055 [s]
Min: -18.1 [degrees] at 0.153 [s]



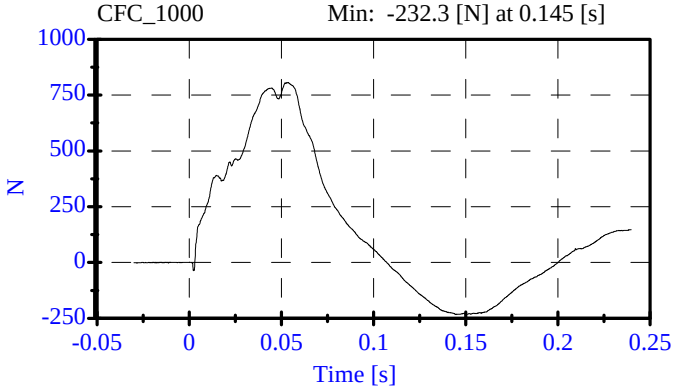
Arm Rot
CFC_180
Max: 32.5 [degrees] at 0.072 [s]
Min: -12.3 [degrees] at 0.167 [s]



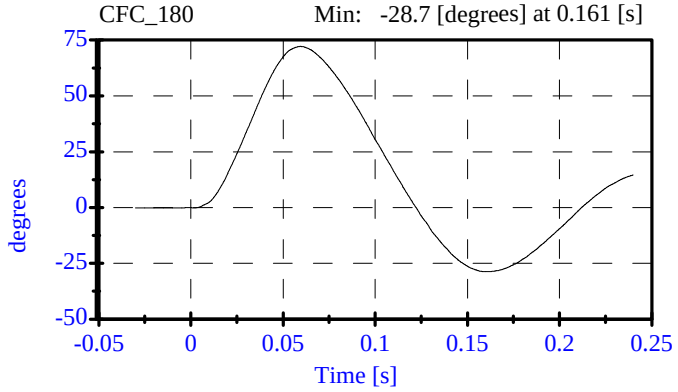
Neck Mx
CFC_600
Max: 63.2 [N-m] at 0.049 [s]
Min: -23.0 [N-m] at 0.012 [s]



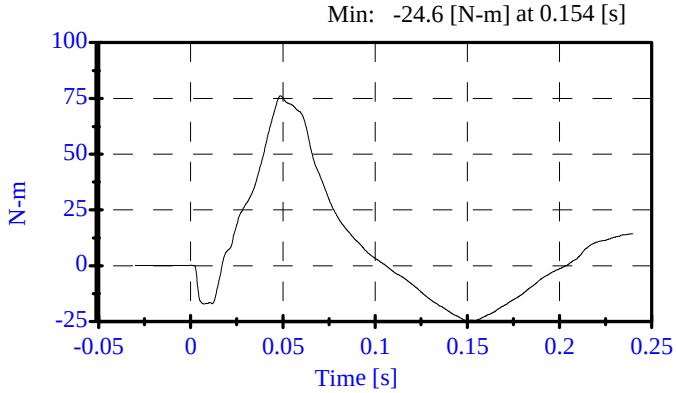
Neck Fy
CFC_1000
Max: 806.8 [N] at 0.053 [s]
Min: -232.3 [N] at 0.145 [s]



Tot Rot
CFC_180
Max: 72.2 [degrees] at 0.060 [s]
Min: -28.7 [degrees] at 0.161 [s]



MOCX
Max: 76.2 [N-m] at 0.049 [s]
Min: -24.6 [N-m] at 0.154 [s]



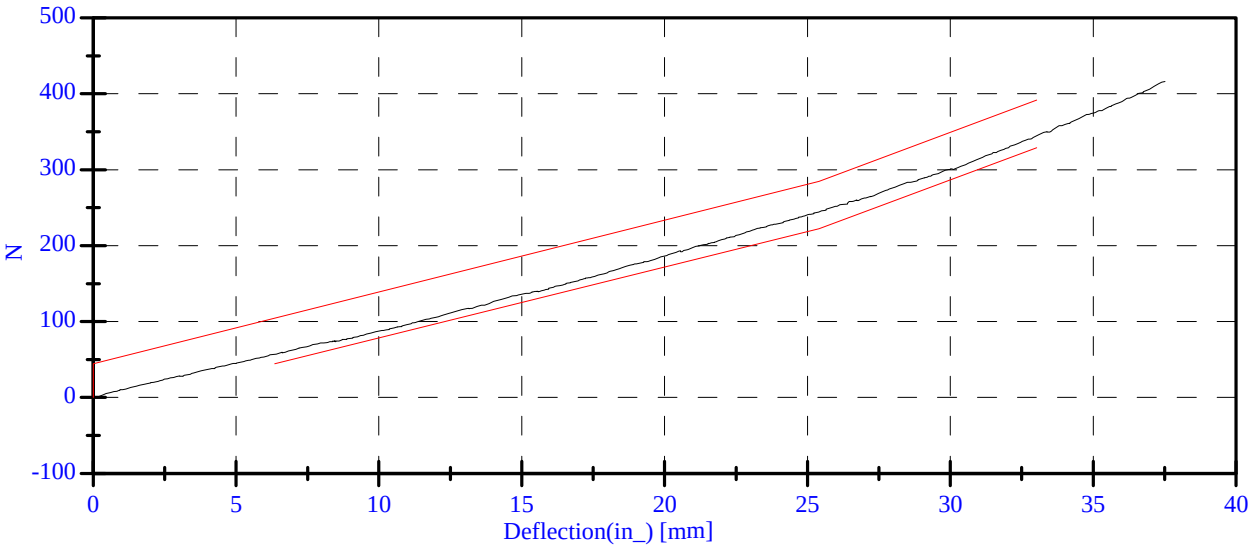
Abdominal Compression Test
Post-Test

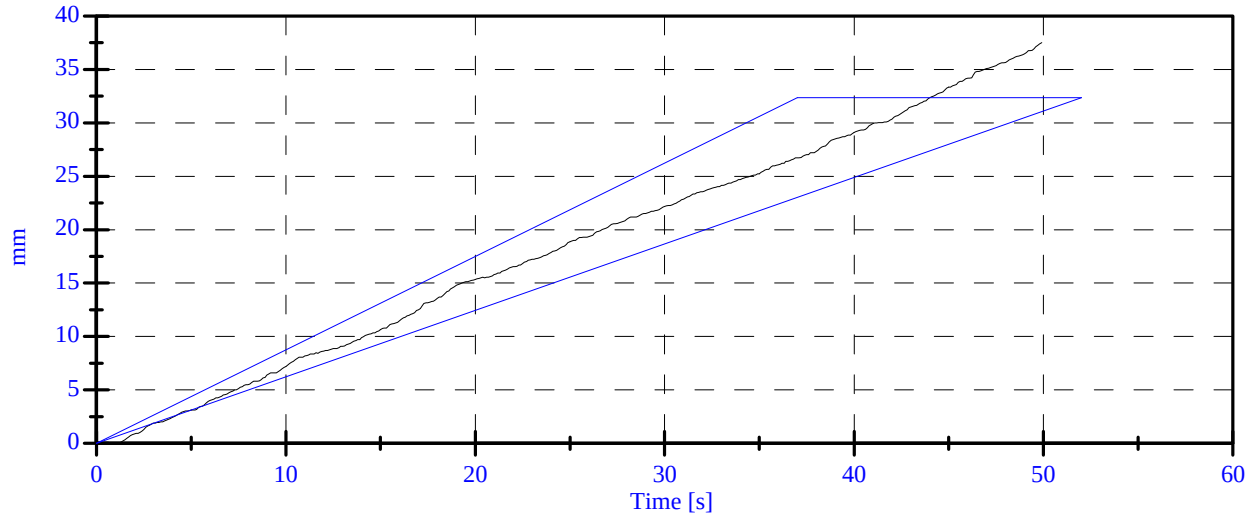
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269 Sequential Test Number: 1 File: 269 Ab 07-02-09
Date: 07-02-09 Laboratory Technician: A. Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	22.2 C	Passed
Lab Humidity:	10-70 %	62.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	115.88 N	Passed
Force at 19.05 mm :	162.98-220.99 N	175.75 N	Passed
Force at 25.40 mm :	221.97-280.02 N	244.01 N	Passed
Force at 33.02 mm :	324.99-391.00 N	346.22 N	Passed

ABDOMINAL COMPRESSION TEST





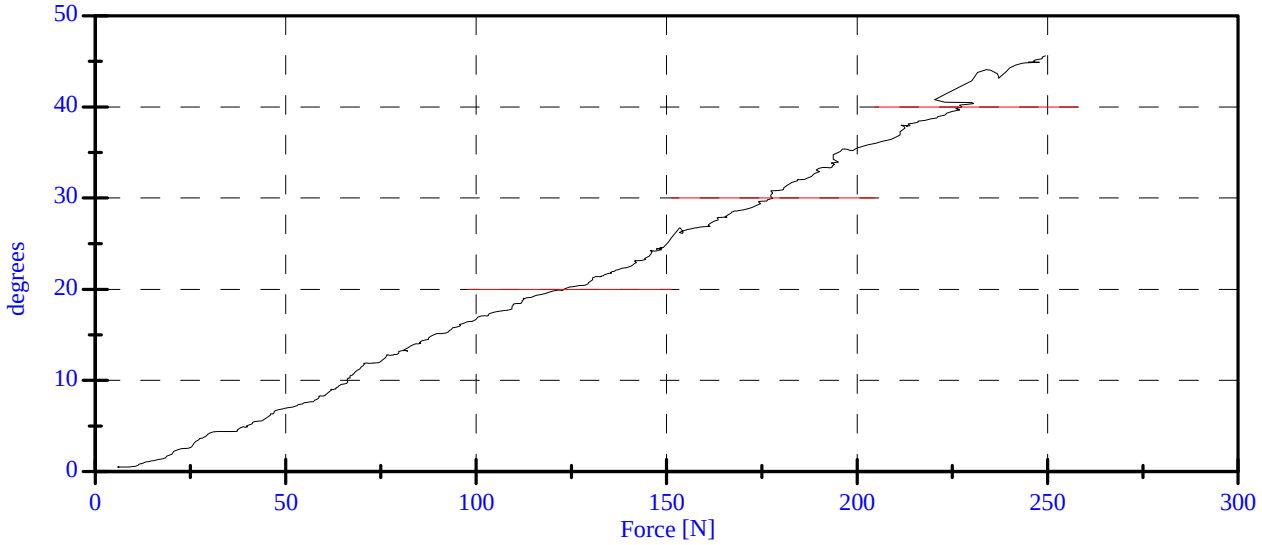
Lumbar Spine Test
Post-Test

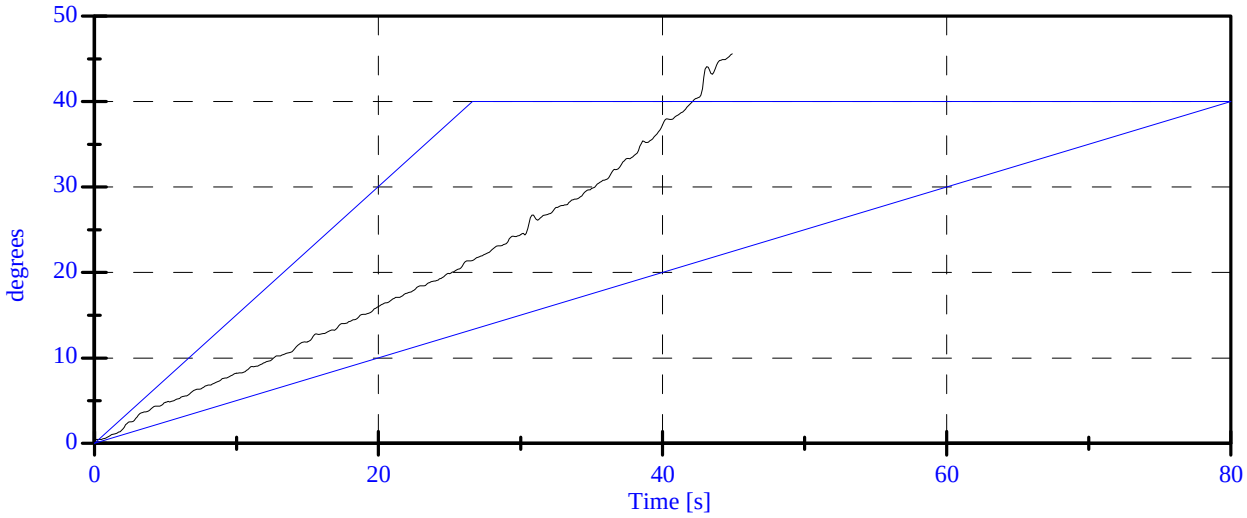
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269 Sequential Test Number: 1 File: 269 Spine 07-02-09
Date: 07-02-09 Laboratory Technician: A. Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	22.2 C	Passed
Lab Humidity:	10-70 %	62.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	6.27 N	Passed
Force at 20 Deg:	97.86-151.24 N	123.26 N	Passed
Force at 30 Deg	151.24-204.62 N	177.84 N	Passed
Force at 40 Deg	204.62-258.00 N	227.46 N	Passed
Return Angle	12 Deg Max	8.45 deg	Passed

LUMBAR SPINE FLEXION TEST





POST TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1
Date: 6/25/09 Laboratory Technician: A. Rudniski

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

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 270

CONFIGURED FOR LEFT SIDE IMPACT

CALIBRATION TEST RESULTS SUMMARY
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 1
Date: 7/2/09 Laboratory Technician: A. Rudniski

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

* Test not required for SID certification.

REMARKS: None

EXTERNAL DIMENSIONS
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 1
Date: 7/2/09 Laboratory Technician: A. Rudniski

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	495
HW- Hip Width (mm)	356 - 391	384

REMARKS: None

Thorax Impact Test

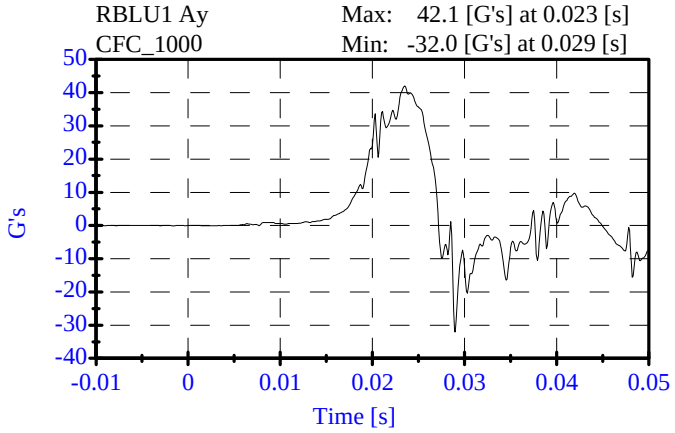
Post-Test

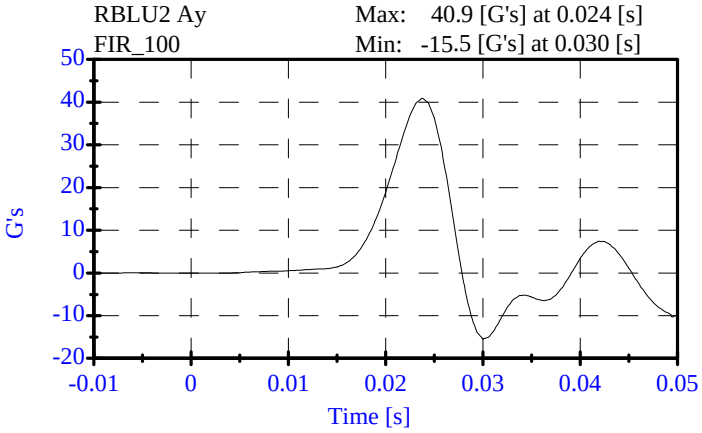
CONFIGURED FOR LEFT SIDE IMPACT

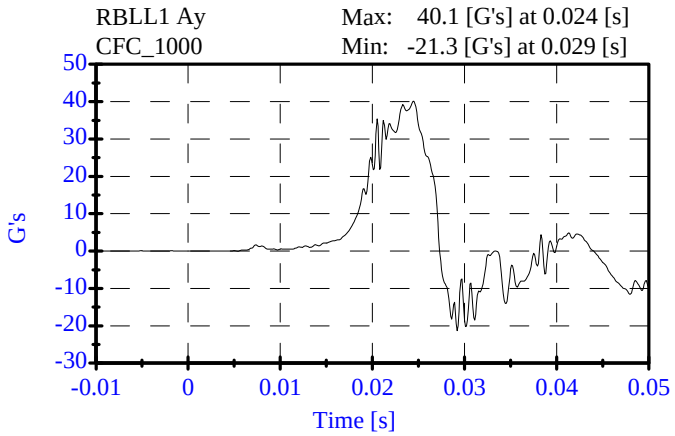
ATD Serial No: 270 Sequential Test Number: 1 File: 270T 07-02-09

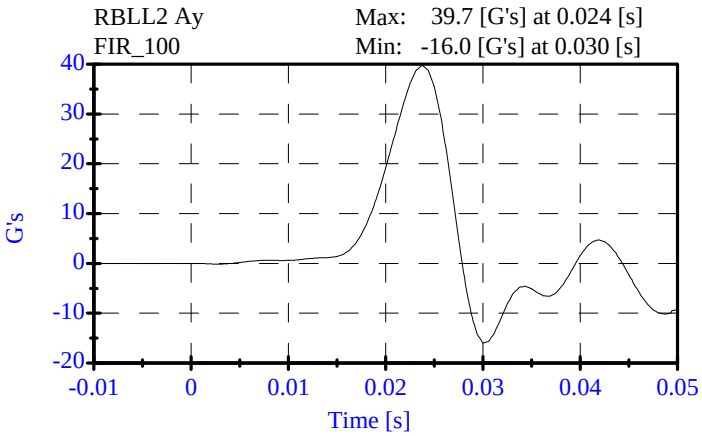
Date: 07-02-09 Laboratory Technician: A. Rudniski

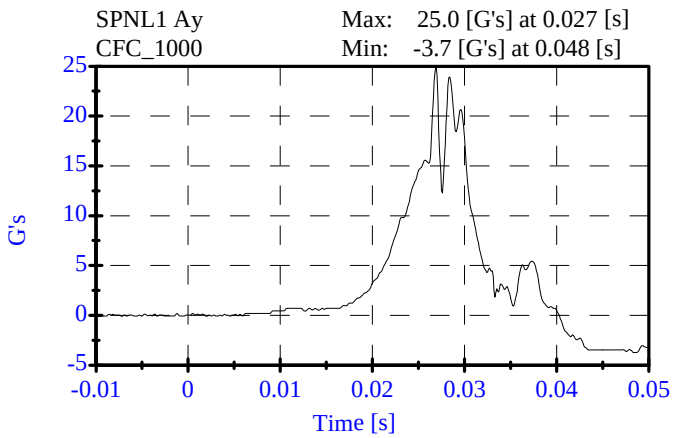
TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	22.2 C	Passed
Lab Humidity:	10-70 %	62.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.30 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	40.86 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	39.71 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	20.30 G's	Passed

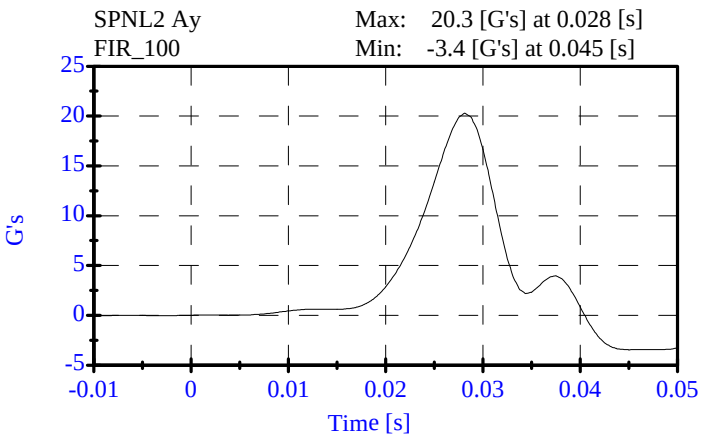












Pelvis Impact Test

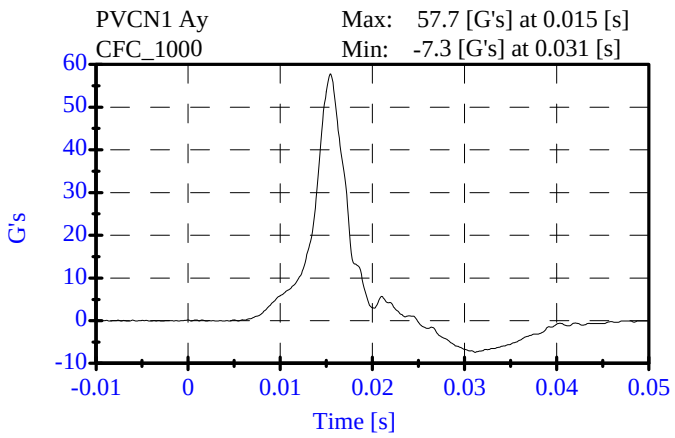
Post-Test

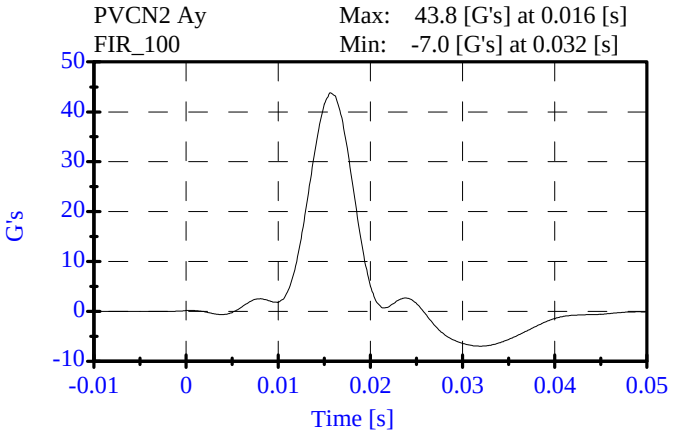
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270 Sequential Test Number: 1 File: 270P 07-02-09

Date: 07-02-09 Laboratory Technician: A. Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	22.2 C	Passed
Lab Humidity:	10-70 %	62.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.31 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	43.85 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.6 ms	Passed





Head Drop Test

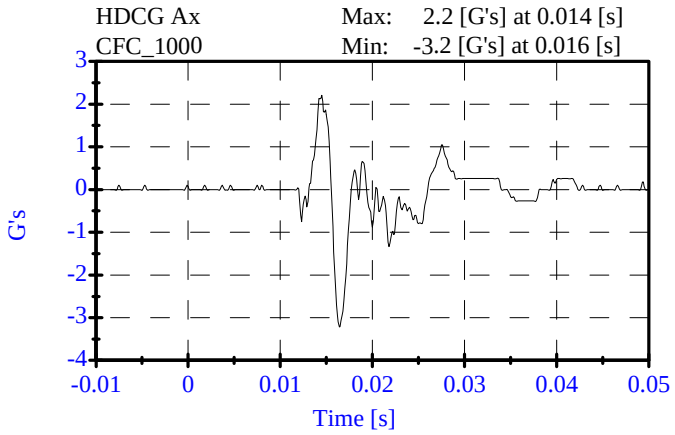
Post-Test

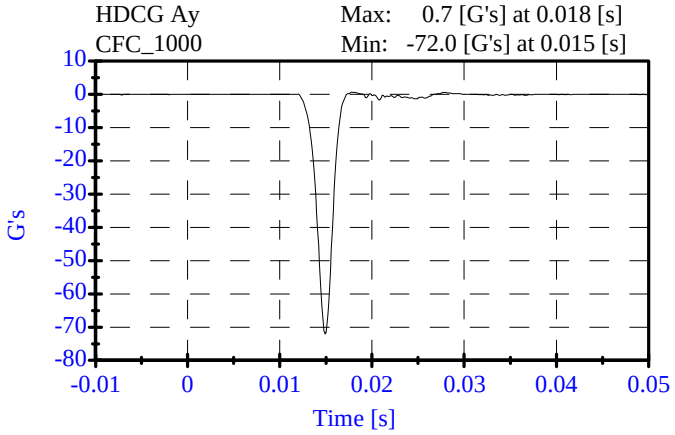
CONFIGURED FOR LEFT SIDE IMPACT

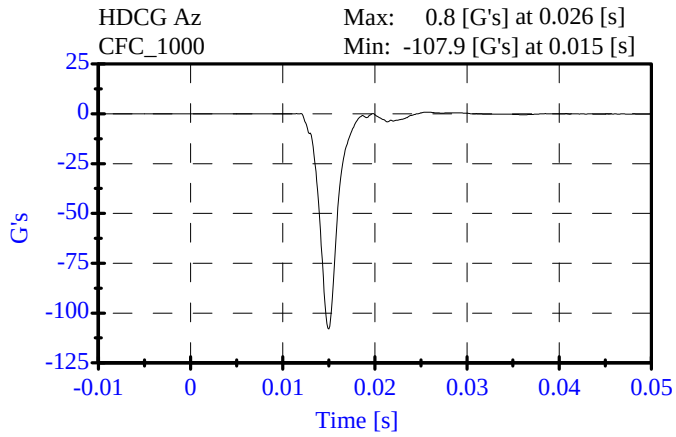
ATD Serial No: 270 Sequential Test Number: 1 File: 270H 06-26-09

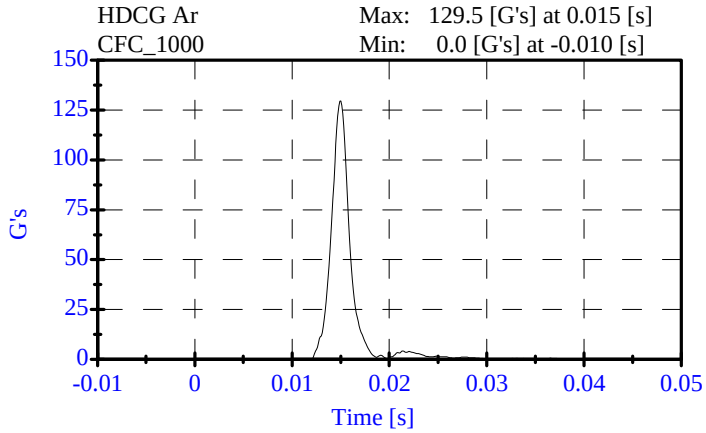
Date: 06-26-09 Laboratory Technician: A.Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	23.3 C	Passed
Lab Humidity:	10-70 %	68.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	129.54 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	2.20 Gs	Passed
Curve PerCent NonModal:	< 15%	3.22 %	Passed









Neck Flexion Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270 Sequential Test Number: 1 File: 270N2 06-29-09

Date: 06-29-09 Laboratory Technician: A. Rudnski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	20.6-22.2 C	21.7 C	Passed
Lab Humidity:	10-70 %	62.00 %	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	2.20 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.47 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.26 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.60 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	71.04 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	59.90 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	81.87 N-m	Passed
Occiptal Moment Decay:	49.0-64.0 ms	53.90 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	10.30 ms	Passed

Neck Flexion Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

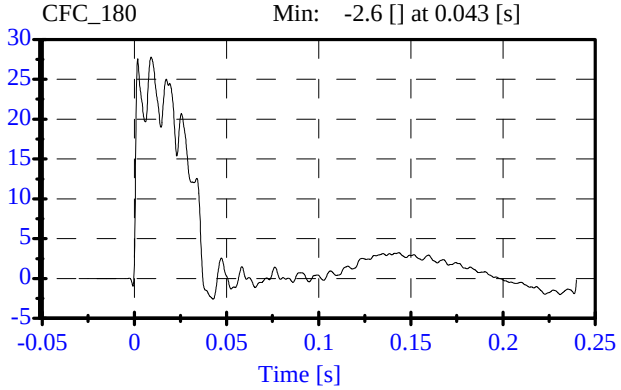
ATD Serial No: 270

Sequential Test Number: 1 File: 270N2 06-29-09

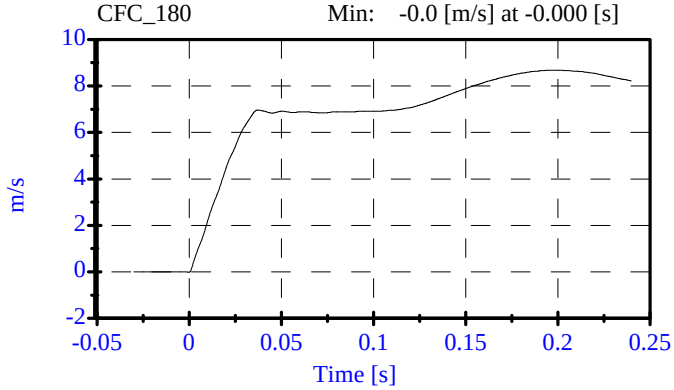
Date: 06-29-09

Laboratory Technician: A. Rudniski

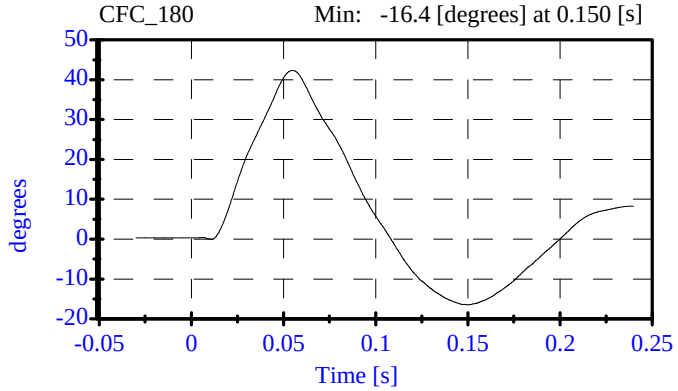
Pend Ax
CFC_180
Max: 27.8 [] at 0.009 [s]
Min: -2.6 [] at 0.043 [s]



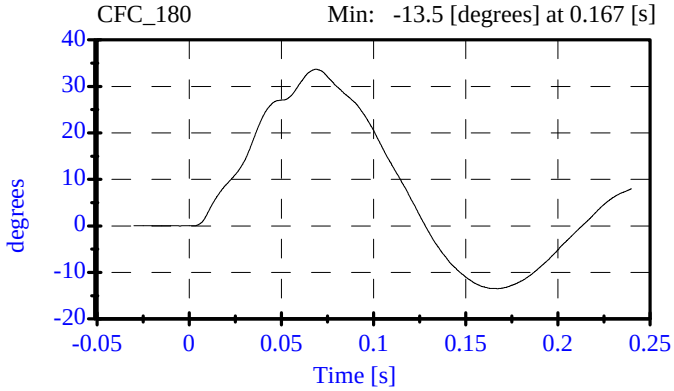
Pend Vx
CFC_180
Max: 8.7 [m/s] at 0.198 [s]
Min: -0.0 [m/s] at -0.000 [s]



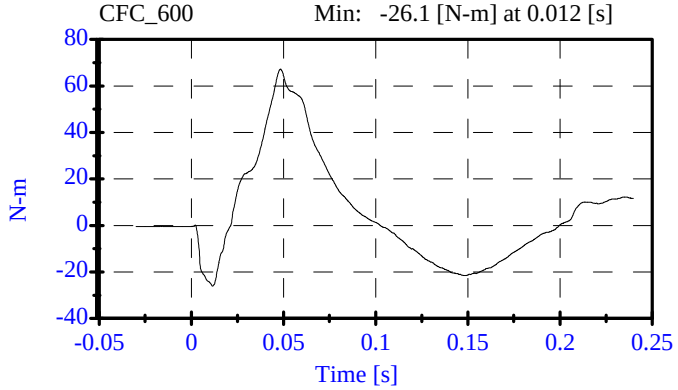
Head Rot
CFC_180
Max: 42.3 [degrees] at 0.055 [s]
Min: -16.4 [degrees] at 0.150 [s]



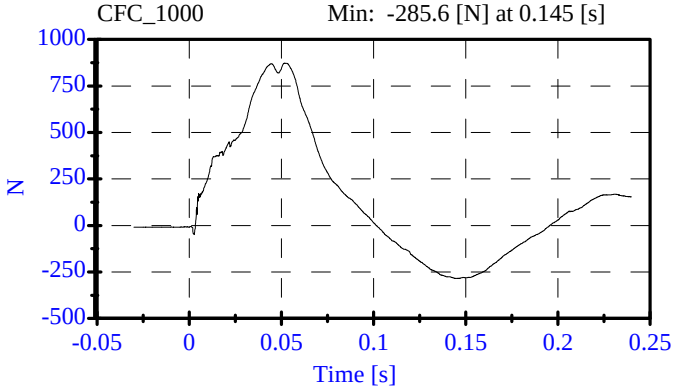
Arm Rot
CFC_180
Max: 33.7 [degrees] at 0.069 [s]
Min: -13.5 [degrees] at 0.167 [s]



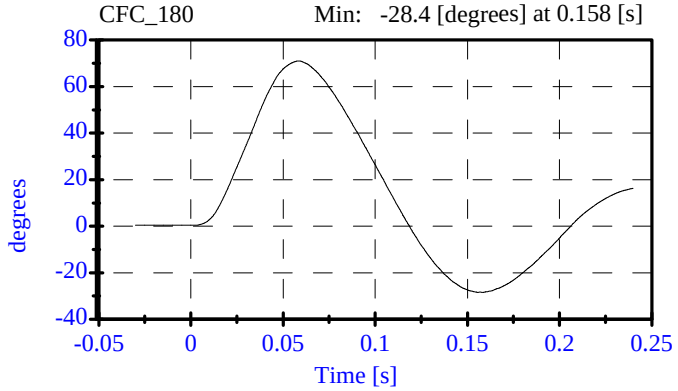
Neck Mx
CFC_600
Max: 67.3 [N-m] at 0.048 [s]
Min: -26.1 [N-m] at 0.012 [s]



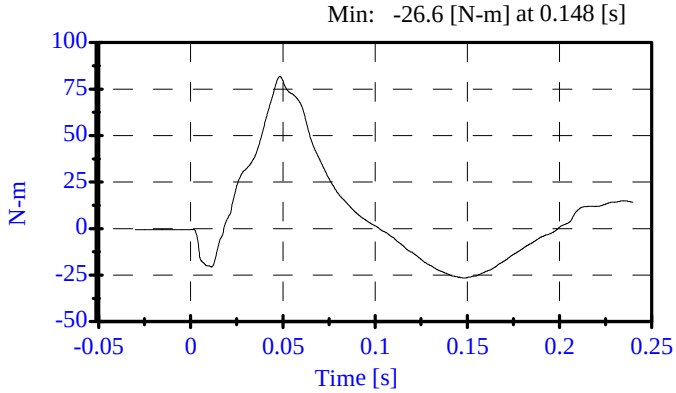
Neck Fy
CFC_1000
Max: 873.1 [N] at 0.052 [s]
Min: -285.6 [N] at 0.145 [s]



Tot Rot
CFC_180
Max: 71.0 [degrees] at 0.059 [s]
Min: -28.4 [degrees] at 0.158 [s]



MOCX
Max: 81.9 [N-m] at 0.048 [s]
Min: -26.6 [N-m] at 0.148 [s]



Abdominal Compression Test

Post-Test

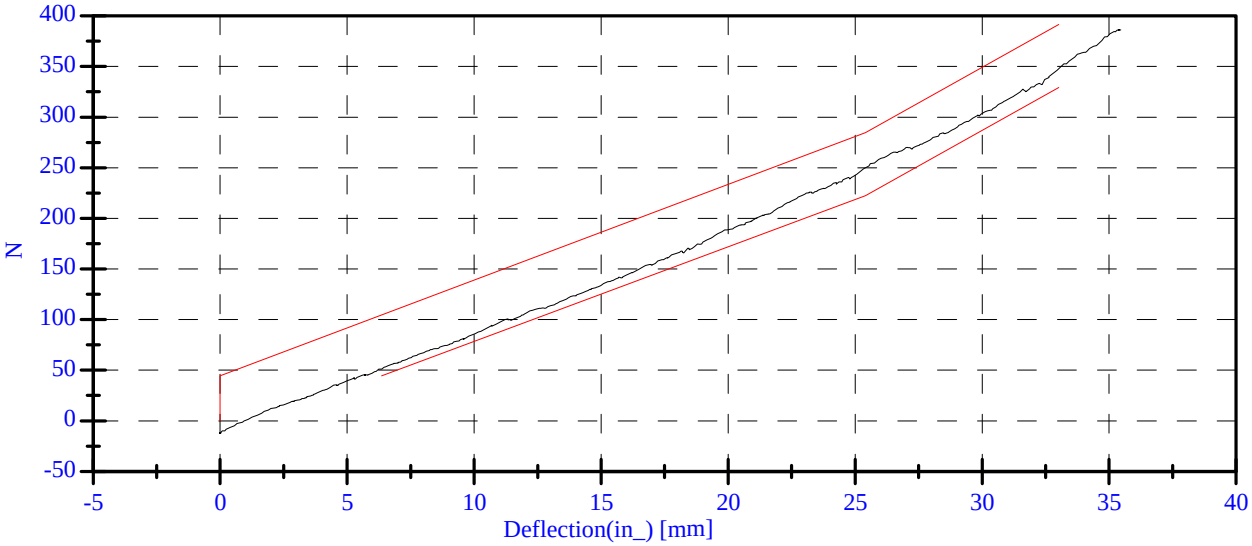
CONFIGURED FOR LEFT SIDE IMPACT

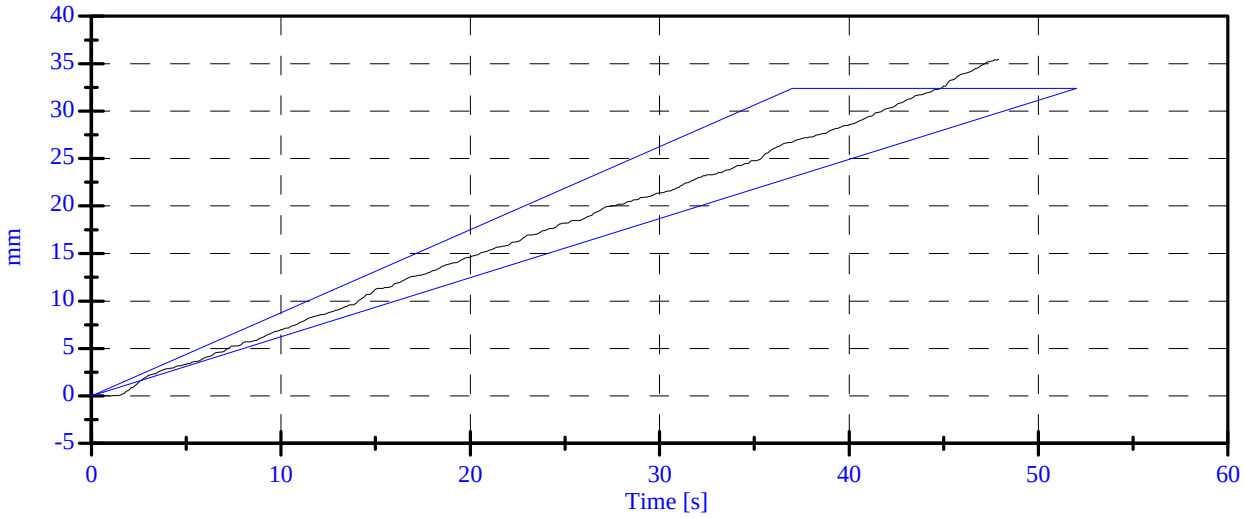
ATD Serial No: 270 Sequential Test Number: 1 File: 270 Ab 07-02-09

Date: 07-02-09 Laboratory Technician: A. Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	22.2 C	Passed
Lab Humidity:	10-70 %	62.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	113.69 N	Passed
Force at 19.05 mm :	162.98-220.99 N	176.48 N	Passed
Force at 25.40 mm :	221.97-280.02 N	248.76 N	Passed
Force at 33.02 mm :	324.99-391.00 N	346.22 N	Passed

ABDOMINAL COMPRESSION TEST





Lumbar Spine Test
Post-Test

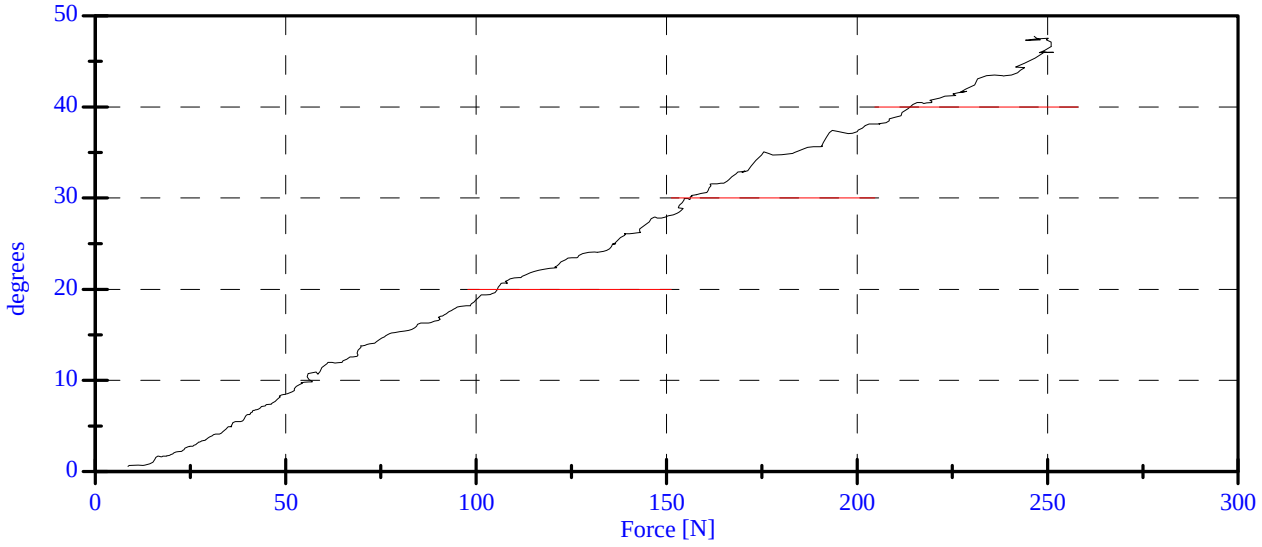
CONFIGURED FOR LEFT SIDE IMPACT

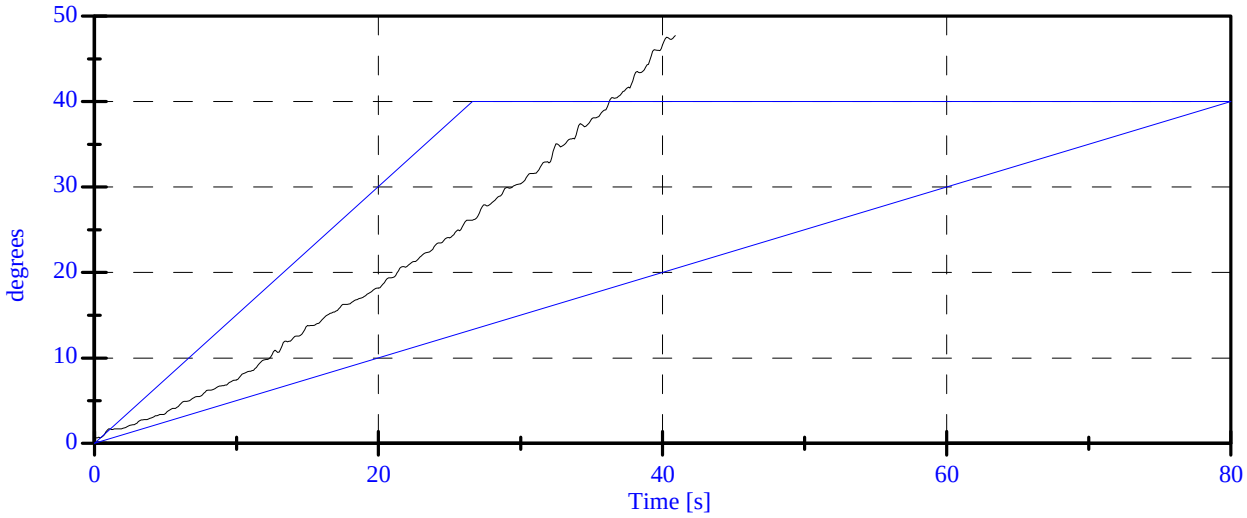
ATD Serial No: 270
Date: 07-02-09

Sequential Test Number: 1 File: 270Spine 07-02-09
Laboratory Technician: A. Rudniski

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	22.2 C	Passed
Lab Humidity:	10-70 %	62.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	8.62 N	Passed
Force at 20 Deg:	97.86-151.24 N	105.50 N	Passed
Force at 30 Deg	151.24-204.62 N	156.17 N	Passed
Force at 40 Deg	204.62-258.00 N	213.36 N	Passed
Return Angle	12 Deg Max	10.35 deg	Passed

LUMBAR SPINE FLEXION TEST





POST TEST DUMMY INSPECTION LIST

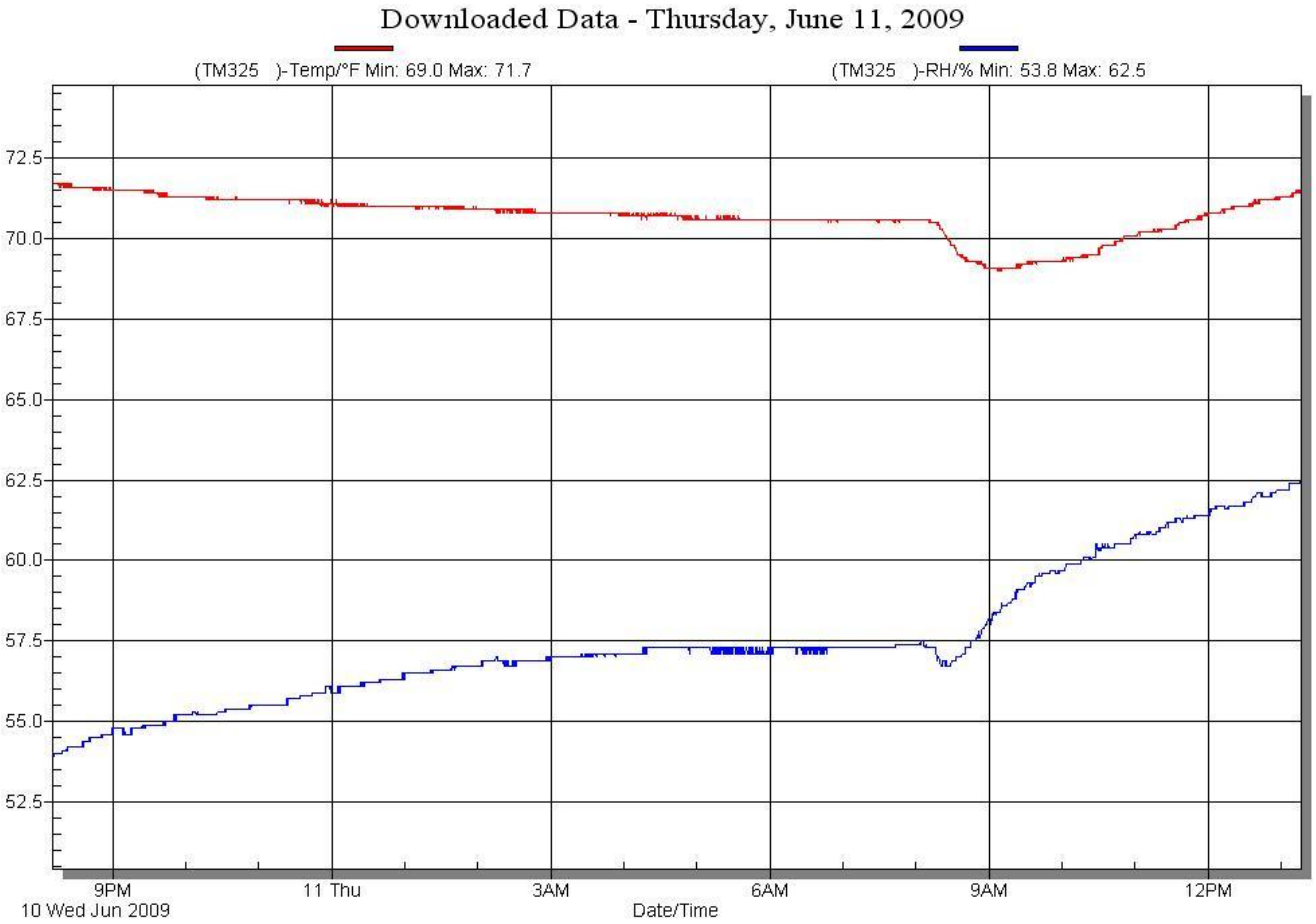
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 1
Date: 6/25/09 Laboratory Technician: A. Rudniski

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.: 269		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P52088	ENDEVCO	20-Feb-09
HEAD AY	AC-P52095	ENDEVCO	20-Feb-09
HEAD AZ	AC-P58986	ENDEVCO	19-Feb-09
HEAD AX (REDUNDANT)	AC-P58908	ENDEVCO	20-Feb-09
HEAD AY (REDUNDANT)	AC-P59021	ENDEVCO	20-Feb-09
HEAD AZ (REDUNDANT)	AC-P58794	ENDEVCO	19-Feb-09
UPPER NECK FX	LC-810Fx	DENTON	08-Dec-08
UPPER NECK FY	LC-810Fy	DENTON	08-Dec-08
UPPER NECK FZ	LC-810Fz	DENTON	08-Dec-08
UPPER NECK MX	LC-810Mx	DENTON	08-Dec-08
UPPER NECK MY	LC-810My	DENTON	08-Dec-08
UPPER NECK MZ	LC-810Mz	DENTON	08-Dec-08
UPPER RIB	AC-P49192	ENDEVCO	20-Feb-09
LOWER RIB	AC-P51734	ENDEVCO	19-Feb-09
LOWER SPINE	AC-P51689	ENDEVCO	19-Feb-09
PELVIS	AC-P58762	ENDEVCO	19-Feb-09
UPPER RIB REDUNDANT	AC-P51713	ENDEVCO	19-Feb-09
LOWER RIB REDUNDANT	AC-P59020	ENDEVCO	19-Feb-09
LOWER SPINE REDUNDANT	AC-P58776	ENDEVCO	19-Feb-09
PELVIS REDUNDANT	AC-P58905	ENDEVCO	19-Feb-09

	REAR SID/HIII NO.: 270		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P58998	ENDEVCO	24-Feb-09
HEAD AY	AC-P58909	ENDEVCO	24-Feb-09
HEAD AZ	AC-P51279	ENDEVCO	24-Feb-09
HEAD AX (REDUNDANT)	AC-P58780	ENDEVCO	24-Feb-09
HEAD AY (REDUNDANT)	AC-P58997	ENDEVCO	24-Feb-09
HEAD AZ (REDUNDANT)	AC-P58912	ENDEVCO	24-Feb-09
UPPER NECK FX	LC-498Fx	DENTON	20-Apr-09
UPPER NECK FY	LC-498Fy	DENTON	20-Apr-09
UPPER NECK FZ	LC-498Fz	DENTON	20-Apr-09
UPPER NECK MX	LC-498Mx	DENTON	20-Apr-09
UPPER NECK MY	LC-498My	DENTON	20-Apr-09
UPPER NECK MZ	LC-498Mz	DENTON	20-Apr-09
UPPER RIB	AC-P51969	ENDEVCO	24-Feb-09
LOWER RIB	AC-P51950	ENDEVCO	24-Feb-09
LOWER SPINE	AC-P51970	ENDEVCO	24-Feb-09
PELVIS	AC-P51946	ENDEVCO	24-Feb-09
UPPER RIB REDUNDANT	AC-P51948	ENDEVCO	24-Feb-09
LOWER RIB REDUNDANT	AC-P51974	ENDEVCO	24-Feb-09
LOWER SPINE REDUNDANT	AC-P51965	ENDEVCO	24-Feb-09
PELVIS REDUNDANT	AC-P51945	ENDEVCO	24-Feb-09

REMARKS: None

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

VEHICLE AND MDB INSTRUMENTATION

	VEHICLE AND MDB INSTRUMENTS		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
RIGHT FRONT SILL (X)	AC-P21399	ENDEVCO	03-Mar-09
RIGHT FRONT SILL (Y)	AC-P23899	ENDEVCO	27-Feb-09
RIGHT FRONT SILL (Z)	AC-P35757	ENDEVCO	02-Mar-09
RIGHT REAR SILL (X)	AC-P23164	ENDEVCO	24-Mar-09
RIGHT REAR SILL (Y)	AC-P23939	ENDEVCO	03-Mar-09
RIGHT REAR SILL (Z)	AC-P23993	ENDEVCO	03-Mar-09
REAR FLOORPAN ABOVE AXLE (X)	AC-P35803	ENDEVCO	02-Mar-09
REAR FLOORPAN ABOVE AXLE (Y)	AC-P35811	ENDEVCO	02-Mar-09
REAR FLOORPAN ABOVE AXLE (Z)	AC-P35789	ENDEVCO	02-Mar-09
LEFT REAR SILL (Y)	AC-P32197	ENDEVCO	27-May-09
LEFT FRONT SILL (Y)	AC-J32838	ENDEVCO	03-Mar-09
RIGHT REAR SEAT OCCUPANT COMP. (Y)	AC-P16862	ENDEVCO	27-Feb-09
LOWER LEFT B- PILLAR (Y)	AC-P21516	ENDEVCO	26-May-09
MIDDLE LEFT B-PILLAR (Y)	AC-P35788	ENDEVCO	27-May-09
LOWER LEFT A-PILLAR (Y)	AC-P23926	ENDEVCO	02-Mar-09
UPPER LEFT A-PILLAR (Y)	AC-P38132	ENDEVCO	26-May-09
FRONT SEAT TRACK (Y)	AC-P19222	ENDEVCO	26-May-09
REAR SEAT TRACK (Y)	AC-P23788	ENDEVCO	03-Mar-09
VEHICLE CG (X)	AC-A13829	ENDEVCO	03-Apr-09
VEHICLE CG (Y)	AC-P35793	ENDEVCO	03-Apr-09
VEHICLE CG (Z)	AC-P16841	ENDEVCO	03-Apr-09
MDB CG (X)	AC-C16680	ENDEVCO	09-Apr-09
MDB CG (Y)	AC-C14948	ENDEVCO	09-Apr-09
MDB CG (Z)	AC-CP30	ENDEVCO	09-Apr-09
MDB REAR FRAME MEMBER (X)	AC-C15007	ENDEVCO	09-Apr-09
MDB REAR FRAME MEMBER (Y)	AC-C16499	ENDEVCO	09-Apr-09

REMARKS: None