

REPORT NUMBER: NCAPSIDE-MGA-2006-009

**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST**

**HONDA MOTOR CO., LTD
2007 HONDA FIT 5-DR SPORT
NHTSA NUMBER: M75301**

**PREPARED BY:
MGA RESEARCH CORPORATION
5000 WARREN ROAD
BURLINGTON, WI 53105**



Test Date: May 11, 2006

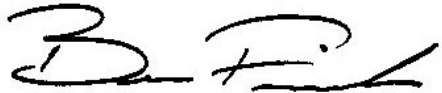
Report Date: June 23, 2006

FINAL REPORT

**PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
RULEMAKING
OFFICE OF CRASHWORTHINESS STANDARDS
400 SEVENTH STREET, SW, ROOM 5311
WASHINGTON, D.C. 20590**

This final test report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, in response to Contract Number DTNH22-03-D-12005.

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Prepared by: 
Ben Fischer, Project Engineer

Date: 6/23/06

Reviewed by: 
David Winkelbauer, Facility Director

Date: 6/23/06

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15. <i>Supplementary Notes</i>																								
16. <i>Abstract</i> A 55/28 km/h 90° Moving Deformable Barrier NCAP side impact was conducted on the subject 2007 Honda Fit 5-Dr Sport to obtain new car assessment and research data indicant of FMVSS No. 214D performance. The test was conducted at MGA Research Corporation, in Burlington, Wisconsin, on May 11, 2006. The impact velocity of the Moving Deformable Barrier (MDB) was 62.1 km/h, and the ambient temperature at the struck side (drivers) of the vehicle was 21°C. The target vehicle's maximum post test static crush was 284 mm at level 2. The test vehicle's occupant performance is as follows: <table style="margin-left: auto; margin-right: auto; border: none;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>DRIVER</u></th> <th style="text-align: center;"><u>PASS.</u></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib (LUR) Accel., g</td> <td style="text-align: center;">54.4</td> <td style="text-align: center;">63.7</td> </tr> <tr> <td>Left Lower Rib (LLR) Accel., g</td> <td style="text-align: center;">48.7</td> <td style="text-align: center;">69.8</td> </tr> <tr> <td>Lower Spine (T₁₂) Accel., g</td> <td style="text-align: center;">57.1</td> <td style="text-align: center;">83.5</td> </tr> <tr> <td>Thoracic Trauma Index (TTI)</td> <td style="text-align: center;">55.8</td> <td style="text-align: center;">76.7</td> </tr> <tr> <td>Pelvis (PEV) Accel., g</td> <td style="text-align: center;">62.3</td> <td style="text-align: center;">79.3</td> </tr> <tr> <td>HIC</td> <td style="text-align: center;">146.4</td> <td style="text-align: center;">473.0</td> </tr> </tbody> </table>					<u>DRIVER</u>	<u>PASS.</u>	Left Upper Rib (LUR) Accel., g	54.4	63.7	Left Lower Rib (LLR) Accel., g	48.7	69.8	Lower Spine (T ₁₂) Accel., g	57.1	83.5	Thoracic Trauma Index (TTI)	55.8	76.7	Pelvis (PEV) Accel., g	62.3	79.3	HIC	146.4	473.0
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The doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.																								
17. <i>Key Words</i> New Car Assessment Program (NCAP) Side Impact Side Impact Hybrid III Dummy (SID/HIII) Occupant Side Impact Protection		18. <i>Distribution Statement</i> Copies of this report are available from: National Highway Traffic Safety Adm. Technical Ref. Division, Room 5108 (NPO-230) 400 Seventh Street, S.W. Washington, D.C. 20590																						
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SECTION 1

PURPOSE AND TEST PROCEDURE

PURPOSE

This side impact test was conducted as part of the FY' 2006 test program sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-03-D-12005. The purpose of this test was to evaluate side impact protection in a 2007 Honda Fit 5-Dr Sport manufactured by Honda Motor Co., Ltd.

TEST PROCEDURE

The side impact test was conducted in accordance with the Laboratory Test Procedure for New Car Assessment Program Side Impact Testing dated November 2002 and the corresponding MGA Research Corporation Test Procedure MGA-NHTSA5. The procedures for receiving, inspection, testing, and reporting of test results are described in the test procedures and are not repeated in this report.

MGA does not endorse or certify products. The manufacturer's name appears solely for identification purposes.

SECTION 2

SUMMARY OF NCAP SIDE IMPACT TEST

A model year 2007 Honda Fit 5-Dr Sport was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 62.1 km/h. The specified impact velocity range is from 61.1 to 62.7 km/h. The test (target) vehicle was stationary and positioned 63° to the line of forward motion. The weight of the vehicle as tested was 1361.3 kg and the test weight of the MDB was 1360.8 kg. The test was conducted at MGA Research Corporation in Burlington, Wisconsin, on May 11, 2006.

One (1) real-time motion picture camera and nine (9) high-speed motion picture cameras were used to document the impact event. The pre-test and post-test conditions were recorded by one (1) real-time motion picture camera. Camera locations and pertinent camera information are documented in the data sheets. Pre- and post-test photographs of the vehicle and Side Impact Dummies (SID/HIIIs) can be found in Appendix A. Two 50th percentile adult male SID/HIIIs were placed in the driver and left rear passenger designated seating positions according to instructions specified in the Laboratory Test Procedure for New Car Assessment Program Side Impact Testing dated November 2002. 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 (20) structural accelerometers and the MDB was instrumented with six (6) accelerometers and two (2) contact switches on the bumper to compare left side to right side bumper impact timing. All data channels were recorded with a fully self contained on-board DTS TDAS Pro Data Acquisition System. The data was digitally sampled at 10,000 samples per second and processed per Appendix V of the Test Procedure.

2.2 GENERAL COMMENTS

The test vehicle sustained a maximum static crush of 284 mm at level 2, 1200 mm rearward of the left vertical impact point. The driver and passenger SID/HIIIs, Serial Nos. 272 and 904 respectively, were calibrated just prior to this test.

Appendix A contains the still photograph prints. Appendix B contains the SID/HIII response data traces. Appendix C contains the dummy calibration data.

The occupant data is summarized below:

ATD position	HIC	T ¹	T ²	TTI (G's)	Peak Pelvis (G's)
Driver	146.4	29.5	64.5	55.8	62.3
Passenger	473.0	42.0	55.2	76.7	79.3

SUPPLEMENTAL RESTRAINT INFORMATION

Restraint Information	Left Front (Driver)		Left Rear (Passenger)	
	Installed	Deployed	Installed	Deployed
Front Airbag	Yes	No	None	
Side Torso Airbag	Yes	Yes	None	
Head Airbag	None		None	
Curtain Airbag	Yes	Yes	Yes	Yes

The test data can be found on the NHTSA website at www.nhtsa.dot.gov.

TEST NOTES

No valid data was collected for the following:

Driver Pelvis Y Redundant – no valid data after 126 msec.
Left Lower B-Post Y – no valid data after 20 msec.

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

Test Vehicle: 2007 Honda Fit 5-Dr Sport
 Test Program: NCAP Side Impact

NHTSA No. M75301
 Test Date: 5/11/06

TEST VEHICLE INFORMATION

Make	Honda
Model	Fit
Body Style	5-Door Sport
NHTSA No.	M75301
VIN	JHMGD38657S002305
Color	Nighthawk Black P.
Delivery Date	4/25/06
Odometer Reading (mile)	44
Dealer	Boyland Honda
Transmission	Automatic
Final Drive	Front
Number of Cylinders	4
Engine Displacement (L)	1.5
Engine Placement	Lateral
Automatic Door Locks (ADL)	No
Owner's Manual Details Instructions on Disabling ADLs	None

TEST VEHICLE OPTIONS

Driver Front Airbag	Yes
Driver Side Curtain Airbag	Yes
Driver Side Torso Airbag	Yes
Rear Passenger Side/Curtain Airbag	Yes
Rear Passenger Side Torso Airbag	No
Power Steering	Yes
Power Door Locks	Yes
Tilt Wheel	Yes
Anti-lock Brakes	Yes
Traction Control	No
All Wheel Drive	No
Power Seats	No
Pretensioners	Yes
Load Limiters	Yes
Bucket Seats	Yes

DATA FROM CERTIFICATION LABEL

Manufactured By	Honda Motor Co., Ltd.
Date of Manufacture	3/06

GVWR (kg)	1563
GAWR Front (kg)	851
GAWR Rear (kg)	720

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Split Bench		
Number Of Occupants	2	3		5
Capacity Wt. (VCW) (kg)				385
Cargo Wt. (RCLW) (kg)				44.8

DATA SHEET NO. 1 (continued)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2007 Honda Fit 5-Dr Sport
 Test Program: NCAP Side Impact

NHTSA No. M75301
 Test Date: 5/11/06

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW) (Axle)			As Tested (ATW) (Axle)		
		Front	Rear	Total	Front	Rear	Total
Left	kg	370.1	217.7		412.8	308.9	
Right	kg	365.6	206.4		380.6	259.0	
Ratio	%	63.4	36.6		58.3	41.7	
Totals	kg	735.7	424.1	1159.8	793.4	567.9	1361.3

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1159.8
Weight of 2 P572M ATDs	kg	161.5
Rated Cargo/Luggage Weight (RCLW)	kg	44.8
Calculated Vehicle Target Weight (TVTW)	kg	1366.1

* Actual As Tested Weight (ATW) will be TVTW -5/-10 kg

Weight of Ballast in Cargo Area: None

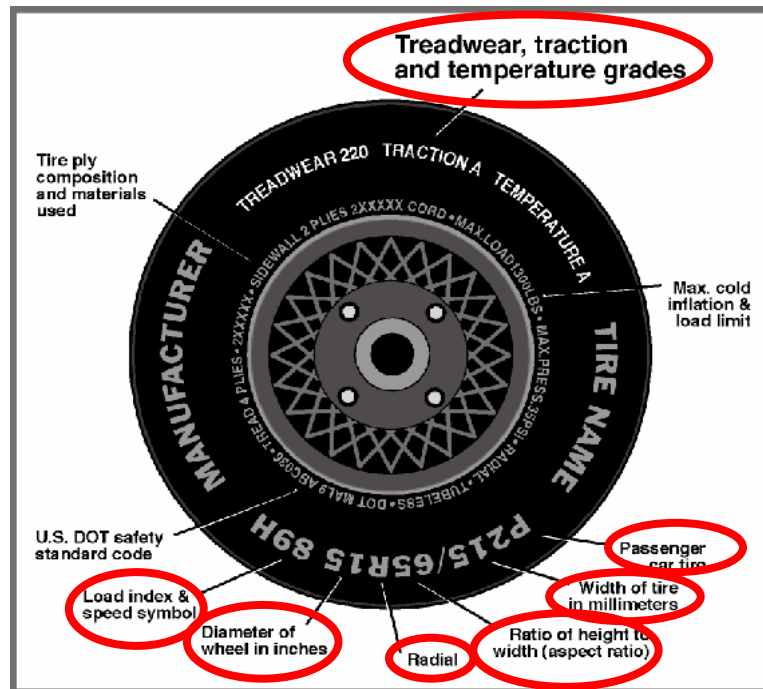
TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	632	635	629	636	897
As Tested	mm	616	628	589	596	1023
Fully Loaded	mm	613	628	581	595	

TEST VEHICLE VERTICAL IMPACT LINE DATA

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2452
Target Impact Point Aft of Front Axle	mm	286
Actual Impact Point Aft of Front Axle	mm	286

DATA SHEET NO. 2
TEST VEHICLE TIRE INFORMATION



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	350	350
Cold Pressure (max)	220	220
Recommended Tire Size	P195/55R15	P195/55R15
Tire size on Vehicle	P195/55R15	P195/55R15
Tire Manufacturer	Dunlop	Dunlop
Tire Name	SP31	SP31
Tire Type	All Season	All Season
Tire Width (mm)	195	195
Ratio of Height to Width (aspect ratio)	55	55
Radial	R	R
Wheel Diameter	15	15
Load Index & Speed Symbol	84H	84H
Treadwear	320	320
Traction Grade	A	A
Temperature Grade	A	A

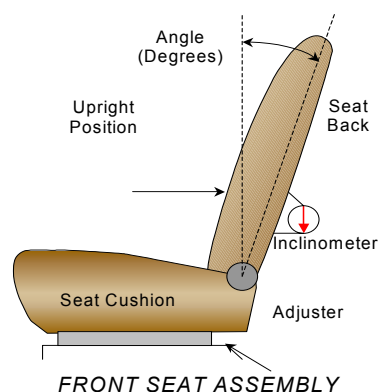
DATA SHEET NO. 3 **TEST VEHICLE INFORMATION**

Test Vehicle: 2007 Honda Fit 5-Dr Sport
 Test Program: NCAP Side Impact

NHTSA No. M75301
 Test Date: 5/11/06

NORMAL DESIGN RIDING POSITION

The driver and passenger seat back is positioned to the manufacturer's designated angle. The procedure is as follows: For front seats, 5 detents rearward from the forward-most locking position. For second row seat, seat back angle at test locking position = 23 degrees.



Driver seat back angle: 5th detent (1st as 0)

Passenger seat back angle: 22.8 degrees on center of seat back

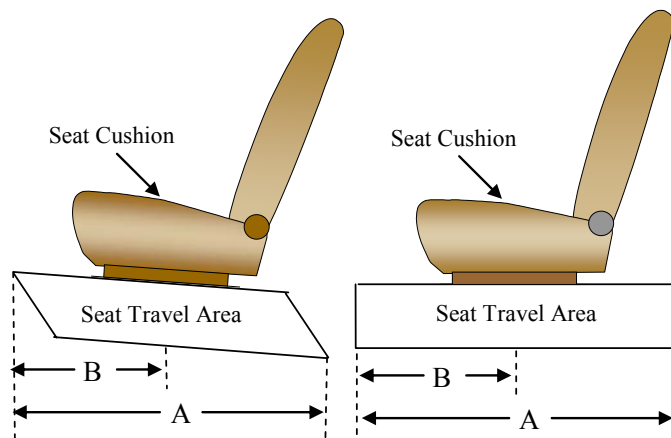
SEAT FORE/AFT POSITIONS

Forward-most measurements and rearward-most measurements should be taken from the bottom of the seat cushion (including the plastic base if applicable).

SEAT FORE/AFT POSITIONS

	Total Fore/Aft Travel	Placed in position #
Driver Seat	240 mm/25 detents	120 mm/12 detents
Rear Seat	non adjustable	non adjustable

* forward-most detent defined as 0



DATA SHEET NO. 3 (CONTINUED)

TEST VEHICLE INFORMATION

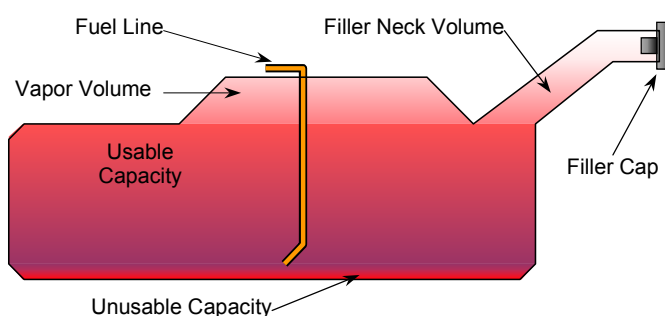
Test Vehicle: 2007 Honda Fit 5-Dr Sport
 Test Program: NCAP Side Impact

NHTSA No. M75301
 Test Date: 5/11/06

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard Tank"	40.9
Usable Capacity of "Optional" Tank	
92-94% of Usable Capacity	37.6 to 38.4
Actual Amount of Solvent used	37.9
1/3 of Usable Capacity	13.6

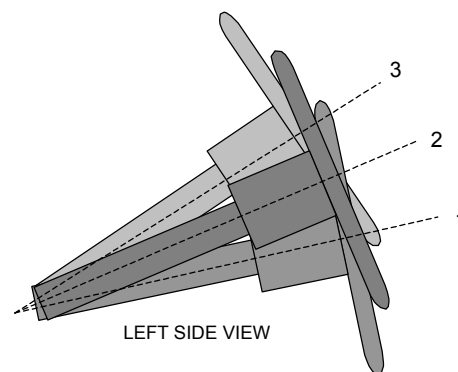
The vehicle is equipped with an electric fuel pump. After the ignition key is turned from LOCK (0) to ON (II) position, the pump will be filled up for two seconds, and then the pressure is maintained.



VEHICLE FUEL TANK ASSEMBLY

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

	Degrees
Lowermost position No. 1	18.7
Geometric center position No. 2	21.5
Uppermost position No. 3	24.3

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

Test Vehicle: 2007 Honda Fit 5-Dr Sport
Test Program: NCAP Side Impact

NHTSA No. M75301
Test Date: 5/11/06

MDB SPECIFICATIONS

Measurement Description	Length (mm)
Overall Width of Framework Carriage	1252
Overall Length Including Honeycomb Face	4115
Wheel base of Framework Carriage	2588
C.G. Location aft of Front Axle	1101

MDB WEIGHTS

	Units	Front Axle	Rear Axle	Total
Left	kg	473.5	219.5	
Right	kg	308.3	359.5	
Ratio	%	57.5	42.5	
Totals	kg	781.8	579.0	1360.8

SPEED AND IMPACT ANGLE DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	62.1
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	61.8
MDB CL to Target Vehicle CL	degrees	88.5 to 91.5	89.9

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

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	0 mm
Vertical Offset	mm	+/-20	2 mm up

DATA SHEET NO. 5**POST TEST OBSERVATIONS**

Test Vehicle: 2007 Honda Fit 5-Dr Sport
 Test Program: NCAP Side Impact

NHTSA No. M75301
 Test Date: 5/11/06

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat SID/HIII	Rear Seat SID/HIII
Dummy Type / Serial No.	SID HIII / 272	SID HIII / 904
Head Contact	Curtain Airbag, Headrest	Curtain Airbag, Headrest
Upper Torso Contact	Side Airbag, Door Panel	Door Panel
Lower Torso Contact	Door Panel	Door Panel
Left Knee Contact	Door Panel	Door Panel
Right Knee Contact	Left Knee	Left Knee

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

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

POST TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	No Separation
Sill Separation	None
Windshield Damage	None
Window Damage	Left Front Driver and Left Rear Passenger Window Broke
Other Notable Effects	None

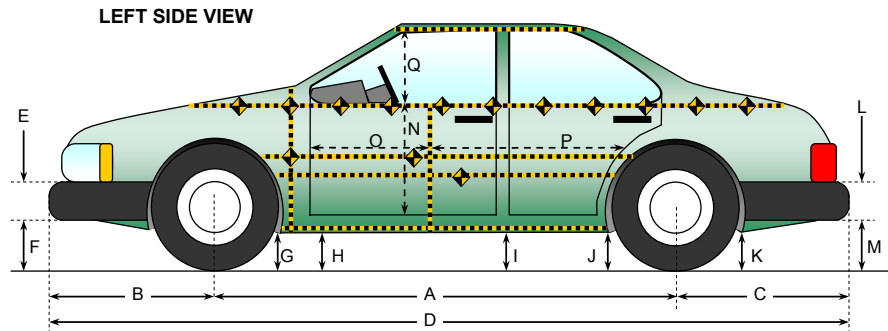
SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Occupant Location 01		Occupant Location 04	
	Installed	Operation	Installed	Operation
Front Airbag	Yes	No	None	
Side Torso Airbag	Yes	Yes	None	
Head Airbag	None		None	
Curtain Airbag	Yes	Yes	Yes	Yes
Seat Belt Pretensioner	Yes		None	
Seat Belt Load Limiter	Yes		None	

DATA SHEET NO. 6
VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle: 2007 Honda Fit 5-Dr Sport
 Test Program: NCAP Side Impact

NHTSA No. M75301
 Test Date: 5/11/06



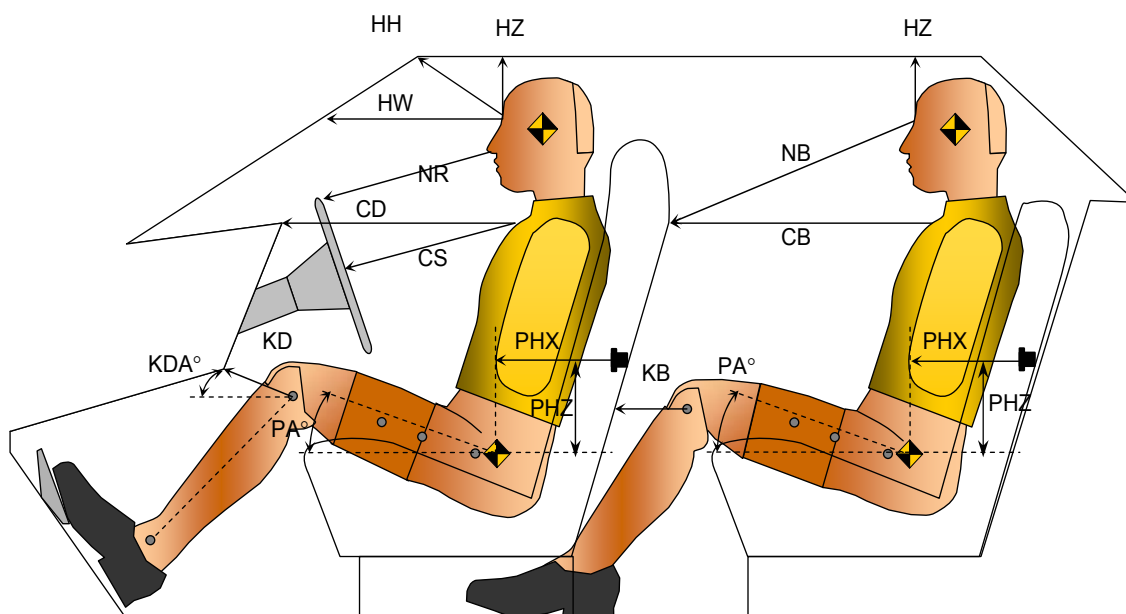
All Measurements in mm

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2452	2445	7
B	Front Axle to FSOV	843	840	3
C	Rear Axle to RSOV	669	693	-24
D	Total Length at Centerline	3963	3978	-15
E	Front Bumper Thickness	148	148	0
F	Front Bumper Bottom to Ground	196	203	-7
G	Sill Height at Front Wheel Well	157	179	-22
H	Sill Height at Front Door Leading Edge	150	161	-11
I	Sill Height at "B" Pillar	158	155	3
J1	Sill Height at Rear Wheel Well	156	160	-4
J2	Pinch Weld Height at Rear Wheel Well	149	162	-13
K	Sill Height Aft of Rear Wheel Well	203	201	2
L	Rear Bumper Thickness	160	160	0
M	Rear Bumper Bottom to Ground	284	288	-4
N	Sill Height to Window Bottom Sill	703	571	132
O	Front Door Leading Edge to Impact CL	733	695	38
P	Rear Door Trailing Edge to Impact CL	1223	1133	90
Q	Front Window Opening	494	459	35
R	Right Side Length	3232	3235	-3
S	Left Side Length	3231	3218	13
T	Vehicle Width at "B" Post	1667	1658	9

DATA SHEET NO. 7
SID/HII LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2007 Honda Fit 5-Dr Sport
 Test Program: NCAP Side Impact

NHTSA No. M75301
 Test Date: 5/11/06

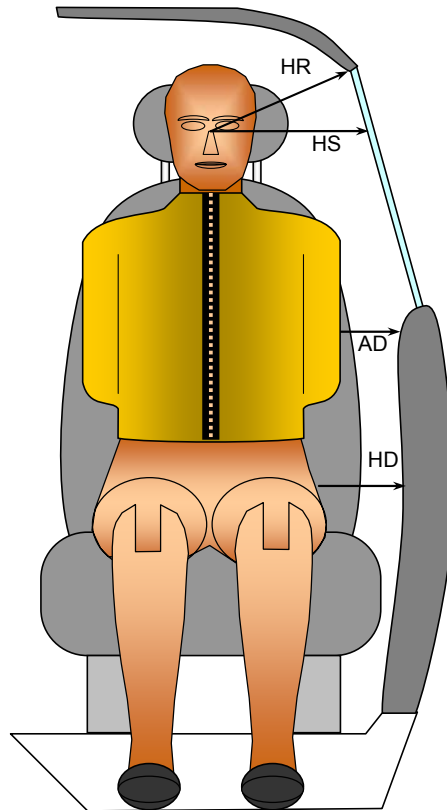


Driver Code	Pass. Code	Measurement Description	Driver S/N 272		Passenger S/N 904	
			Length(mm)	Angle(°)	Length(mm)	Angle(°)
HH		Head to Header	457			
HW		Head to Windshield	710			
HZ	HZ	Head to Roof	210		165	
NR	NB	Nose to Rim/Nose to Seatback	491		588	
CD	CB	Chest to Dash or Seatback	546		513	
CS		Chest to Steering Wheel	376			
KDL	KBL	Left Knee to Dash or Seatback	126	23.3	204	15.1
KDR	KBR	Right Knee to Dash or Seatback	136	34.5	212	15.5
PA	PA	Pelvic Angle		24.7		24.0
PHX	PHX	H-Point to Striker (X-Axis)	232		214	
PHZ	PHZ	H-Point to Striker (Z-Axis)	142		266	

DATA SHEET NO. 8
SID/HIII LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2007 Honda Fit 5-Dr Sport
 Test Program: NCAP Side Impact

NHTSA No. M75301
 Test Date: 5/11/06



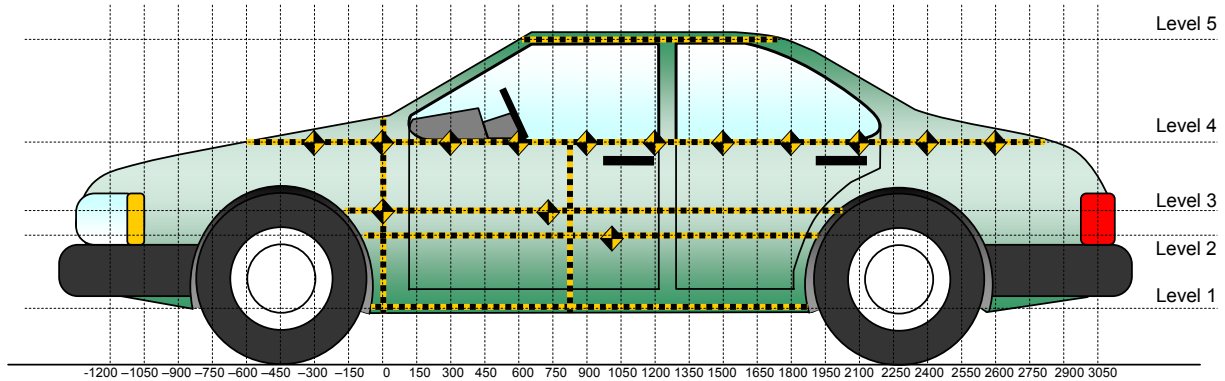
FRONT VIEW OF DUMMY

Code	Measurement Description	Units	Driver S/N 272	Passenger S/N 904
HR	Head to Side Header	mm	221	156
HS	Head to Side Window	mm	320	285
AD	Arm to Door	mm	58	51
HD	H-Point to Door	mm	142	142

DATA SHEET NO. 9 **VEHICLE SIDE MEASUREMENTS**

Test Vehicle: 2007 Honda Fit 5-Dr Sport
 Test Program: NCAP Side Impact

NHTSA No. M75301
 Test Date: 5/11/06



All Measurements Shown in mm

LEFT SIDE VIEW

Measurements are taken with vehicle in the as tested condition.
 Measurements along the vertical 800 mm.
 All measurements below in mm.

Level	Measurement Description	Maximum Exterior Static Crush	Distance From Impact	Height Above Ground
5	Window	44	1350	1413
4	Window Sill	216	600	910
3	Mid Door	260	450	597
2	Occupant H-Point	284	1200	535
1	Sill Top	18	1200	223
	Maximum Penetration	164		

DATA SHEET NO. 10
VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2007 Honda Fit 5-Dr Sport
Test Program: NCAP Side Impact

NHTSA No. M75301
Test Date: 5/11/06

	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-450				355					355					0	
-300				338					341					3	
-150			259	327				287	335				28	8	
0		262	267	321			317	313	338			55	46	17	
150	270	269	268	318		268	433	424	345		-2	164	156	27	
300	281	267	266			281	508	505			0	241	239		
450	279	266	264	315		281	536	524	504		2	270	260	189	
600	278	265	263	314	506	284	544	521	530	510	6	279	258	216	4
750	278	264	263	316	498	289	545	510	514	502	11	281	247	198	4
900	278	264	263	318	503	293	544	502	502	513	15	280	239	184	10
1050	277	264	262	320	508	294	533	487	496	531	17	269	225	176	23
1200	279	265	264	323	514	297	549	500	483	548	18	284	236	160	34
1350	280	268	267	327	516	298	534	490	488	560	18	266	223	161	44
1500	280	270	270	331	523	297	513	483	499	552	17	243	213	168	29
1650	275	270	272	336	527	289	484	451	445	546	14	214	179	109	19
1800	275	265	269	342	532	287	440	422	371	545	12	175	153	29	13
1950		262	266	350	535		336	313	345	540		74	47	-5	5
2100			264	358	538			306	381	541			42	23	3
2250			270	369	543			293	383	550			23	14	7
2400				382	553				386	554				4	1

Reference plane is parallel to test vehicle longitudinal centerline.

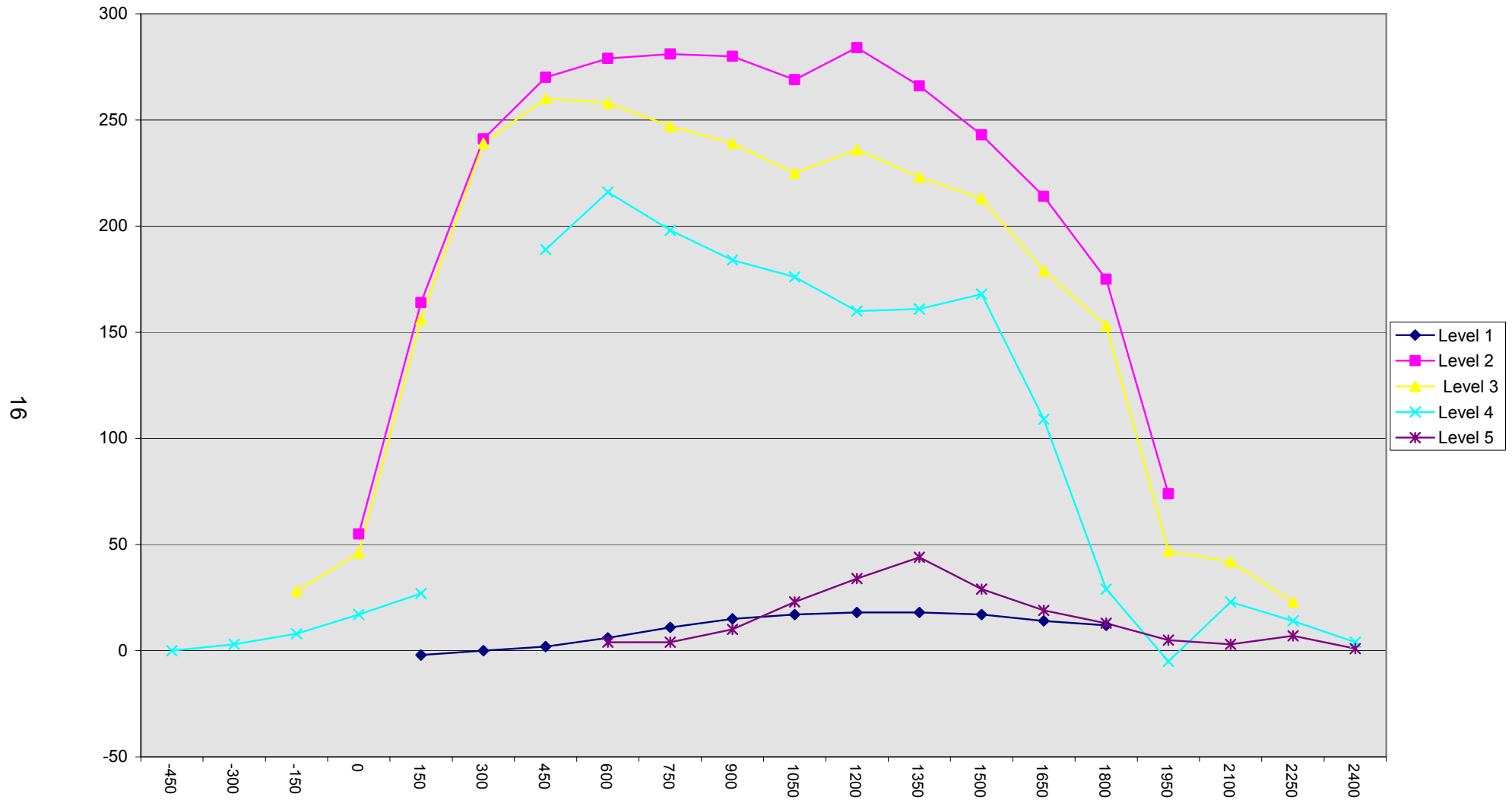
Given dimensions = Reference plane to car body

DATA SHEET NO. 10... (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2007 Honda Fit 5-Dr Sport
Test Program: NCAP Side Impact

NHTSA No. M75301
Test Date: 5/11/06

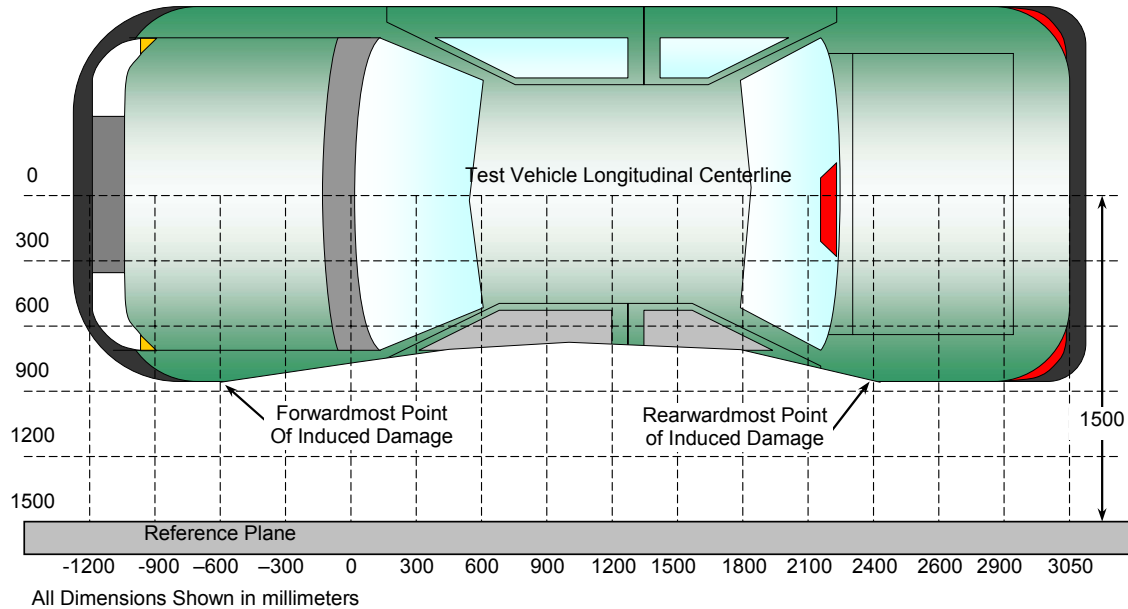


DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2007 Honda Fit 5-Dr Sport
 Test Program: NCAP Side Impact

NHTSA No. M75301
 Test Date: 5/11/06



TOP VIEW

DAMAGE PROFILE DISTANCES

DPD	Distance from Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max Static Crush (mm)
1	2400	4	386	382	4
2	1832	3	403	270	133
3	1225	2	543	266	277
4	673	2	544	265	279
5	110	2	411	265	146
6	-450	4	355	355	0

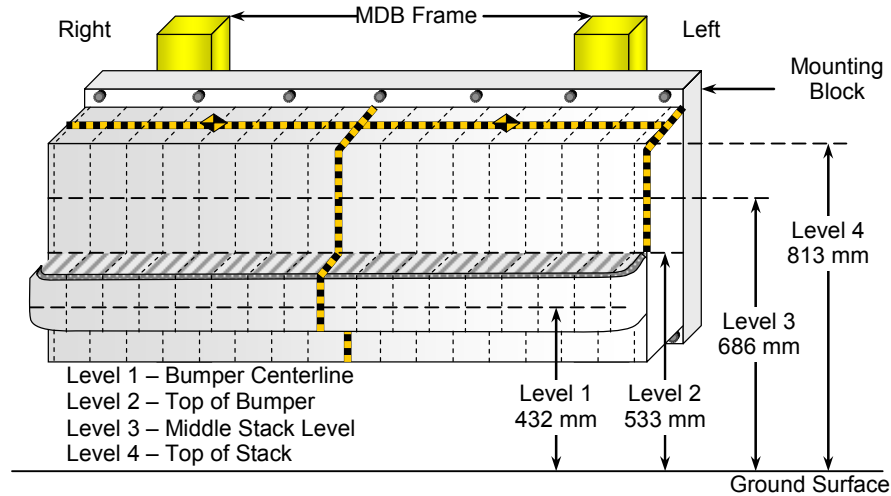
Reference plane is parallel to test vehicle longitudinal centerline.
 Given dimensions = Reference plane to car body.

DATA SHEET NO. 12

DEFORMABLE BARRIER HONEYCOMB FACE STATIC CRUSH

Test Vehicle: 2007 Honda Fit 5-Dr Sport
 Test Program: NCAP Side Impact

NHTSA No. M75301
 Test Date: 5/11/06



DEFORMABLE BARRIER STATIC CRUSH

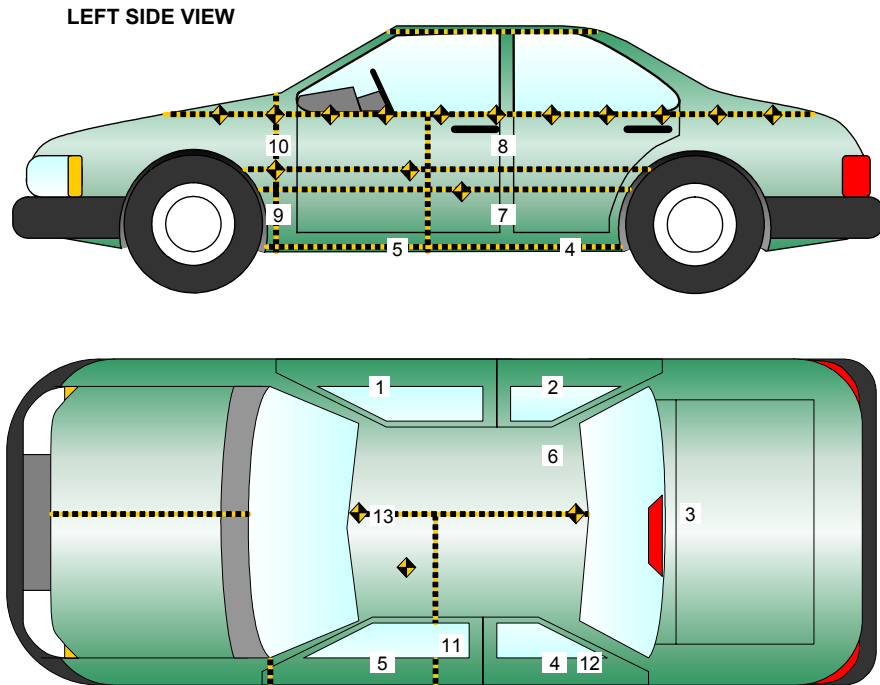
Stack Level	Distance Right of Center								C _L	Distance Left of Center							
	800	700	600	500	400	300	200	100		100	200	300	400	500	600	700	800
1	158	137	121	103	90	87	87	89	89	90	91	94	94	99	116	145	180
2	70	48	30	20	15	17	18	19	24	27	29	31	32	38	46	61	67
3	55	43	18	4	-1	0	10	9	3	0	1	2	3	4	8	39	102
4	44	11	0	-3	-5	-3	5	6	4	1	0	4	4	10	56	99	148

All Dimensions in mm

DATA SHEET NO. 13
VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle: 2007 Honda Fit 5-Dr Sport
 Test Program: NCAP Side Impact

NHTSA No. M75301
 Test Date: 5/11/06



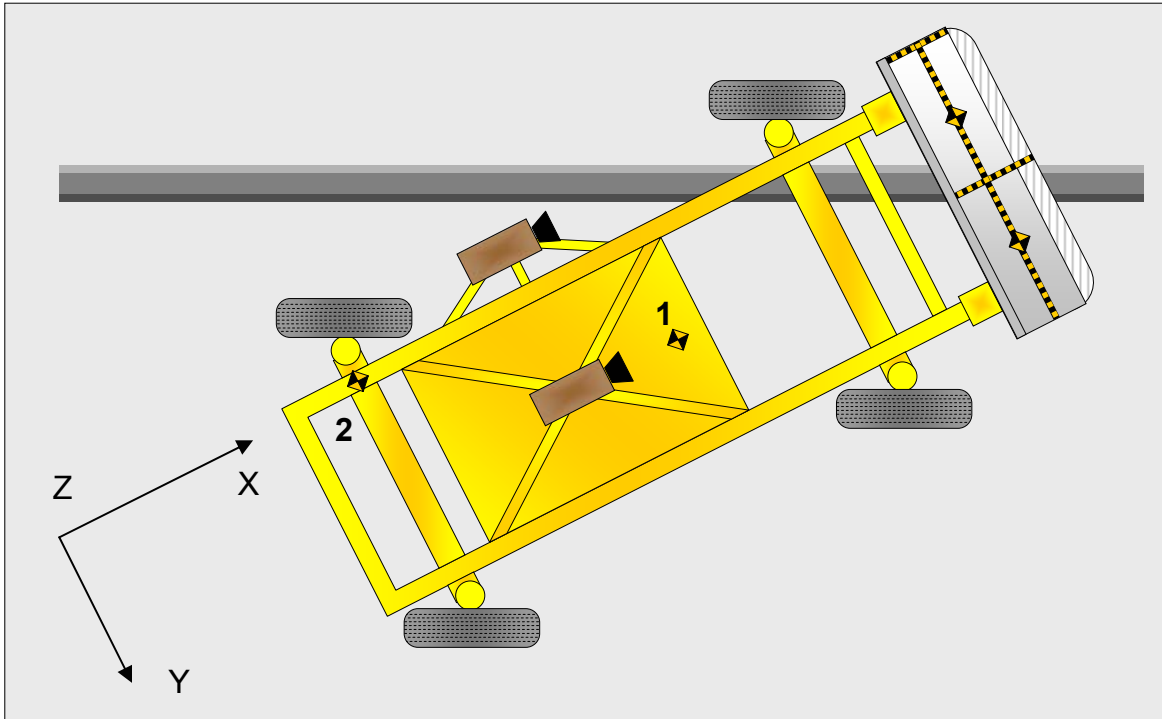
Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Right Sill at Front Seat	2243	695	190
2	Right Sill at Rear Seat	1160	695	193
3	Rear Floorpan Above Axle	826	-52	330
4	Left Sill at Rear Door	1160	-700	192
5	Left Sill at Front Door	2263	-700	195
6	Rear Occupant Compartment	1100	420	350
7	Left Lower B-Post	1600	-655	456
8	Left Middle B-Post	1686	-672	738
9	Left Lower A-Post	2605	-680	443
10	Left Middle A-Post	2691	-735	732
11	Front Seat Track			
12	Rear Seat Track or Structure			
13	Vehicle CG	2380	0	287

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

DATA SHEET NO. 14
MDB ACCELEROMETER LOCATIONS

Test Vehicle: 2007 Honda Fit 5-Dr Sport
 Test Program: NCAP Side Impact

NHTSA No. M75301
 Test Date: 5/11/06



Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	MDB CG	-1092	0	-483
2	MDB Rear	-2591	-625	-622

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

DATA SHEET NO. 15
VEHICLE STRUCTURAL MEASUREMENTS

Test Vehicle: 2007 Honda Fit 5-Dr Sport
Test Program: NCAP Side Impact

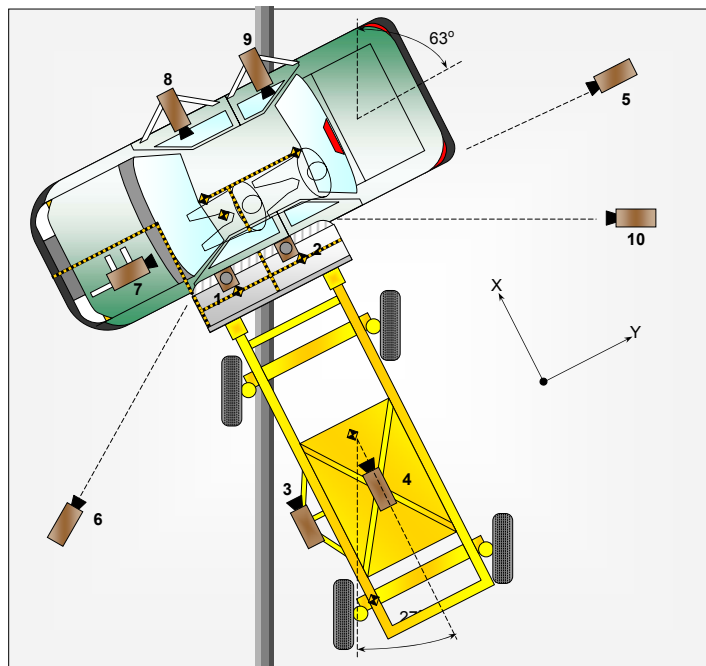
NHTSA No. M75301
Test Date: 5/11/06

	Elements	Pre-Test (mm)
1	Total Length	3963
2	Total Width	1667
3	Bumper Top Height	525
4	Bumper Bottom Height	400
5	Longitudinal Member Top Height	370
6	Distance between Longitudinal Members	840
7	Longitudinal Member Width	35
8	Engine Top Height	885
9	Engine Bottom Height	190
10	Engine and gearbox width	420
11	Front bumper-engine distance	445
12	Front shock absorber fixing height	855
13	Bonnet leading edge height	675
14	Front shock absorber fixing width	1075
15	Front bumper – front axle distance	852
16	Front axle – a pillar distance	345
17	A-pillar – B-pillar distance	1120
18	B-Pillar – rear axle distance	984
19	B-pillar – C-pillar distance	645
20	Roof sill bottom height	1370
21	Roof sill top height	1450
22	Floor sill bottom height	180
23	Floor sill top height	345

DATA SHEET NO. 16
HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2007 Honda Fit 5-Dr Sport
 Test Program: NCAP Side Impact

NHTSA No. M75301
 Test Date: 5/11/06



No.	Camera View	Location (mm)			Lens (mm)	Film Speed (fps)
		X	Y	Z		
1	Overhead Close-up	735	0	4840	50	1000
2	Overhead Overall	-725	1255	4840	14	1000
3	MDB Onboard, Impact Point Close-up				50	1000
4	MDB Onboard, Centerline of Impact				25	1000
5	Right Side, Ground Level, Overall	-2965	7255	1390	35	1000
6	Left Side, Ground Level, Overall	1030	-4055	1390	24	1000
7	Vehicle Onboard Front SID/HIII, Front				12.5	1000
8	Vehicle Onboard Front SID/HIII, Side				8	1000
9	Vehicle Onboard Rear SID/HIII, Side				8	1000
10	Real Time Coverage				13	24

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

DATA SHEET NO. 17
SUMMARY OF FMVSS 301 DATA

Test Vehicle: 2007 Honda Fit 5-Dr Sport
 Test Program: NCAP Side Impact

NHTSA No. M75301
 Test Date: 5/11/06

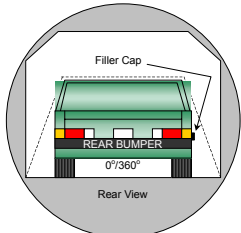
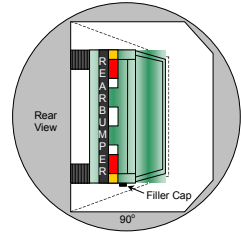
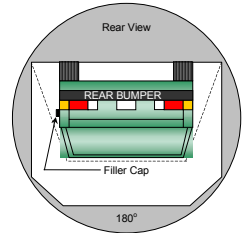
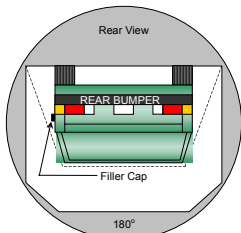
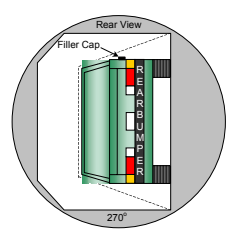
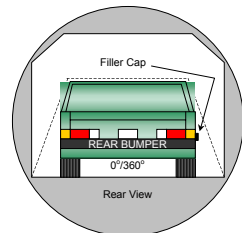
FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Temperature at Time of Impact: 21° C Test Time: 12:41 pm

Stoddard Solvent Spillage Measurements

- A. From impact until vehicle motion ceases: 0 oz.
 (Maximum Allowable = 1 ounce)
- B. For the 5 minute period after motion ceases: None
 (Maximum allowable = 5 ounces)
- C. For the following 25 minutes: None
 (Maximum allowable = 1 oz./minute)
- D. Spillage Details: None

FMVSS 301 STATIC ROLLOVER DATA

			1. The specified fixture rollover rate for each 90° of rotation is 60 to 180 seconds. 2. The position hold time at each position is 300 seconds (minimum). 3. Details of Stoddard Solvent spillage locations: None
0° to 90°	90° to 180°		
			
180° to 270°	270° to 360°		

Test Phase	Rotation Time (sec.)	Hold Time (sec.)	Spillage Collection Time (min)	Spillage (oz.)
0° to 90°	160	300	First 5	0
90° to 180°	148	300	First 5	0
180° to 270°	134	300	First 5	0
270° to 360°	170	300	First 5	0

APPENDIX A
PHOTOGRAPHS

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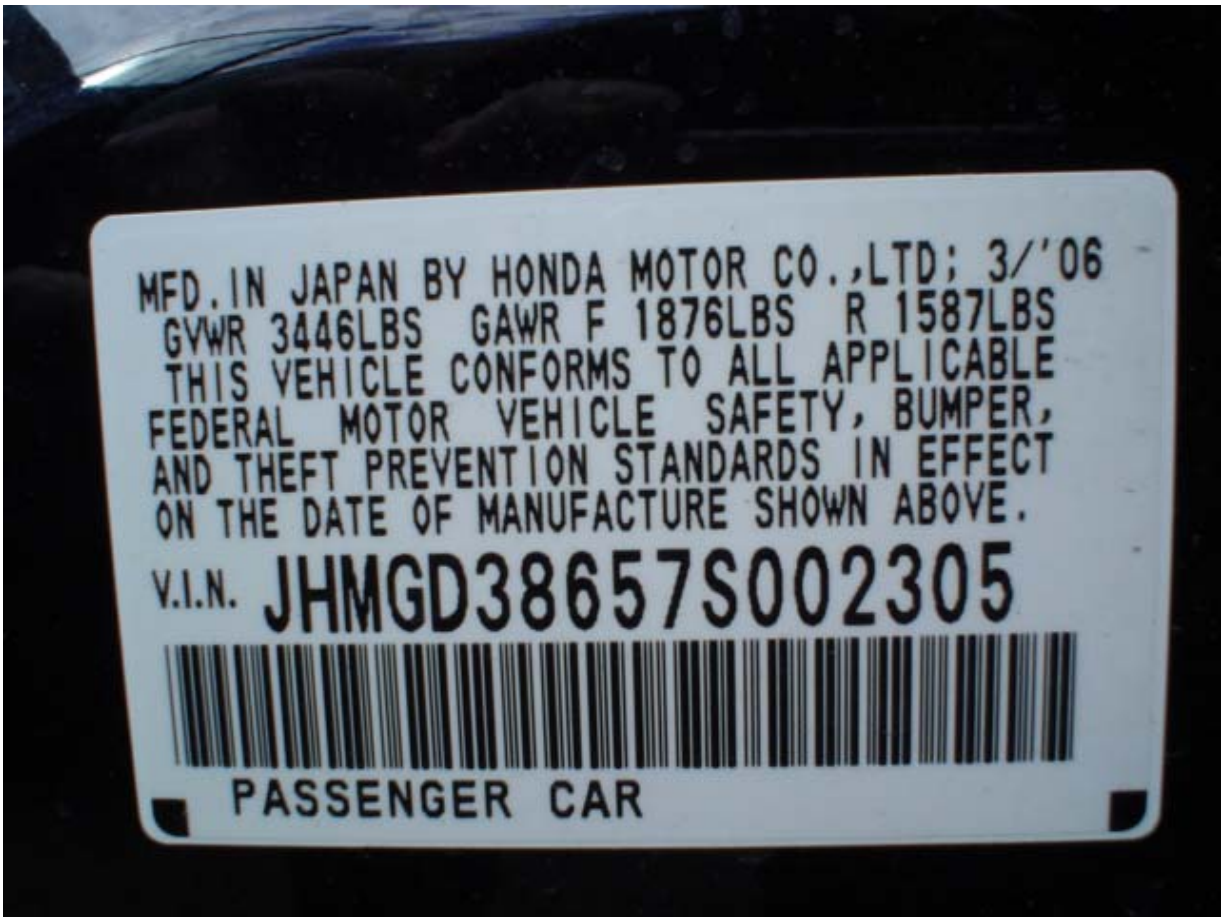
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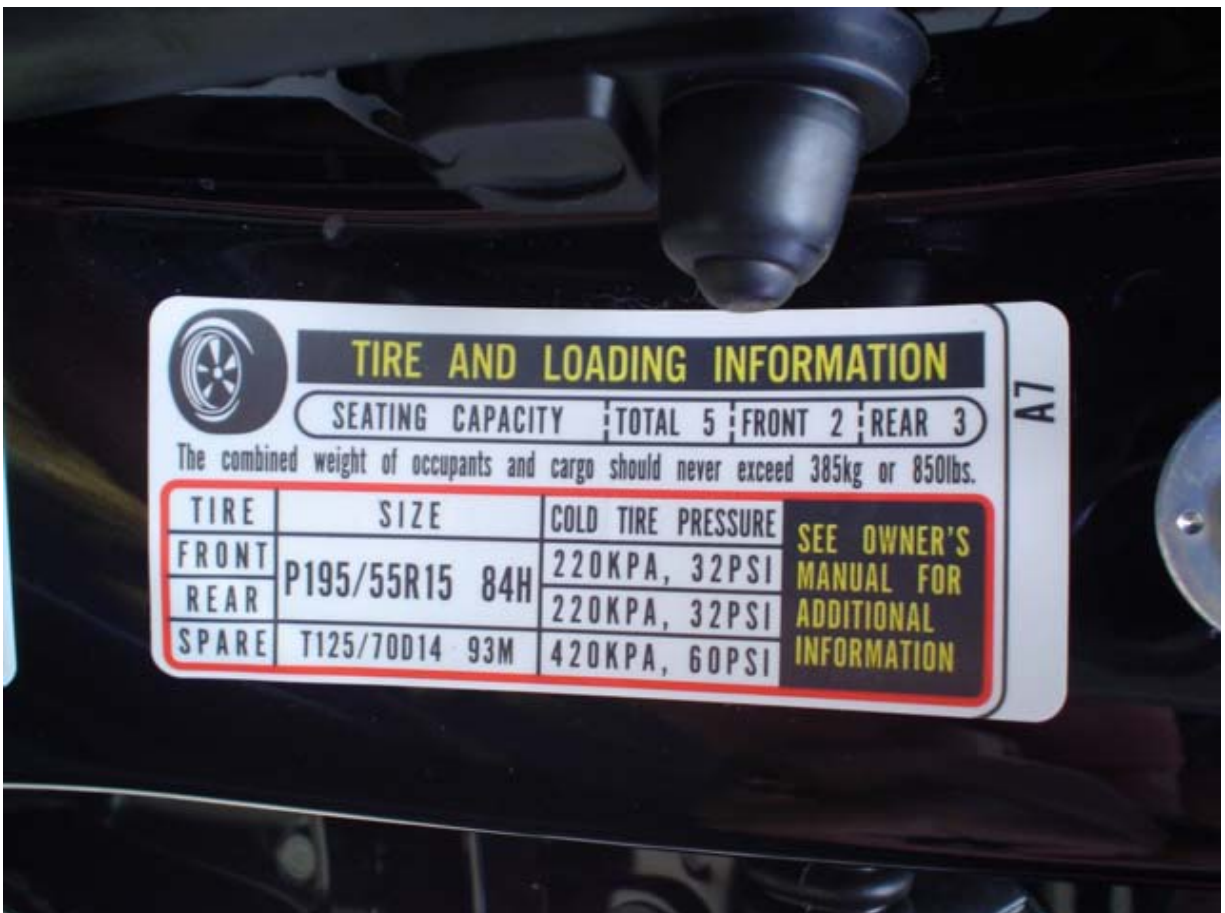
Left Front $\frac{3}{4}$ View, As Received



Right Rear $\frac{3}{4}$ View, As Received



Manufacturer's Label



Tire Placard



Pre-Test Front View



Post-Test Front View



Pre-Test Left Front $\frac{3}{4}$ View



Post-Test Left Front $\frac{3}{4}$ View



Pre-Test Left Side View



Post-Test Left Side View



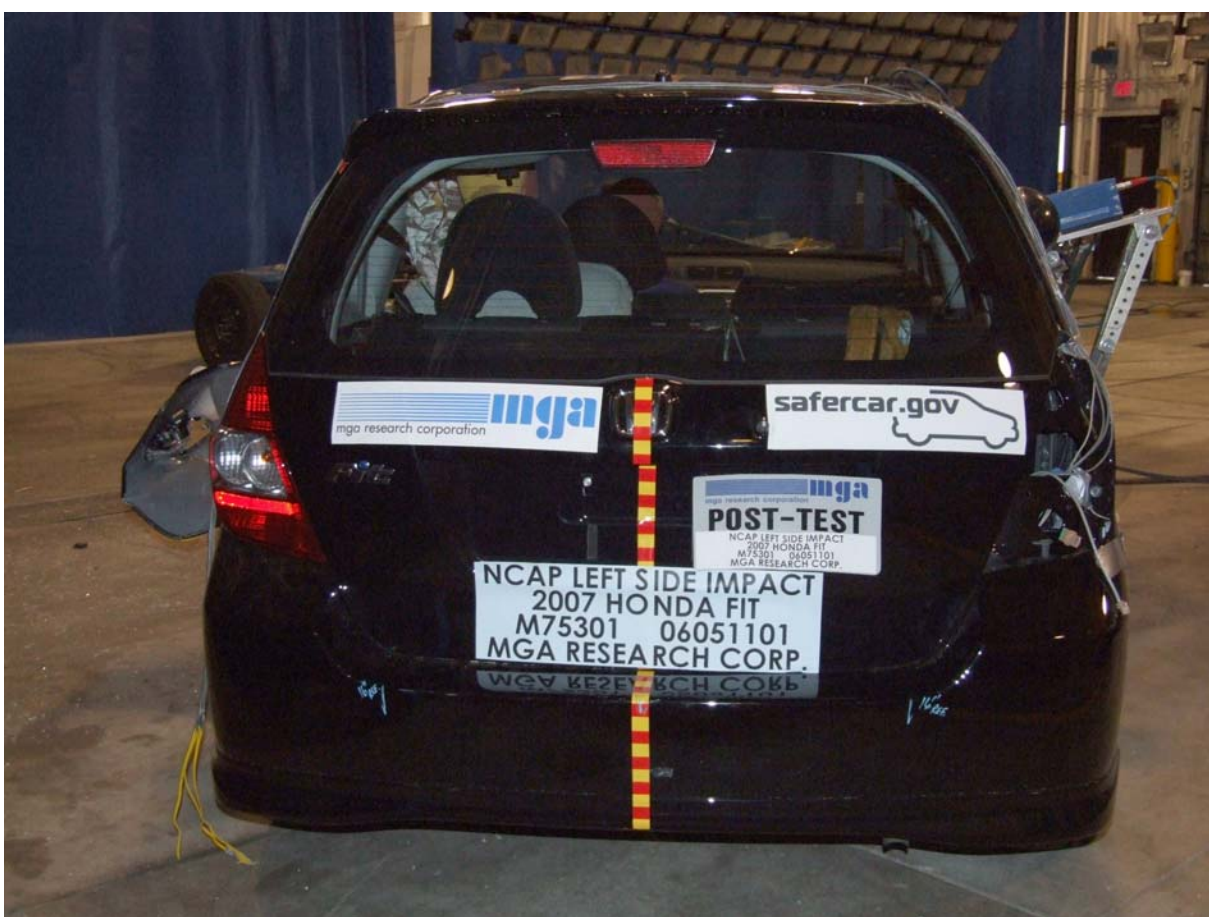
Pre-Test Left Rear $\frac{3}{4}$ View



Post-Test Left Rear $\frac{3}{4}$ View



Pre-Test Rear View



Post-Test Rear View



Pre-Test Right Rear $\frac{3}{4}$ View



Post-Test Right Rear $\frac{3}{4}$ View



Pre-Test Right Side View



Post-Test Right Side View



Pre-Test Overhead View



Pre-Test Overhead Close-up View



Pre-Test Left Impact Point



Post-Test Left Impact Point



Pre-Test Left Impact Zone



Post-Test Left Impact Zone



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



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



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



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



Pre-Test Driver Dummy (Door Open)



Pre-Test Driver Dummy (Through Window)



Post-Test Driver Dummy (Through Window)



Pre-Test Driver Dummy Clearance From Door



Post-Test Driver Dummy Clearance From Door



Pre-Test Driver Dummy Right Side View



Post-Test Driver Dummy Right Side View



Pre-Test Passenger Dummy (Door Open)



Pre-Test Passenger Dummy (Through Window)



Post-Test Passenger Dummy (Through Window)



Pre-Test Passenger Dummy Clearance From Door



Post-Test Passenger Dummy Clearance From Door



Pre-Test Passenger Dummy Right Side View



Post-Test Passenger Dummy Right Side View



Pre-Test Front View of Deformable Barrier



Post-Test Front View of Deformable Barrier



Pre-Test Top View of Deformable Barrier



Post-Test Top View of Deformable Barrier



Pre-Test Right Side View of Deformable Barrier



Post-Test Right Side View of Deformable Barrier



Pre-Test Left Side View of Deformable Barrier



Post-Test Left Side View of Deformable Barrier



Vehicle on Rollover Device (90 Degrees)



Vehicle on Rollover Device (180 Degrees)



Vehicle on Rollover Device (270 Degrees)



Vehicle on Rollover Device (360 Degrees)



Vehicle Impact



Post-Test Driver Dummy Head Contact



Post-Test Driver Dummy Head/Torso Contact



Post-Test Driver Dummy Contact



Post-Test Passenger Dummy Head Contact



Post-Test Passenger Dummy Head Contact



Post-Test Passenger Dummy Torso Contact



Post-Test Passenger Dummy Contact

APPENDIX B
SID/HIII RESPONSE DATA TRACES

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The following dummy and vehicle response data can be found in the R&D section of the NHTSA website at www.nhtsa.dot.gov

Driver Head X Primary

Driver Head Y Primary

Driver Head Z Primary

Driver Head X Redundant

Driver Head Y Redundant

Driver Head Z Redundant

Driver Upper Neck Force X

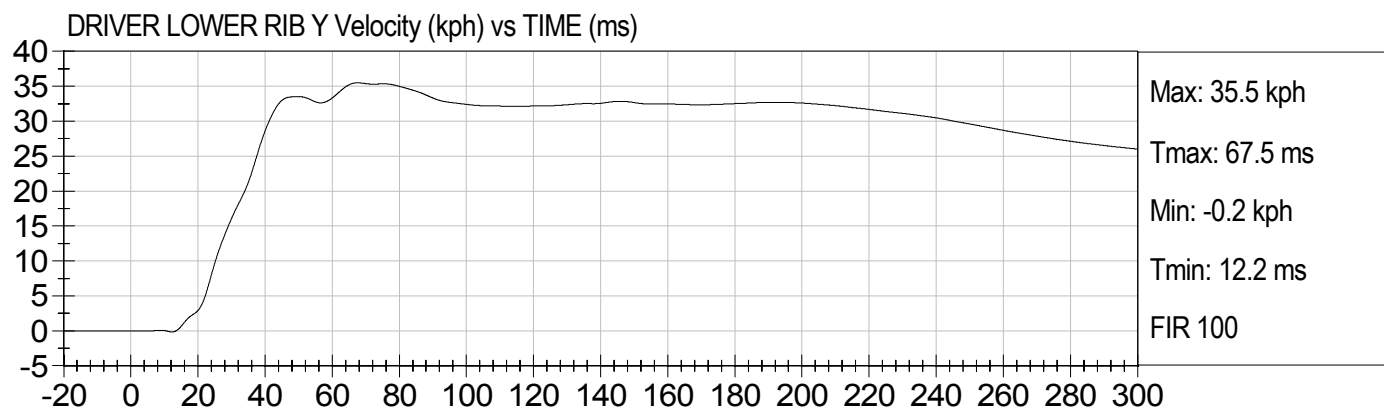
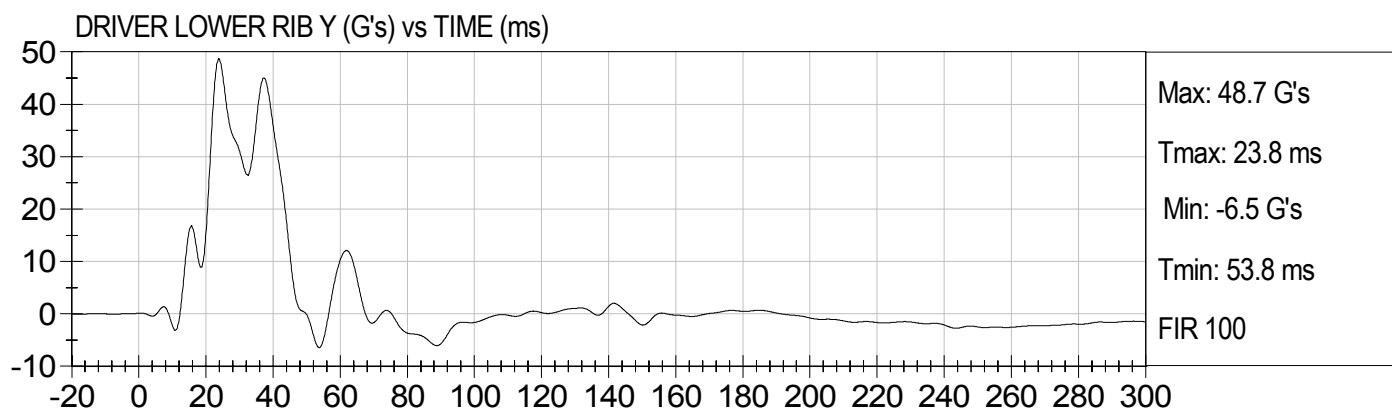
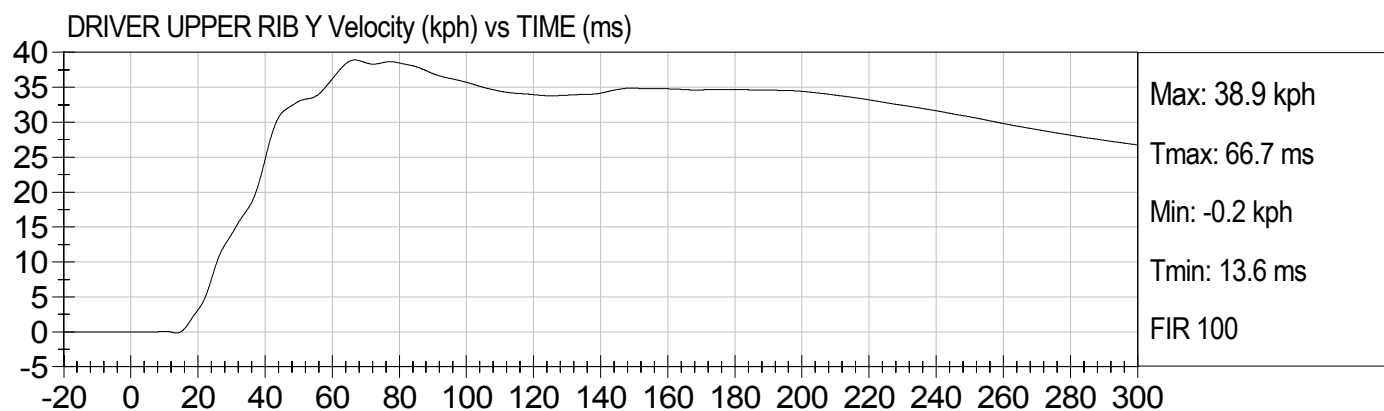
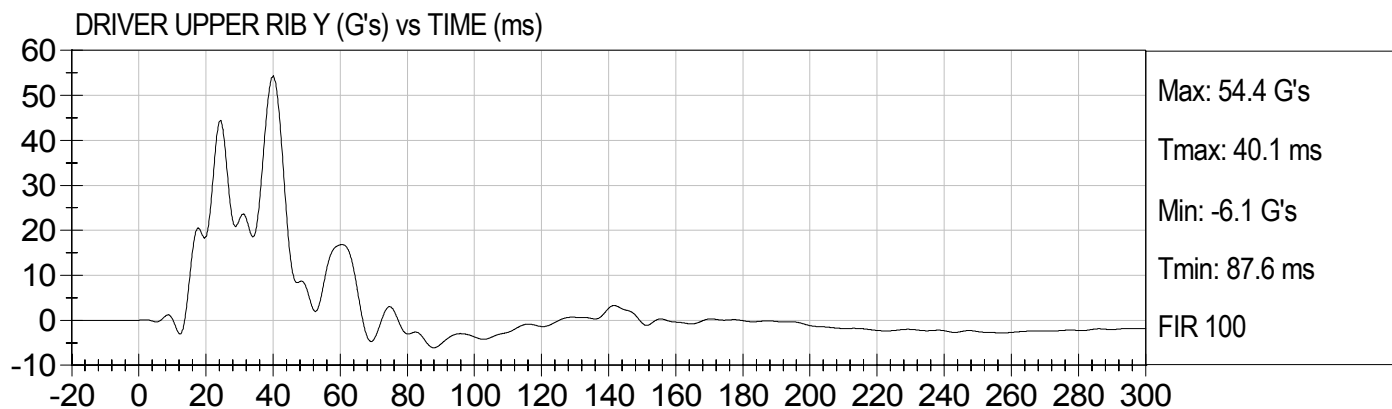
Driver Upper Neck Force Y

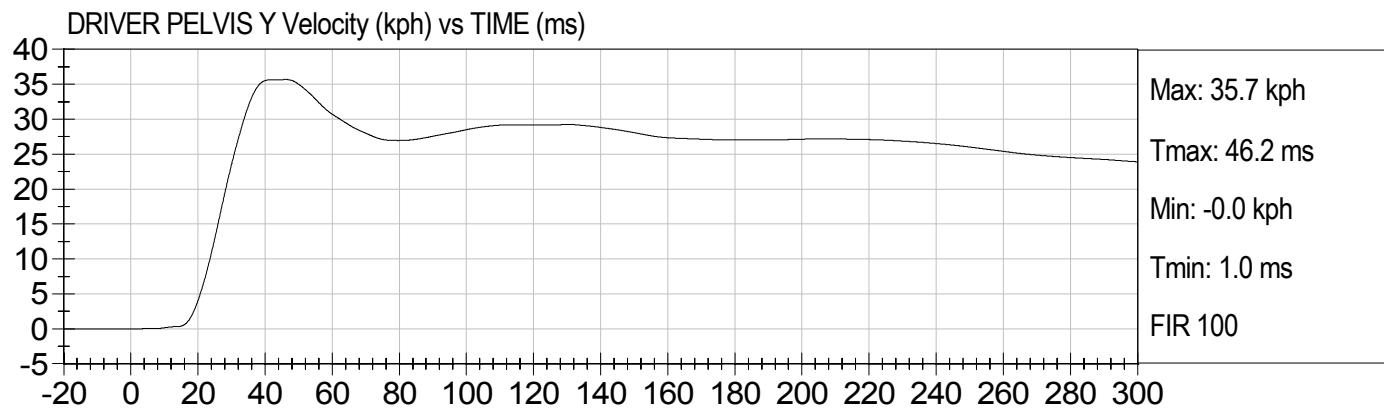
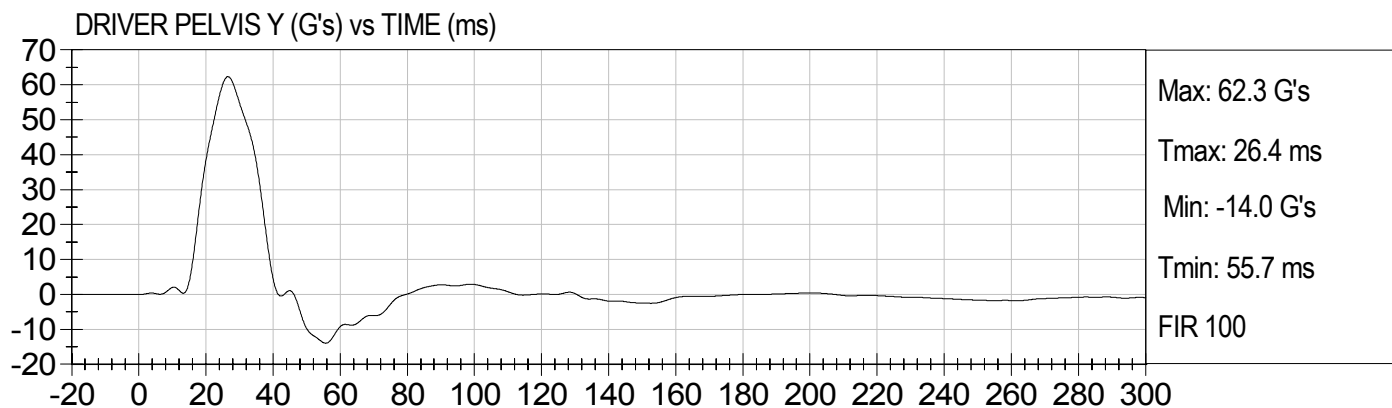
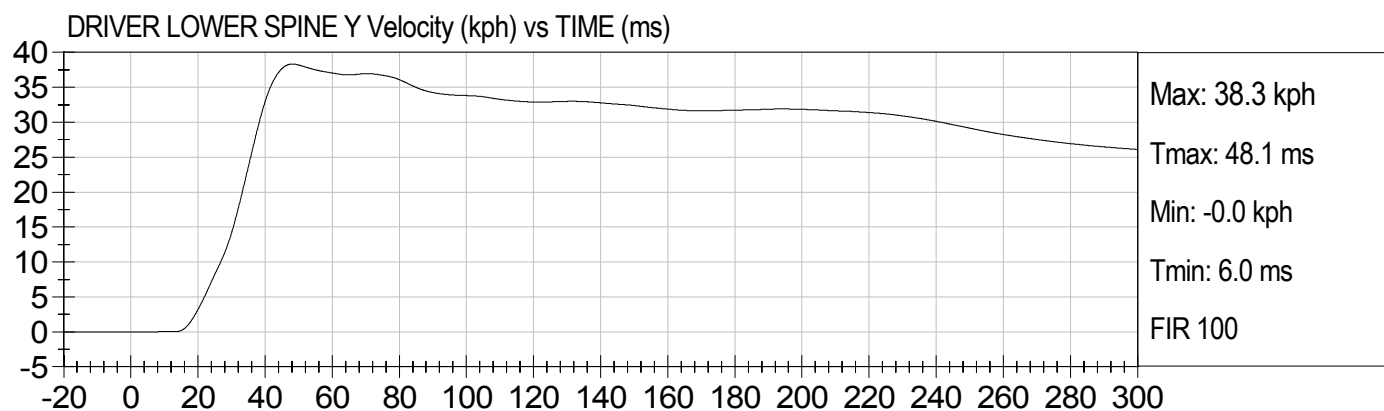
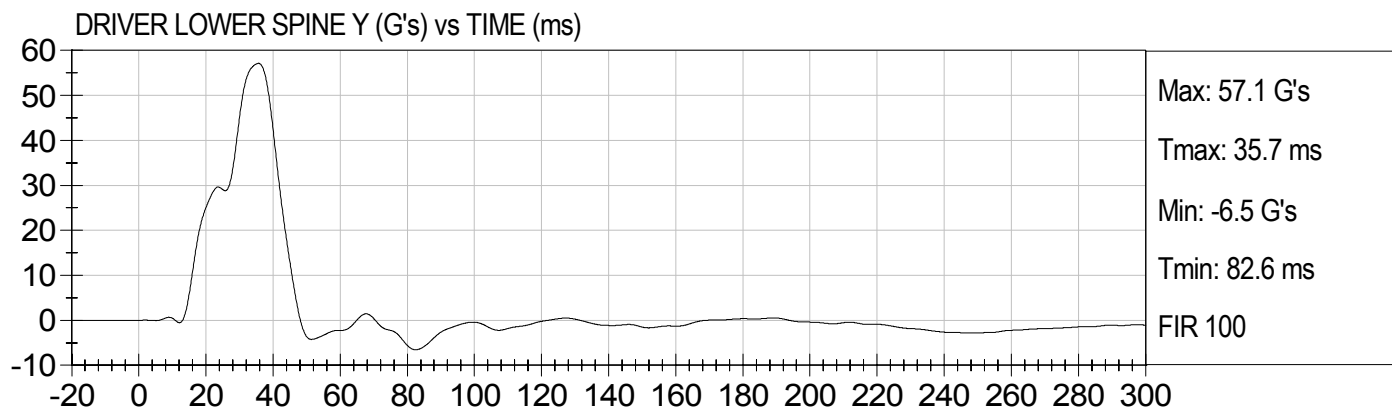
Driver Upper Neck Force Z

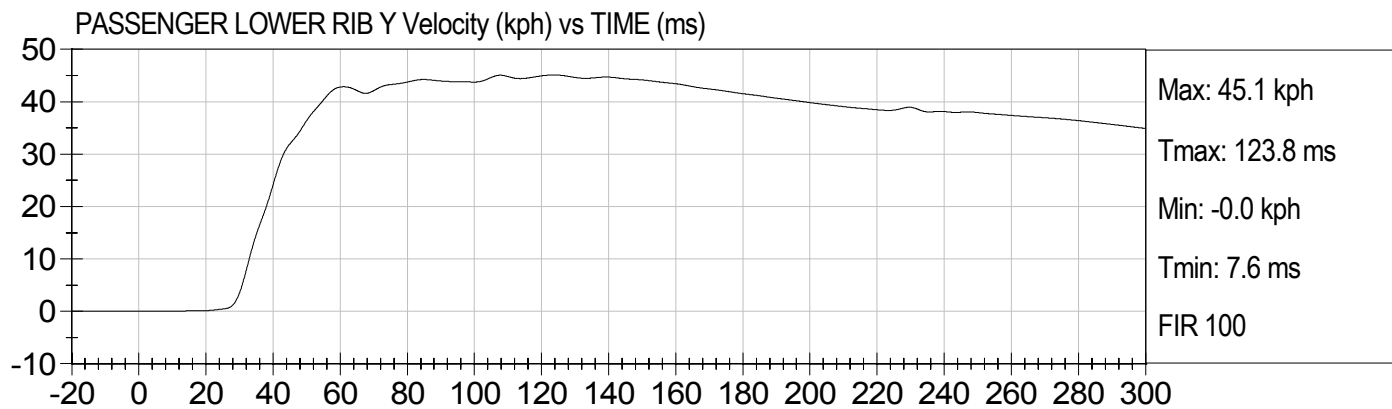
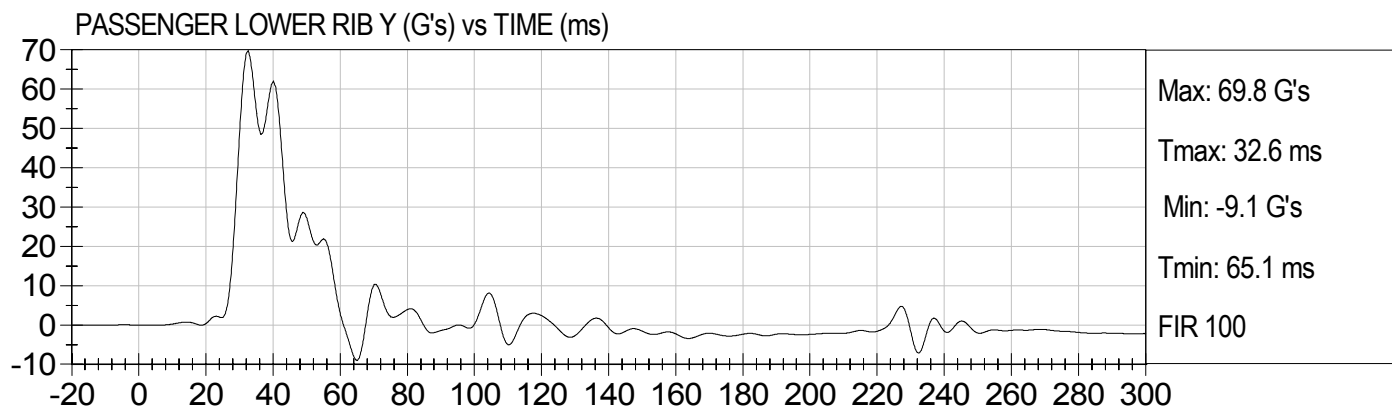
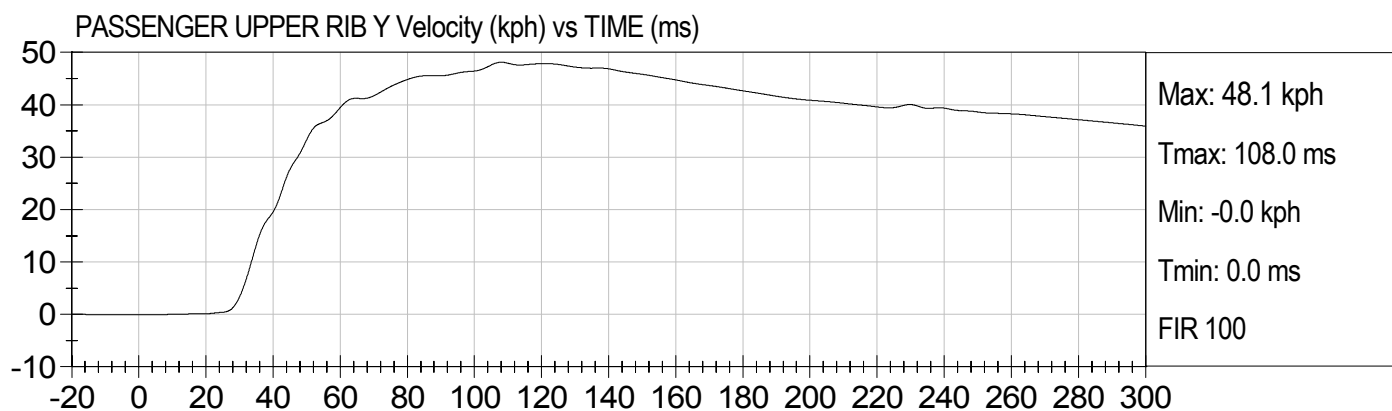
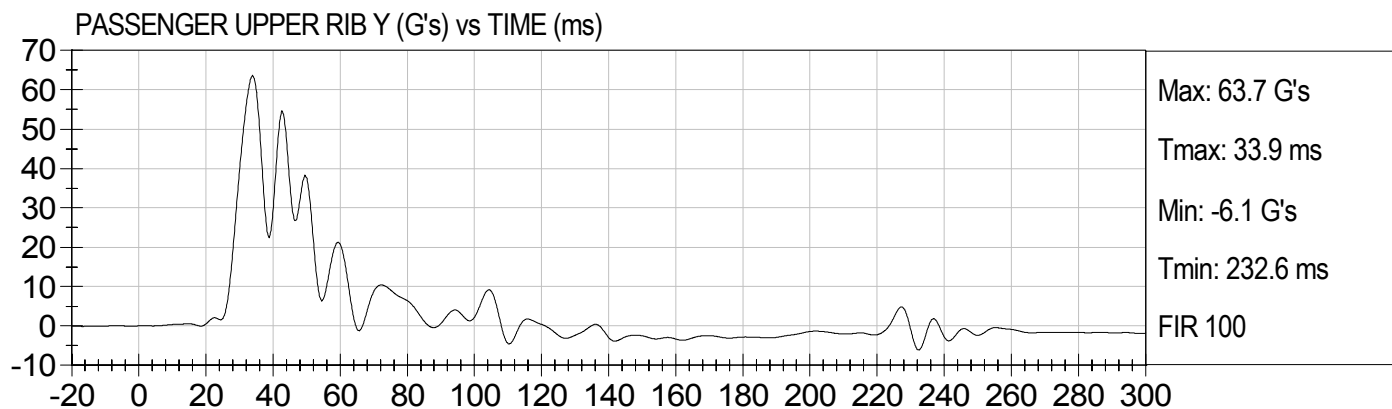
Driver Upper Neck Moment X

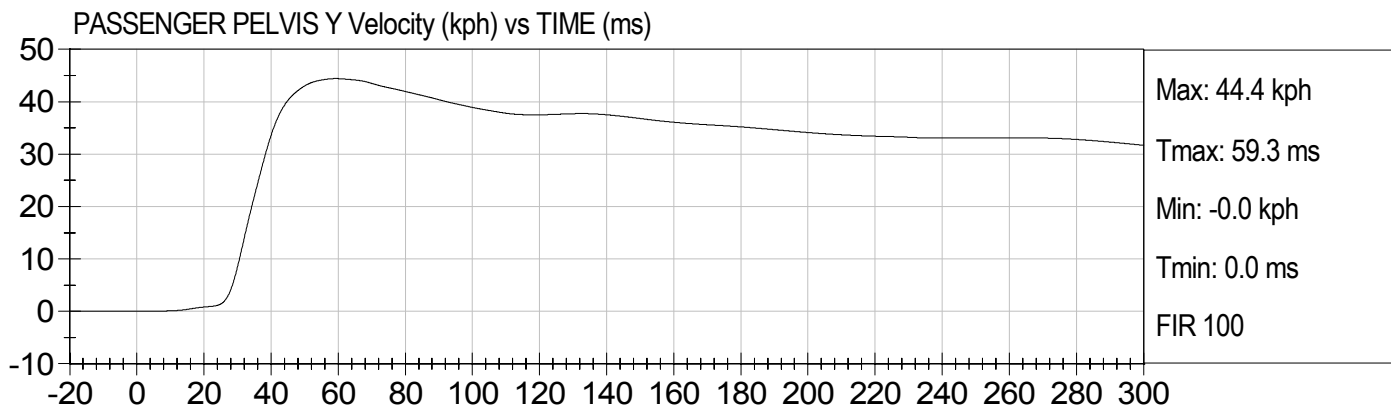
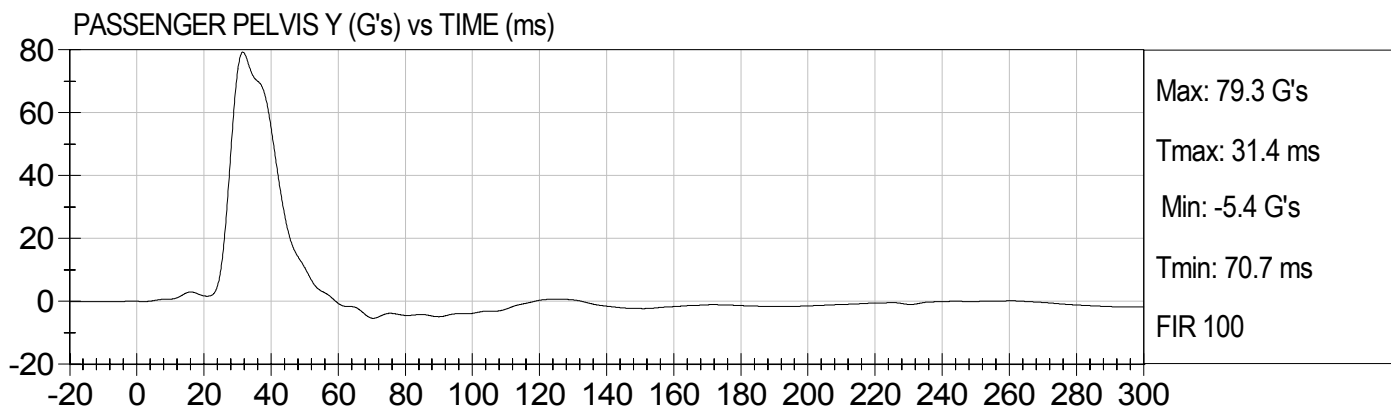
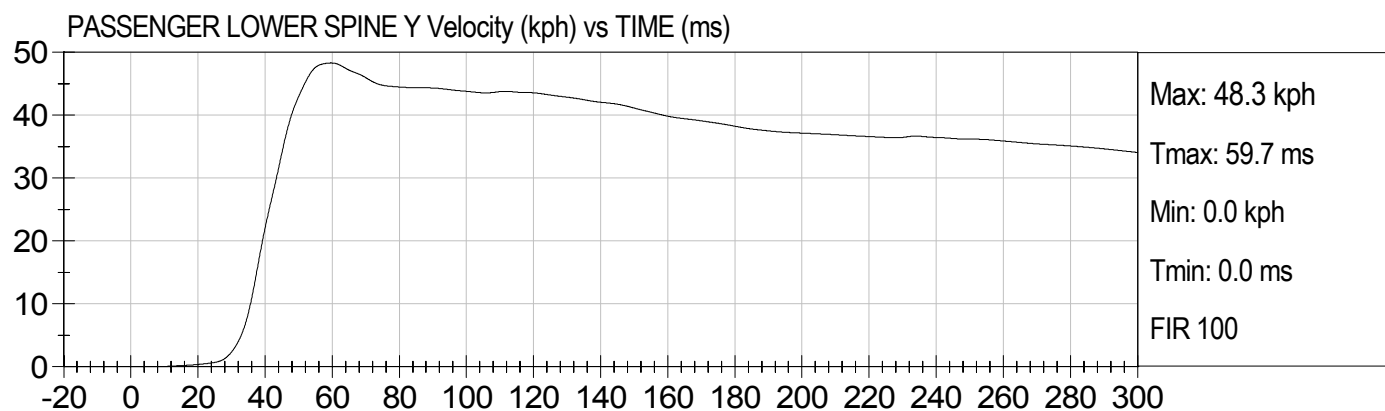
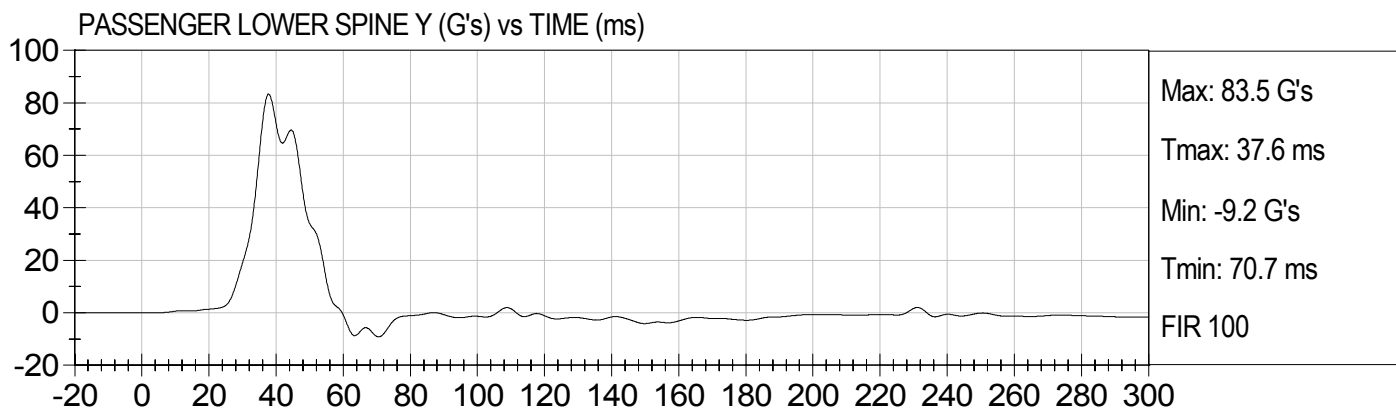
Driver Upper Neck Moment Y
Driver Upper Neck Moment Z
Driver Upper Rib Redundant Y
Driver Lower Rib Redundant Y
Driver Lower Spine Redundant Y
Driver Pelvis Redundant Y
Driver Thorax Contact
Driver Pelvis Contact
Passenger Head X Primary
Passenger Head Y Primary
Passenger Head Z Primary
Passenger Head X Redundant
Passenger Head Y Redundant
Passenger Head Z Redundant
Passenger Upper Neck Force X
Passenger Upper Neck Force Y
Passenger Upper Neck Force Z
Passenger Upper Neck Moment X
Passenger Upper Neck Moment Y
Passenger Upper Neck Moment Z
Passenger Upper Rib Redundant Y
Passenger Lower Rib Redundant Y
Passenger Lower Spine Redundant Y
Passenger Pelvis Redundant Y
Passenger Thorax Contact
Passenger Pelvis Contact
Vehicle Right Sill at Front Seat X
Vehicle Right Sill at Front Seat Y
Vehicle Right Sill at Front Seat Z
Vehicle Right Sill at Rear Seat X
Vehicle Right Sill at Rear Seat Y
Vehicle Right Sill at Rear Seat Z

Vehicle Rear Floor Above Axle X
Vehicle Rear Floor Above Axle Y
Vehicle Rear Floor Above Axle Z
Vehicle Left Sill at Rear Door Y
Vehicle Left Sill at Front Door Y
Vehicle Right Rear Occupant Compartment
Vehicle B-Post Lower Y
Vehicle B-Post Middle Y
Vehicle A-Post Lower Y
Vehicle A-Post Middle Y
Vehicle Left Front Seat Track
Vehicle CG X
Vehicle CG Y
Vehicle CG Z
MDB CG X
MDB CG Y
MDB CG Z
MDB Rear X
MDB Rear Y
MDB Rear Z
MDB Left Bumper Contact
MDB Right Bumper Contact









APPENDIX C
DUMMY CALIBRATION DATA

CERTIFICATION DATA

Dummy Serial Number: 272

Calibration Test Results Summary

Dummy Serial Number: 272

Pre-Test Calibration

External Dimensions:	The dummy passed all external dimension requirements.
Head Drop Test:	The head passed all drop test requirements.
Neck Pendulum Test:	The neck passed all pendulum test requirements.
Thorax Impact Test:	The thorax passed all impact test requirements.
Pelvic Impact Test:	The pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen passed all compression test requirements.
Lumbar Flexion Test:	The lumbar passed all flexion test requirements.

SID Calibration Data Sheet
Side Impact Dummy
External Measurements

ATD Serial No: 272

Test I.D: D06125

Tested Parameter	Units	Specification	Result	Pass/Fail
SH - Seated Height	mm	889 - 909	907	Pass
RH - Rib Height	mm	501 - 521	520	Pass
HP - Hip Pivot Height	mm	99 ref.	99	Pass
RD - Rib from Back Line	mm	229 - 241	230	Pass
KV - Knee Pivot to Back Line	mm	511 - 526	525	Pass
SW - Knee Pivot to Floor	mm	490 - 505	495	Pass
HW - Hip Width	mm	356 - 391	358	Pass
Overall Test Results			Pass	

Jessica Hall
Laboratory Technician

05/09/2006
Test Date

David Winkelbauer
Approved By

SID Calibration Data Sheet
Side Impact Dummy
Head Drop Calibration (Lateral)

ATD Serial No: 272

Test I.D: D061251

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	42	Pass
Peak Resultant Acceleration	G's	120 to 150	125	Pass
Is Resultant Curve Unimodal?	Yes/No	15% of peak	Yes	Pass
Peak Longitudnal Acceleration	G's	+/- 15	-14	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

05/09/2006

Test Date

David Winkelbauer
Approved By



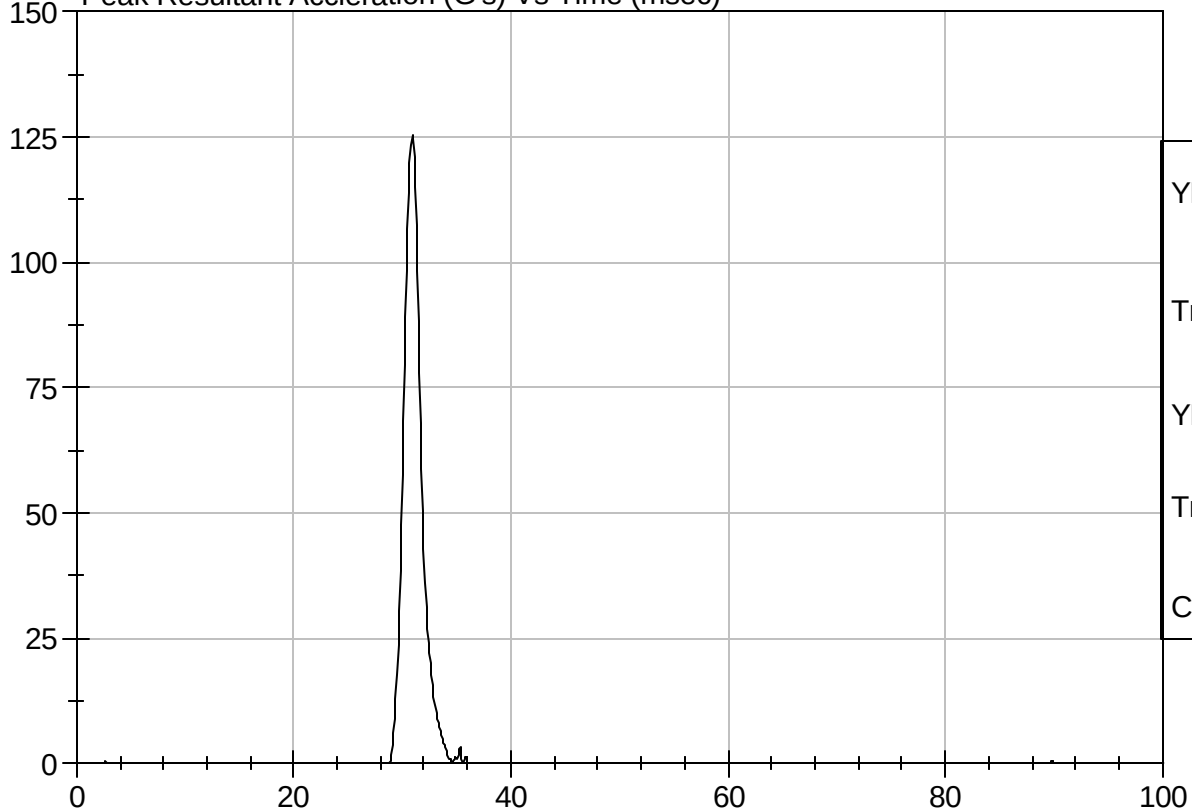
Test Description: Head Drop

Test Date: 05/09/2006

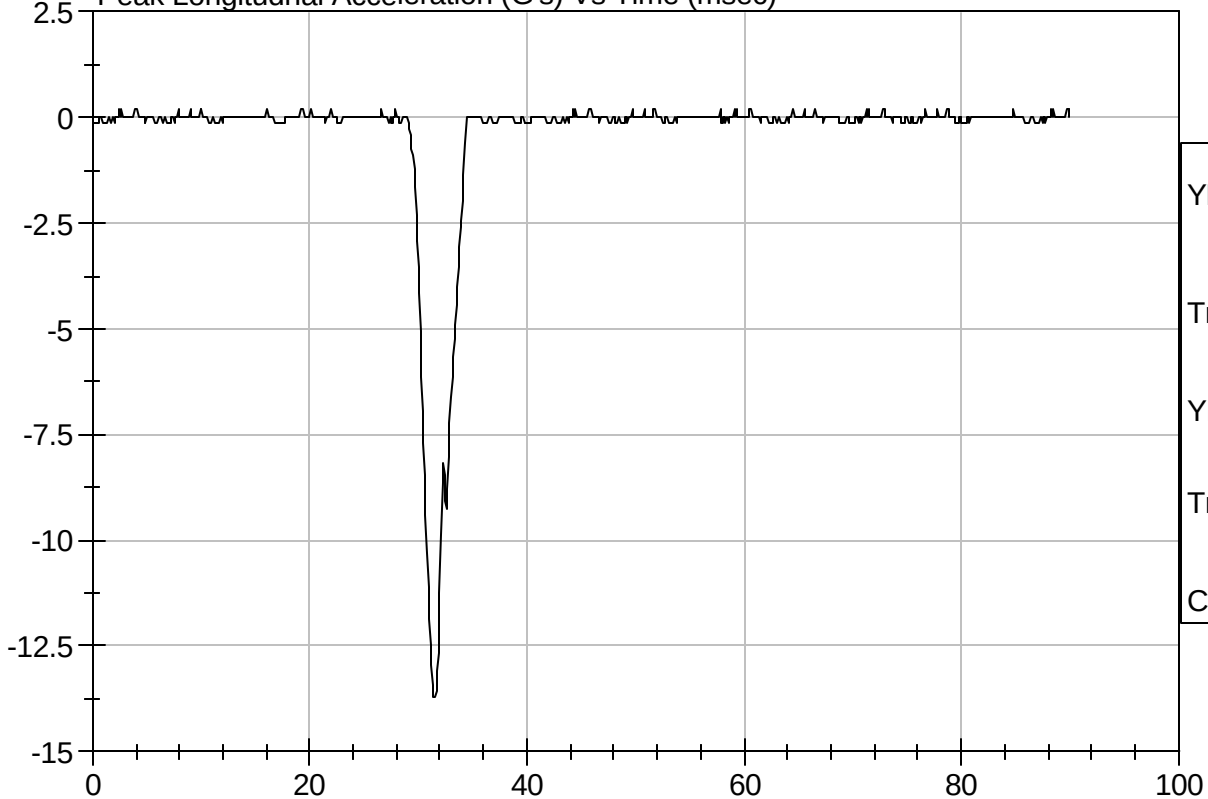
Component: D061251

Speed: 0 ft/s, 0.00 m/s

Peak Resultant Acceleration (G's) Vs Time (msec)



Peak Longitudnal Acceleration (G's) Vs Time (msec)



SID Calibration Data Sheet
Side Impact Dummy
Thorax Impact Test

ATD Serial No: 272

Test I.D: D061252

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.6	Pass
Laboratory Relative Humidity	%	10 to 70	50	Pass
Probe Velocity	m/s	4.22 - 4.31	4.30	Pass
Upper Rib	G's	37 - 46	38	Pass
Lower Rib	G's	37 - 46	38	Pass
Lower Spine	G's	15 - 22	19	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

05/10/2006

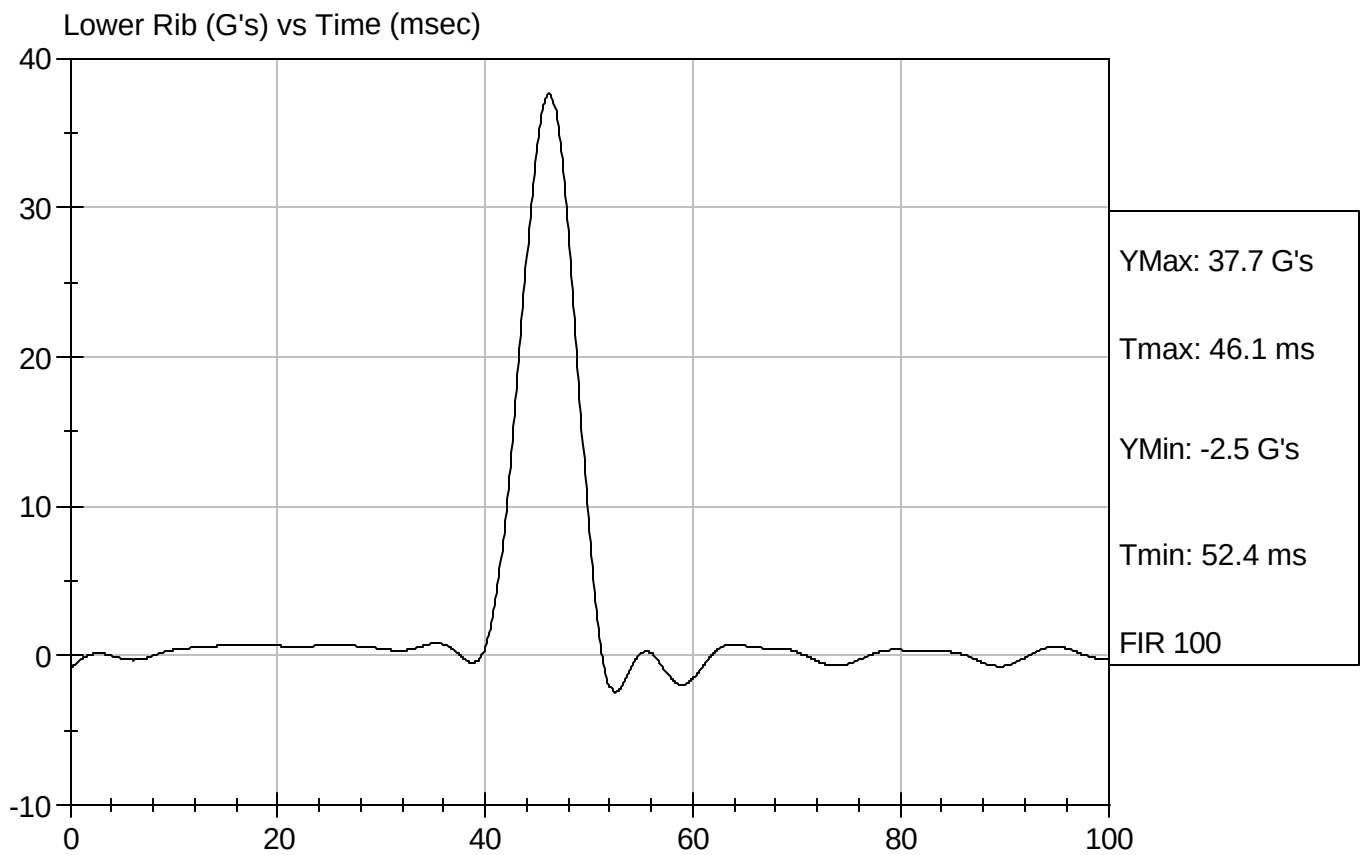
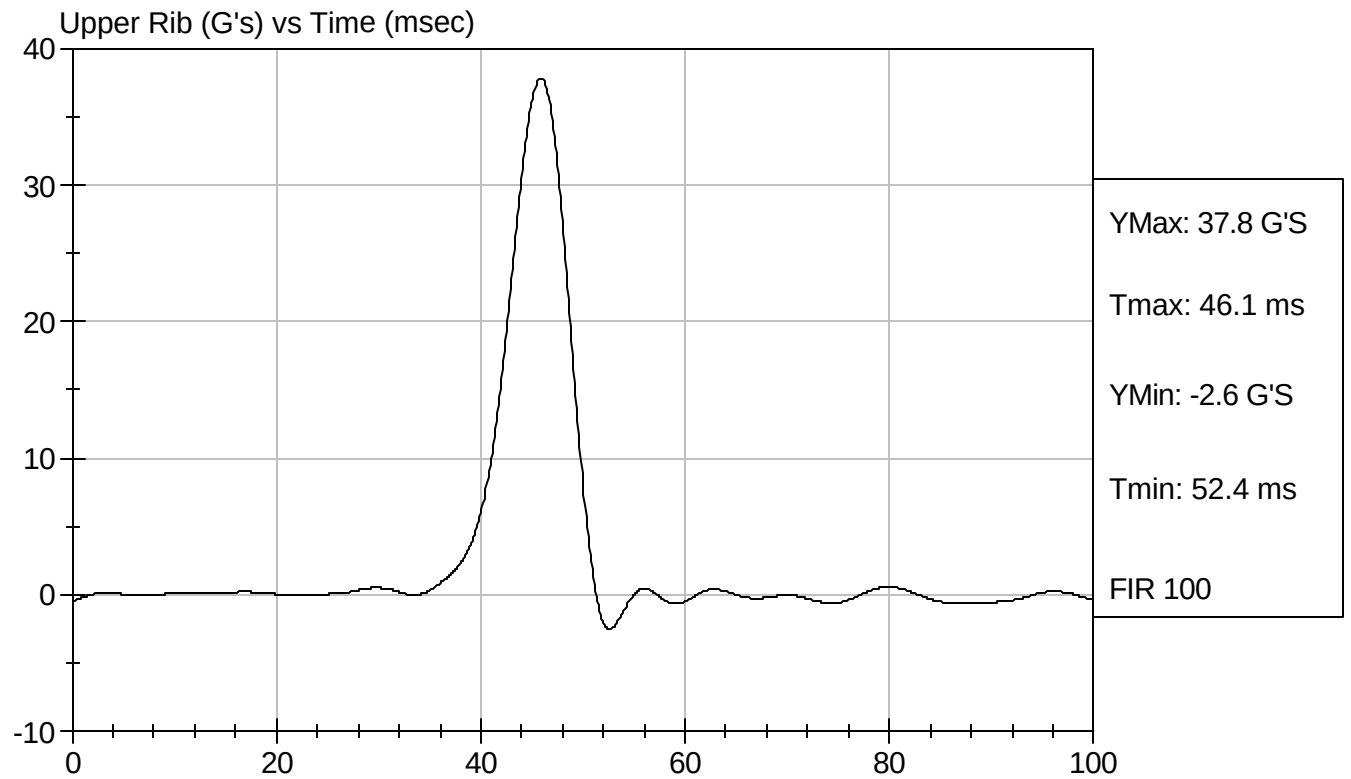
Test Date

David Winkelbauer
Approved By



Test Desc: Thorax Impact
Component ID: D061252

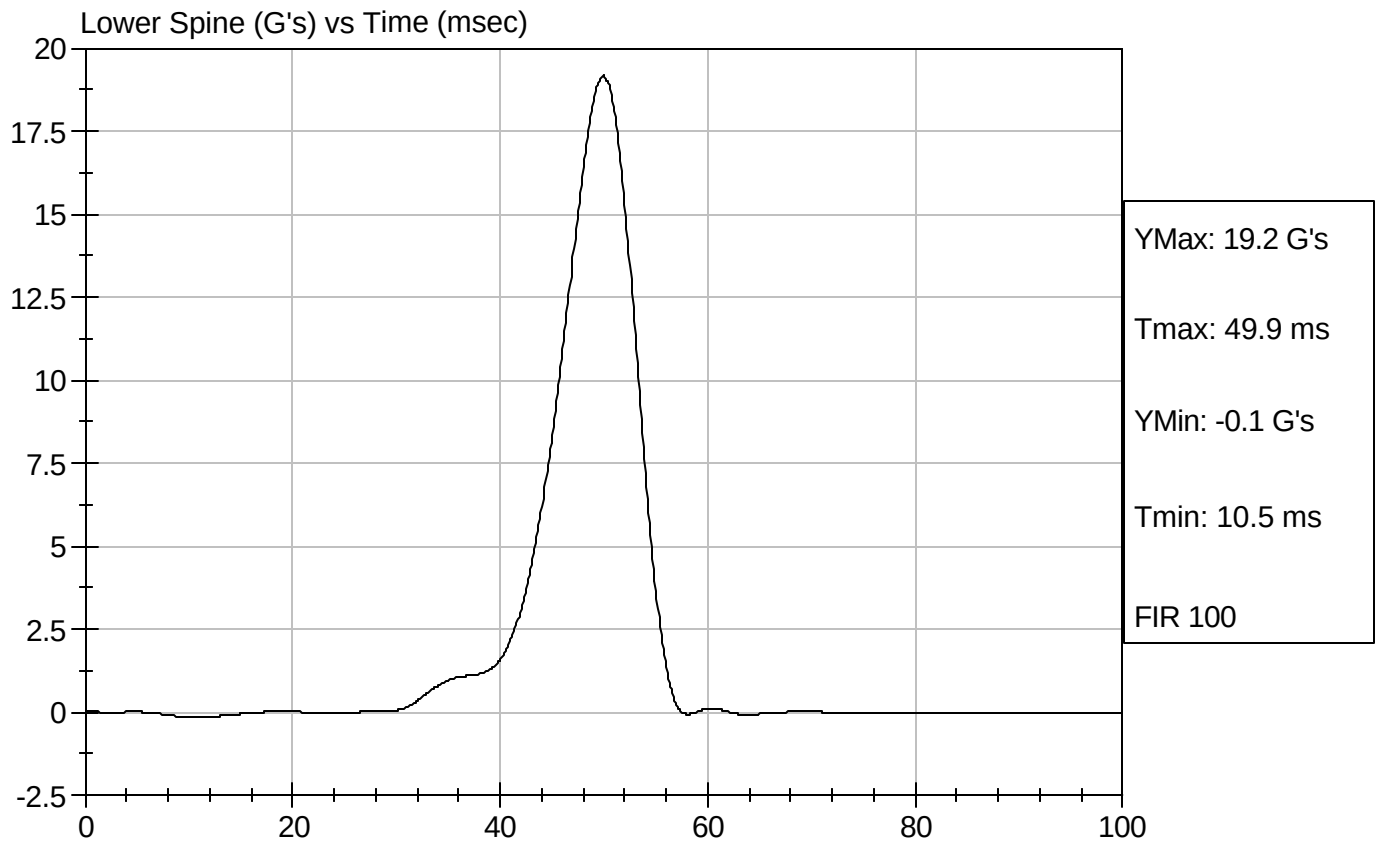
Test Date: 05/10/2006
Speed: 14.11 ft/sec, 4.30 m/sec





Test Desc: Thorax Impact
Component ID: D061252

Test Date: 05/10/2006
Speed: 14.11 ft/sec, 4.30 m/sec



SID Calibration Data Sheet
Side Impact Dummy
Pelvis Impact Test

ATD Serial No: 272

Test I.D: D061253

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	21.6	Pass
Laboratory Relative Humidity	%	10 to 70	50	Pass
Probe Velocity	m/s	4.27 - 4.33	4.29	Pass
Pelvis Acceleration	G's	40 - 60	41	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

05/10/2006

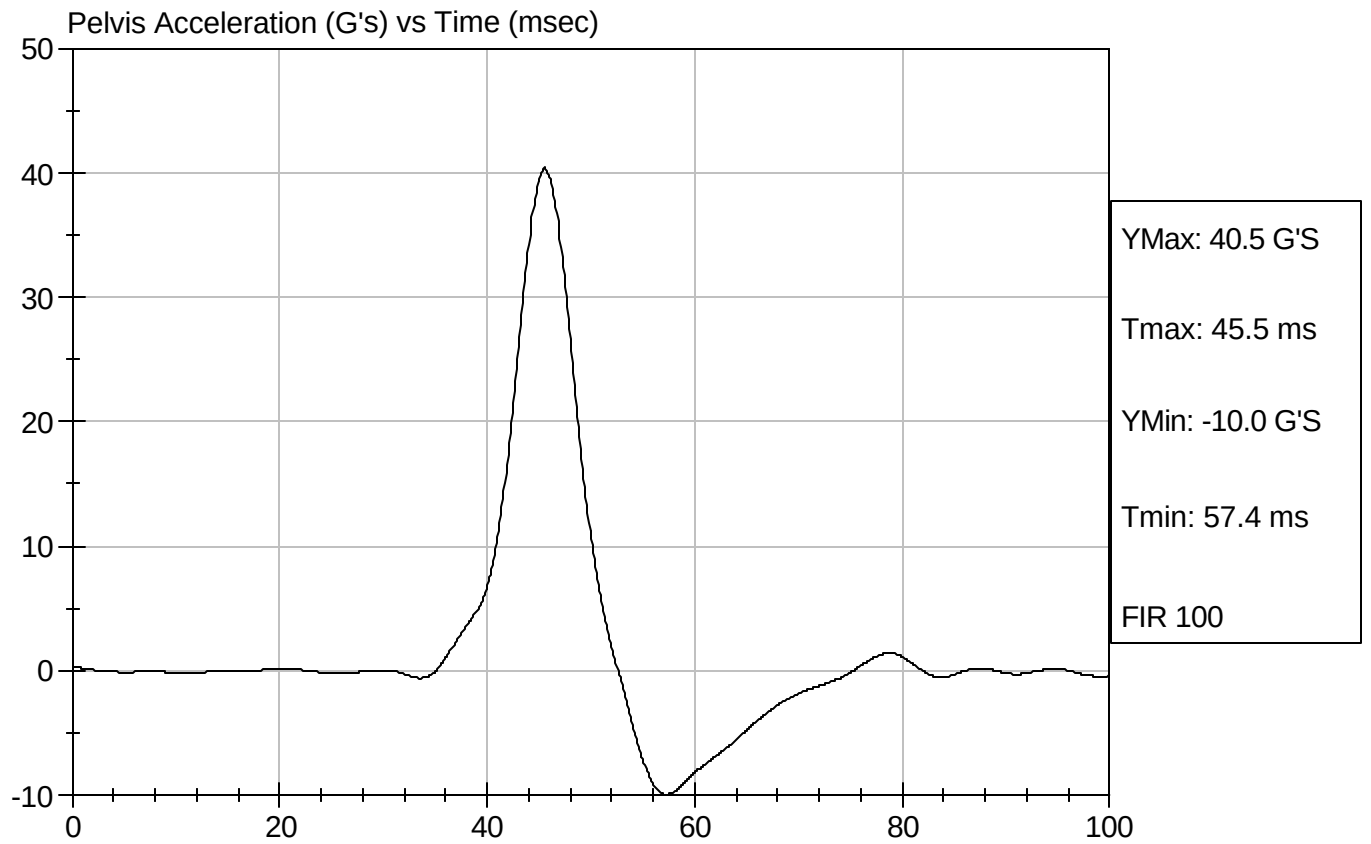
Test Date

David Winkelbauer
Approved By



Test Desc: Pelvis Impact
Component ID: D061253

Test Date: 05/10/2006
Speed: 14.09 ft/sec, 4.29 m/sec



SID Calibration Data Sheet
Side Impact Dummy
Abdominal Compression Calibration (Pre-Load = 10 lbs)

ATD Serial No: 272

Test I.D: D061254

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	41	Pass
Force At 12.7 mm	N	104 -162	135	Pass
Force At 19 mm	N	163 - 222	185	Pass
Force At 25.4 mm	N	222 - 280	240	Pass
Force At 33 mm	N	325 - 391	329	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

05/09/2006
Test Date

David Winkelbauer
Approved By

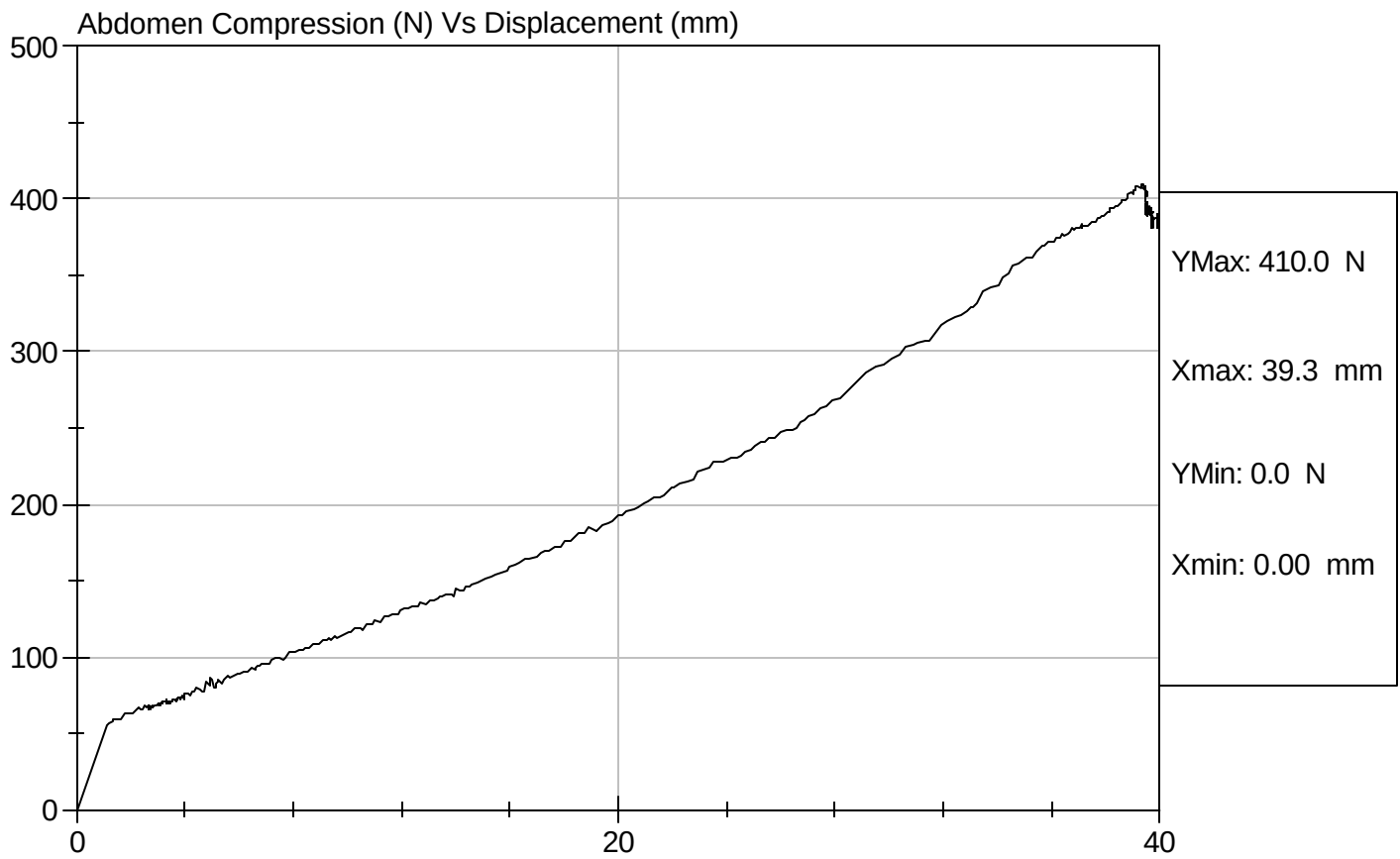


Test Description: Abdomen Compression

Test Date: 05/09/2006

Component: D061254

Speed: 0 ft/sec, 0 m/sec



SID Calibration Data Sheet
Side Impact Dummy
Lumbar Flexion Calibration

ATD Serial No: 272

Test I.D: D061255

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.6	Pass
Laboratory Relative Humidity	%	10 to 70	42	Pass
Force At 0 deg	N	0 - 26.7	0.0	Pass
Force At 20 deg	N	97.9 - 151.2	138.7	Pass
Force At 30 deg	N	151.2 - 204.6	163.5	Pass
Force At 40 deg	N	204.6 - 258.0	221.4	Pass
Return Angle	Deg	12 Maximum	5	Pass
			Overall Test Results	Pass


Laboratory Technician

05/09/2006

Test Date


Approved By

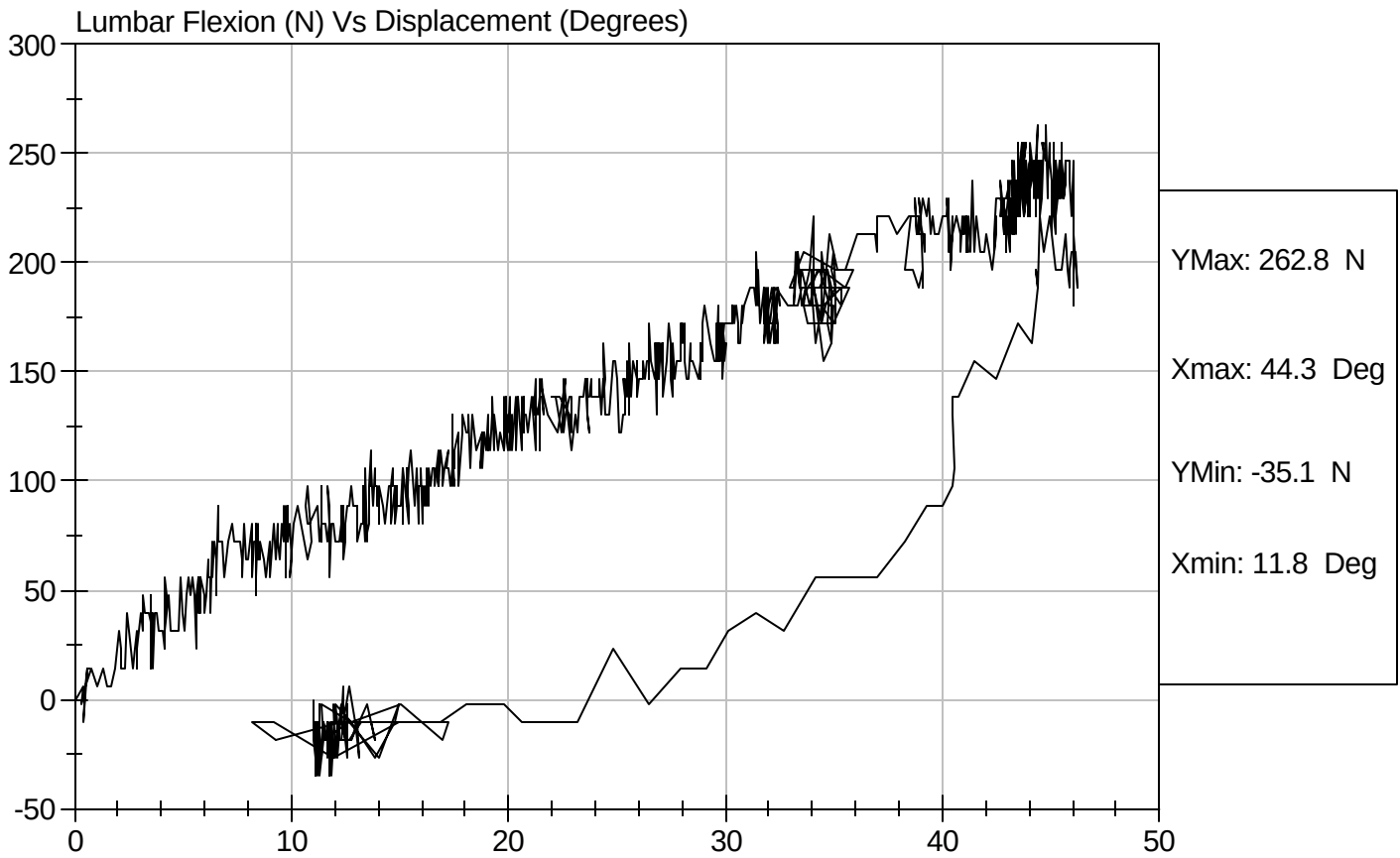


Test Description: Lumbar Flexion

Test Date: 05/09/2006

Component: D061255

Speed: 0 ft/sec, 0 m/sec



SID Calibration Data Sheet
Side Impact Dummy (SID)
Neck Pendulum Test

ATD Serial No: 272

Test I.D: D061259

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	21.6	Pass
Laboratory Relative Humidity		%	10 to 70	42	Pass
Impact Velocity		m/s	6.89 to 7.13	7.11	Pass
Pendulum Deceleration	10 msec	m/s	1.96 to 2.55	2.46	Pass
	20 msec	m/s	4.12 to 5.10	4.76	Pass
	30 msec	m/s	5.73 to 7.01	6.48	Pass
	40 to 70 msec	m/s	6.27 to 7.64	7.22	Pass
Midsagittal Plane Max Rotation		deg	66 to 82	72	Pass
Head Rotation Peak to Zero - Decay Time		msec	58 to 67	58	Pass
Max. Mx at Occipital Condyles		Nm	73 to 88	79	Pass
Mx Peak To Zero - Decay Time		msec	49 to 64	54	Pass
Mx Peak to Max. Head Rotation		msec	2 to 16	9	Pass


 Laboratory Technician

05/09/2006

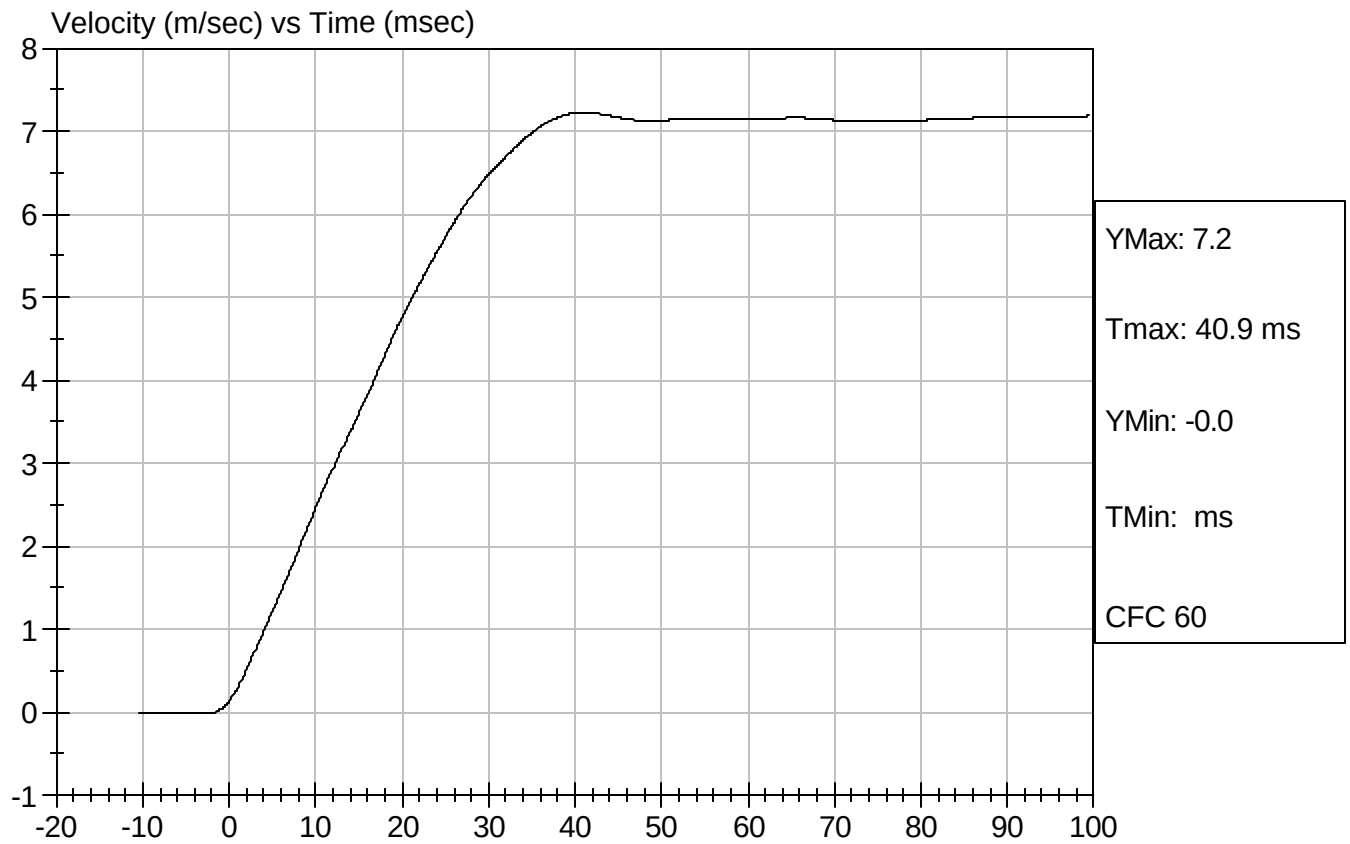
Test Date


 Approved By



Test Desc: Neck Bending
Component ID: D061259

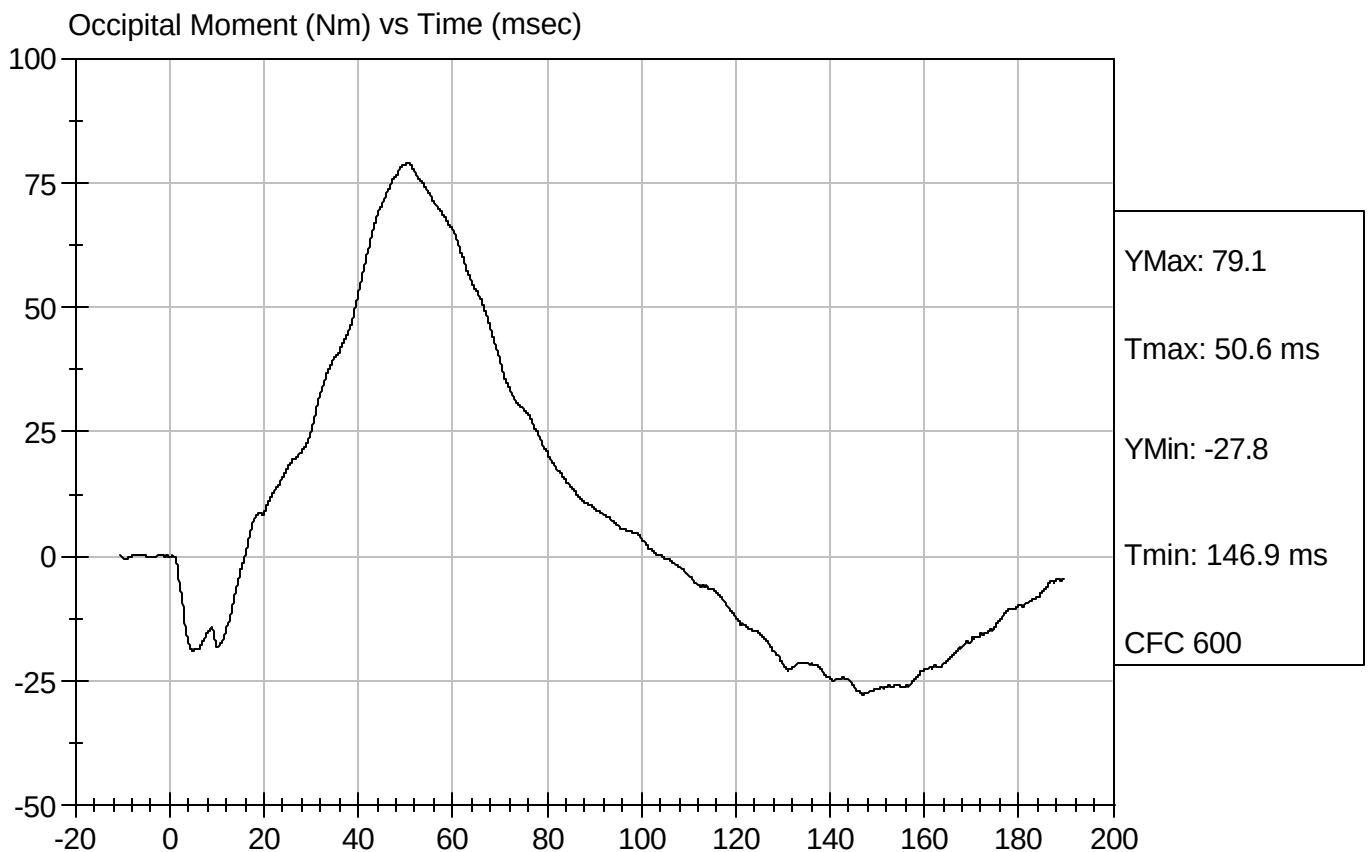
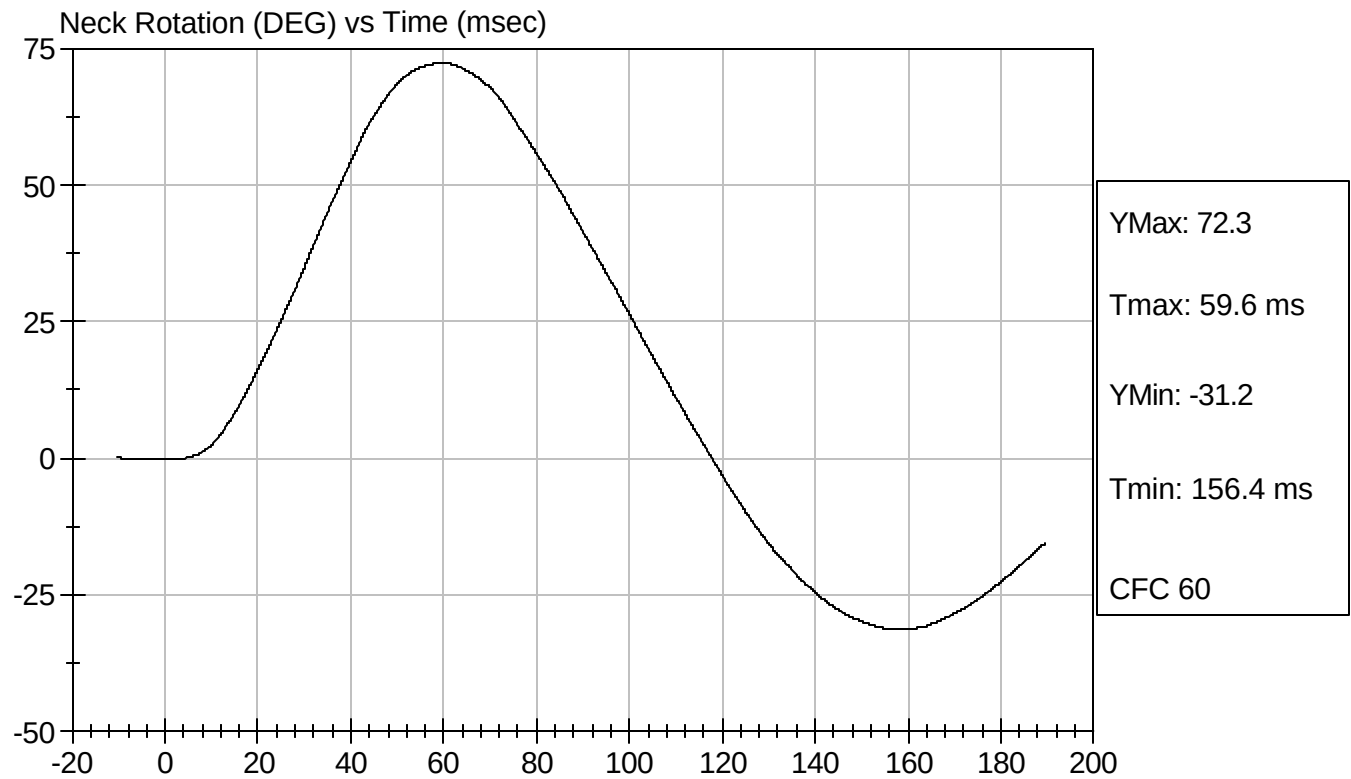
Test Date: 05/09/2006
Speed: 23.34 ft/sec, 7.11 m/sec





Test Desc: Neck Bending
Component ID: D061259

Test Date: 05/09/2006
Speed: 23.34 ft/sec, 7.11 m/sec



Calibration Test Results Summary

Dummy Serial Number: 272

Post-Test Calibration

External Dimensions:	The dummy passed all external dimension requirements.
Head Drop Test:	The head passed all drop test requirements.
Neck Pendulum Test:	The neck passed all pendulum test requirements.
Thorax Impact Test:	The thorax passed all impact test requirements.
Pelvic Impact Test:	The pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen passed all compression test requirements.
Lumbar Flexion Test:	The lumbar passed all flexion test requirements.

SID Calibration Data Sheet
Side Impact Dummy
Head Drop Calibration (Lateral)

ATD Serial No: 272

Test I.D: D061311

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	35	Pass
Peak Resultant Acceleration	G's	120 to 150	122	Pass
Is Resultant Curve Unimodal?	Yes/No	15% of peak	Yes	Pass
Peak Longitudnal Acceleration	G's	+/- 15	-7	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

05/12/2006

Test Date

David Winkelbauer
Approved By



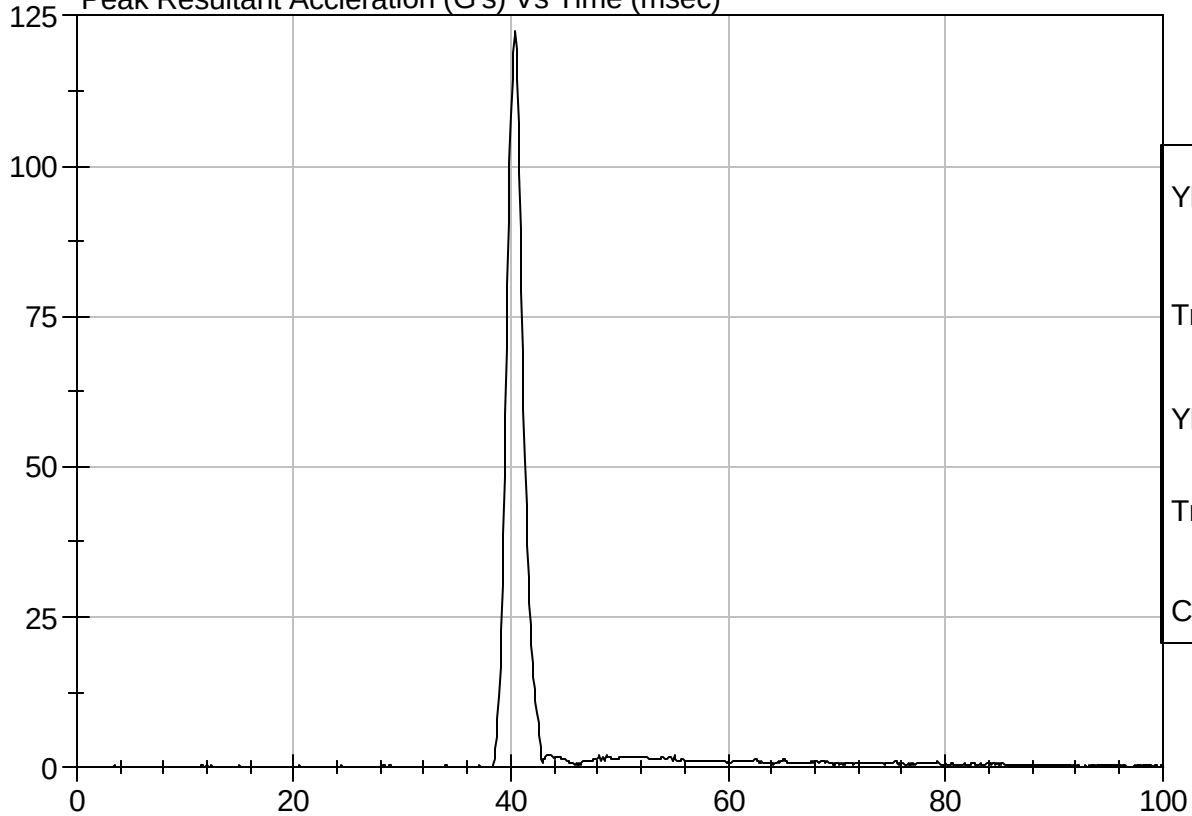
Test Description: Head Drop

Test Date: 05/12/2006

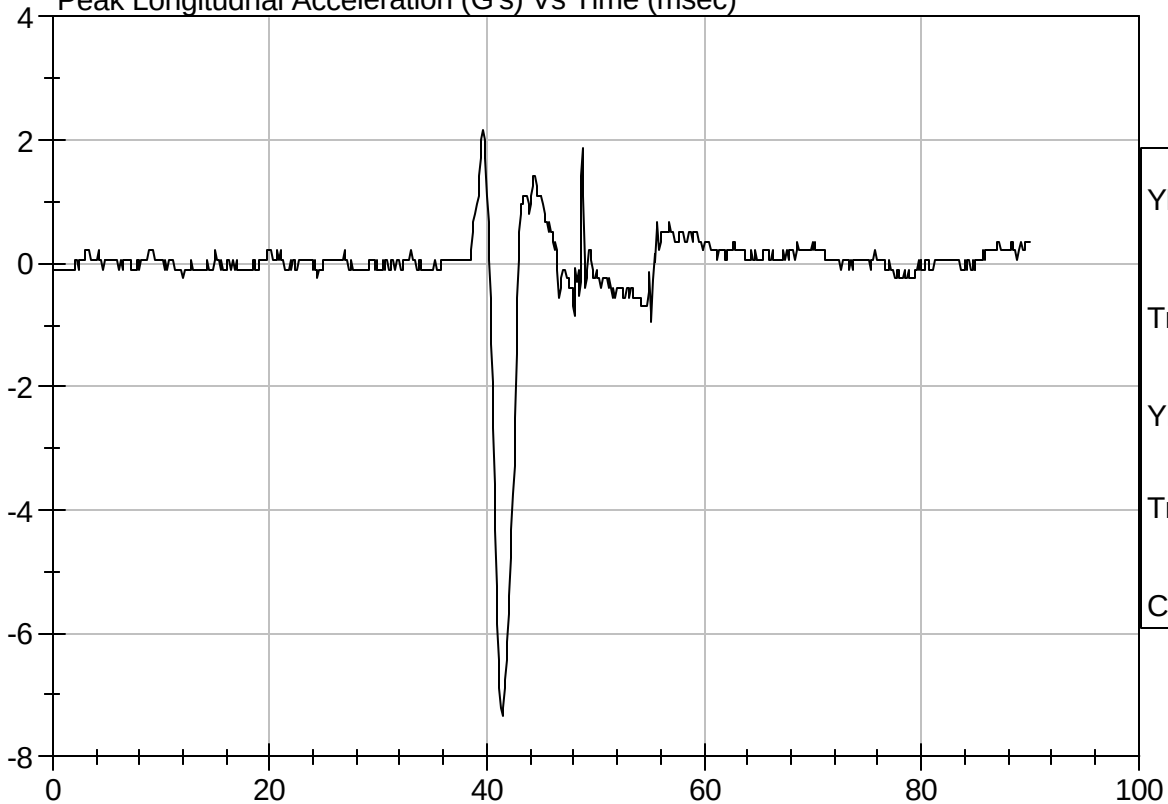
Component: D061311

Speed: 0 ft/s, 0.00 m/s

Peak Resultant Acceleration (G's) Vs Time (msec)



Peak Longitudnal Acceleration (G's) Vs Time (msec)



SID Calibration Data Sheet
Side Impact Dummy
Thorax Impact Test

ATD Serial No: 272

Test I.D: D061312

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	35	Pass
Probe Velocity	m/s	4.22 - 4.31	4.29	Pass
Upper Rib	G's	37 - 46	43	Pass
Lower Rib	G's	37 - 46	45	Pass
Lower Spine	G's	15 - 22	22	Pass
Overall Test Results				Pass


Laboratory Technician

05/12/2006

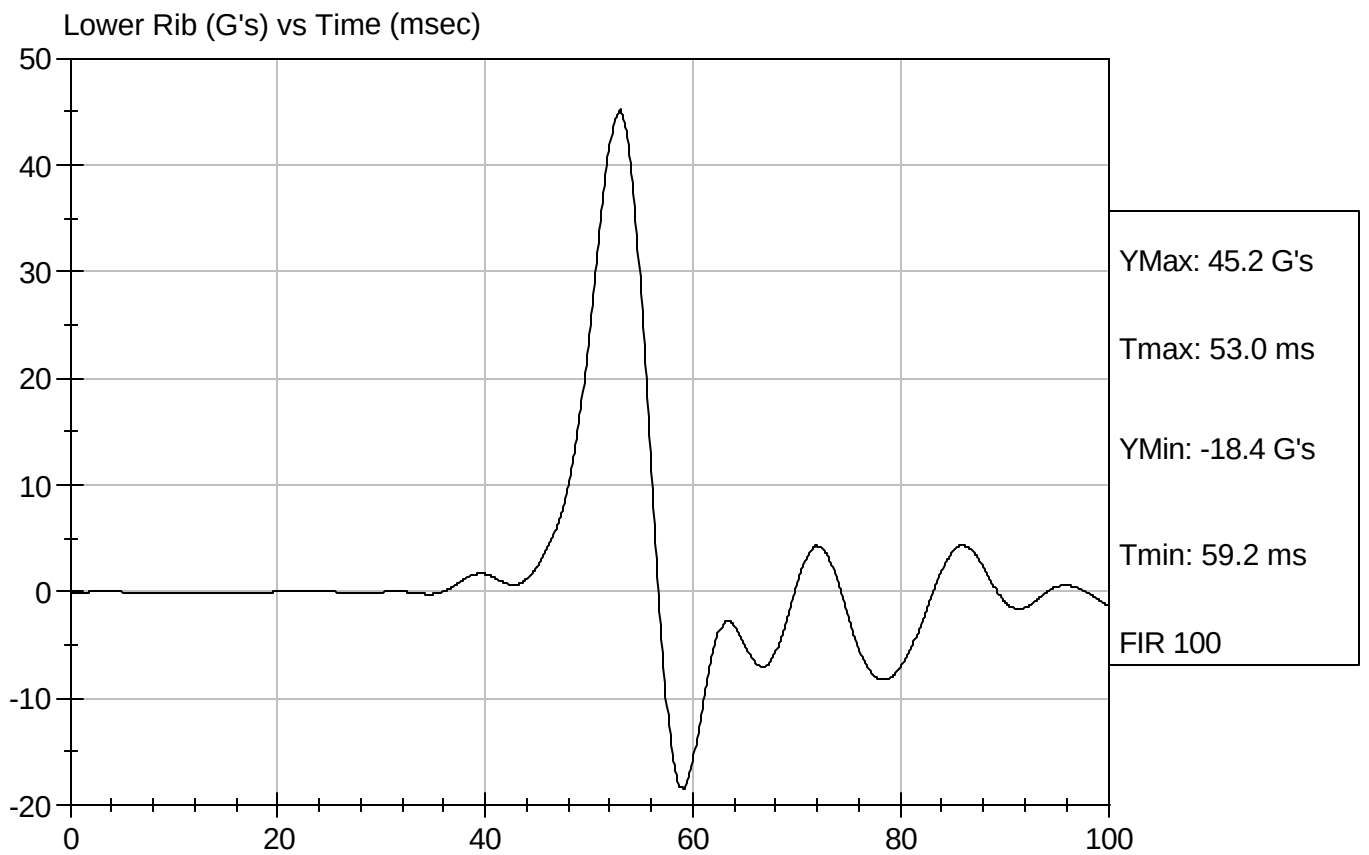
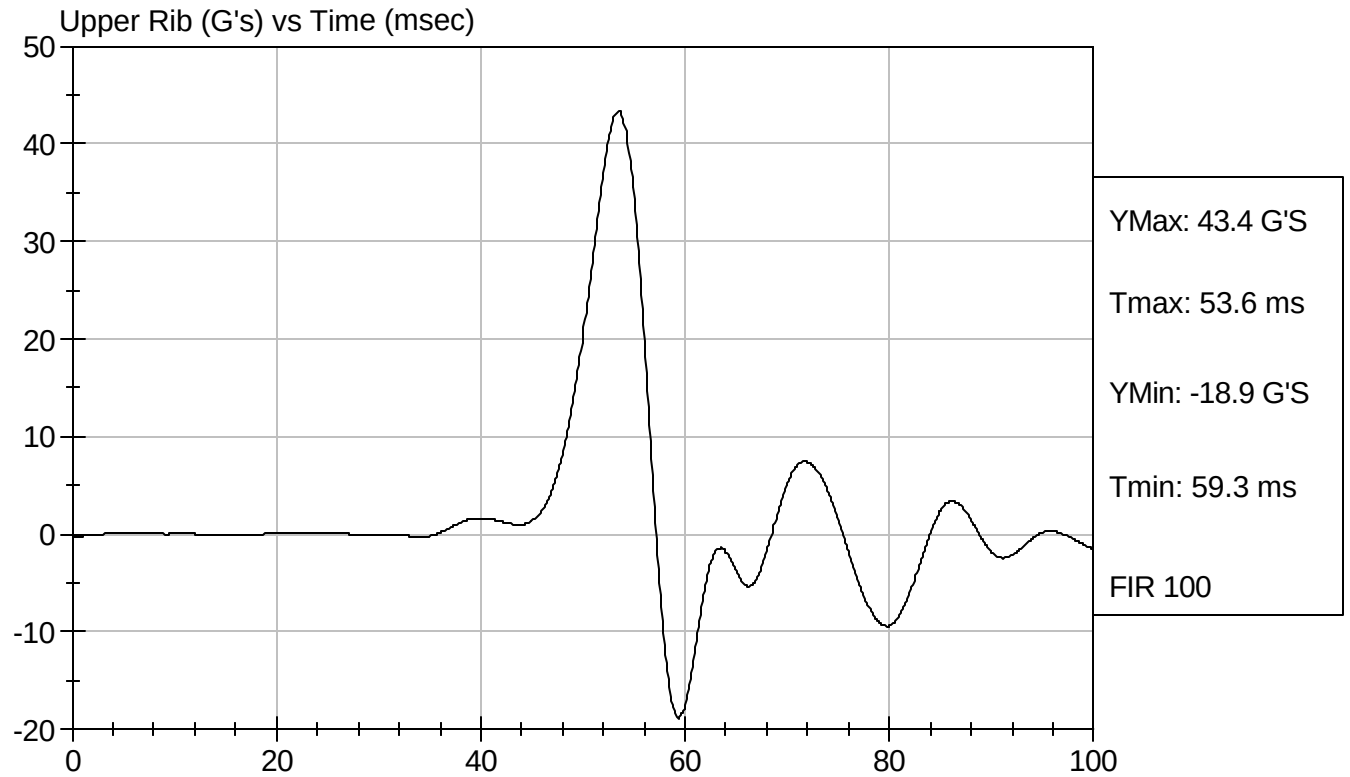
Test Date


Approved By



Test Desc: Thorax Impact
Component ID: D061312

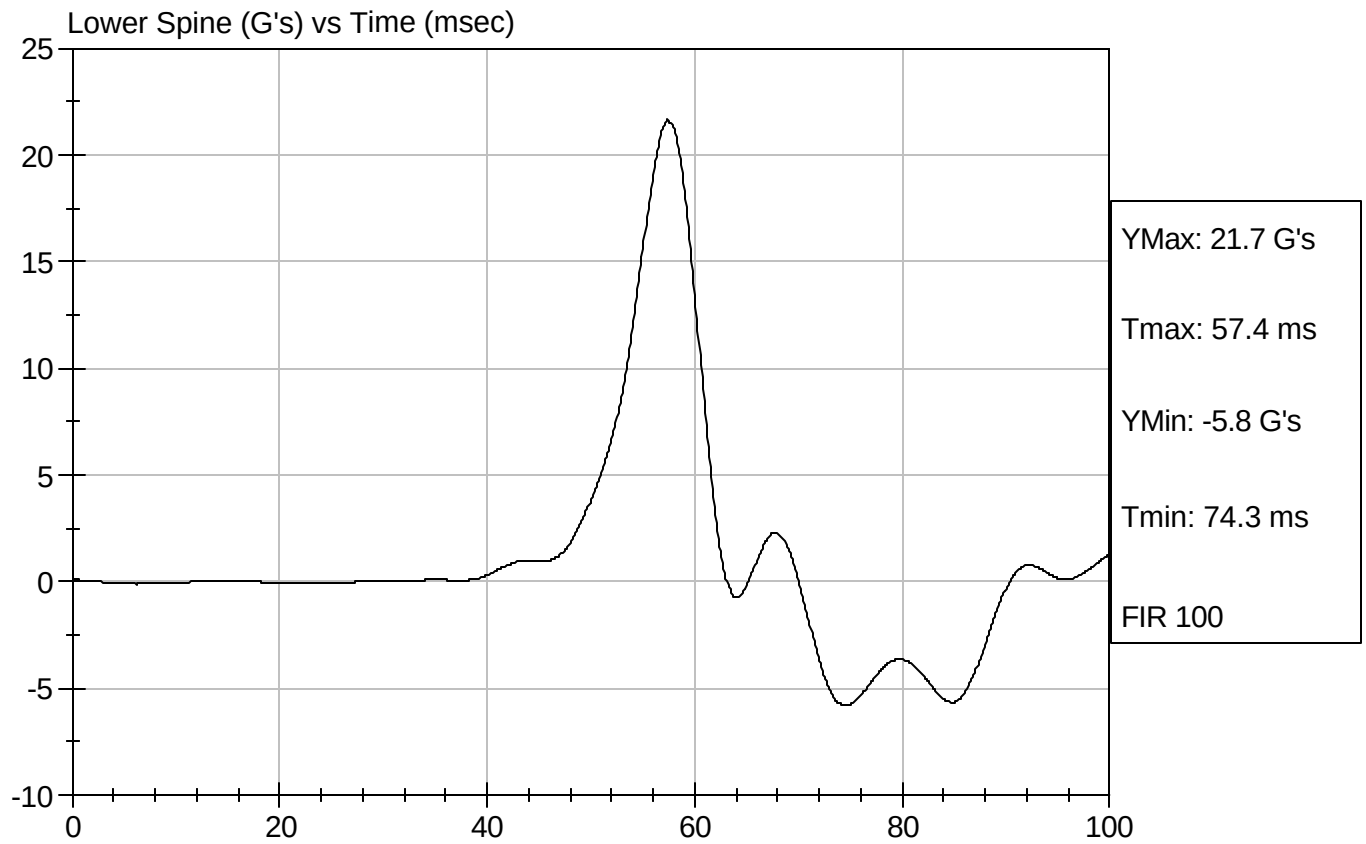
Test Date: 05/12/2006
Speed: 14.07 ft/sec, 4.29 m/sec





Test Desc: Thorax Impact
Component ID: D061312

Test Date: 05/12/2006
Speed: 14.07 ft/sec, 4.29 m/sec



SID Calibration Data Sheet
Side Impact Dummy
Pelvis Impact Test

ATD Serial No: 272

Test I.D: D061313

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	34	Pass
Probe Velocity	m/s	4.27 - 4.33	4.31	Pass
Pelvis Acceleration	G's	40 - 60	44	Pass
			Overall Test Results	Pass

Jessica Hall
Laboratory Technician

05/12/2006

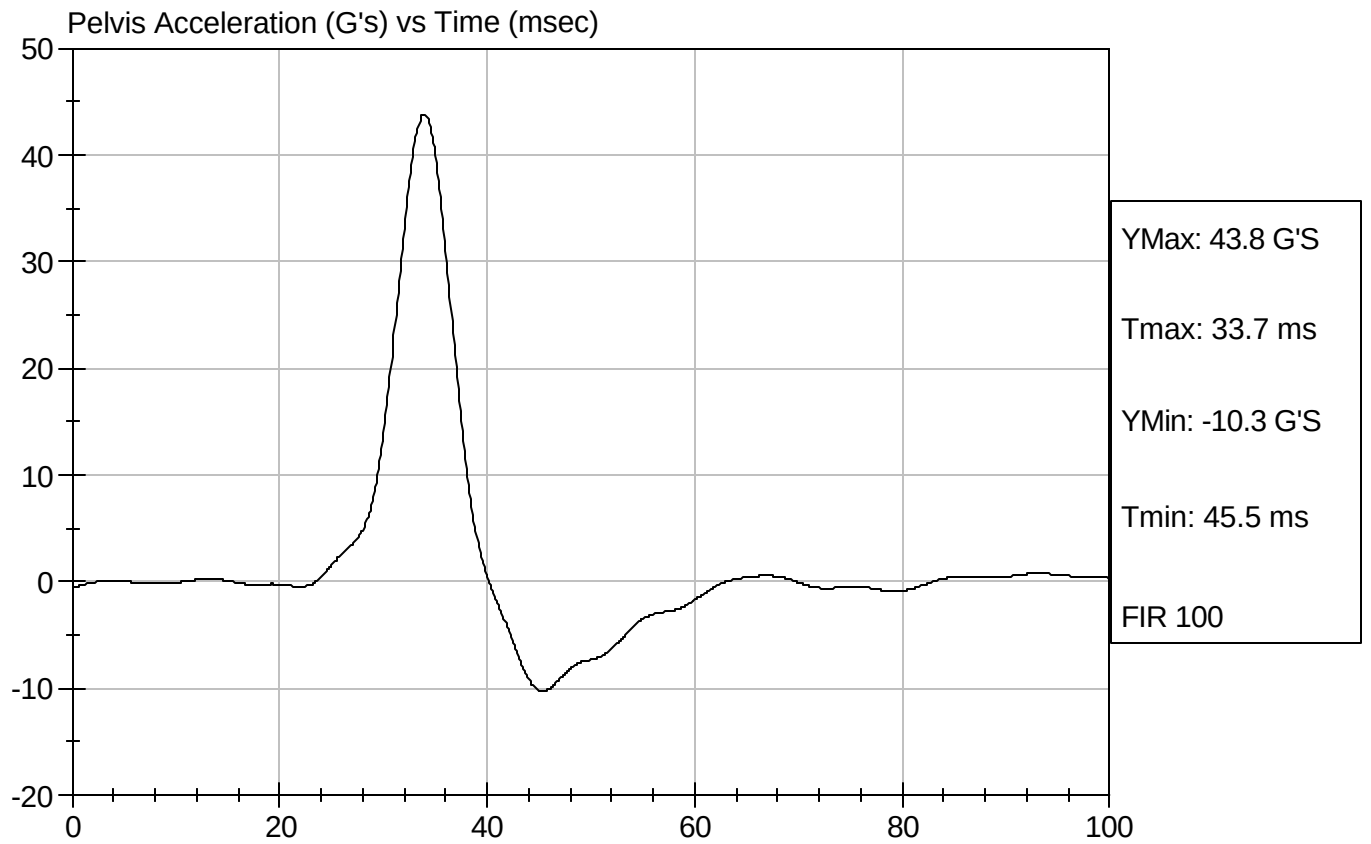
Test Date

David Winkelbauer
Approved By



Test Desc: Pelvis Impact
Component ID: D061313

Test Date: 05/12/2006
Speed: 14.13 ft/sec, 4.31 m/sec



SID Calibration Data Sheet

Side Impact Dummy

Abdominal Compression Calibration (Pre-Load = 10 lbs)

ATD Serial No: 272

Test I.D: D061314

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	32	Pass
Force At 12.7 mm	N	104 -162	139	Pass
Force At 19 mm	N	163 - 222	194	Pass
Force At 25.4 mm	N	222 - 280	263	Pass
Force At 33 mm	N	325 - 391	367	Pass
Overall Test Results			Pass	

Jessica Hall
Laboratory Technician

05/12/2006
Test Date

David Winkelbauer
Approved By



Test Description: Abdomen Compression Test Date: 05/12/2006

Component: D061314

Speed: 0 ft/sec, 0 m/sec

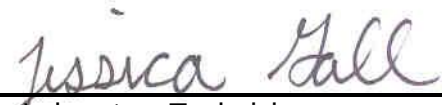


SID Calibration Data Sheet
Side Impact Dummy
Lumbar Flexion Calibration

ATD Serial No: 272

Test I.D: d061315

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	32	Pass
Force At 0 deg	N	0 - 26.7	0.0	Pass
Force At 20 deg	N	97.9 - 151.2	112.5	Pass
Force At 30 deg	N	151.2 - 204.6	178.7	Pass
Force At 40 deg	N	204.6 - 258.0	236.6	Pass
Return Angle	Deg	12 Maximum	4	Pass
Overall Test Results			Pass	


Laboratory Technician

05/12/2006

Test Date


Approved By

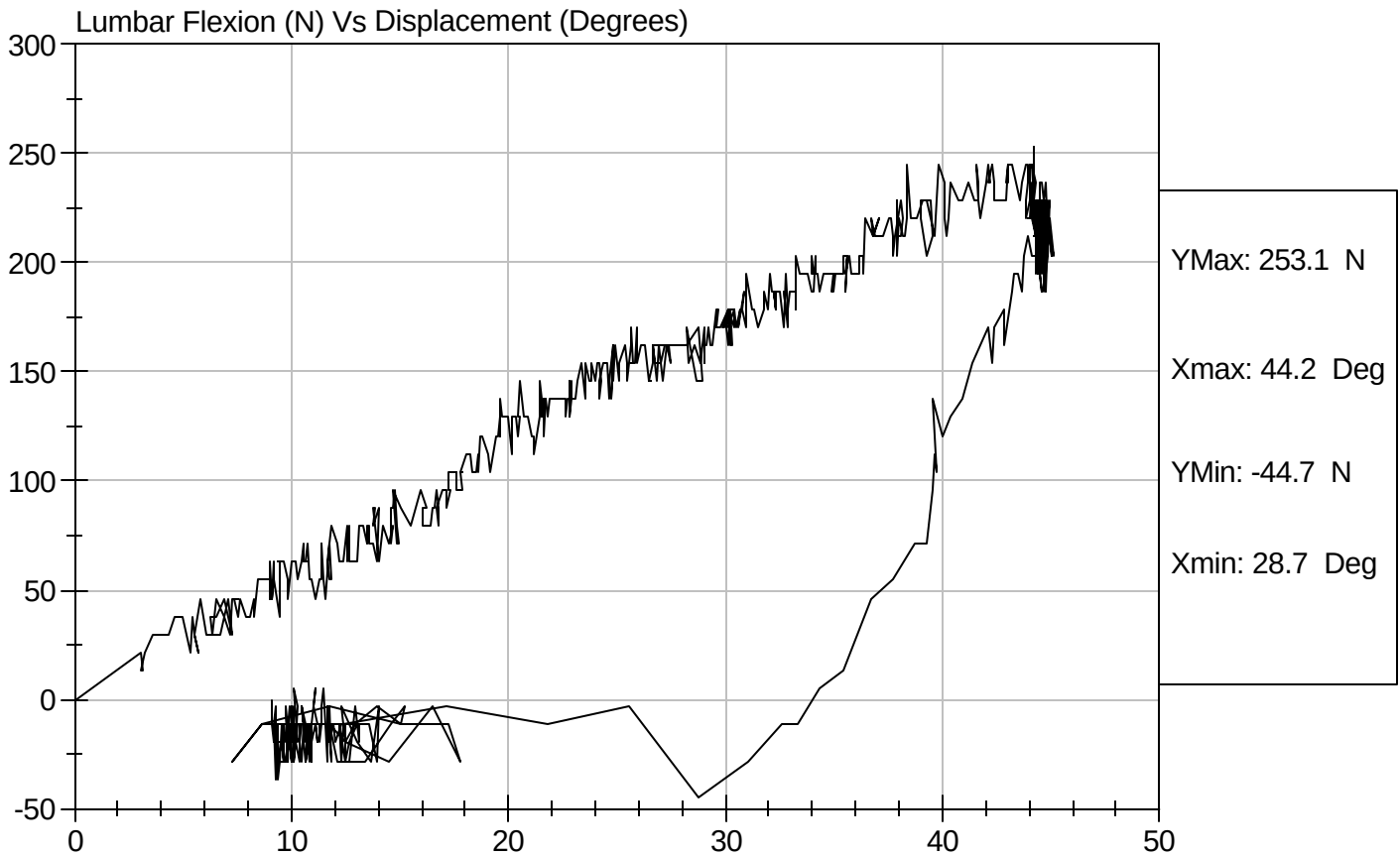


Test Description: Lumbar Flexion

Test Date: 05/12/2006

Component: d061315

Speed: 0 ft/sec, 0 m/sec



SID Calibration Data Sheet
Side Impact Dummy (SID)
Neck Pendulum Test

ATD Serial No: 272

Test I.D: D061319

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	21.3	Pass
Laboratory Relative Humidity		%	10 to 70	40	Pass
Impact Velocity		m/s	6.89 to 7.13	7.04	Pass
Pendulum Deceleration	10 msec	m/s	1.96 to 2.55	2.35	Pass
	20 msec	m/s	4.12 to 5.10	4.64	Pass
	30 msec	m/s	5.73 to 7.01	6.46	Pass
	40 to 70 msec	m/s	6.27 to 7.64	7.24	Pass
Midsagittal Plane Max Rotation		deg	66 to 82	74	Pass
Head Rotation Peak to Zero - Decay Time		msec	58 to 67	59	Pass
Max. Mx at Occipital Condyles		Nm	73 to 88	80	Pass
Mx Peak To Zero - Decay Time		msec	49 to 64	54	Pass
Mx Peak to Max. Head Rotation		msec	2 to 16	11	Pass


 Laboratory Technician

05/11/2006

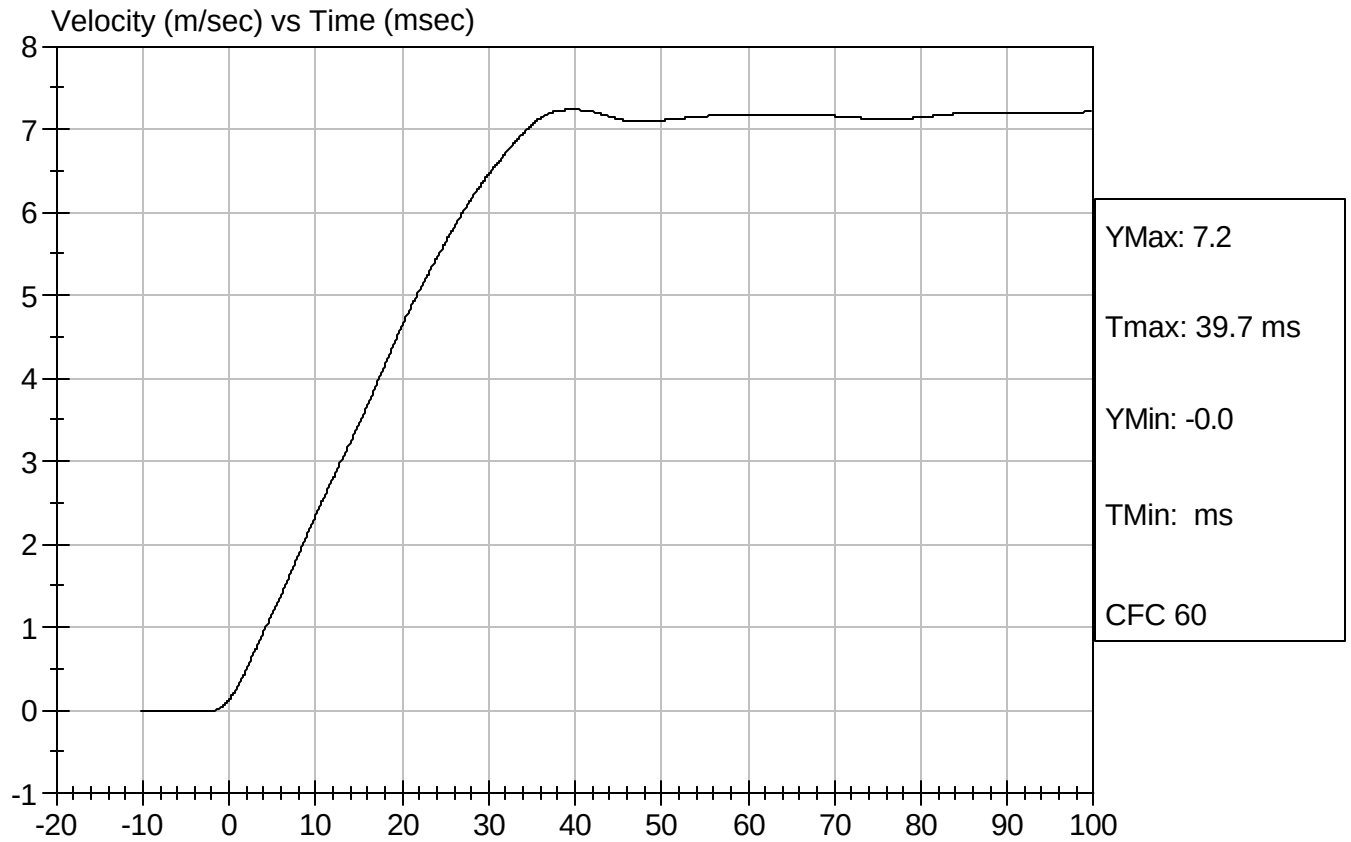
Test Date


 Approved By



Test Desc: Neck Bending
Component ID: D061319

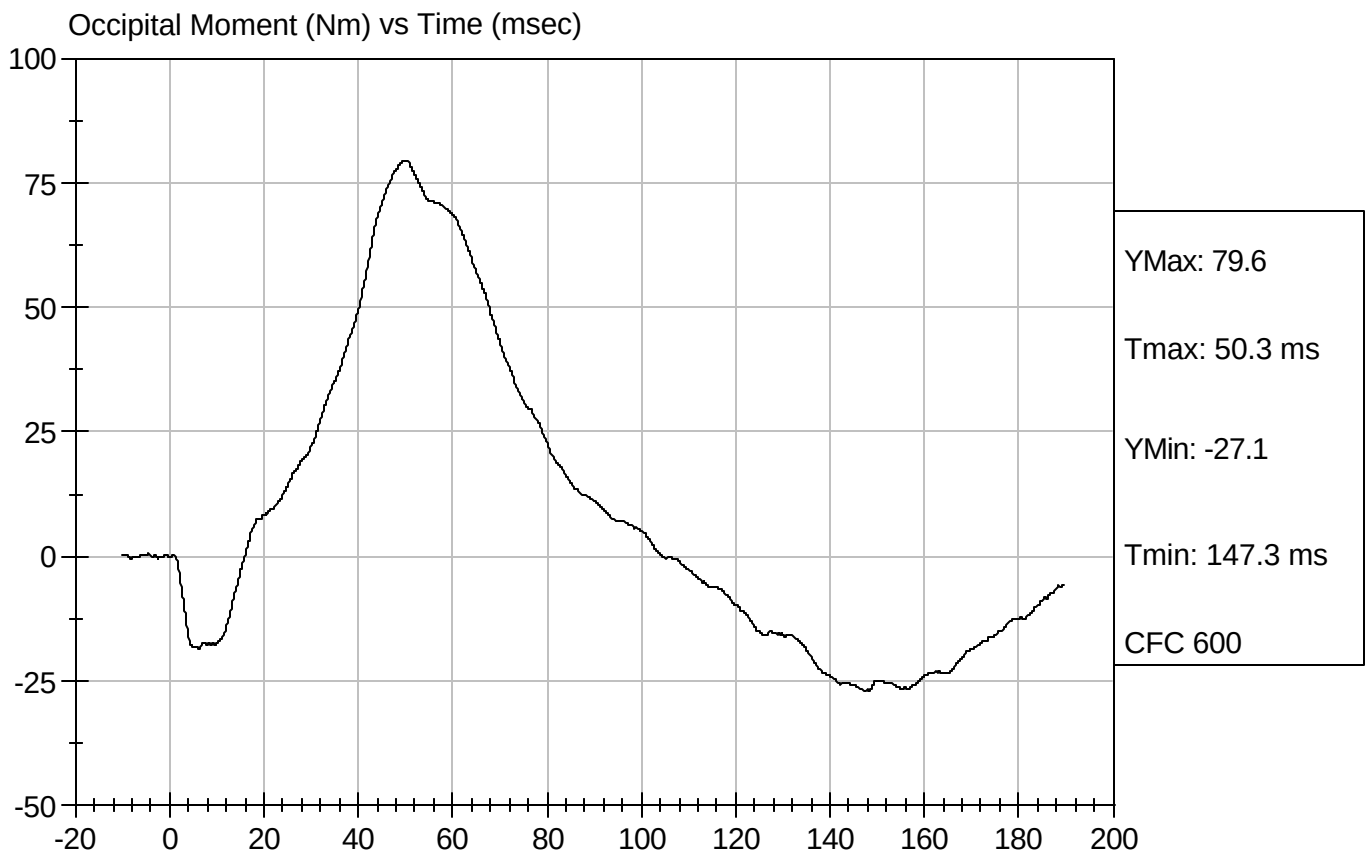
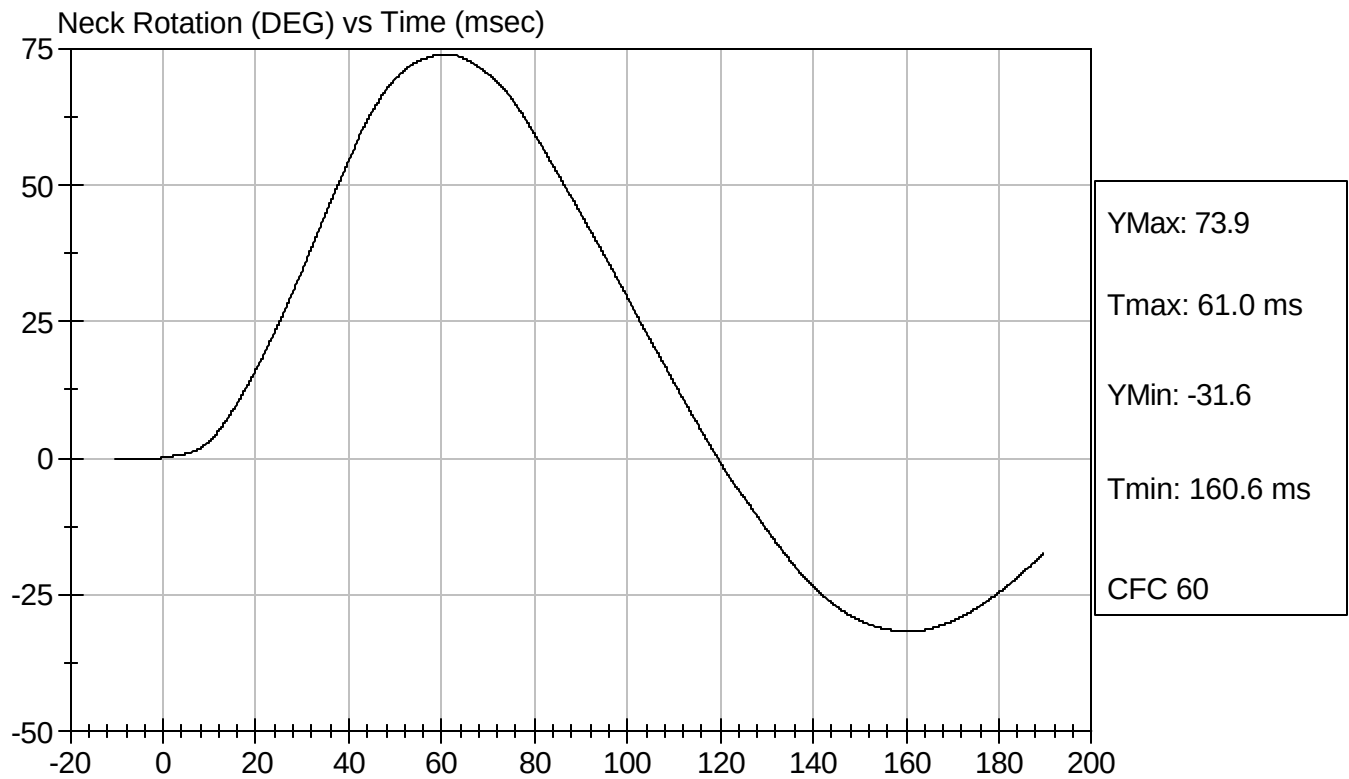
Test Date: 05/11/2006
Speed: 23.1 ft/sec, 7.04 m/sec





Test Desc: Neck Bending
Component ID: D061319

Test Date: 05/11/2006
Speed: 23.1 ft/sec, 7.04 m/sec



SID Calibration Data Sheet
Side Impact Dummy
Inspection Checklist

ATD Serial No: 272

Test Part	Items Checked	Result
Skin	Visual inspection	Pass
Head	Visual, ballast, accelerometer mount	Pass
Neck	Visual	Pass
Spine Box	Visual, ballast, accelerometer mount	Pass
Rib Cage	Visual, measure	Pass
Sternum	Visual	Pass
Lumbar Spine	Visual	Pass
Abdomen	Visual	Pass
Pelvis	Visual, palpate, accelerometer mount	Pass
Upper Legs	Visual	Pass
Knees	Visual	Pass
Lower Legs	Visual, range of motion	Pass
Ankles	Visual, range of motion	Pass
Feet	Visual, range of motion	Pass
Joints	1 to 2 g range	Pass
Other		Pass

Jessica Hall
Laboratory Technician
David Winkelbauer
Approved By

05/12/2006
Test Date

CERTIFICATION DATA

Dummy Serial Number: 904

Calibration Test Results Summary

Dummy Serial Number: 904

Pre-Test Calibration

External Dimensions:	The dummy passed all external dimension requirements.
Head Drop Test:	The head passed all drop test requirements.
Neck Pendulum Test:	The neck passed all pendulum test requirements.
Thorax Impact Test:	The thorax passed all impact test requirements.
Pelvic Impact Test:	The pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen passed all compression test requirements.
Lumbar Flexion Test:	The lumbar passed all flexion test requirements.

SID Calibration Data Sheet
Side Impact Dummy
External Measurements

ATD Serial No: 904

Test I.D: D06126

Tested Parameter	Units	Specification	Result	Pass/Fail
SH - Seated Height	mm	889 - 909	906	Pass
RH - Rib Height	mm	501 - 521	508	Pass
HP - Hip Pivot Height	mm	99 ref.	99	Pass
RD - Rib from Back Line	mm	229 - 241	240	Pass
KV - Knee Pivot to Back Line	mm	511 - 526	523	Pass
SW - Knee Pivot to Floor	mm	490 - 505	496	Pass
HW - Hip Width	mm	356 - 391	360	Pass
Overall Test Results			Pass	

Jessica Hall
Laboratory Technician

05/09/2006
Test Date

David Winkelbauer
Approved By

SID Calibration Data Sheet
Side Impact Dummy
Head Drop Calibration (Lateral)

ATD Serial No: 904

Test I.D: D061261

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	21.3	Pass
Laboratory Relative Humidity	%	10 to 70	39	Pass
Peak Resultant Acceleration	G's	120 to 150	146	Pass
Is Resultant Curve Unimodal?	Yes/No	15% of peak	Yes	Pass
Peak Longitudnal Acceleration	G's	+/- 15	-14	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

05/09/2006

Test Date

David Winkelbauer
Approved By



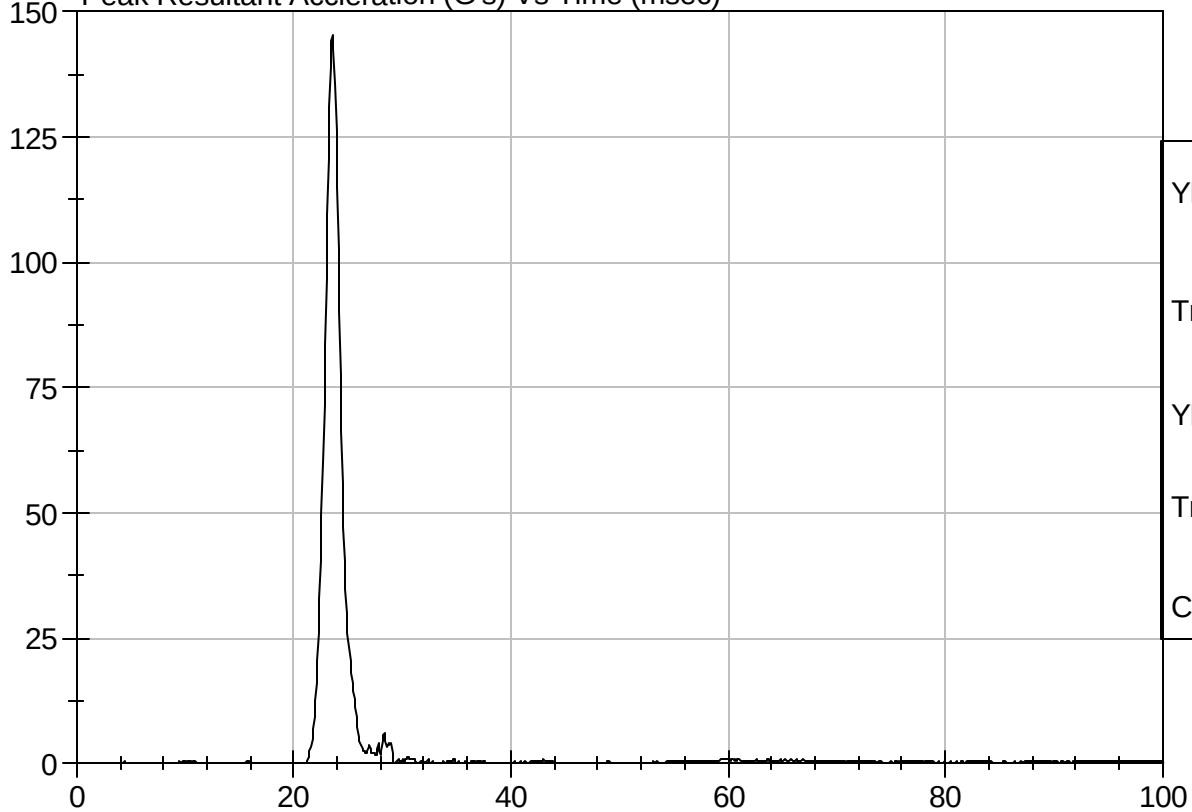
Test Description: Head Drop

Test Date: 05/09/2006

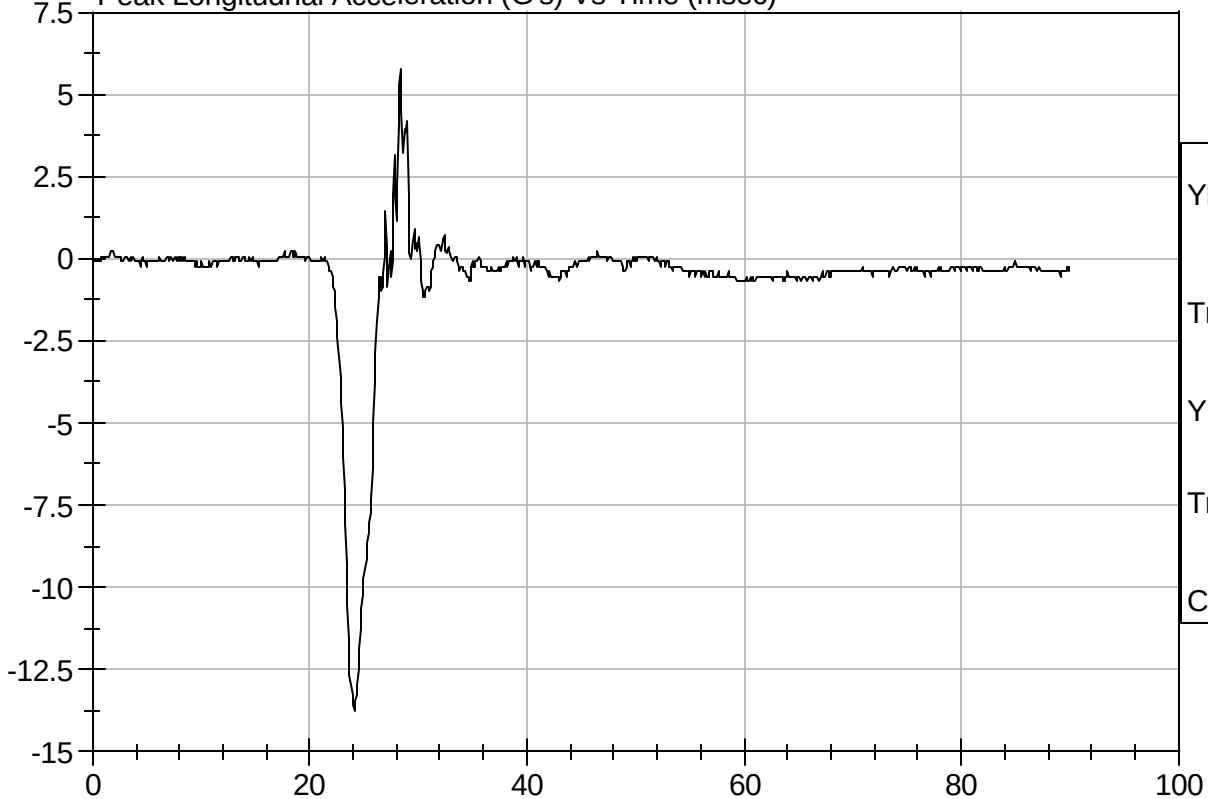
Component: D061261

Speed: 0 ft/s, 0.00 m/s

Peak Resultant Acceleration (G's) Vs Time (msec)



Peak Longitudnal Acceleration (G's) Vs Time (msec)



SID Calibration Data Sheet
Side Impact Dummy
Thorax Impact Test

ATD Serial No: 904

Test I.D: D061262

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	43	Pass
Probe Velocity	m/s	4.22 - 4.31	4.25	Pass
Upper Rib	G's	37 - 46	43	Pass
Lower Rib	G's	37 - 46	40	Pass
Lower Spine	G's	15 - 22	21	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

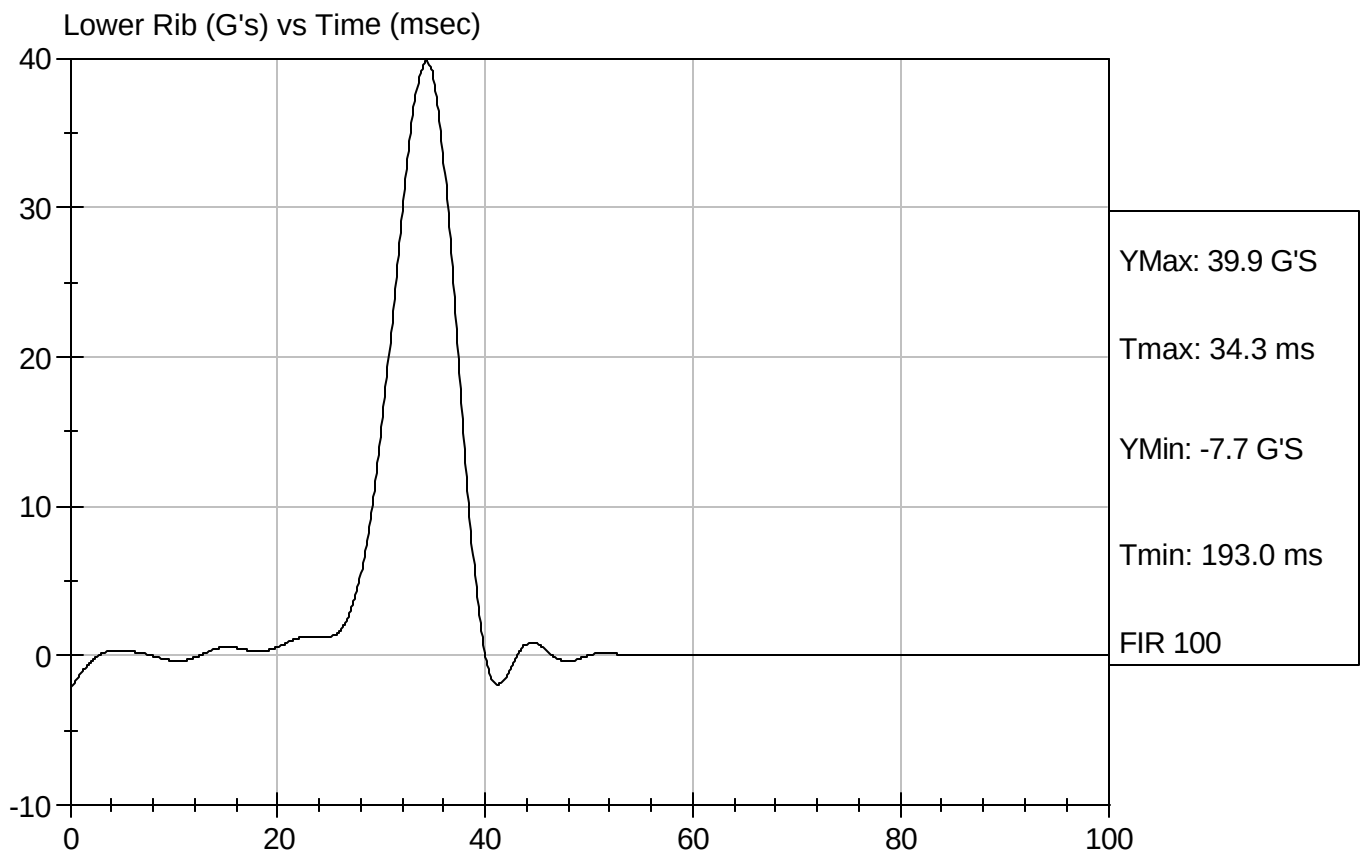
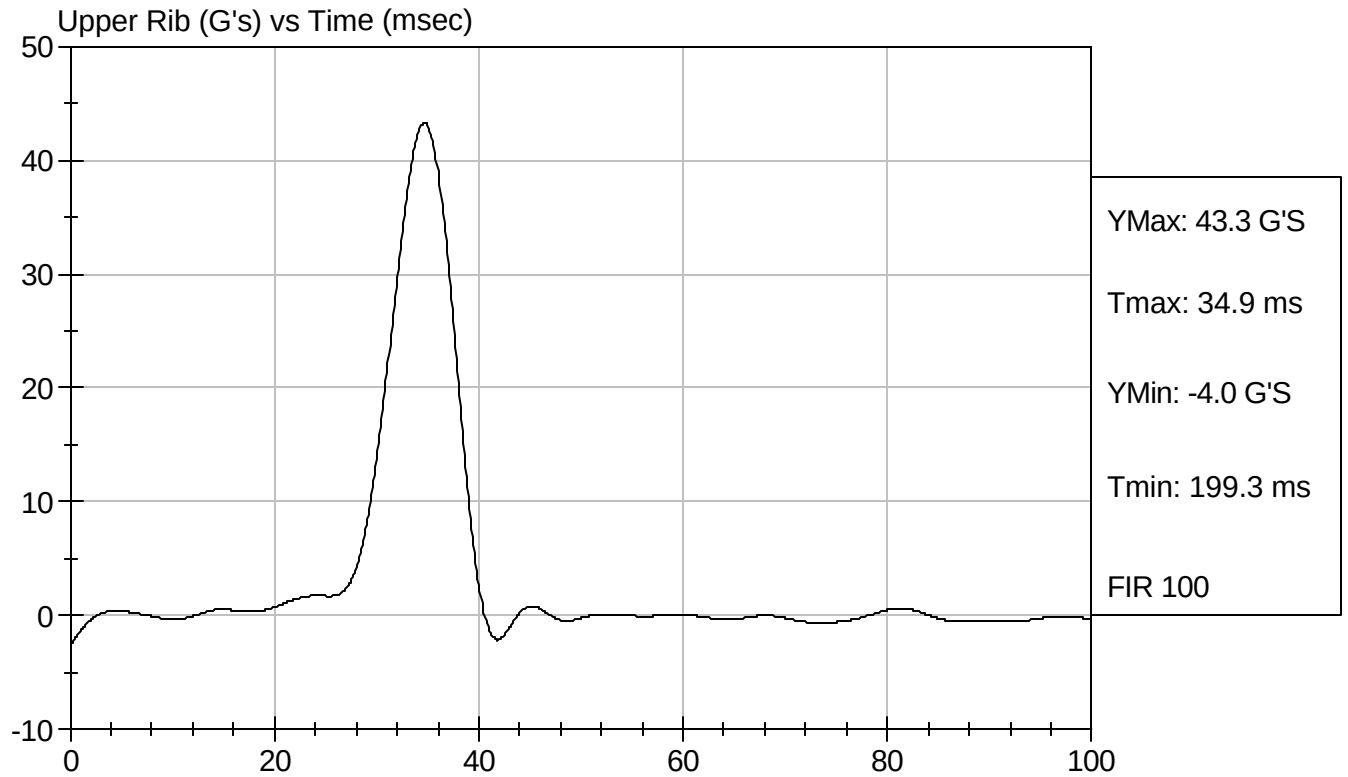
05/09/2006
Test Date

David Winkelbauer
Approved By



Test Desc: Thorax Impact
Component ID: D061262

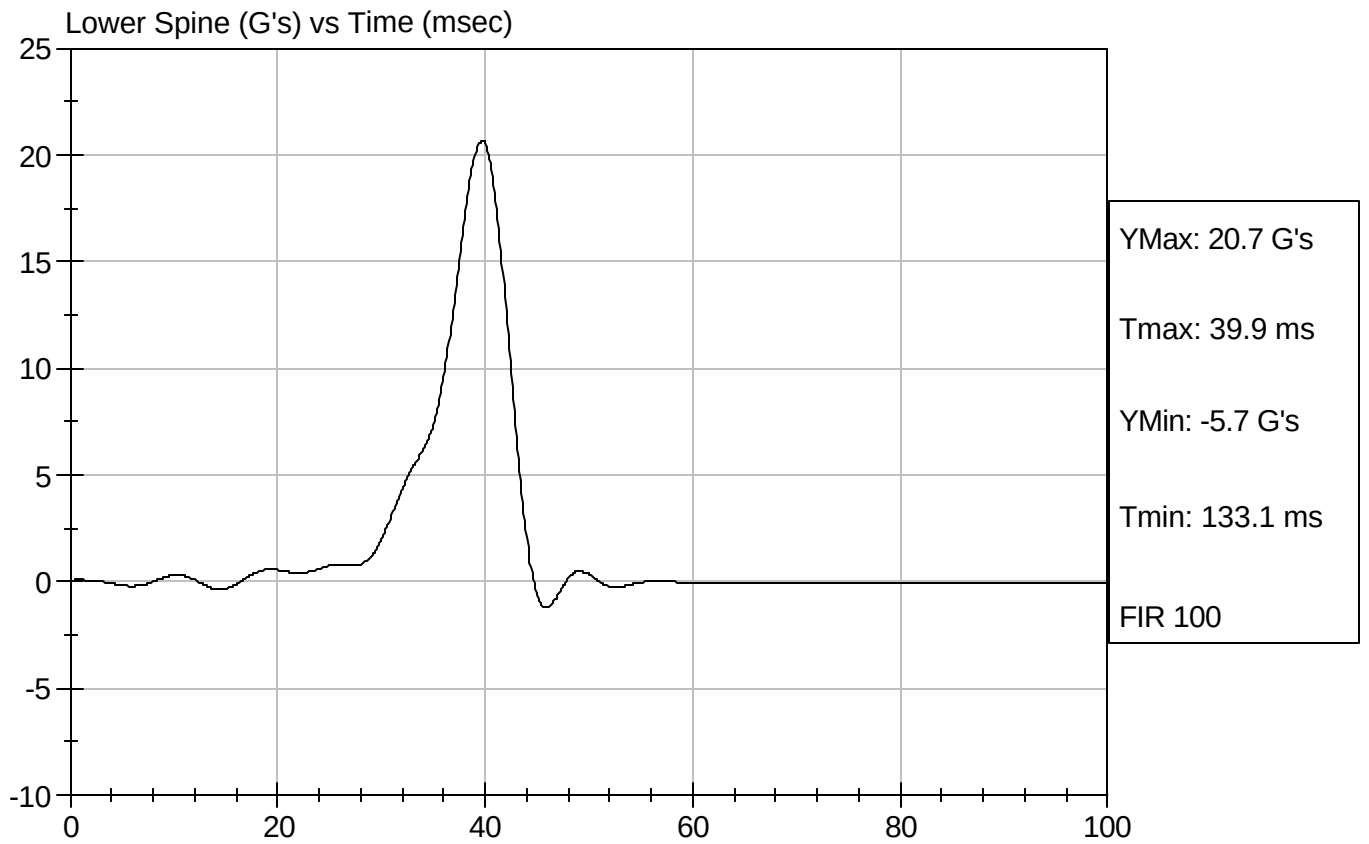
Test Date: 05/09/2006
Speed: 13.95 ft/sec, 4.25 m/sec





Test Desc: Thorax Impact
Component ID: D061262

Test Date: 05/09/2006
Speed: 13.95 ft/sec, 4.25 m/sec



SID Calibration Data Sheet
Side Impact Dummy
Pelvis Impact Test

ATD Serial No: 904

Test I.D: D061263

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	43	Pass
Probe Velocity	m/s	4.27 - 4.33	4.28	Pass
Pelvis Acceleration	G's	40 - 60	47	Pass
			Overall Test Results	Pass

Jessica Hall
Laboratory Technician

05/09/2006

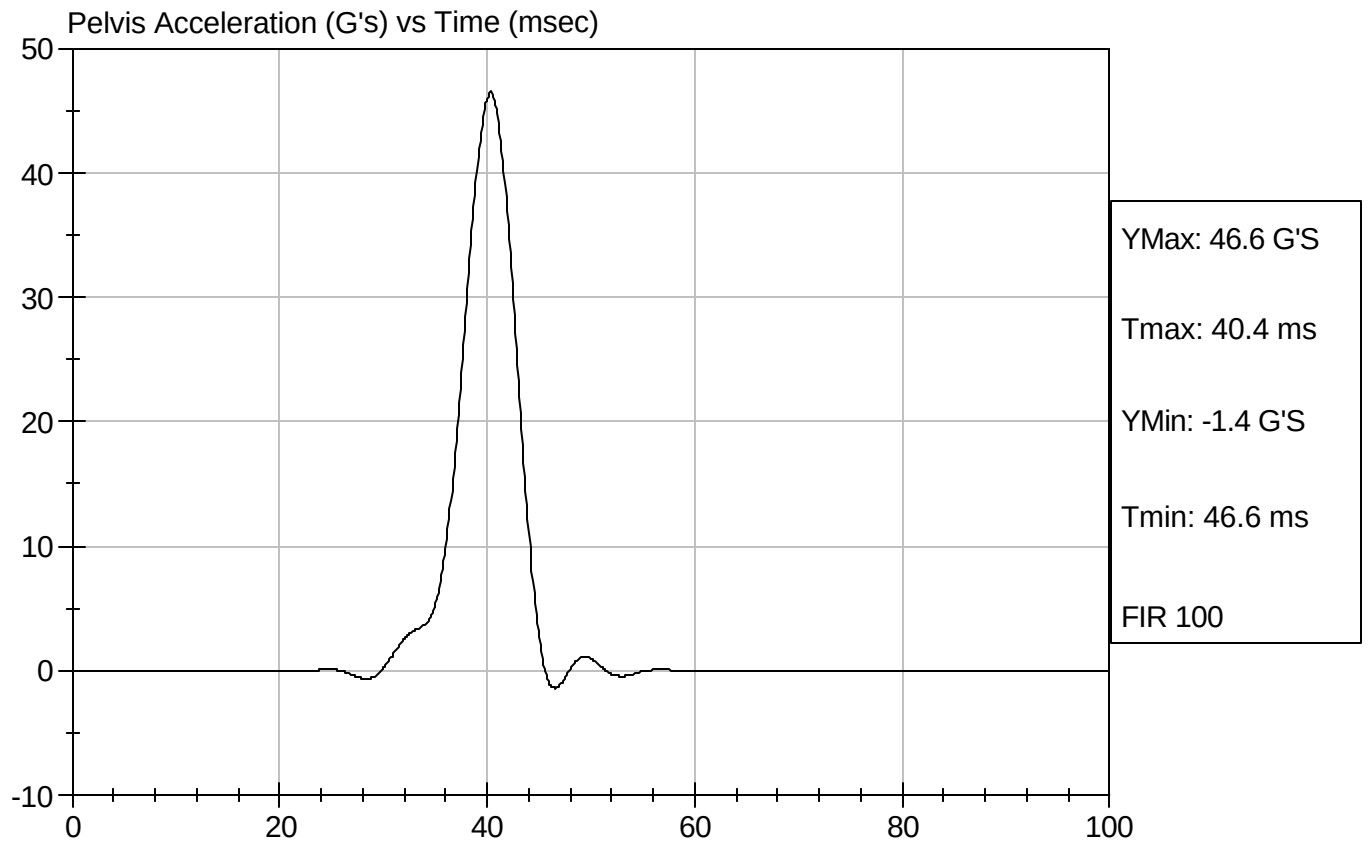
Test Date

David Winkelbauer
Approved By



Test Desc: Pelvis Impact
Component ID: D061263

Test Date: 05/09/2006
Speed: 14.04 ft/sec, 4.28 m/sec



SID Calibration Data Sheet
Side Impact Dummy
Abdominal Compression Calibration (Pre-Load = 10 lbs)

ATD Serial No: 904

Test I.D: D061264

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.6	Pass
Laboratory Relative Humidity	%	10 to 70	42	Pass
Force At 12.7 mm	N	104 -162	131	Pass
Force At 19 mm	N	163 - 222	178	Pass
Force At 25.4 mm	N	222 - 280	241	Pass
Force At 33 mm	N	325 - 391	326	Pass
			Overall Test Results	Pass


Laboratory Technician

05/09/2006
Test Date


Approved By

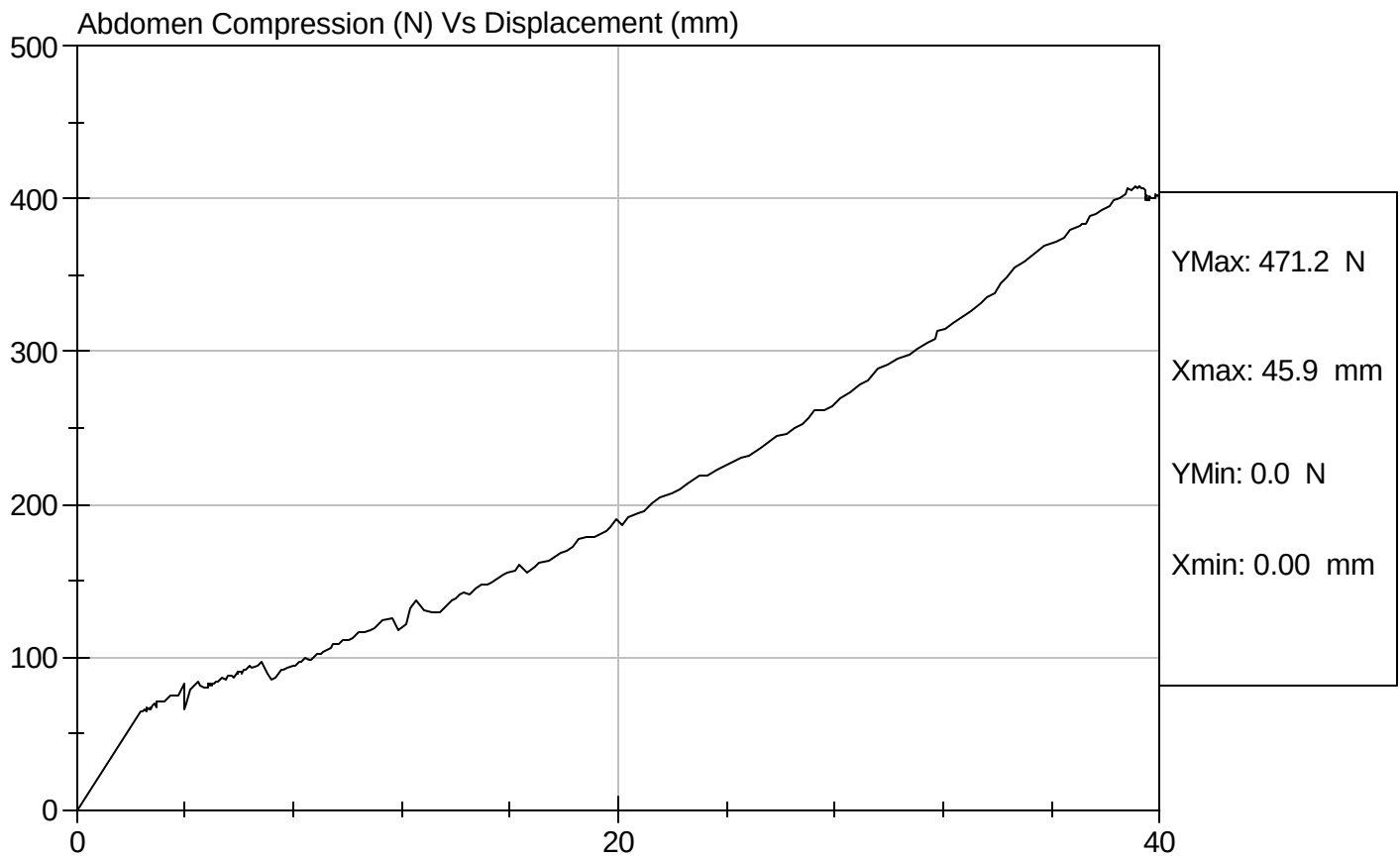


Test Description: Abdomen Compression

Test Date: 05/09/2006

Component: D061264

Speed: 0 ft/sec, 0 m/sec



SID Calibration Data Sheet
Side Impact Dummy
Lumbar Flexion Calibration

ATD Serial No: 904

Test I.D: D061265

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.5	Pass
Laboratory Relative Humidity	%	10 to 70	42	Pass
Force At 0 deg	N	0 - 26.7	0.0	Pass
Force At 20 deg	N	97.9 - 151.2	122.6	Pass
Force At 30 deg	N	151.2 - 204.6	155.7	Pass
Force At 40 deg	N	204.6 - 258.0	230.1	Pass
Return Angle	Deg	12 Maximum	6	Pass
			Overall Test Results	Pass


Laboratory Technician

05/09/2006

Test Date


Approved By

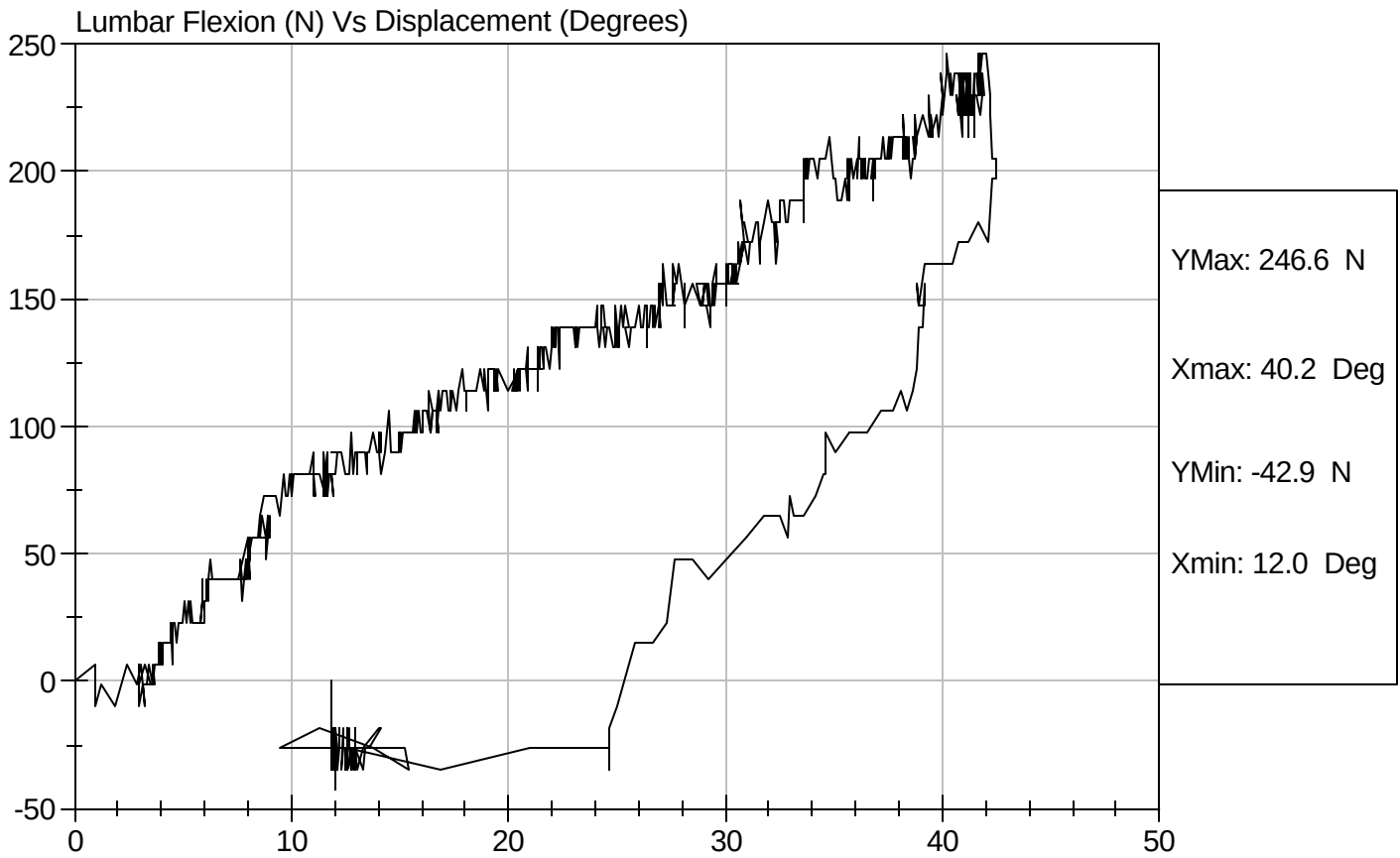


Test Description: Lumbar Flexion

Test Date: 05/09/2006

Component: D061265

Speed: 0 ft/sec, 0 m/sec



SID Calibration Data Sheet
Side Impact Dummy (SID)
Neck Pendulum Test

ATD Serial No: 904

Test I.D: D061269

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	21.6	Pass
Laboratory Relative Humidity		%	10 to 70	42	Pass
Impact Velocity		m/s	6.89 to 7.13	7.12	Pass
Pendulum Deceleration	10 msec	m/s	1.96 to 2.55	2.32	Pass
	20 msec	m/s	4.12 to 5.10	4.48	Pass
	30 msec	m/s	5.73 to 7.01	6.19	Pass
	40 to 70 msec	m/s	6.27 to 7.64	7.24	Pass
Midsagittal Plane Max Rotation		deg	66 to 82	71	Pass
Head Rotation Peak to Zero - Decay Time		msec	58 to 67	58	Pass
Max. Mx at Occipital Condyles		Nm	73 to 88	77	Pass
Mx Peak To Zero - Decay Time		msec	49 to 64	58	Pass
Mx Peak to Max. Head Rotation		msec	2 to 16	10	Pass


 Laboratory Technician

05/09/2006

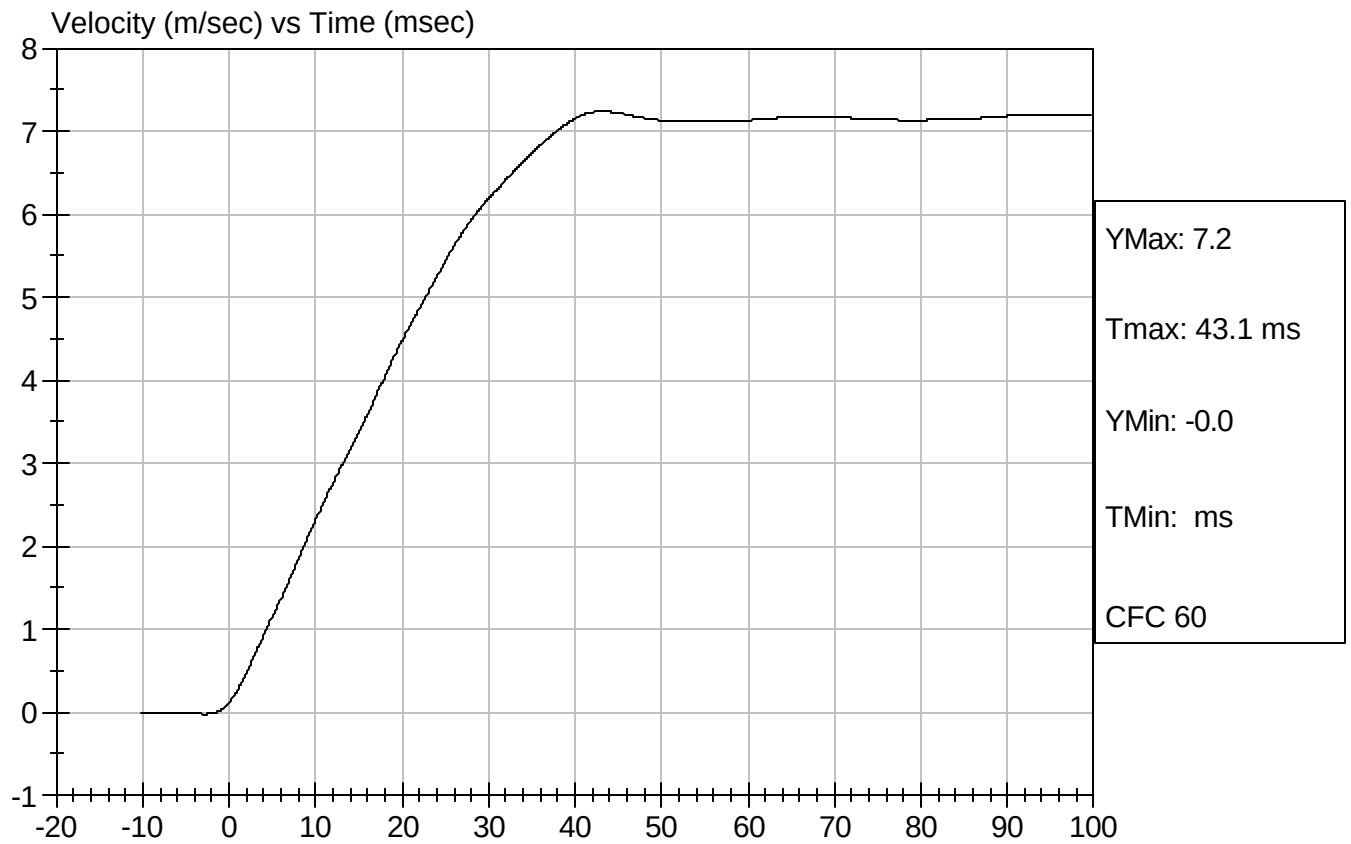
Test Date


 Approved By



Test Desc: Neck Bending
Component ID: D061269

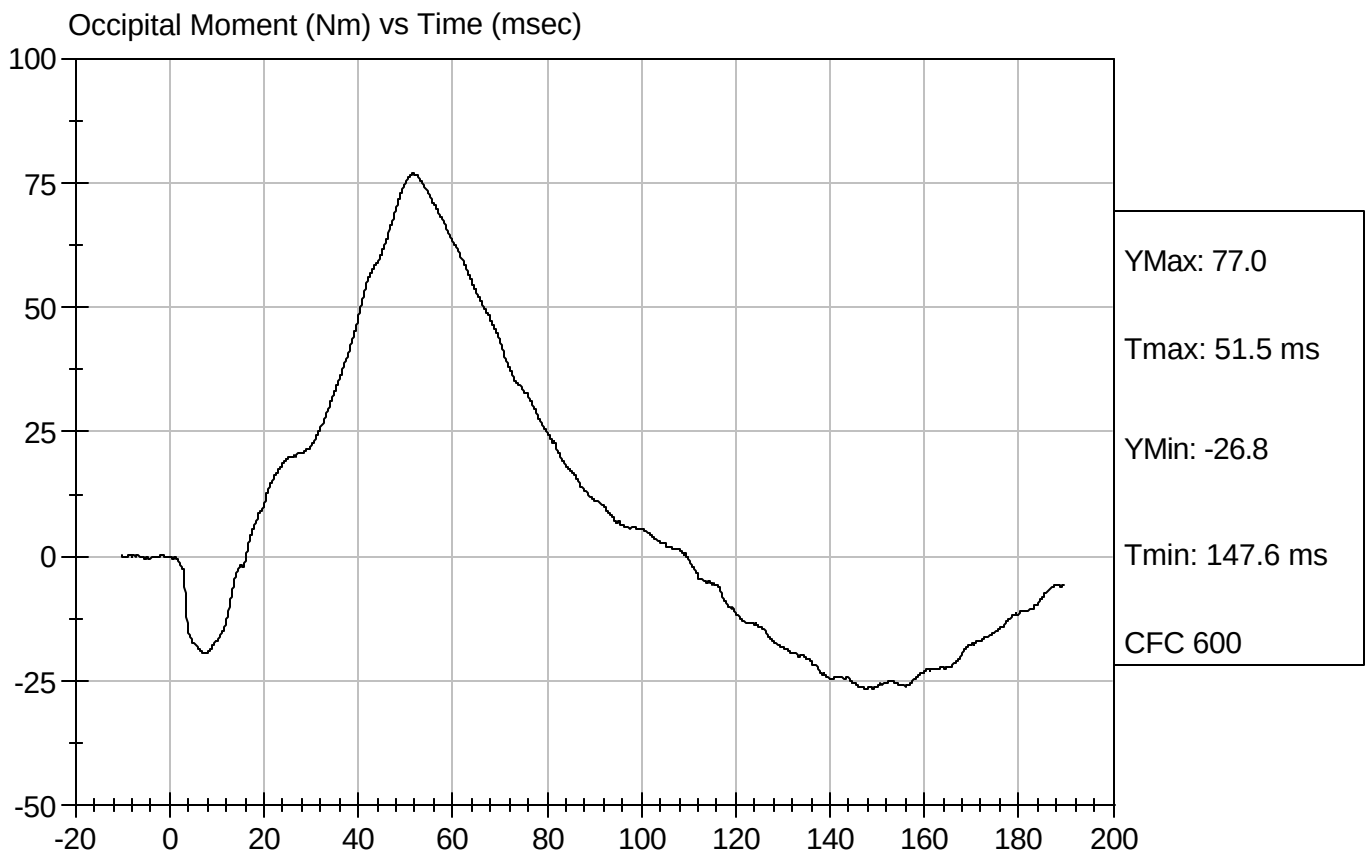
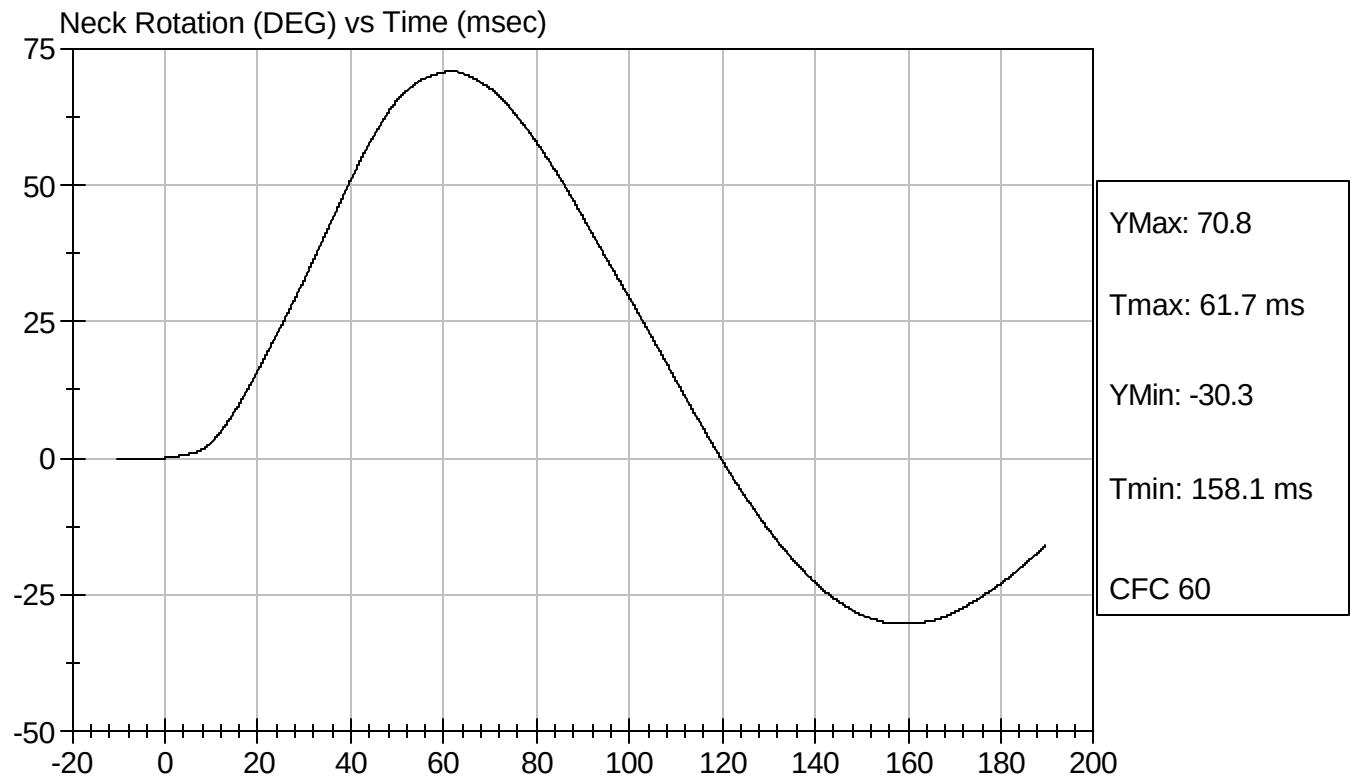
Test Date: 05/09/2006
Speed: 23.35 ft/sec, 7.12 m/sec





Test Desc: Neck Bending
Component ID: D061269

Test Date: 05/09/2006
Speed: 23.35 ft/sec, 7.12 m/sec



Calibration Test Results Summary

Dummy Serial Number: 904

Post-Test Calibration

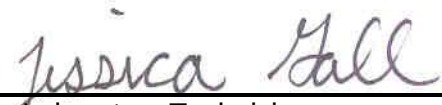
External Dimensions:	The dummy passed all external dimension requirements.
Head Drop Test:	The head passed all drop test requirements.
Neck Pendulum Test:	The neck passed all pendulum test requirements.
Thorax Impact Test:	The thorax passed all impact test requirements.
Pelvic Impact Test:	The pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen passed all compression test requirements.
Lumbar Flexion Test:	The lumbar passed all flexion test requirements.

SID Calibration Data Sheet
Side Impact Dummy
Head Drop Calibration (Lateral)

ATD Serial No: 904

Test I.D: D061321

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	21.3	Pass
Laboratory Relative Humidity	%	10 to 70	40	Pass
Peak Resultant Acceleration	G's	120 to 150	126	Pass
Is Resultant Curve Unimodal?	Yes/No	15% of peak	Yes	Pass
Peak Longitudnal Acceleration	G's	+/- 15	-11	Pass
Overall Test Results				Pass


Laboratory Technician

05/11/2006

Test Date


Approved By



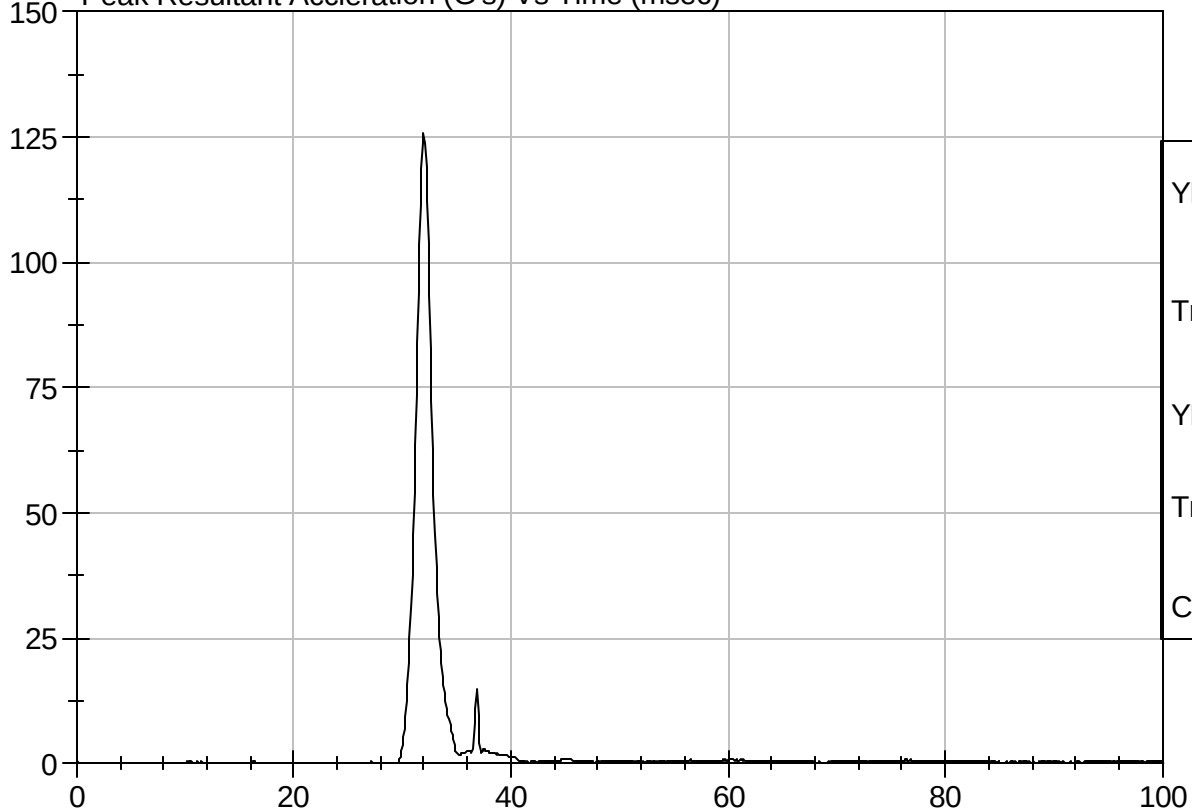
Test Description: Head Drop

Test Date: 05/11/2006

Component: D061321

Speed: 0 ft/s, 0.00 m/s

Peak Resultant Acceleration (G's) Vs Time (msec)



YMax: 125.6 G

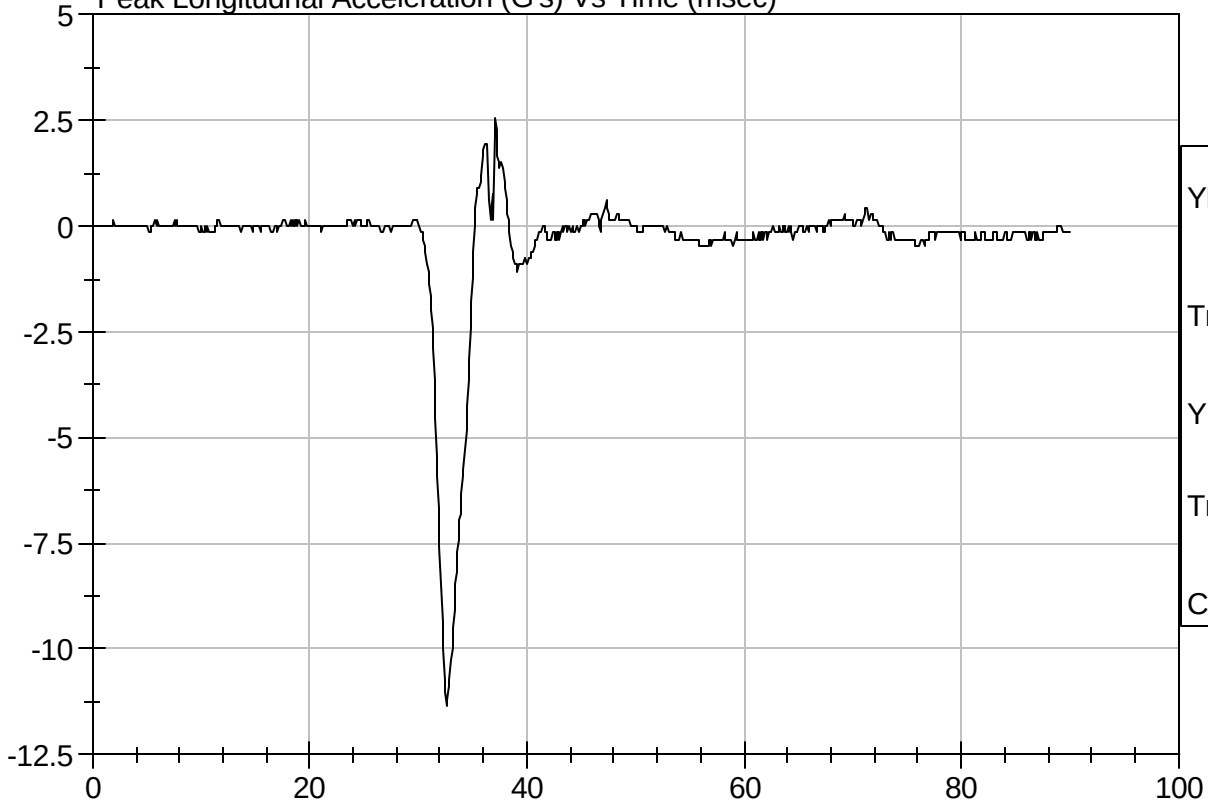
Tmax: 32.0 ms

YMin: 0.1 G

Tmin: -0.1 ms

CFC 1000

Peak Longitudnal Acceleration (G's) Vs Time (msec)



YMax: 2.6 G

Tmax: 37.1 ms

YMin: -11.3 G

Tmin: 32.6 ms

CFC 1000

SID Calibration Data Sheet
Side Impact Dummy
Thorax Impact Test

ATD Serial No: 904

Test I.D: D061322

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.3	Pass
Laboratory Relative Humidity	%	10 to 70	36	Pass
Probe Velocity	m/s	4.22 - 4.31	4.29	Pass
Upper Rib	G's	37 - 46	39	Pass
Lower Rib	G's	37 - 46	38	Pass
Lower Spine	G's	15 - 22	21	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

05/12/2006

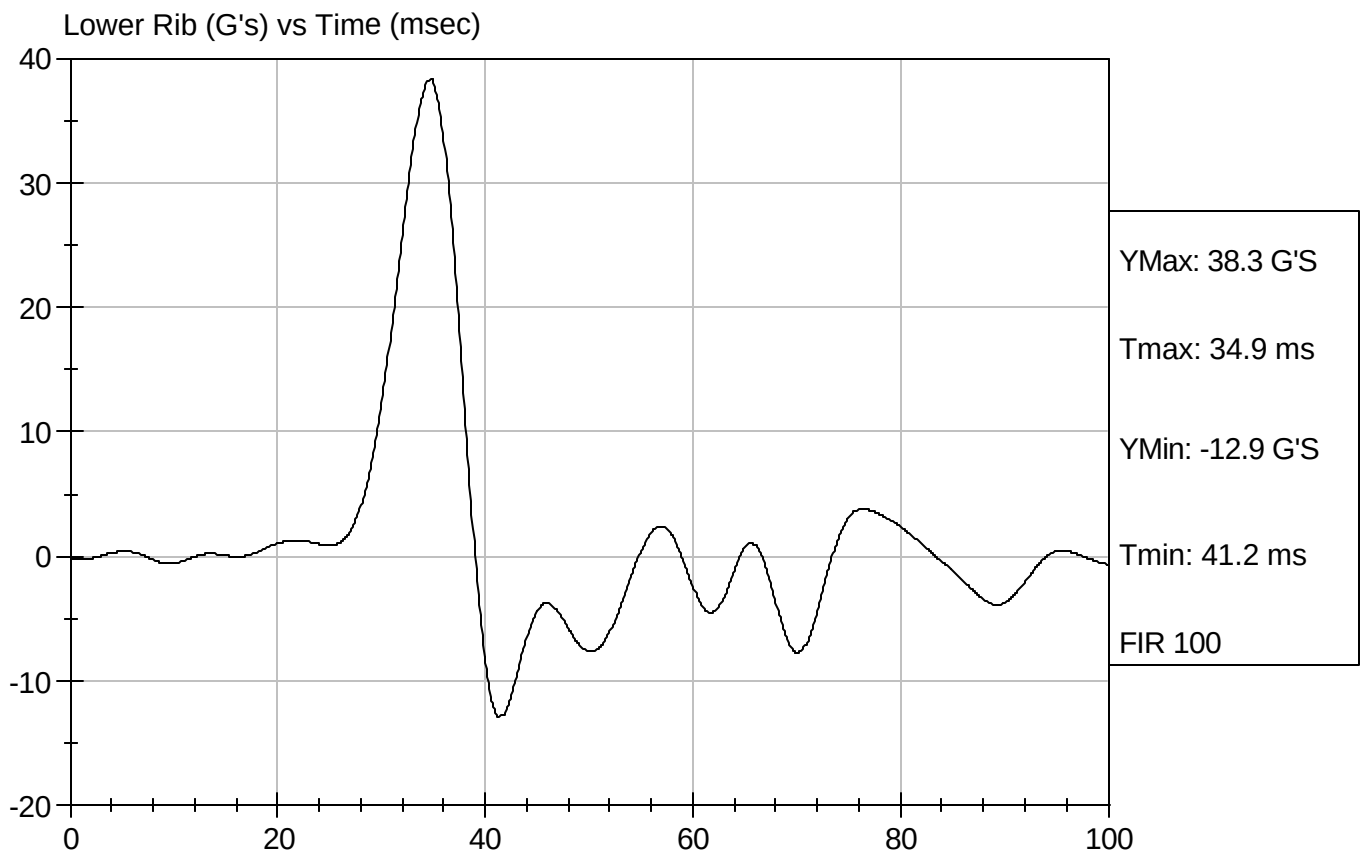
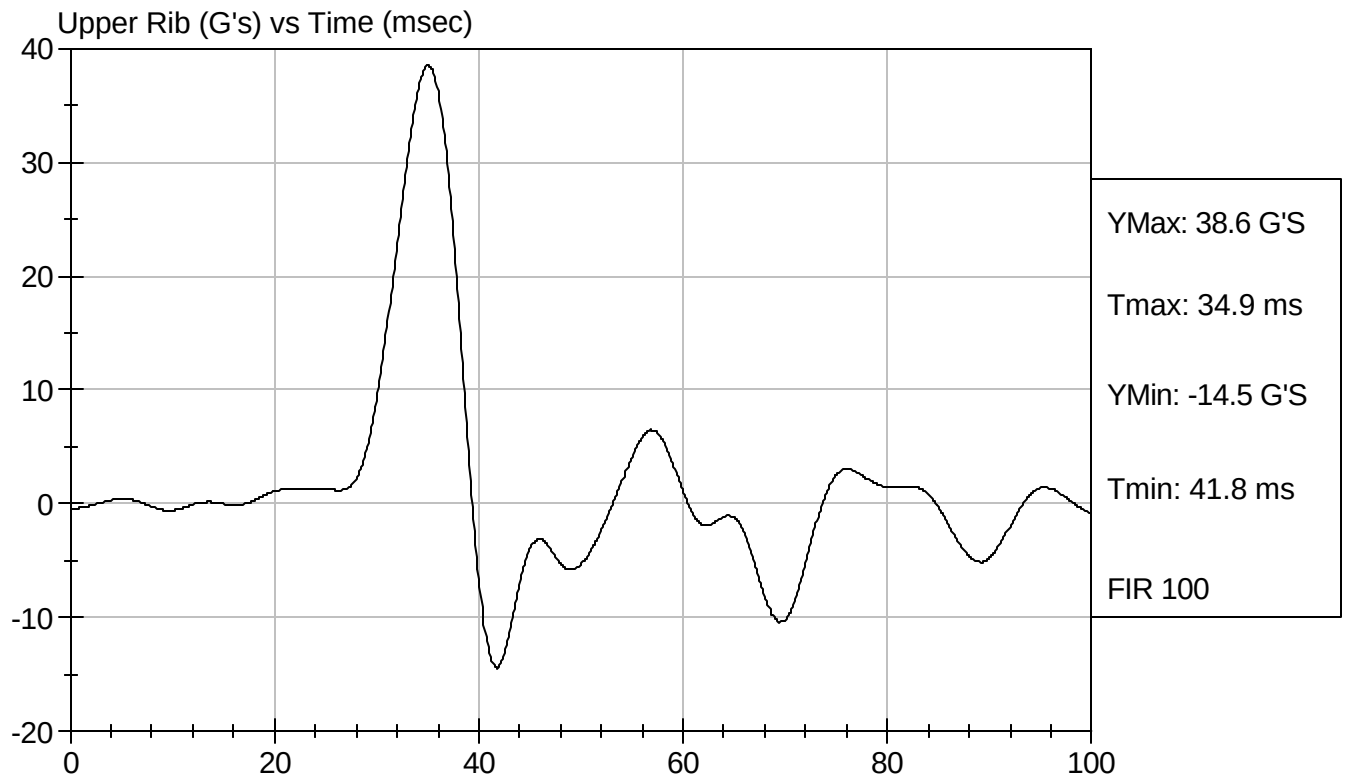
Test Date

David Winkelbauer
Approved By



Test Desc: Thorax Impact
Component ID: D061322

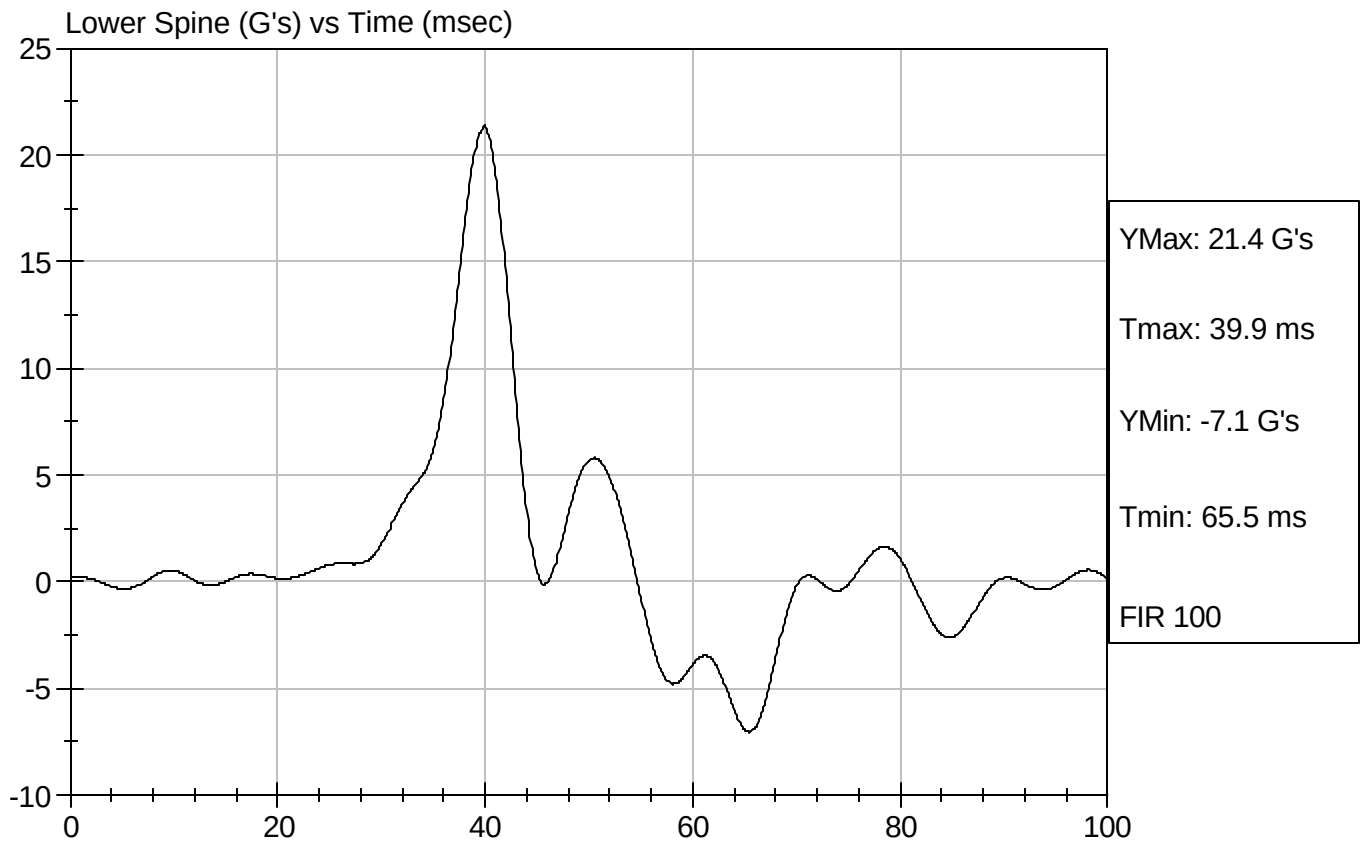
Test Date: 05/12/2006
Speed: 14.08 ft/sec, 4.29 m/sec





Test Desc: Thorax Impact
Component ID: D061322

Test Date: 05/12/2006
Speed: 14.08 ft/sec, 4.29 m/sec



SID Calibration Data Sheet
Side Impact Dummy
Pelvis Impact Test

ATD Serial No: 904

Test I.D: D061323

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	21.3	Pass
Laboratory Relative Humidity	%	10 to 70	36	Pass
Probe Velocity	m/s	4.27 - 4.33	4.29	Pass
Pelvis Acceleration	G's	40 - 60	47	Pass
			Overall Test Results	Pass

Jessica Hall
Laboratory Technician

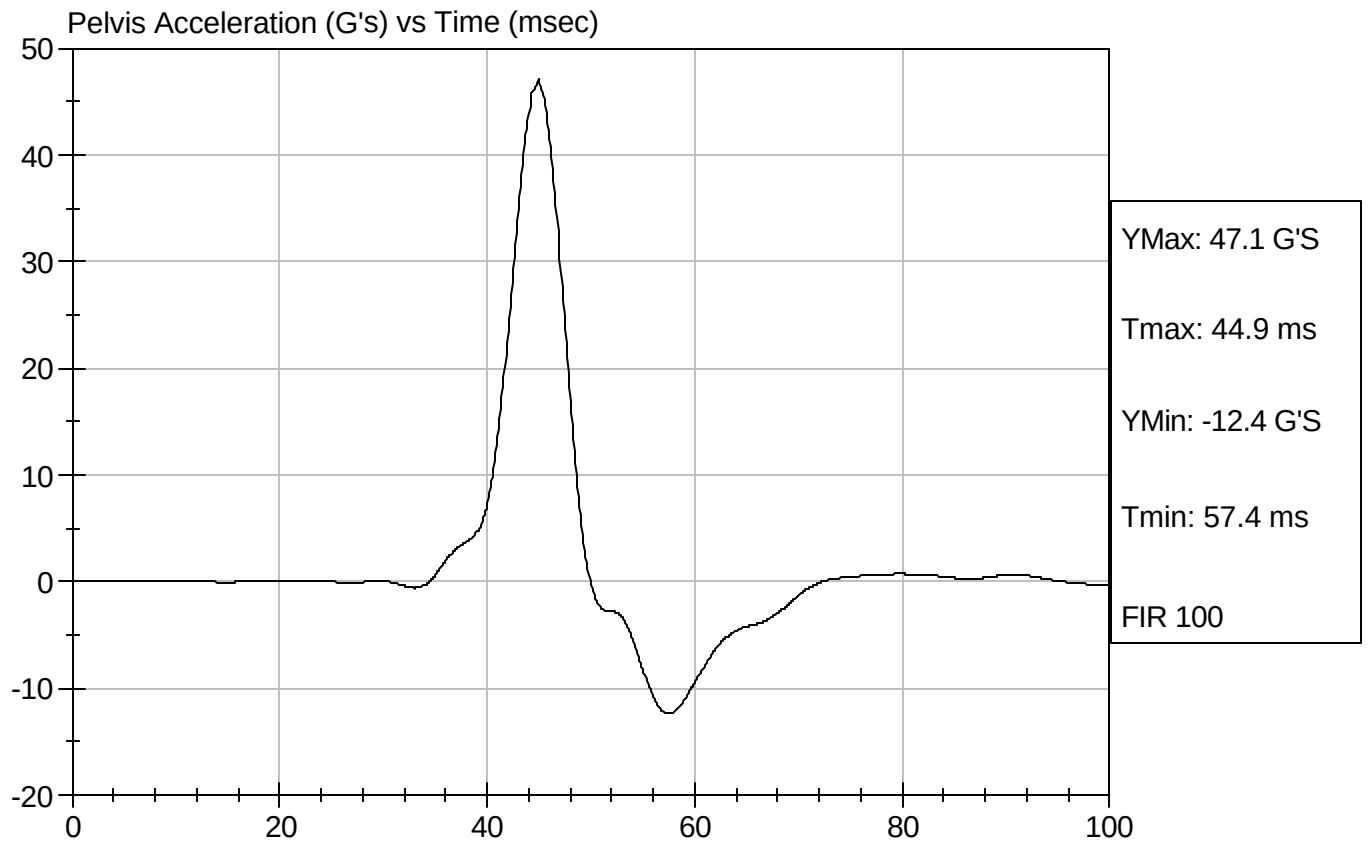
05/12/2006
Test Date

David Winkelbauer
Approved By



Test Desc: Pelvis Impact
Component ID: D061323

Test Date: 05/12/2006
Speed: 14.06 ft/sec, 4.29 m/sec



SID Calibration Data Sheet

Side Impact Dummy

Abdominal Compression Calibration (Pre-Load = 10 lbs)

ATD Serial No: 904

Test I.D: D061324

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	32	Pass
Force At 12.7 mm	N	104 -162	146	Pass
Force At 19 mm	N	163 - 222	202	Pass
Force At 25.4 mm	N	222 - 280	267	Pass
Force At 33 mm	N	325 - 391	374	Pass
Overall Test Results			Pass	

Jessica Gall
Laboratory Technician

05/12/2006
Test Date

David Winkelbauer
Approved By



Test Description: Abdomen Compression Test Date: 05/12/2006

Component: D061324

Speed: 0 ft/sec, 0 m/sec



SID Calibration Data Sheet
Side Impact Dummy
Lumbar Flexion Calibration

ATD Serial No: 904

Test I.D: D061325

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	32	Pass
Force At 0 deg	N	0 - 26.7	0.0	Pass
Force At 20 deg	N	97.9 - 151.2	130.5	Pass
Force At 30 deg	N	151.2 - 204.6	180.1	Pass
Force At 40 deg	N	204.6 - 258.0	238.0	Pass
Return Angle	Deg	12 Maximum	3	Pass
			Overall Test Results	Pass


Laboratory Technician

05/12/2006

Test Date


Approved By

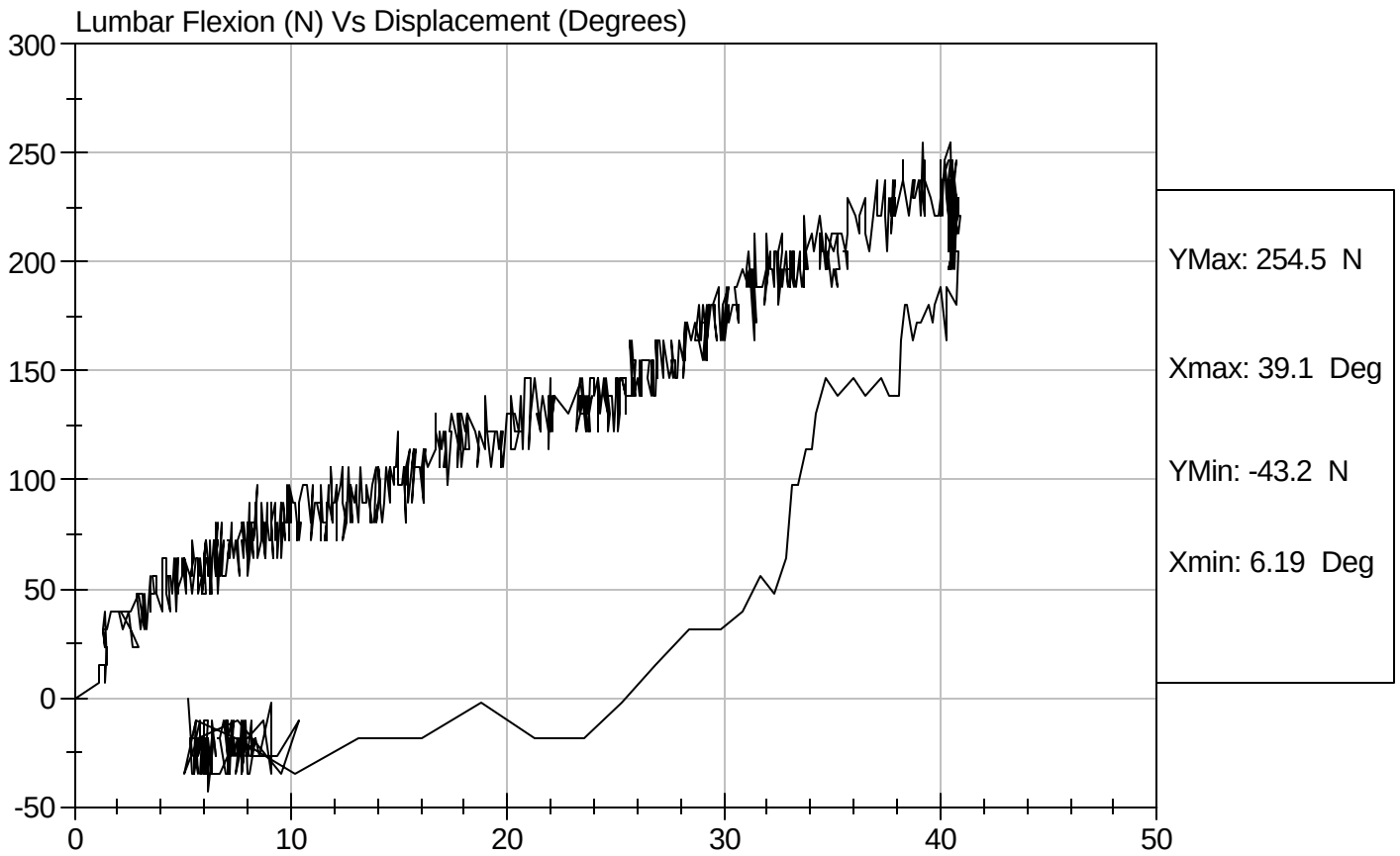


Test Description: Lumbar Flexion

Test Date: 05/12/2006

Component: D061325

Speed: 0 ft/sec, 0 m/sec



SID Calibration Data Sheet
Side Impact Dummy (SID)
Neck Pendulum Test

ATD Serial No: 904

Test I.D: D061329

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	21.2	Pass
Laboratory Relative Humidity		%	10 to 70	33	Pass
Impact Velocity		m/s	6.89 to 7.13	6.93	Pass
Pendulum Deceleration	10 msec	m/s	1.96 to 2.55	2.30	Pass
	20 msec	m/s	4.12 to 5.10	4.59	Pass
	30 msec	m/s	5.73 to 7.01	6.51	Pass
	40 to 70 msec	m/s	6.27 to 7.64	7.18	Pass
Midsagittal Plane Max Rotation		deg	66 to 82	75	Pass
Head Rotation Peak to Zero - Decay Time		msec	58 to 67	60	Pass
Max. Mx at Occipital Condyles		Nm	73 to 88	78	Pass
Mx Peak To Zero - Decay Time		msec	49 to 64	59	Pass
Mx Peak to Max. Head Rotation		msec	2 to 16	13	Pass


 Laboratory Technician

05/12/2006

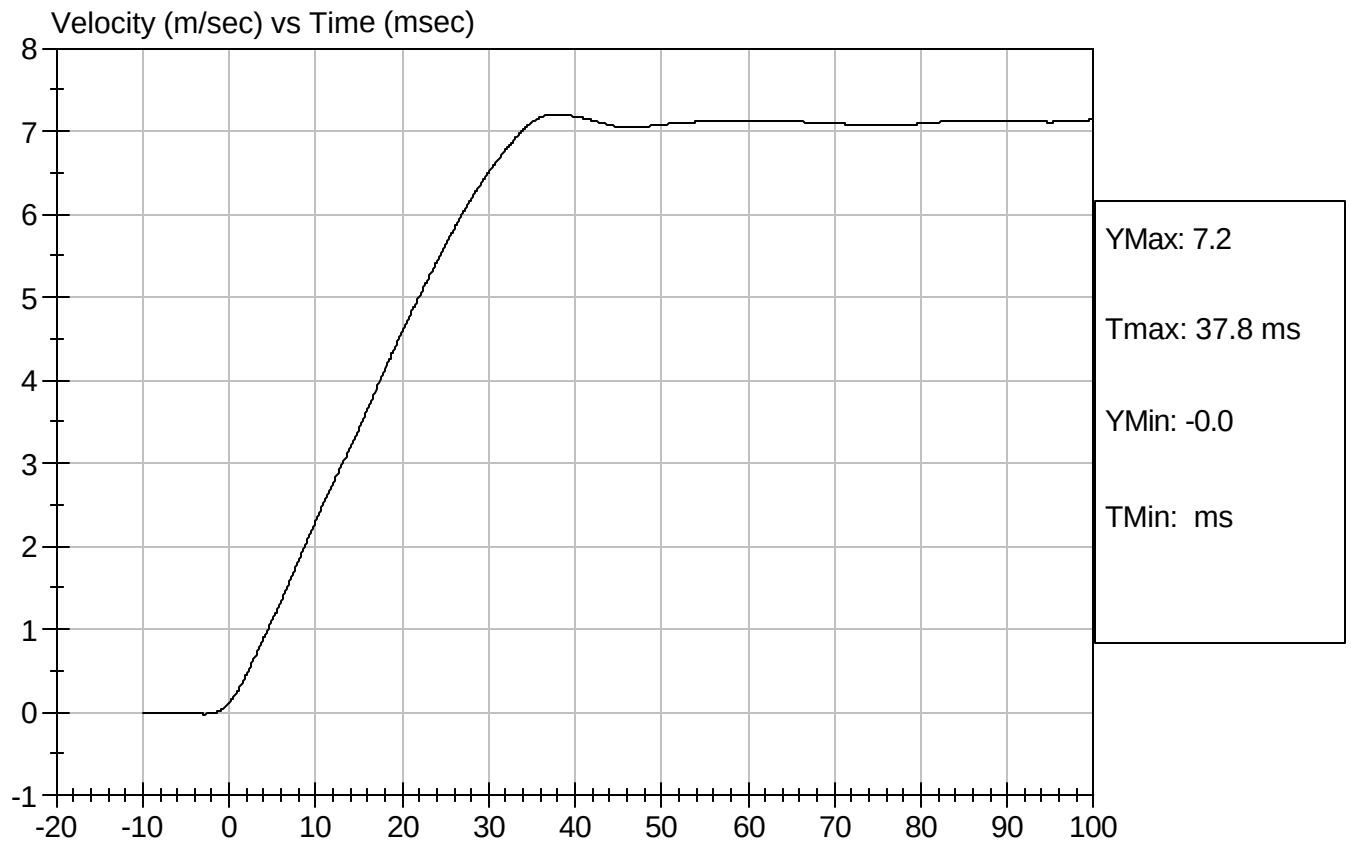
Test Date


 Approved By



Test Desc: Neck Bending
Component ID: D061329

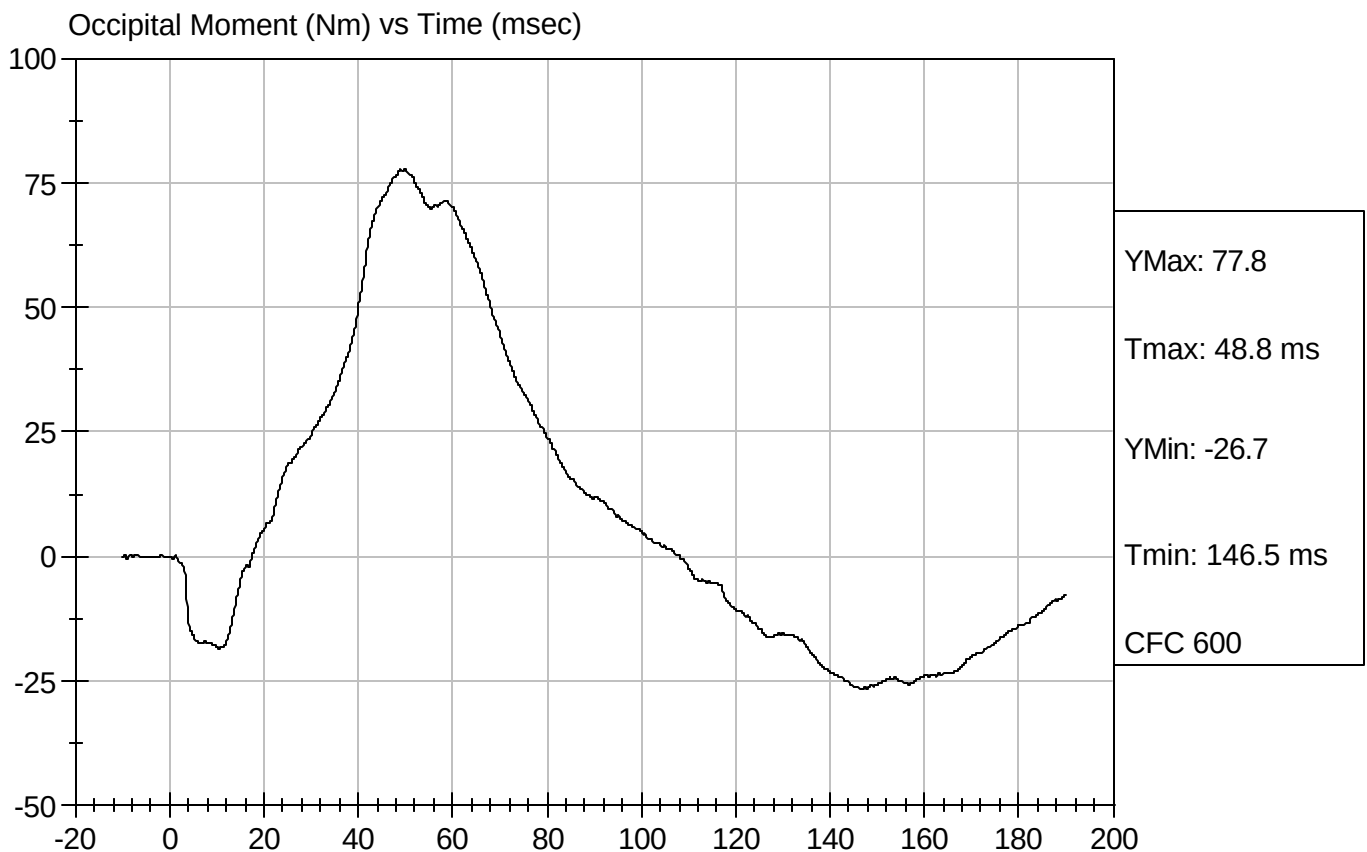
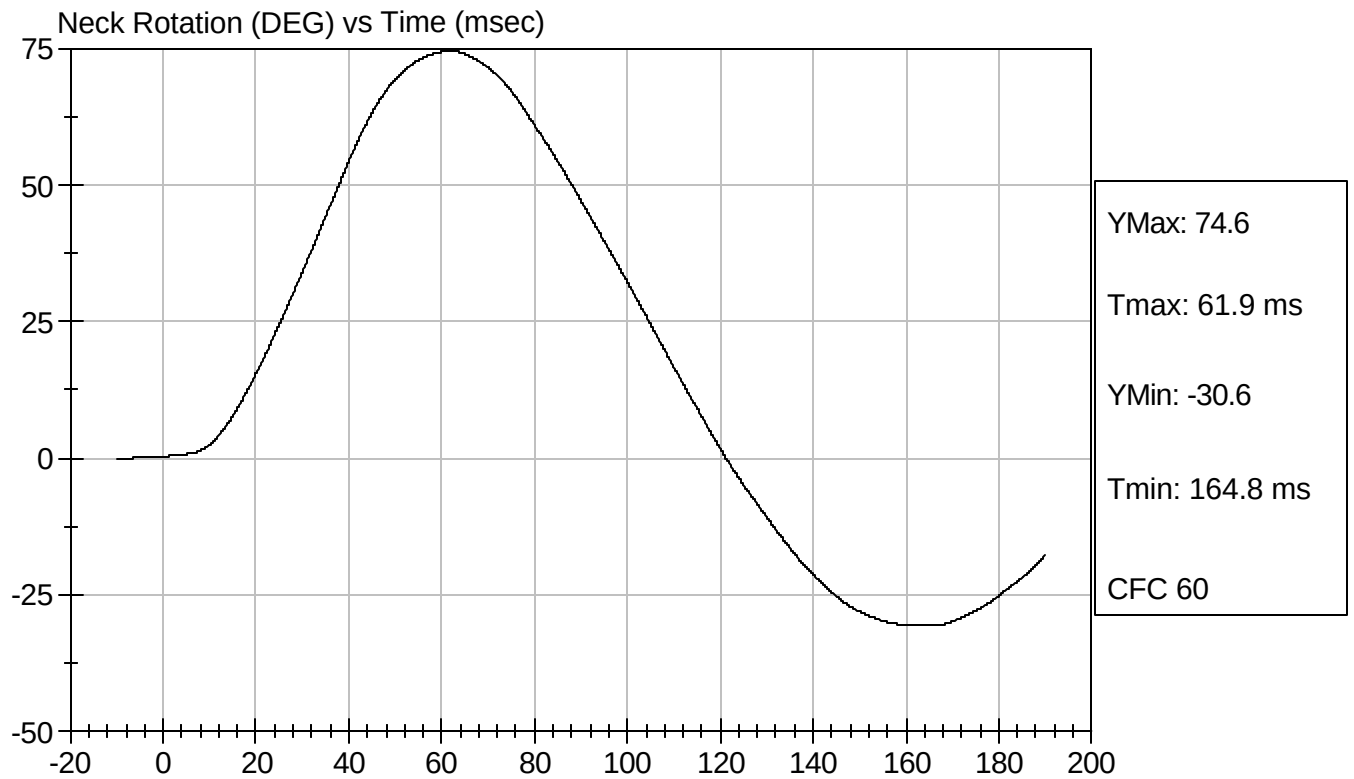
Test Date: 05/12/2006
Speed: 22.73 ft/sec, 6.93 m/sec





Test Desc: Neck Bending
Component ID: D061329

Test Date: 05/12/2006
Speed: 22.73 ft/sec, 6.93 m/sec



SID Calibration Data Sheet
Side Impact Dummy
Inspection Checklist

ATD Serial No: 904

Test Part	Items Checked	Result
Skin	Visual inspection	Pass
Head	Visual, ballast, accelerometer mount	Pass
Neck	Visual	Pass
Spine Box	Visual, ballast, accelerometer mount	Pass
Rib Cage	Visual, measure	Pass
Sternum	Visual	Pass
Lumbar Spine	Visual	Pass
Abdomen	Visual	Pass
Pelvis	Visual, palpate, accelerometer mount	Pass
Upper Legs	Visual	Pass
Knees	Visual	Pass
Lower Legs	Visual, range of motion	Pass
Ankles	Visual, range of motion	Pass
Feet	Visual, range of motion	Pass
Joints	1 to 2 g range	Pass
Other		Pass

Jessica Hall
 Laboratory Technician
David Winkelbauer
 Approved By

05/12/2006
 Test Date