

REPORT NUMBER: NCAPSIDE-MGA-2006-012

**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST**

**TOYOTA MOTOR CORPORATION
2007 TOYOTA YARIS
NHTSA NUMBER: M75103**

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



Test Date: May 30, 2006

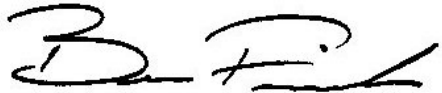
Report Date: June 23, 2006

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.

This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

Prepared by: 
Ben Fischer, Project Engineer

Date: 6/23/06

Reviewed by: 
David Winkelbauer, Facility Director

Date: 6/23/06

Technical Report Documentation Page

1. Report No. NCAPSIDE-MGA-2006-012	2. Government Accession No.	3. Recipient's Catalog No.																						
4. Title and Subtitle Final Report of New Car Assessment Program Side Impact Testing of 2007 Toyota Yaris NHTSA No.: M75103		5. Report Date June 23, 2006																						
		6. Performing Organization Code MGA																						
7. Author(s) Ben Fischer, Project Engineer		8. Performing Organization Report No. NCAPSIDE-MGA-2006-012																						
9. Performing Organization Name and Address MGA Research Corporation 5000 Warren Road Burlington, WI 53105		10. Work Unit No.																						
		11. Contract or Grant No. DTNH22-03-D-12005																						
12. Sponsoring Agency Name and Address 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		13. Type of Report and Period Covered: <i>Final Report</i> 5/30/06 to 6/23/06																						
		14. Sponsoring Agency Code NVS-111																						
15. Supplementary Notes																								
16. Abstract A 55/28 km/h 90° Moving Deformable Barrier NCAP side impact was conducted on the subject 2007 Toyota Yaris 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 30, 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 244 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;">59.3</td> <td style="text-align: center;">60.7</td> </tr> <tr> <td>Left Lower Rib (LLR) Accel., g</td> <td style="text-align: center;">76.5</td> <td style="text-align: center;">71.3</td> </tr> <tr> <td>Lower Spine (T₁₂) Accel., g</td> <td style="text-align: center;">94.4</td> <td style="text-align: center;">77.7</td> </tr> <tr> <td>Thoracic Trauma Index (TTI)</td> <td style="text-align: center;">85</td> <td style="text-align: center;">75</td> </tr> <tr> <td>Pelvis (PEV) Accel., g</td> <td style="text-align: center;">71.2</td> <td style="text-align: center;">78.2</td> </tr> <tr> <td>HIC</td> <td style="text-align: center;">230</td> <td style="text-align: center;">518</td> </tr> </tbody> </table>					<u>DRIVER</u>	<u>PASS.</u>	Left Upper Rib (LUR) Accel., g	59.3	60.7	Left Lower Rib (LLR) Accel., g	76.5	71.3	Lower Spine (T ₁₂) Accel., g	94.4	77.7	Thoracic Trauma Index (TTI)	85	75	Pelvis (PEV) Accel., g	71.2	78.2	HIC	230	518
	<u>DRIVER</u>	<u>PASS.</u>																						
Left Upper Rib (LUR) Accel., g	59.3	60.7																						
Left Lower Rib (LLR) Accel., g	76.5	71.3																						
Lower Spine (T ₁₂) Accel., g	94.4	77.7																						
Thoracic Trauma Index (TTI)	85	75																						
Pelvis (PEV) Accel., g	71.2	78.2																						
HIC	230	518																						
The doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.																								
17. Key Words New Car Assessment Program (NCAP) Side Impact Side Impact Hybrid III Dummy (SID/HIII) Occupant Side Impact Protection		18. Distribution Statement 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																						
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages 140	22. Price																					

Form DOT F1700.7 (8-72)

TABLE OF CONTENTS

<u>Section</u>		<u>Page No.</u>
1	Purpose and Test Procedure	1
2	Summary of NCAP Side Impact Test	2
 <u>Data Sheet No.</u>		 <u>Page No.</u>
1	General Test and Vehicle Parameter Data	4
2	Test Vehicle Tire Information	6
3	Test Vehicle Information	7
4	Moving Deformable Barrier (MDB) Summary of Results	9
5	Post Test Observations	10
6	Vehicle Pre-Test and Post Test Measurements	11
7	SID/HIII Longitudinal Clearance Dimensions	12
8	SID/HIII Lateral Clearance Dimensions	13
9	Vehicle Side Measurements	14
10	Vehicle Exterior Crush Profiles	15
11	Vehicle Damage Profile Distances	17
12	Deformable Barrier Honeycomb Face Static Crush	18
13	Vehicle Accelerometer Locations	19
14	MDB Accelerometer Locations	20
15	Vehicle Structural Measurements	21
16	High Speed Camera Locations and Data	22
17	Summary of FMVSS 301 Data	23
 <u>Appendix</u>		
A	Photographs	A
B	SID/HIII Response Data Traces	B
C	Dummy Calibration Data	C

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 Toyota Yaris manufactured by Toyota Motor Corporation.

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 Toyota Yaris 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 1274.1 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 30, 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 244 mm at level 2, 900 mm rearward of the left vertical impact point. The driver and passenger SID/HIIIs, Serial Nos. 904 and 272 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	230	43.6	65.6	85	71.2
Passenger	518	37.3	48.8	75	78.2

SUPPLEMENTAL RESTRAINT INFORMATION

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

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:

Floorpan @ Rear Axle Z
Left Lower A-Post Y

The passenger door had an 8-9 inch opening at the door/window top.

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

Test Vehicle: 2007 Toyota Yaris
 Test Program: NCAP Side Impact

NHTSA No. M75103
 Test Date: 5/30/2006

TEST VEHICLE INFORMATION

Make	Toyota
Model	Yaris
Body Style	Sedan
NHTSA No.	M75103
VIN	JTDBT923371023367
Color	Jade Sea Metallic
Delivery Date	5/16/06
Odometer Reading (mile)	41
Dealer	Don Jacobs
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	N/A

TEST VEHICLE OPTIONS

Driver Front Airbag	Yes
Driver Side Curtain Airbag	No
Driver Side Torso Airbag	No
Rear Passenger Side/Curtain Airbag	No
Rear Passenger Side Torso Airbag	No
Power Steering	Yes
Power Door Locks	No
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	Toyota Motor Corporation
Date of Manufacture	04/06

GVWR (kg)	1497
GAWR Front (kg)	835
GAWR Rear (kg)	826

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench		
Number Of Occupants	2	3		5
Capacity Wt. (VCW) (kg)				383
Cargo Wt. (RCLW) (kg)				42.8

DATA SHEET NO. 1 (continued)**GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2007 Toyota Yaris
 Test Program: NCAP Side Impact

NHTSA No. M75103
 Test Date: 5/30/2006

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW) (Axle)			As Tested (ATW) (Axle)		
		Front	Rear	Total	Front	Rear	Total
Left	kg	332.5	217.3		387.8	298.9	
Right	kg	324.3	203.7		328.9	258.5	
Ratio	%	60.9	39.1		56.3	43.7	
Totals	kg	656.8	421.0	1077.8	716.7	557.4	1274.1

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1077.8
Weight of 2 P572M ATDs	kg	161.5
Rated Cargo/Luggage Weight (RCLW)	kg	42.8
Calculated Vehicle Target Weight (TVTW)	kg	1282.1

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

Weight of Ballast in Cargo Area: None

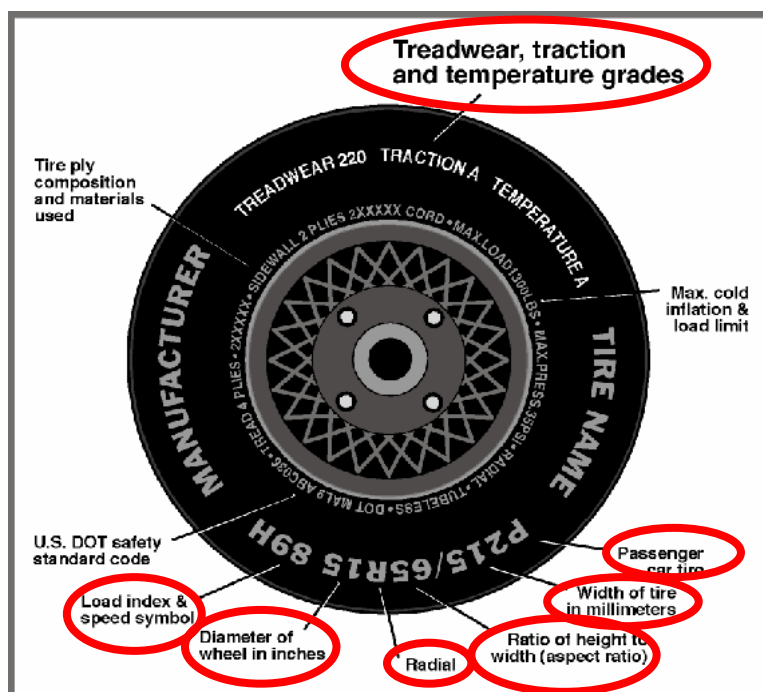
TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	670	678	667	675	994
As Tested	mm	641	658	622	639	1113
Fully Loaded	mm	638	657	617	639	

TEST VEHICLE VERTICAL IMPACT LINE DATA

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2544
Target Impact Point Aft of Front Axle	mm	332
Actual Impact Point Aft of Front Axle	mm	341

TEST VEHICLE TIRE INFORMATION



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	300	300
Cold / Test Pressure (kPa)	220	220
Recommended Tire Size	P185/60R15	P185/60R15
Tire Size on Vehicle	P185/60R15	P185/60R15
Tire Manufacturer	Bridgestone	Bridgestone
Tire Name	Potenza RE92	Potenza RE92
Tire Type	M + S	M + S
Tire Width (mm)	185	185
Ratio of Height to Width (aspect ratio)	60	60
Radial	R	R
Wheel Diameter	15	15
Load Index & Speed Symbol	84T	84T
Treadwear	160	160
Traction Grade	A	A
Temperature Grade	A	A

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

Test Vehicle: 2007 Toyota Yaris
 Test Program: NCAP Side Impact

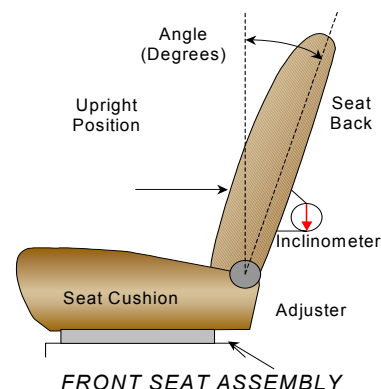
NHTSA No. M75103
 Test Date: 5/30/2006

NORMAL DESIGN RIDING POSITION

The driver and passenger seat back is positioned to the manufacturer's designated angle. The procedure is as follows: The driver seatback is reclined to the 5th detent rearward from the most upright position, defined as one. The passenger seatback has no adjustable mechanism.

Driver seat back angle: 5th detent, 1st as one

Passenger seat back angle: non adjustable

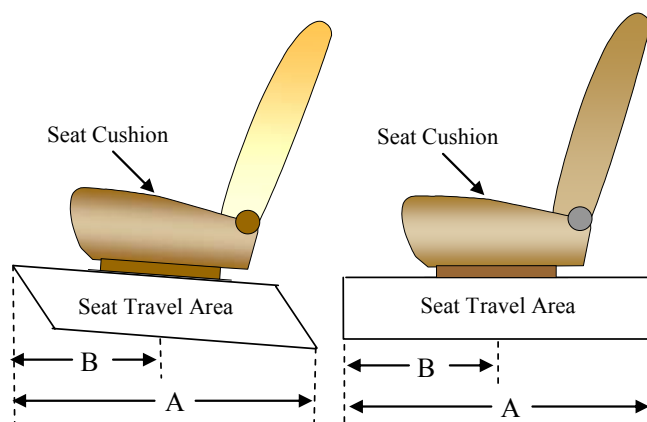


SEAT FORE/AFT POSITIONS

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	17 detents	8 th detent, 1 st as zero
Rear Seat	non adjustable	non adjustable



DATA SHEET NO. 3 (CONTINUED)

TEST VEHICLE INFORMATION

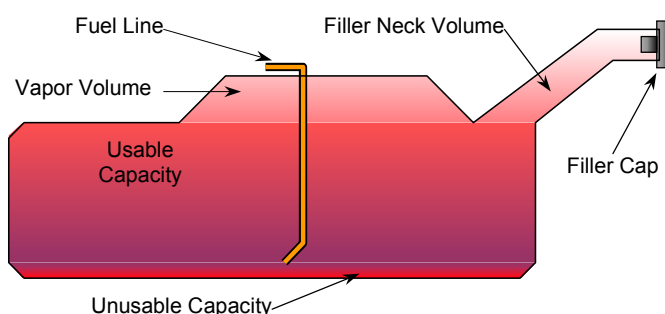
Test Vehicle: 2007 Toyota Yaris
Test Program: NCAP Side Impact

NHTSA No. M75103
Test Date: 5/30/2006

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard Tank"	42.0
Usable Capacity of "Optional" Tank	
92-94% of Usable Capacity	38.6 – 39.5
Actual Amount of Solvent used	38.8
1/3 of Usable Capacity	14.0

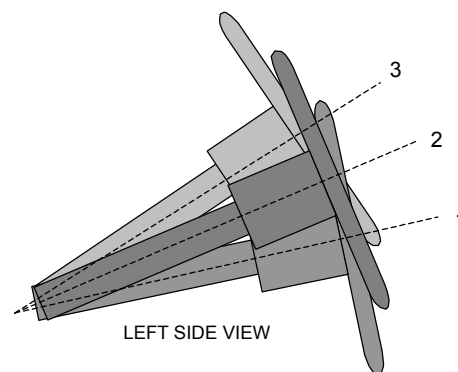
The vehicle is equipped with electric fuel pump.
The fuel pump is activated when the ignition is turned on.



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

	Fore/Aft (mm)	Degrees
Lowermost position No. 1		25.2
Geometric center position No. 2		27.9
Uppermost position No. 3		29.1

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

Test Vehicle: 2007 Toyota Yaris
 Test Program: NCAP Side Impact

NHTSA No. M75103
 Test Date: 5/30/2006

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	62.0
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	9 right
Vertical Offset	mm	+/-20	4 up

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

Test Vehicle: 2007 Toyota Yaris
 Test Program: NCAP Side Impact

NHTSA No. M75103
 Test Date: 5/30/2006

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat SID/HIII	Rear Seat SID/HIII
Dummy Type / Serial No.	SID HIII / 904	SID HIII / 272
Head Contact	Side Header, Window Sill, Headrest	Side Header, C-Pillar, Headrest
Upper Torso Contact	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	The passenger door had an 8-9 inch opening at the door/window top.

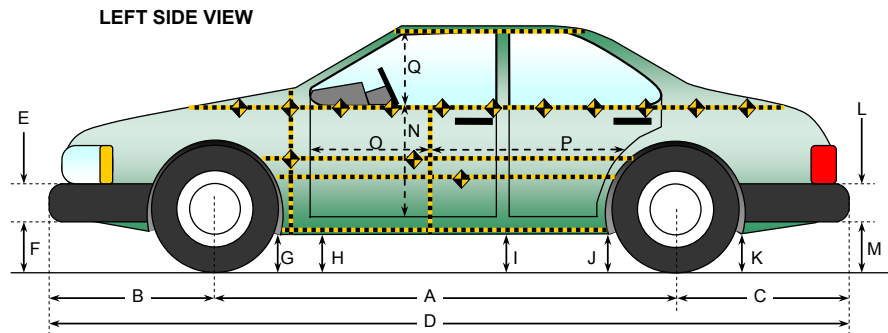
SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Occupant Location 01		Occupant Location 04	
	Installed	Operation	Installed	Operation
Front Airbag	Yes	No	None	
Side Torso Airbag	None		None	
Head Airbag	None		None	
Curtain Airbag	None		None	
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 Toyota Yaris
 Test Program: NCAP Side Impact

NHTSA No. M75103
 Test Date: 5/30/2006



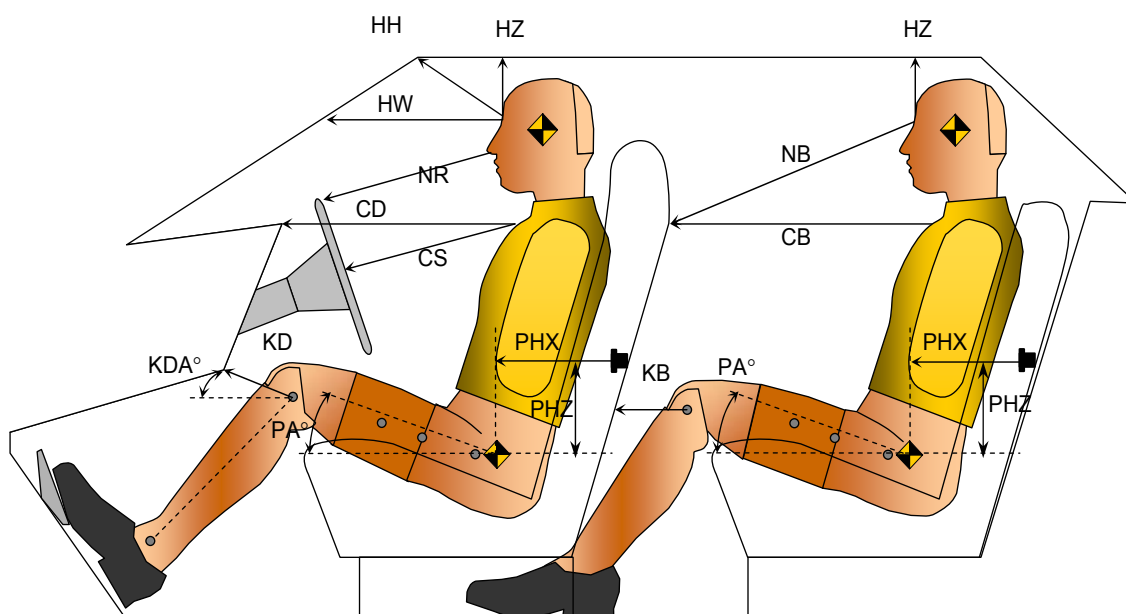
All Measurements in mm

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2544	2545	-1
B	Front Axle to FSOV	828	813	15
C	Rear Axle to RSOV	893	911	-18
D	Total Length at Centerline	4265	4269	-4
E	Front Bumper Thickness	125	125	0
F	Front Bumper Bottom to Ground	213	207	6
G	Sill Height at Front Wheel Well	152	176	-24
H	Sill Height at Front Door Leading Edge	173	195	-22
I	Sill Height at "B" Pillar	172	191	-19
J1	Sill Height at Rear Wheel Well	159	174	-15
J2	Pinch Weld Height at Rear Wheel Well	164	180	-16
K	Sill Height Aft of Rear Wheel Well	216	221	-5
L	Rear Bumper Thickness	173	173	0
M	Rear Bumper Bottom to Ground	294	311	-17
N	Sill Height to Window Bottom Sill	683	564	119
O	Front Door Leading Edge to Impact CL	787	706	81
P	Rear Door Trailing Edge to Impact CL	1150	1067	83
Q	Front Window Opening	423	404	19
R	Right Side Length	3480	3481	-1
S	Left Side Length	3480	3448	32
T	Vehicle Width at "B" Post	1743	1587	156

DATA SHEET NO. 7
SID/HII LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2007 Toyota Yaris
 Test Program: NCAP Side Impact

NHTSA No. M75103
 Test Date: 5/30/2006

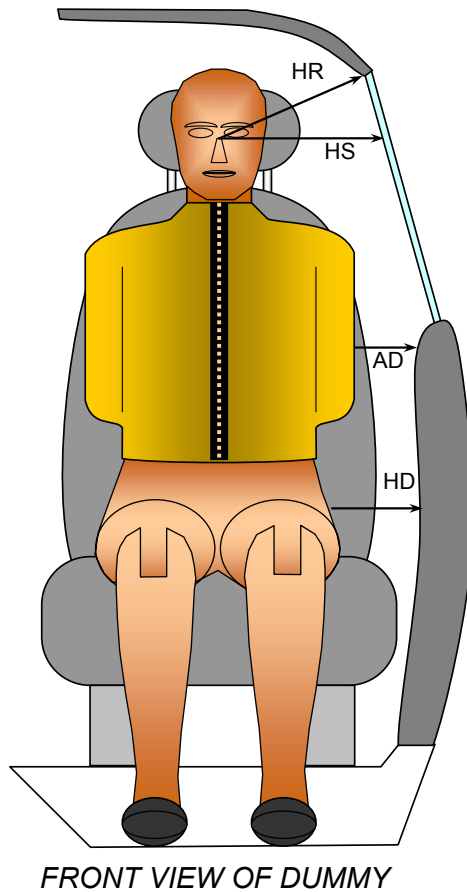


Driver Code	Pass. Code	Measurement Description	Driver S/N 904		Passenger S/N 272	
			Length(mm)	Angle(°)	Length(mm)	Angle(°)
HH		Head to Header	384			
HW		Head to Windshield	624			
HZ	HZ	Head to Roof	146		116	
NR	NB	Nose to Rim/Nose to Seatback	472		576	
CD	CB	Chest to Dash or Seatback	772		507	
CS		Chest to Steering Wheel	364			
KDL	KBL	Left Knee to Dash or Seatback	142	39.8	209	29.4
KDR	KBR	Right Knee to Dash or Seatback	154	26.9	204	28.1
PA	PA	Pelvic Angle		24.3		24.0
PHX	PHX	H-Point to Striker (X-Axis)	215		268	
PHZ	PHZ	H-Point to Striker (Z-Axis)	175		254	

DATA SHEET NO. 8
SID/HIII LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2007 Toyota Yaris
 Test Program: NCAP Side Impact

NHTSA No. M75103
 Test Date: 5/30/2006

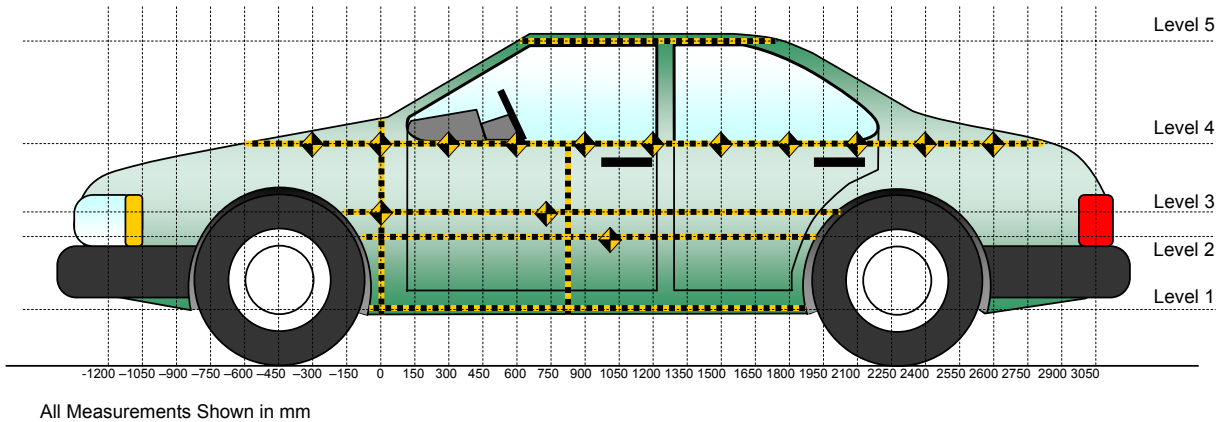


Code	Measurement Description	Units	Driver S/N 904	Passenger S/N 272
HR	Head to Side Header	mm	177	173
HS	Head to Side Window	mm	302	302
AD	Arm to Door	mm	120	121
HD	H-Point to Door	mm	135	156

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

Test Vehicle: 2007 Toyota Yaris
 Test Program: NCAP Side Impact

NHTSA No. M75103
 Test Date: 5/30/2006



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	59	1200	1397
4	Window Sill	163	450	922
3	Mid Door	221	1800	595
2	Occupant H-Point	244	900	508
1	Sill Top	64	900	246
	Maximum Penetration	244		

DATA SHEET NO. 10
VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2007 Toyota Yaris
 Test Program: NCAP Side Impact

NHTSA No. M75103
 Test Date: 5/30/2006

	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-450				314					316					2	
-300				310					327					17	
-150				313					331					18	
0		267	268	317			343	320	338			76	52	21	
150	309	280	275	320		338	465	448	394		29	185	173	74	
300	311	283	272	322		363	514	479	442		52	231	207	120	
450	309	280	272	325		364	519	485	488		55	239	213	163	
600	305	277	268	326	540	364	516	487	484	551	59	239	219	158	11
750	302	275	265	327	531	363	518	478	489	553	61	243	213	162	22
900	300	273	262	330	525	364	517	470	473	530	64	244	208	143	5
1050	300	270	261	329	523	362	511	462	469	547	62	241	201	140	24
1200	302	271	260	331	523	359	449	423	491	582	57	178	163	160	59
1350	302	271	259	334	522	352	465	444	481	533	50	194	185	147	11
1500	302	268	260	339	526	343	470	469	458	472	41	202	209	119	-54
1650	304	268	258	343	530	349	471	466	442	413	45	203	208	99	-117
1800	302	262	258	348	534	302	449	479	441	574	0	187	221	93	40
1950		256	255	354	550		306	396	380	572		50	141	26	22
2100			253	362	567			295	346	587			42	-16	20
2250				370					407					37	
2400				372					396					24	
2550				389					398					9	
2700				411					416					5	
2850				438					443					5	

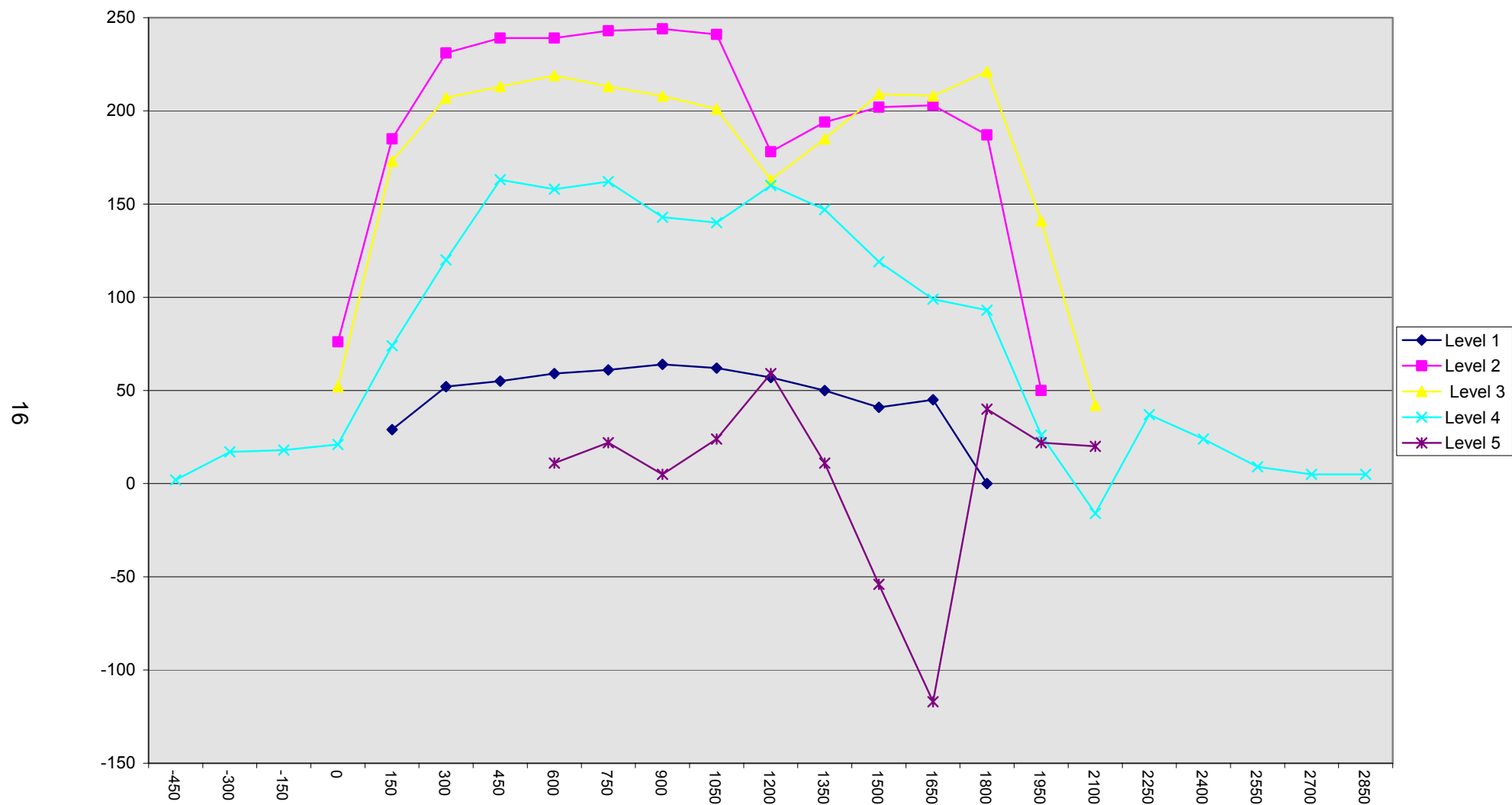
Reference plane is parallel to test vehicle longitudinal centerline.

Given dimensions = Reference plane to car body

DATA SHEET NO. 10... (continued)
VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2007 Toyota Yaris
Test Program: NCAP Side Impact

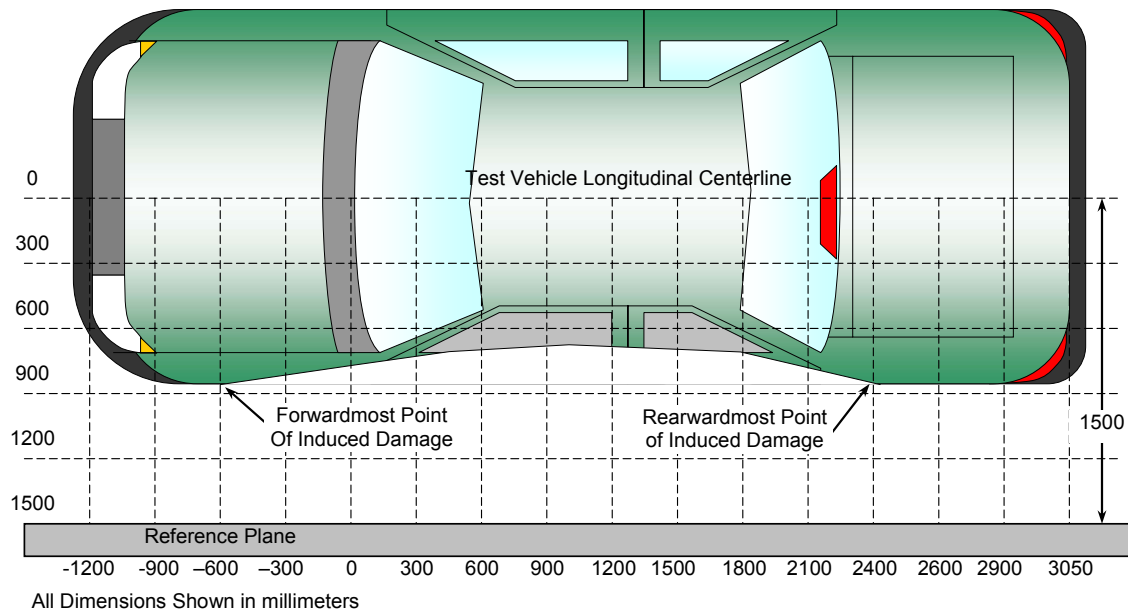
NHTSA No. M75103
Test Date: 5/30/2006



DATA SHEET NO. 11 **VEHICLE DAMAGE PROFILE DISTANCES**

Test Vehicle: 2007 Toyota Yaris
 Test Program: NCAP Side Impact

NHTSA No. M75103
 Test Date: 5/30/2006



TOP VIEW

DAMAGE PROFILE DISTANCES

DPD	Distance from Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max Static Crush (mm)
1	2850	4	438	443	5
2	2199	4	366	411	45
3	1500	3	260	469	209
4	946	2	272	516	244
5	182	2	282	488	206
6	-450	4	314	316	2

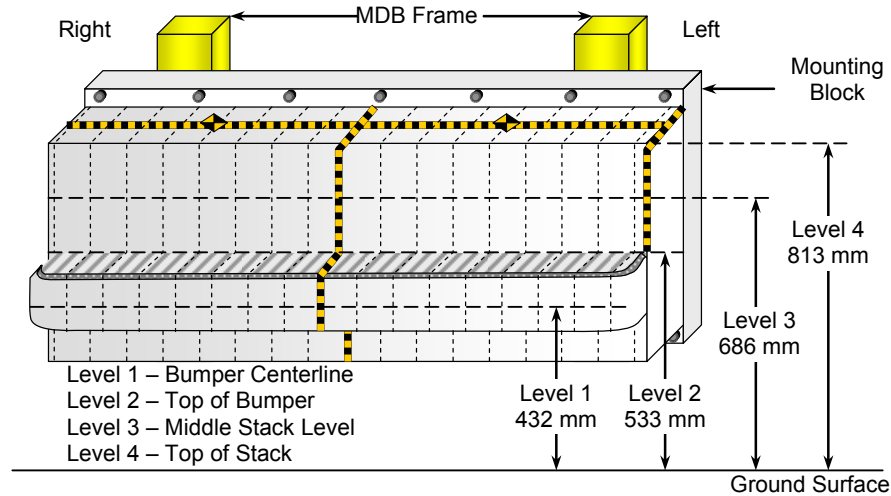
Reference plane is parallel to test vehicle longitudinal centerline.
 Given dimensions = Reference plane to car body.

DATA SHEET NO. 12

DEFORMABLE BARRIER HONEYCOMB FACE STATIC CRUSH

Test Vehicle: 2007 Toyota Yaris
 Test Program: NCAP Side Impact

NHTSA No. M75103
 Test Date: 5/30/2006



DEFORMABLE BARRIER STATIC CRUSH

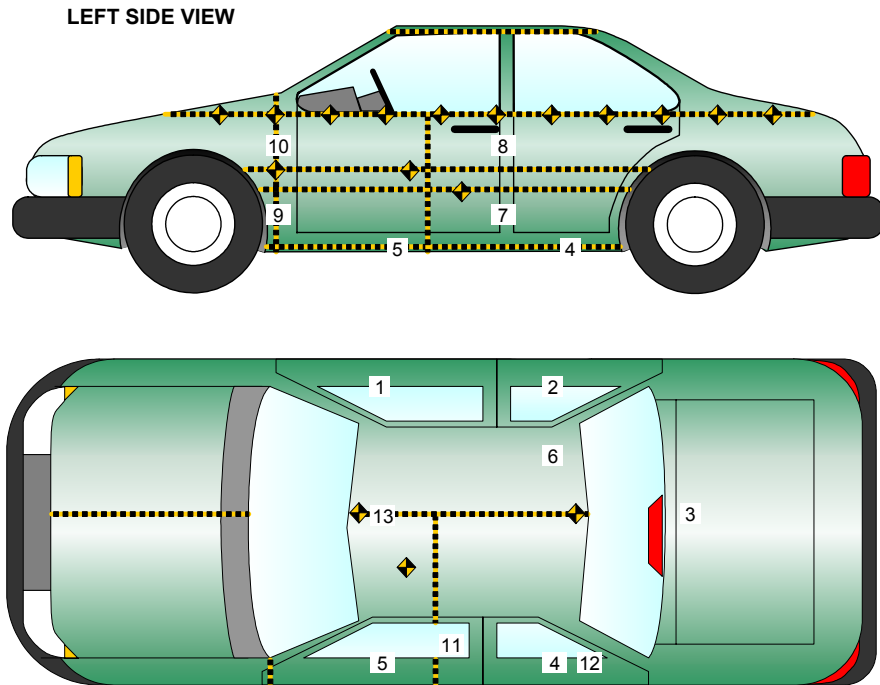
Stack Level	Distance Right of Center								C _L	Distance Left of Center							
	800	700	600	500	400	300	200	100		100	200	300	400	500	600	700	800
1	217	201	180	164	147	137	133	120	118	114	109	107	105	100	101	111	119
2	77	73	58	51	46	41	43	44	44	43	41	40	43	40	41	45	57
3	39	25	21	14	15	26	52	44	25	16	11	12	15	18	23	33	69
4	69	30	8	5	8	20	33	35	22	24	26	31	34	34	43	85	134

All Dimensions in mm

DATA SHEET NO. 13
VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle: 2007 Toyota Yaris
 Test Program: NCAP Side Impact

NHTSA No. M75103
 Test Date: 5/30/2006



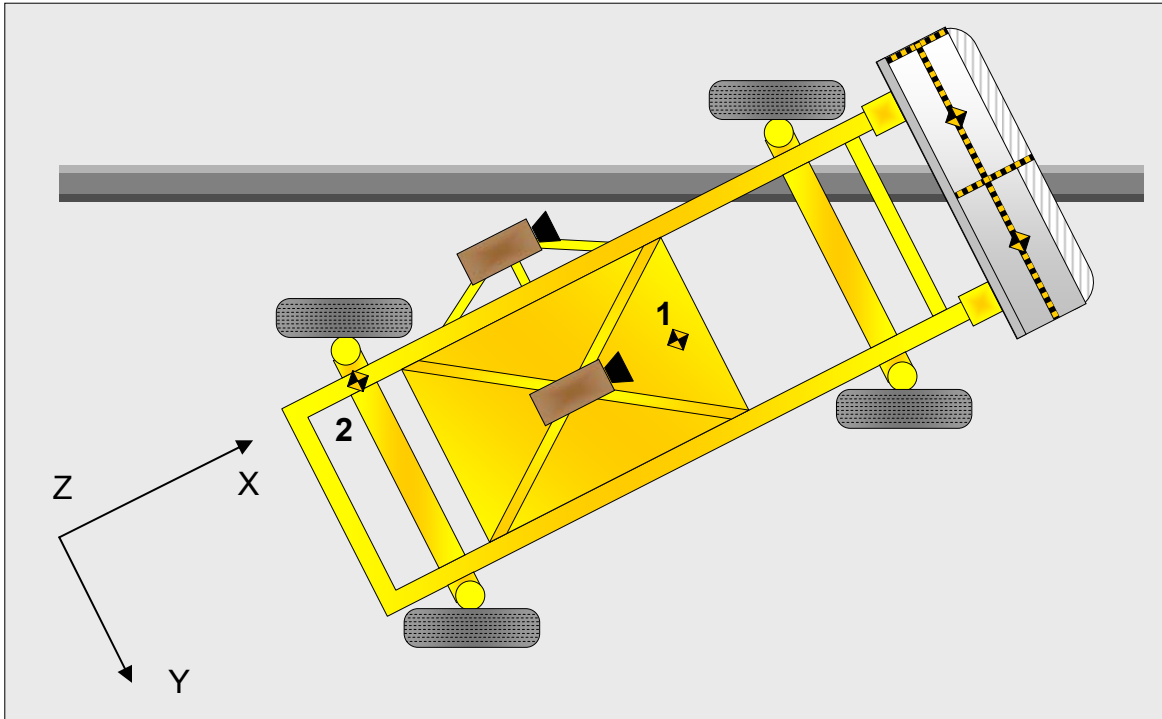
Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Right Sill at Front Seat	1365	687	211
2	Right Sill at Rear Seat	2454	687	205
3	Rear Floorpan Above Axle	845	0	425
4	Left Sill at Rear Door	1355	-687	207
5	Left Sill at Front Door	2400	-687	212
6	Rear Occupant Compartment	1768	308	224
7	Left Lower B-Post	1876	-687	423
8	Left Middle B-Post	1903	-682	808
9	Left Lower A-Post	2949	-687	504
10	Left Middle A-Post	3022	-788	725
11	Front Seat Track			
12	Rear Seat Track or Structure			
13	Vehicle CG	2027	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 Toyota Yaris
 Test Program: NCAP Side Impact

NHTSA No. M75103
 Test Date: 5/30/2006



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 Toyota Yaris
Test Program: NCAP Side Impact

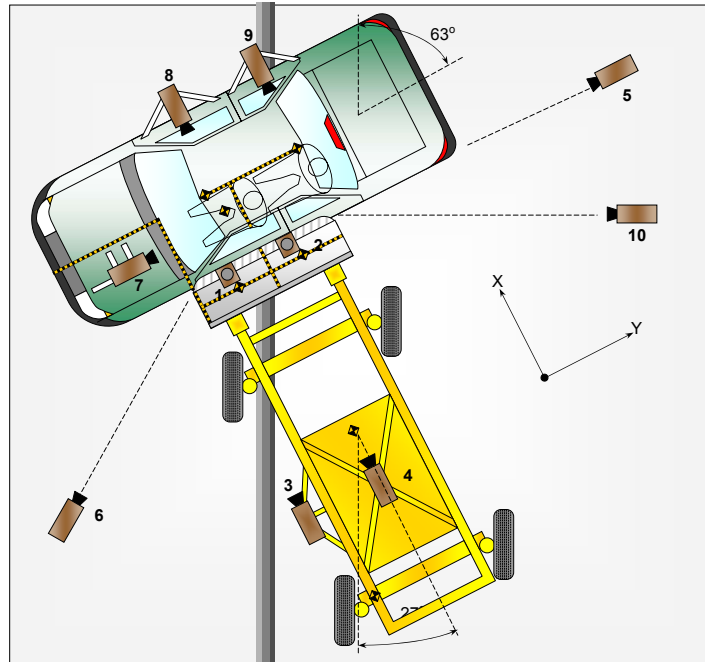
NHTSA No. M75103
Test Date: 5/30/2006

	Elements	Pre-Test (mm)
1	Total Length	4265
2	Total Width	1695
3	Bumper Top Height	539
4	Bumper Bottom Height	400
5	Longitudinal Member Top Height	531
6	Distance between Longitudinal Members	836
7	Longitudinal Member Width	58
8	Engine Top Height	775
9	Engine Bottom Height	205
10	Engine and gearbox width	830
11	Front bumper-engine distance	445
12	Front shock absorber fixing height	927
13	Bonnet leading edge height	854
14	Front shock absorber fixing width	1133
15	Front bumper – front axle distance	842
16	Front axle – a pillar distance	377
17	A-pillar – B-pillar distance	1090
18	B-Pillar – rear axle distance	1083
19	B-pillar – C-pillar distance	920
20	Roof sill bottom height	1423
21	Roof sill top height	1453
22	Floor sill bottom height	238
23	Floor sill top height	307

DATA SHEET NO. 16
HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2007 Toyota Yaris
 Test Program: NCAP Side Impact

NHTSA No. M75103
 Test Date: 5/30/2006



No.	Camera View	Location (mm)			Lens (mm)	Film Speed (fps)
		X	Y	Z		
1	Overhead Close-up	685	0	4840	50	1000
2	Overhead Overall	-1320	1155	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	-2785	6195	1375	24	1000
6	Left Side, Ground Level, Overall	2000	-3585	1400	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 Toyota Yaris
 Test Program: NCAP Side Impact

NHTSA No. M75103
 Test Date: 5/30/2006

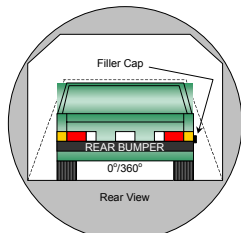
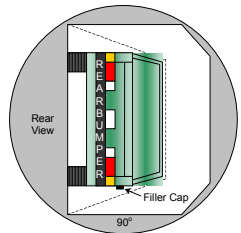
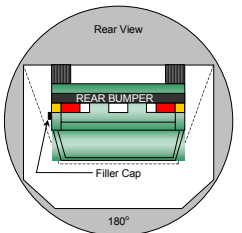
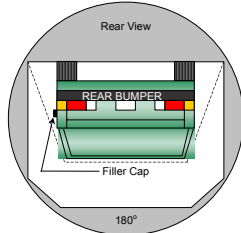
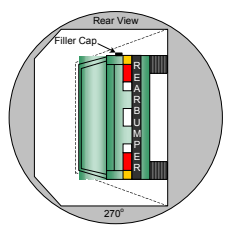
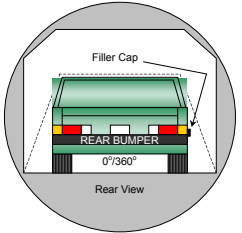
FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Temperature at Time of Impact: 21° C Test Time: 12:14 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°	121	300	First 5	0
90° to 180°	113	300	First 5	0
180° to 270°	120	300	First 5	0
270° to 360°	114	300	First 5	0

APPENDIX A
PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

	<u>Page No.</u>
Photo No. 1. Left Front $\frac{3}{4}$ View, As Received	A-1
Photo No. 2. Right Rear $\frac{3}{4}$ View, As Received	A-1
Photo No. 3. Manufacturer's Label	A-2
Photo No. 4. Tire Placard	A-2
Photo No. 5. Pre-Test Front View	A-3
Photo No. 6. Post-Test Front View	A-3
Photo No. 7. Pre-Test Left Front $\frac{3}{4}$ View	A-4
Photo No. 8. Post-Test Left Front $\frac{3}{4}$ View	A-4
Photo No. 9. Pre-Test Left Side View	A-5
Photo No. 10. Post-Test Left Side View	A-5
Photo No. 11. Pre-Test Left Rear $\frac{3}{4}$ View	A-6
Photo No. 12. Post-Test Left Rear $\frac{3}{4}$ View	A-6
Photo No. 13. Pre-Test Rear View	A-7
Photo No. 14. Post-Test Rear View	A-7
Photo No. 15. Pre-Test Right Rear $\frac{3}{4}$ View	A-8
Photo No. 16. Post-Test Right Rear $\frac{3}{4}$ View	A-8
Photo No. 17. Pre-Test Right Side View	A-9
Photo No. 18. Post-Test Right Side View	A-9
Photo No. 19. Pre-Test Right Front $\frac{3}{4}$ View	A-10
Photo No. 20. Post-Test Right Front $\frac{3}{4}$ View	A-10
Photo No. 21. Pre-Test Overhead View	A-11
Photo No. 22. Pre-Test Overhead Close-up View	A-12
Photo No. 23. Post-Test Overhead Close-up View	A-12
Photo No. 24. Pre-Test Left Impact Point	A-13
Photo No. 25. Post-Test Left Impact Point	A-13
Photo No. 26. Pre-Test Front $\frac{3}{4}$ View of Left Side Door	A-14
Photo No. 27. Post-Test Front $\frac{3}{4}$ View of Left Side Door	A-14
Photo No. 28. Pre-Test Rear $\frac{3}{4}$ View of Left Side Door	A-15
Photo No. 29. Post-Test Rear $\frac{3}{4}$ View of Left Side Door	A-15

	<u>Page No.</u>
Photo No. 30. Pre-Test Left Side Impact Close-up	A-16
Photo No. 31. Post-Test Left Side Impact Close-up	A-16
Photo No. 32. Pre-Test Driver Dummy (Through Window)	A-17
Photo No. 33. Post-Test Driver Dummy (Through Window)	A-17
Photo No. 34. Pre-Test Driver Dummy Clearance From Door	A-18
Photo No. 35. Post-Test Driver Dummy Clearance From Door	A-18
Photo No. 36. Pre-Test Driver Dummy Right Side View	A-19
Photo No. 37. Post-Test Driver Dummy Right Side View	A-19
Photo No. 38. Pre-Test Passenger Dummy (Door Open)	A-20
Photo No. 39. Pre-Test Passenger Dummy (Through Window)	A-21
Photo No. 40. Post-Test Passenger Dummy (Through Window)	A-21
Photo No. 41. Pre-Test Passenger Dummy Clearance From Door	A-22
Photo No. 42. Post-Test Passenger Dummy Clearance From Door	A-22
Photo No. 43. Pre-Test Passenger Dummy Right Side View	A-23
Photo No. 44. Post-Test Passenger Dummy Right Side View	A-23
Photo No. 45. Pre-Test Front View of Deformable Barrier	A-24
Photo No. 46. Post-Test Front View of Deformable Barrier	A-24
Photo No. 47. Pre-Test Top View of Deformable Barrier	A-25
Photo No. 48. Post-Test Top View of Deformable Barrier	A-25
Photo No. 49. Pre-Test Right Side View of Deformable Barrier	A-26
Photo No. 50. Post-Test Right Side View of Deformable Barrier	A-26
Photo No. 51. Pre-Test Left Side View of Deformable Barrier	A-27
Photo No. 52. Post-Test Left Side View of Deformable Barrier	A-27
Photo No. 53. Vehicle on Rollover Device (90 Degrees)	A-28
Photo No. 54. Vehicle on Rollover Device (180 Degrees)	A-28
Photo No. 55. Vehicle on Rollover Device (270 Degrees)	A-29
Photo No. 56. Vehicle on Rollover Device (360 Degrees)	A-29
Photo No. 57. Vehicle Impact	A-30
Photo No. 58. Post-Test Driver Dummy Head Contact	A-31
Photo No. 59. Post-Test Driver Dummy Torso Contact	A-31
Photo No. 60. Post-Test Driver Dummy Contact	A-32

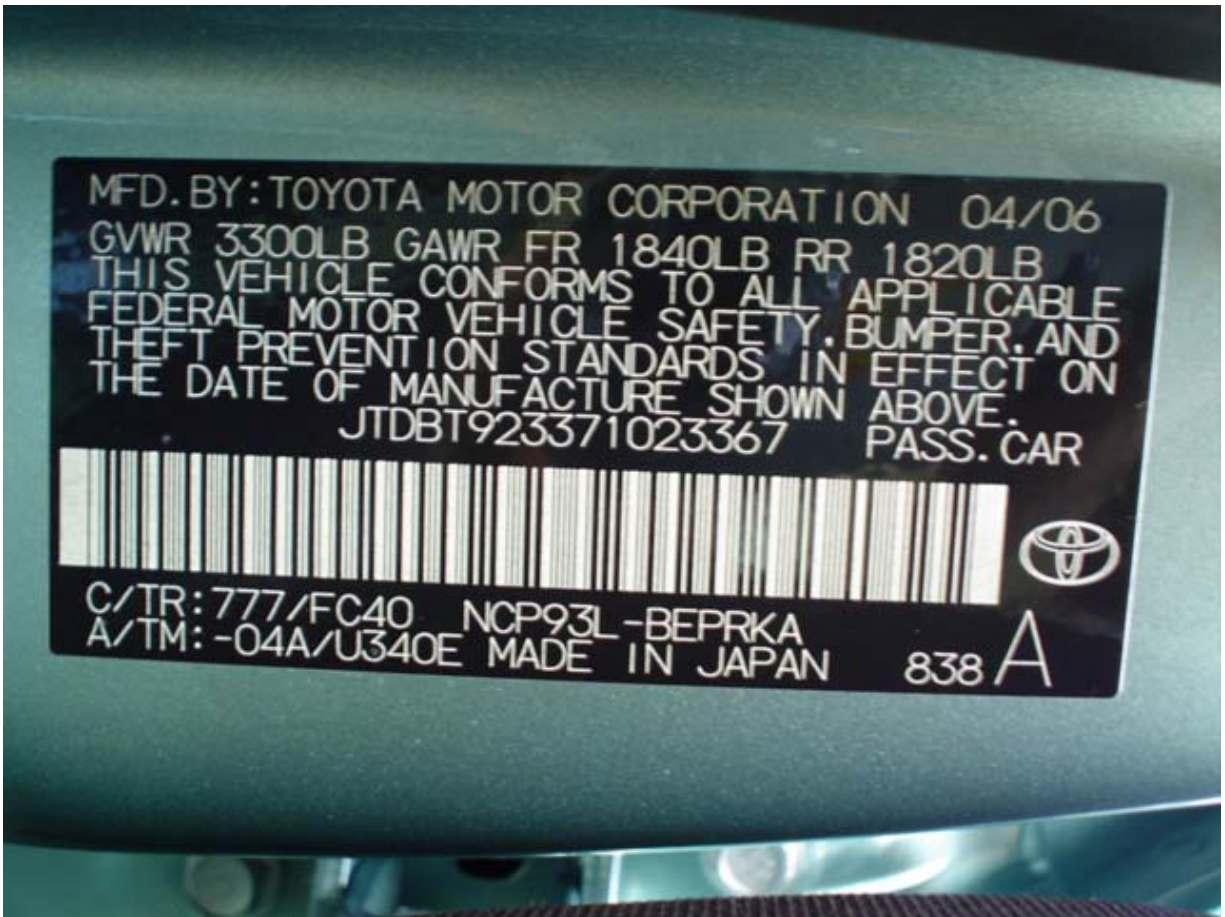
	<u>Page No.</u>
Photo No. 61. Post-Test Passenger Dummy Head Contact	A-33
Photo No. 62. Post-Test Passenger Dummy Torso Contact	A-33
Photo No. 63. Post-Test Passenger Dummy Contact	A-34



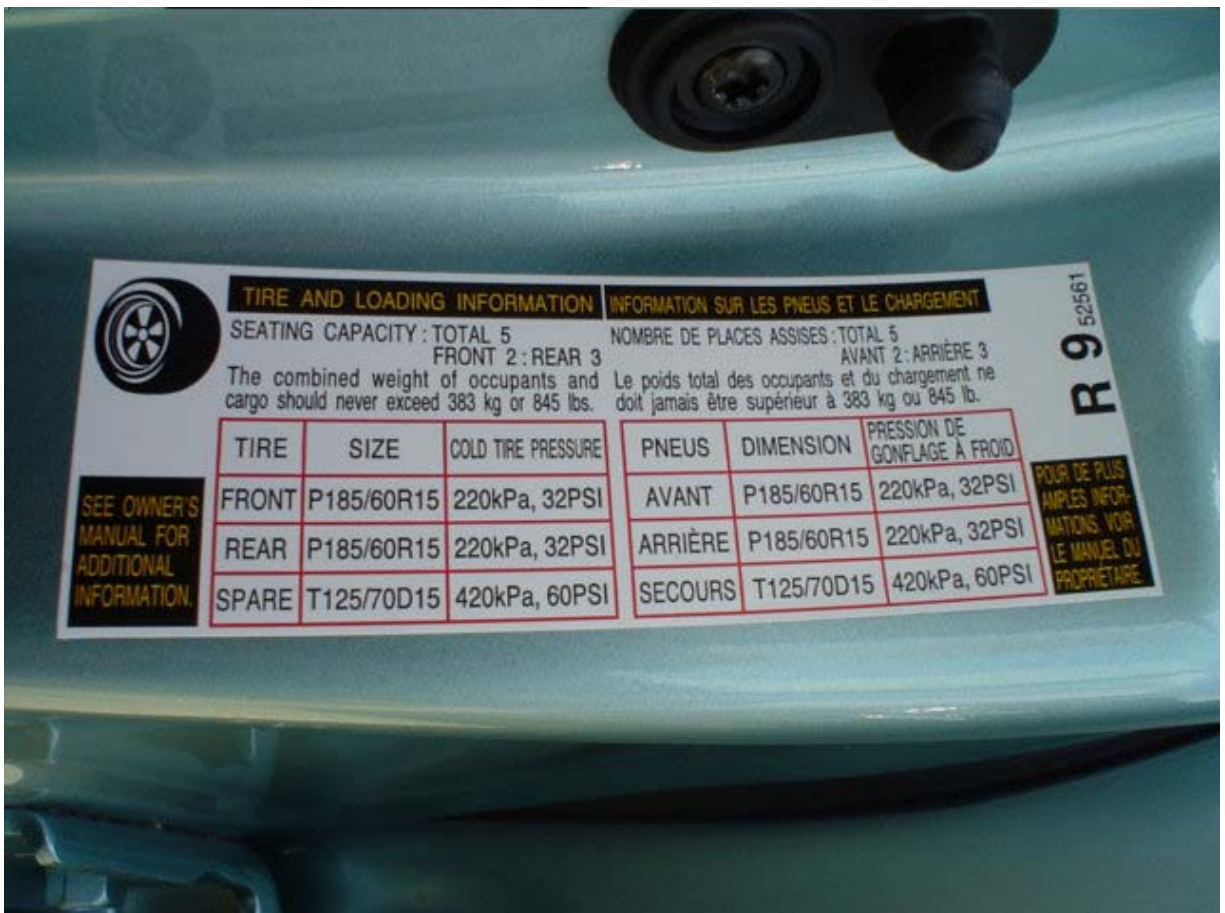
Left Front $\frac{3}{4}$ View, As Received



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



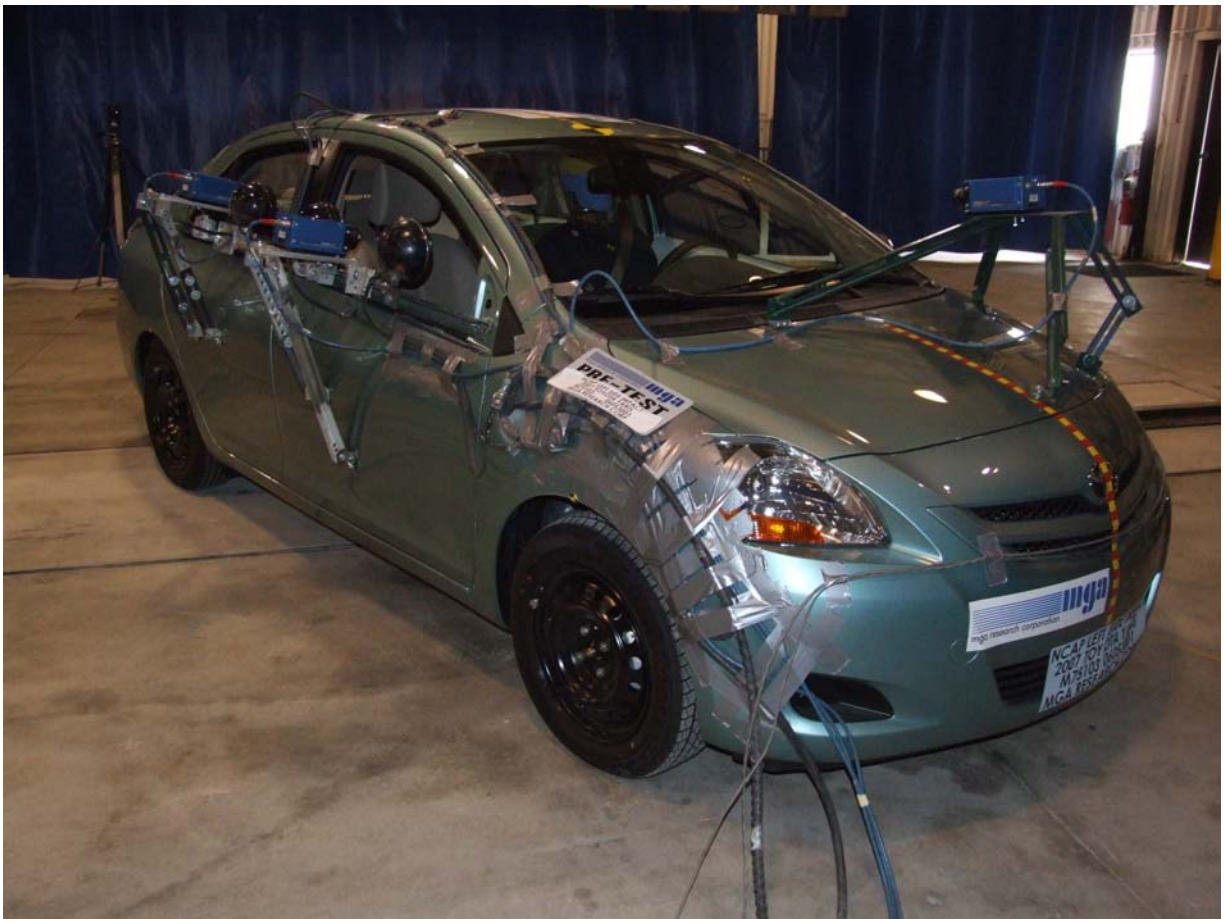
Post-Test Right Rear $\frac{3}{4}$ View



Pre-Test Right Side View



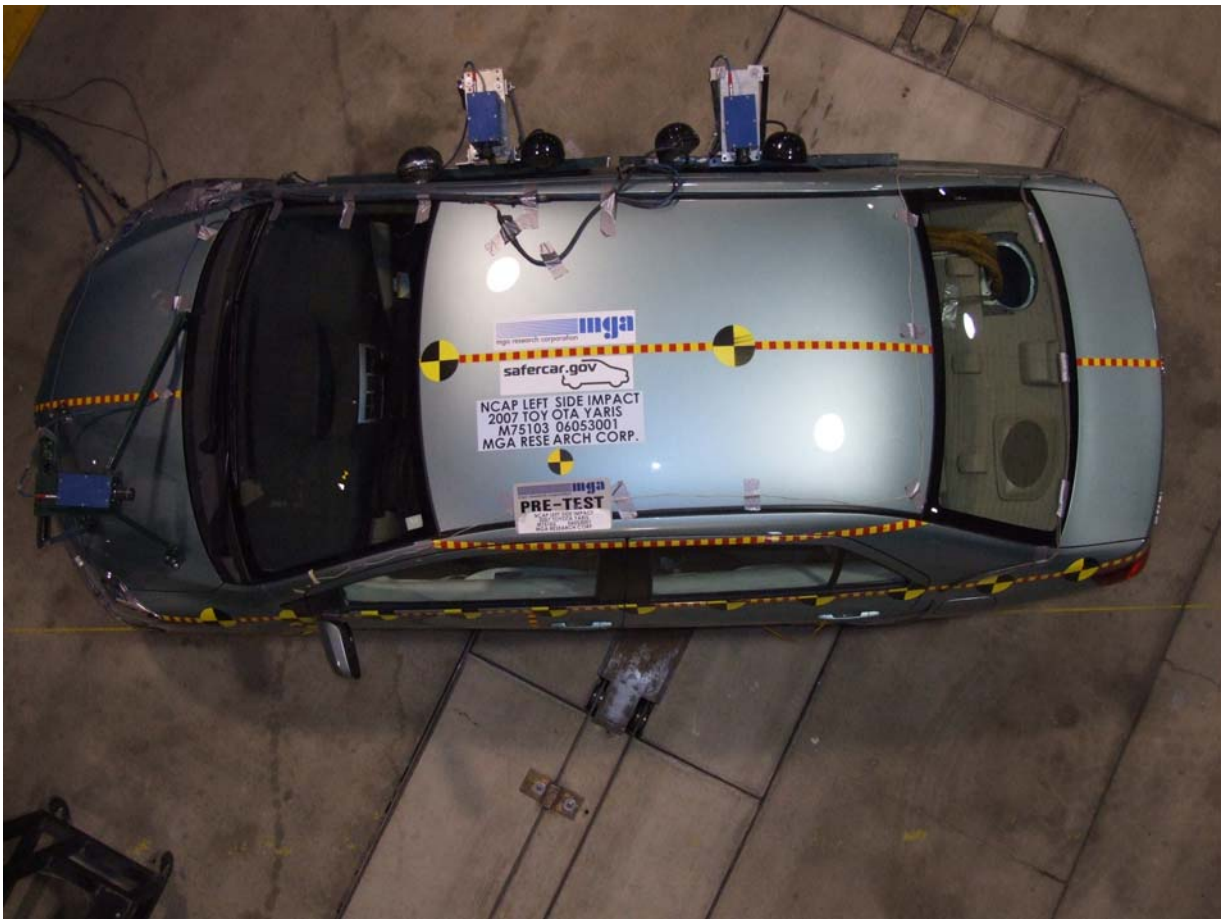
Post-Test Right Side View



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



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



Pre-Test Overhead View



Pre-Test Overhead Close-up View



Post-Test Overhead Close-up View



Pre-Test Left Impact Point



Post-Test Left Impact Point



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 Left Side Impact Close-up



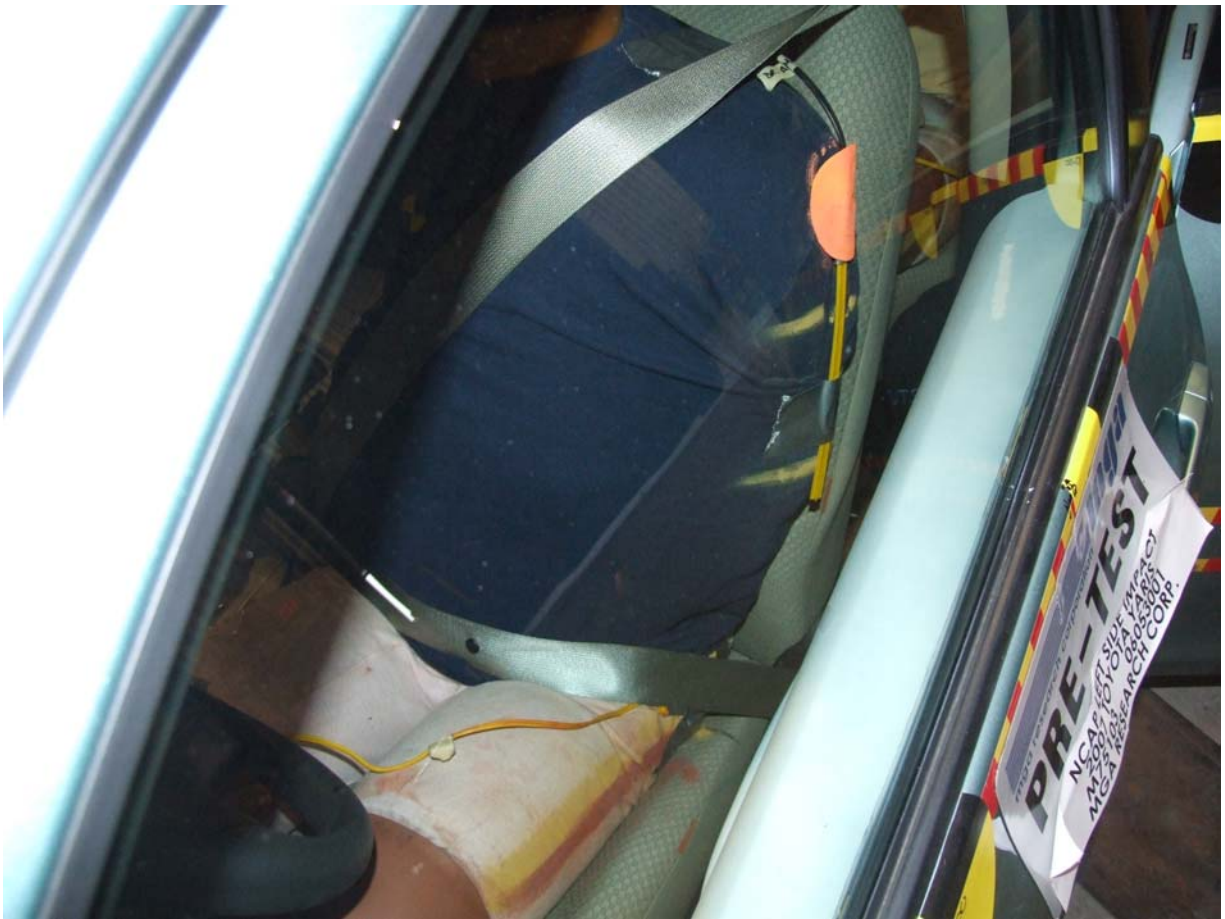
Post-Test Left Side Impact Close-up



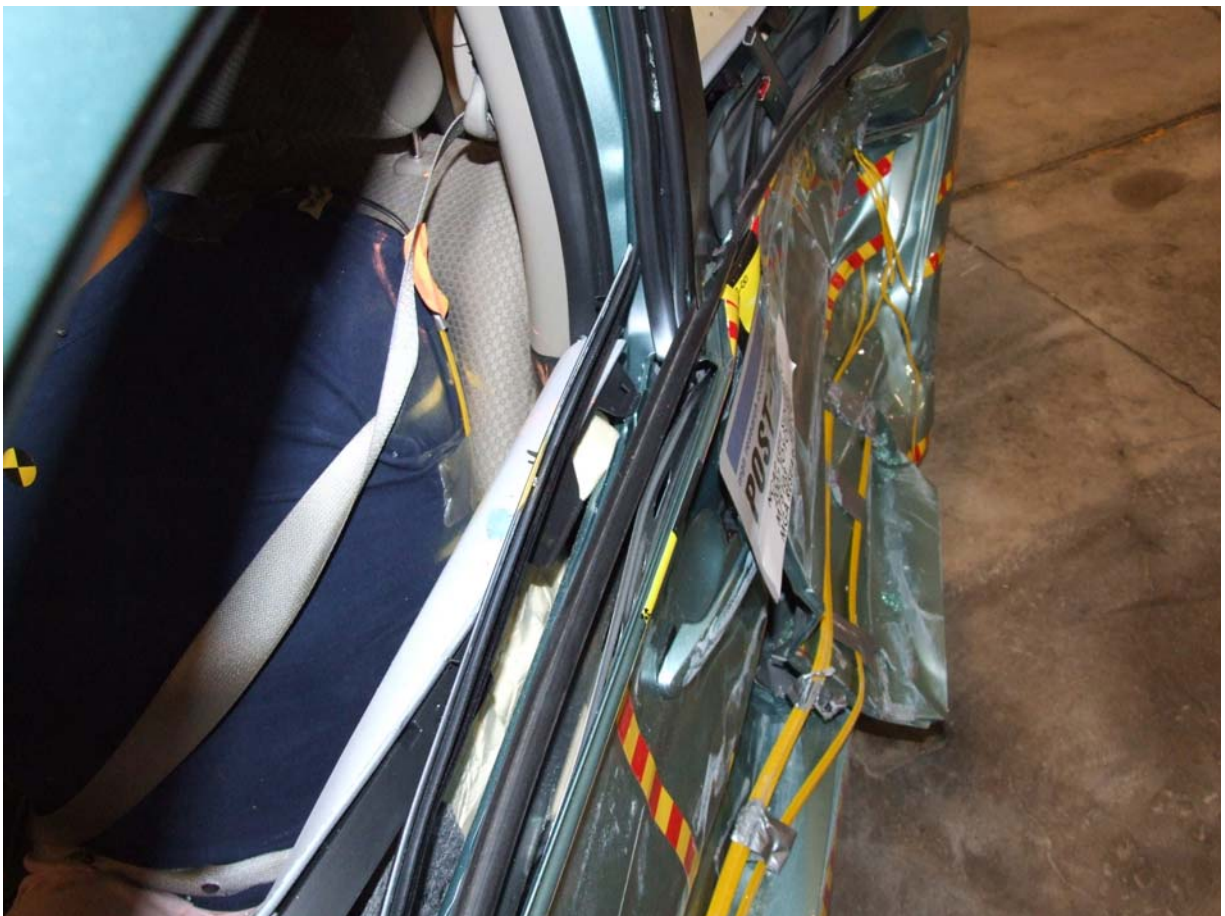
Pre-Test Driver Dummy (Through Window)



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



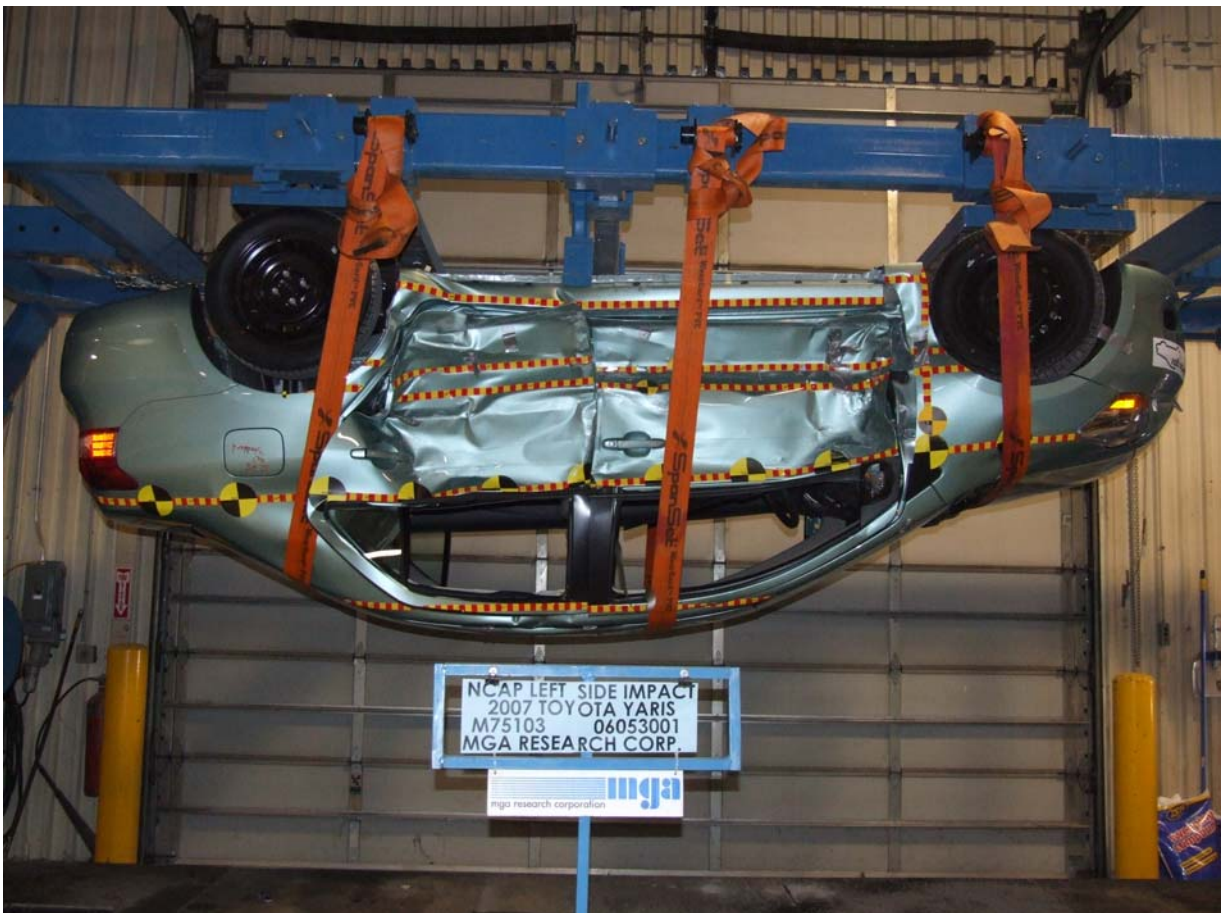
Pre-Test Left Side View of Deformable Barrier



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)



100,00 ms • 30 May 2006 12:15 • T0: 21 • 1,000 fps • Frame: 121

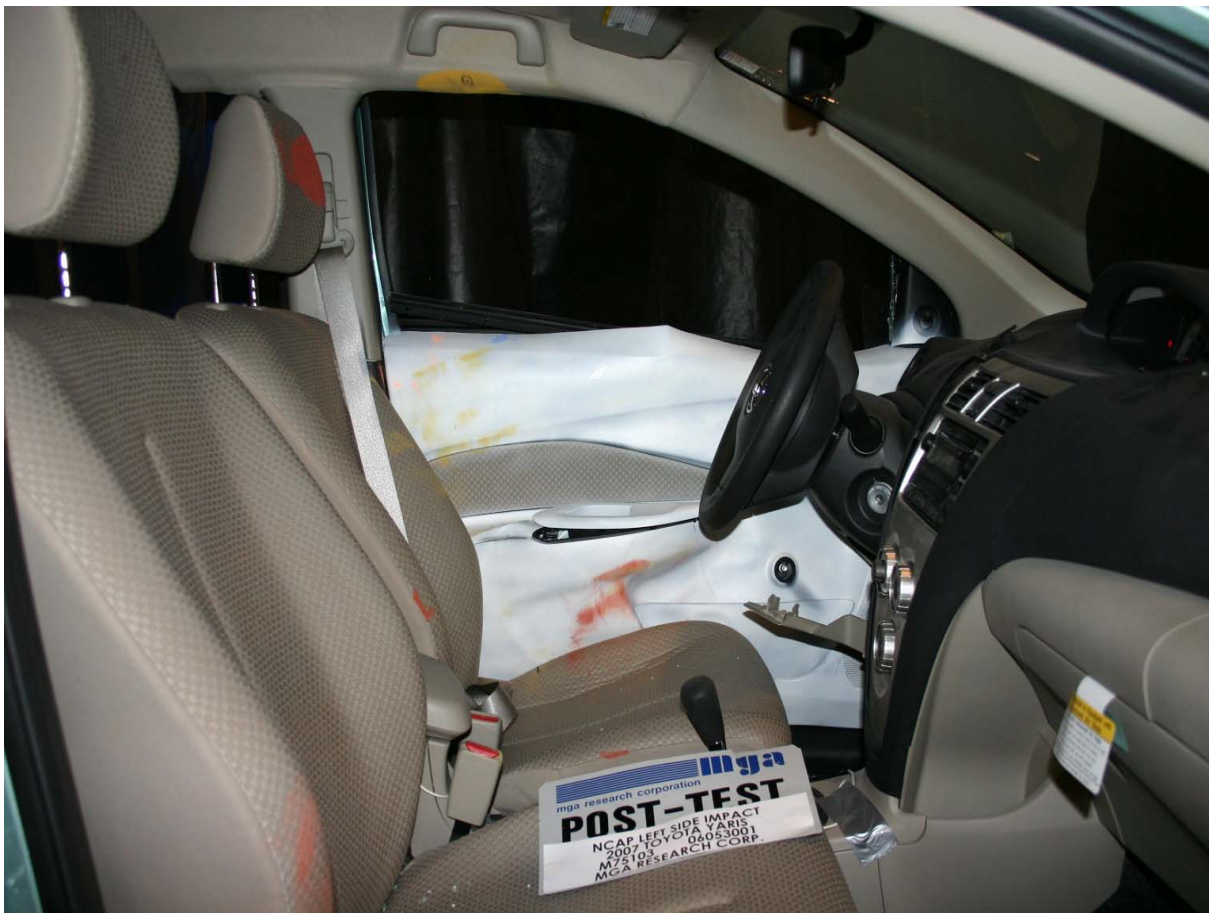
Vehicle Impact



Post-Test Driver Dummy Head Contact



Post-Test Driver Dummy Torso Contact



Post-Test Driver Dummy 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

TABLE OF DATA PLOTS

Page No.

List of Data Plots Provided in the Test Report

Figure No. 1.	Driver Upper Rib Y Acceleration vs. Time	B-1
Figure No. 2.	Driver Upper Rib Y Velocity vs. Time	B-1
Figure No. 3.	Driver Lower Rib Y Acceleration vs. Time	B-1
Figure No. 4.	Driver Lower Rib Y Velocity vs. Time	B-1
Figure No. 5.	Driver Lower Spine Y Acceleration vs. Time	B-2
Figure No. 6.	Driver Lower Spine Y Velocity vs. Time	B-2
Figure No. 7.	Driver Pelvis Y Acceleration vs. Time	B-2
Figure No. 8.	Driver Pelvis Y Velocity vs. Time	B-2
Figure No. 9.	Passenger Upper Rib Y Acceleration vs. Time	B-3
Figure No. 10.	Passenger Upper Rib Y Velocity vs. Time	B-3
Figure No. 11.	Passenger Lower Rib Y Acceleration vs. Time	B-3
Figure No. 12.	Passenger Lower Rib Y Velocity vs. Time	B-3
Figure No. 13.	Passenger Lower Spine Y Acceleration vs. Time	B-4
Figure No. 14.	Passenger Lower Spine Y Velocity vs. Time	B-4
Figure No. 15.	Passenger Pelvis Y Acceleration vs. Time	B-4
Figure No. 16.	Passenger Pelvis Y Velocity vs. Time	B-4

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

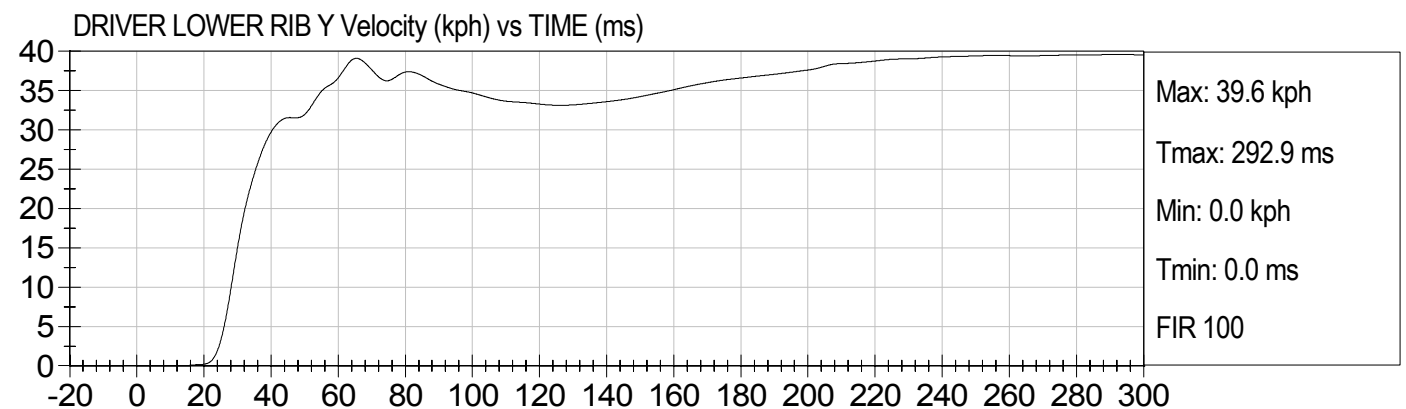
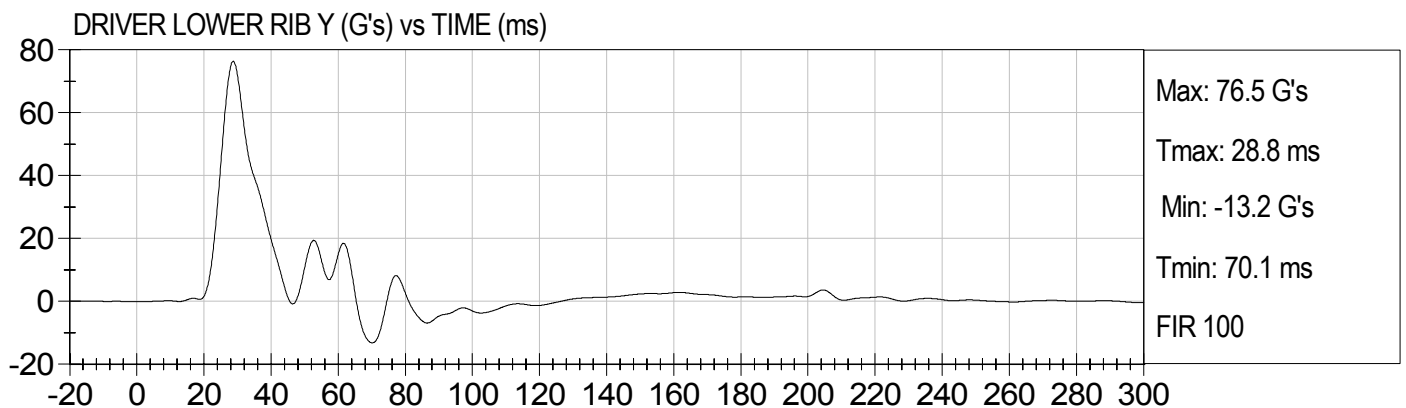
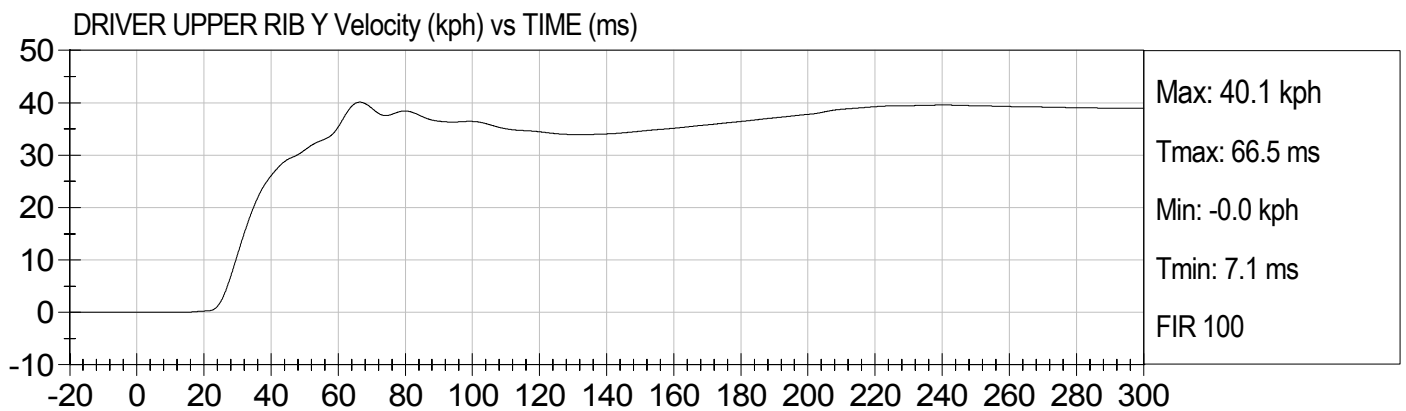
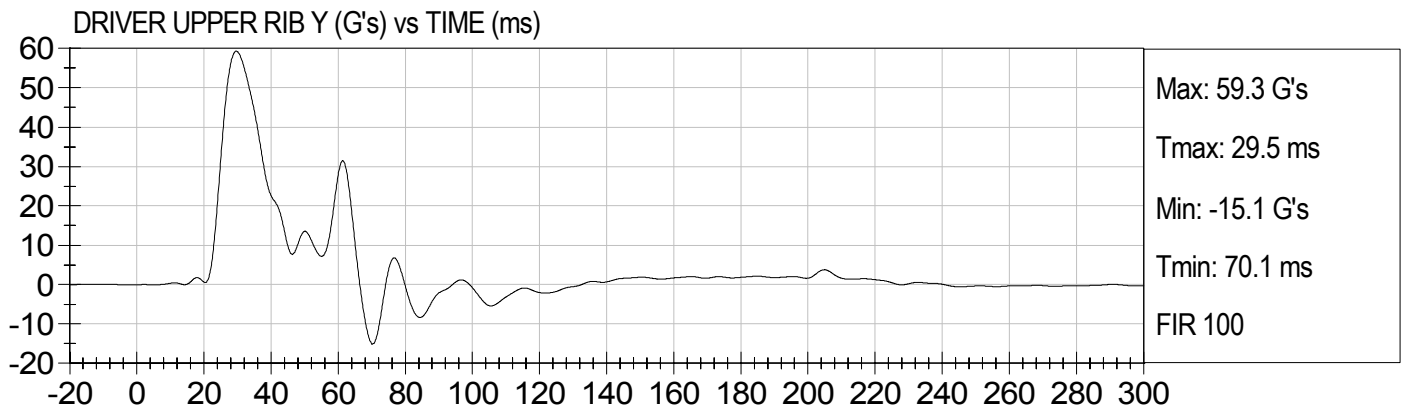
Driver Upper Neck Force Y

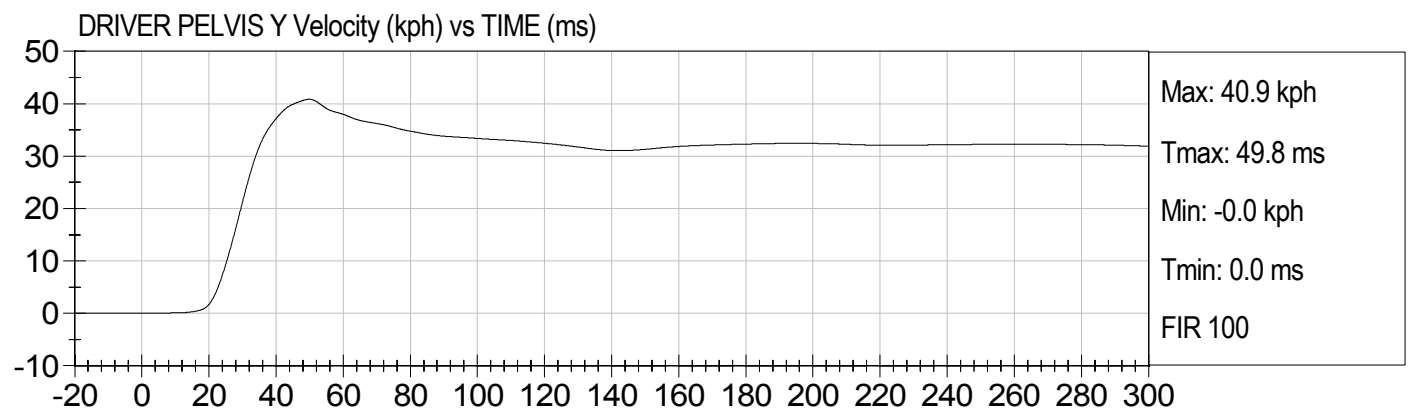
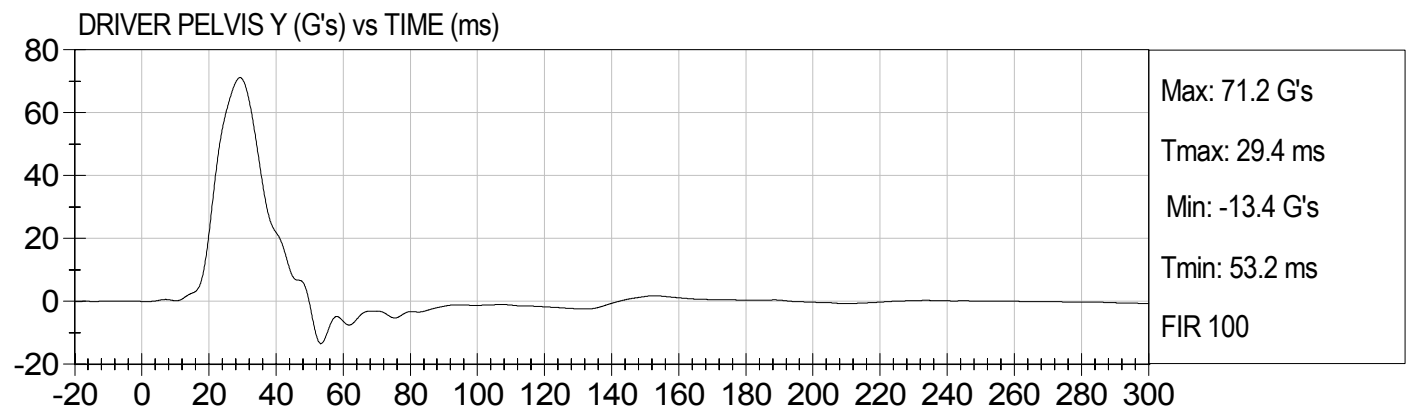
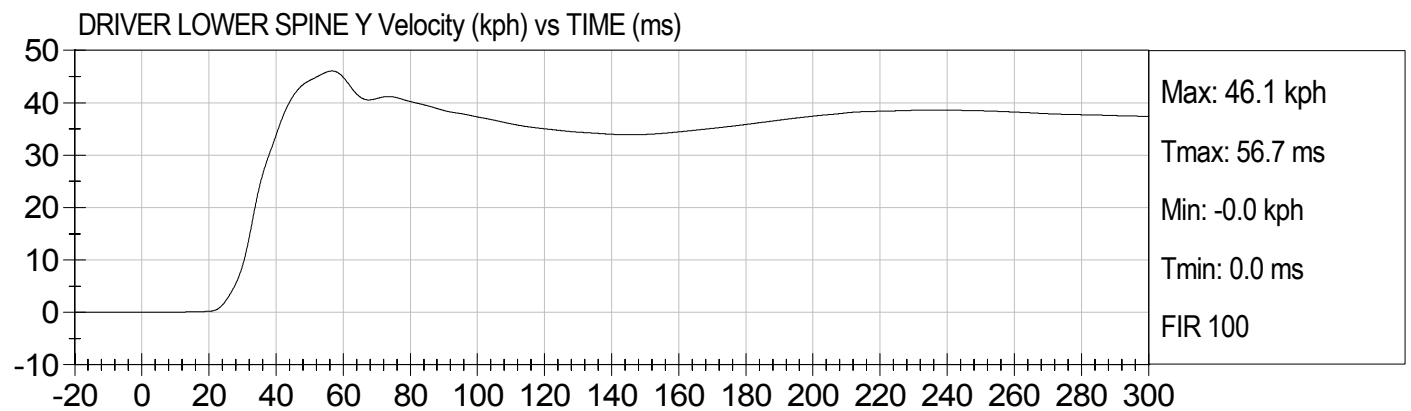
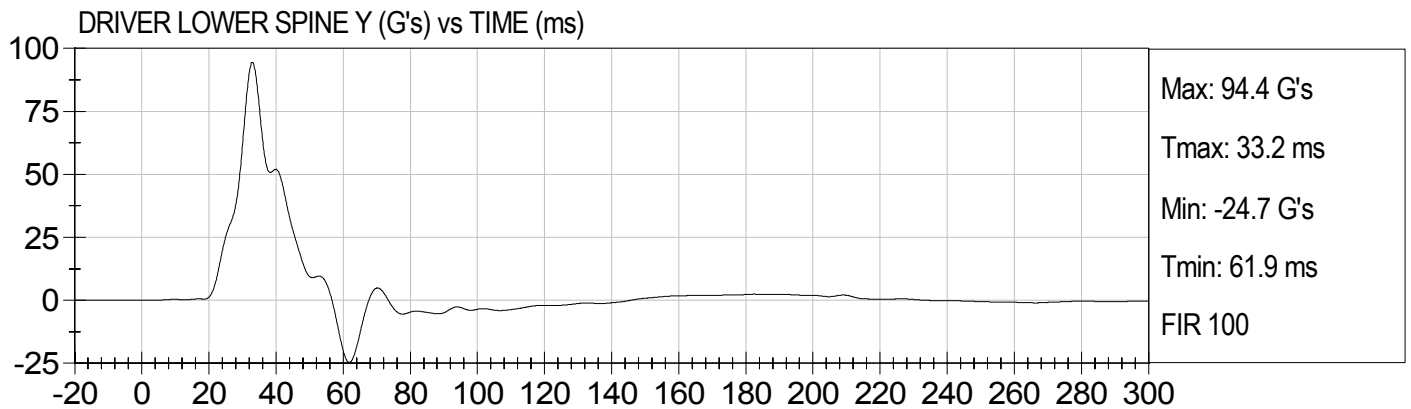
Driver Upper Neck Force Z

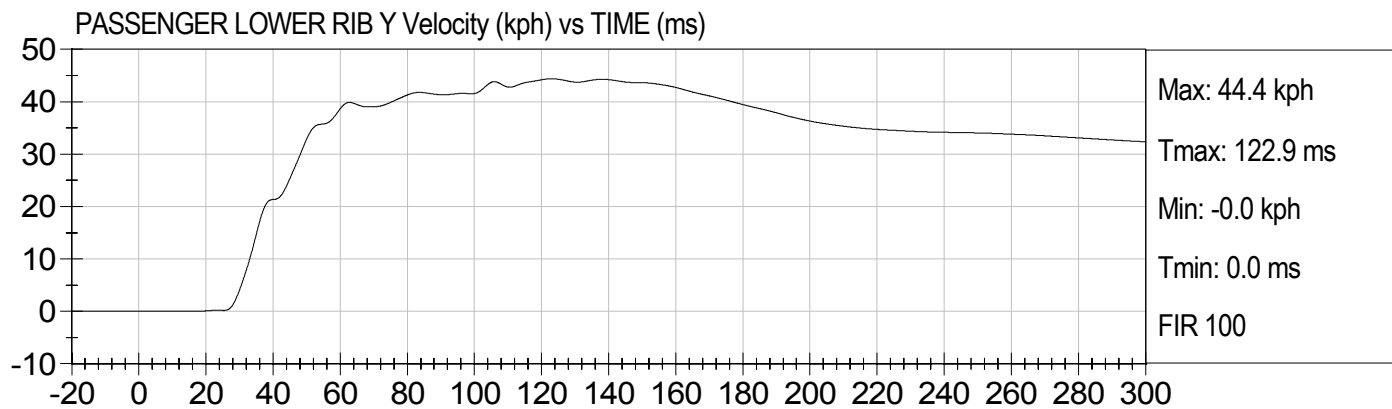
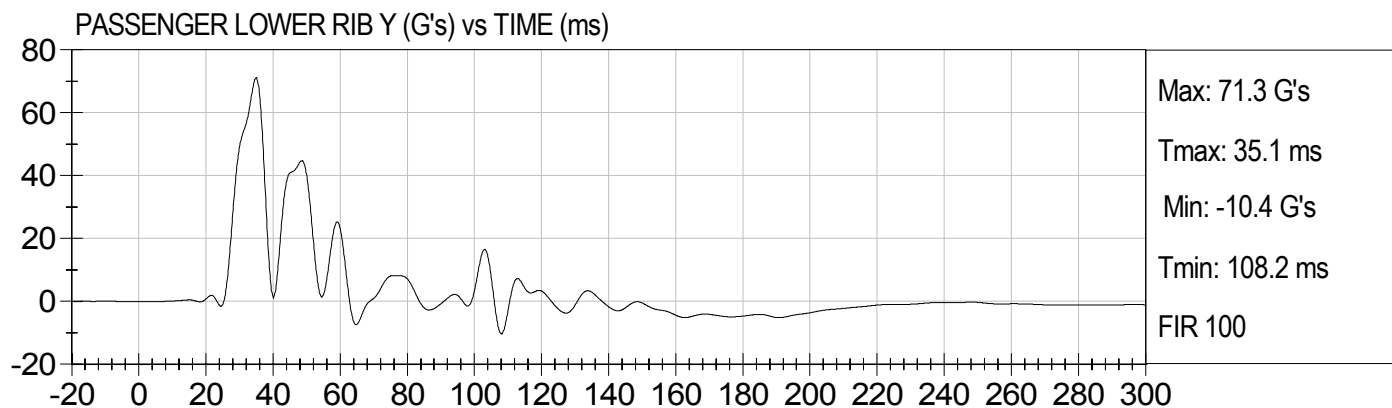
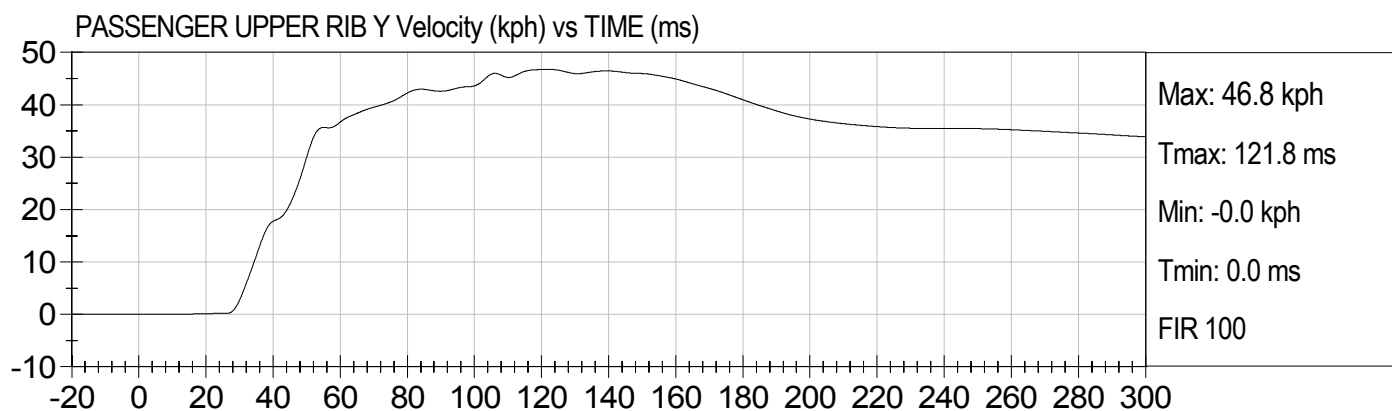
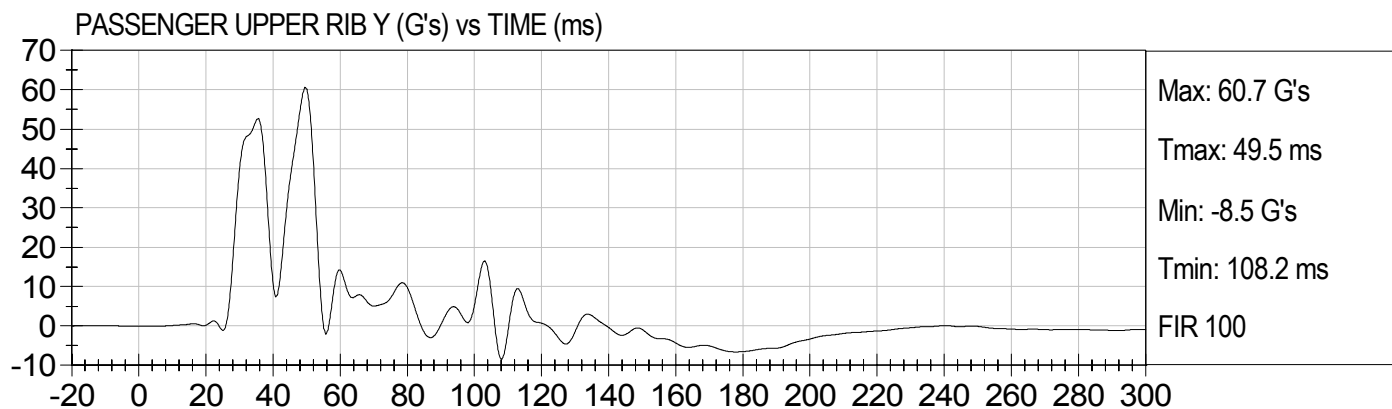
Driver Upper Neck Moment X

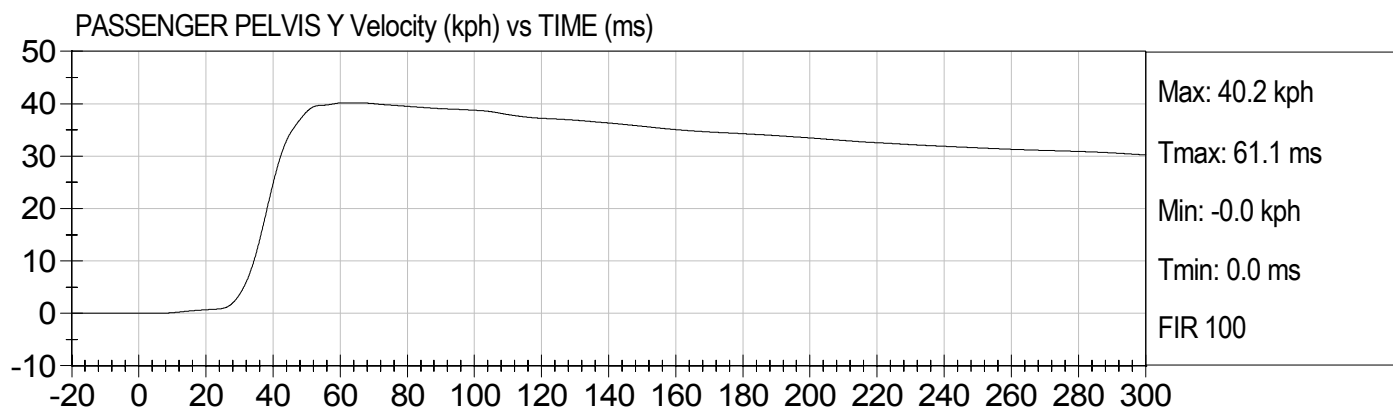
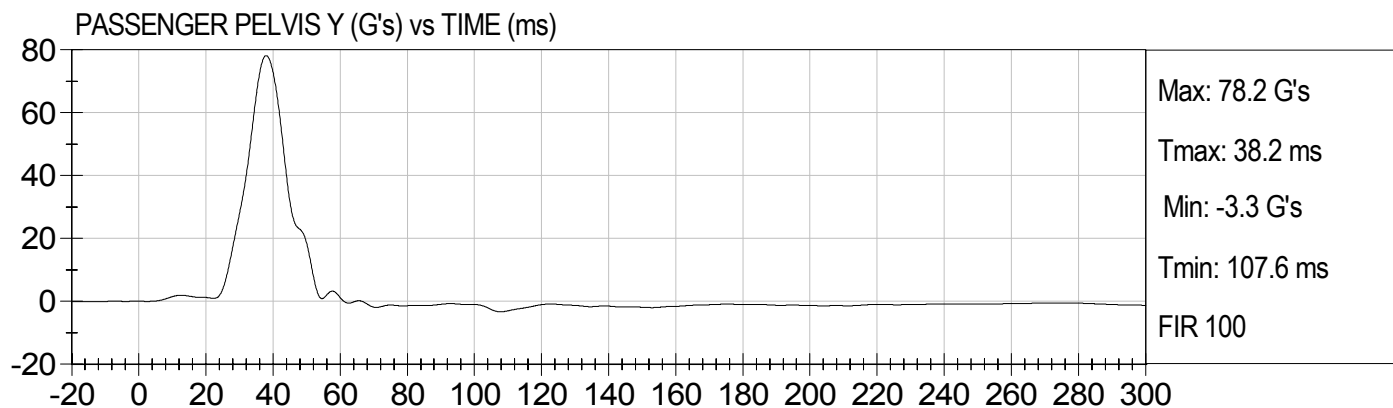
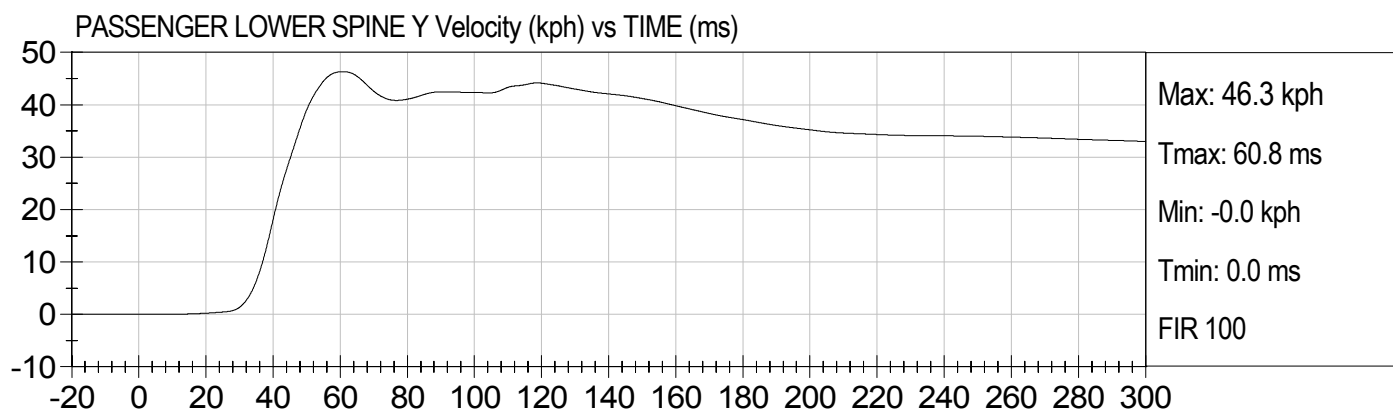
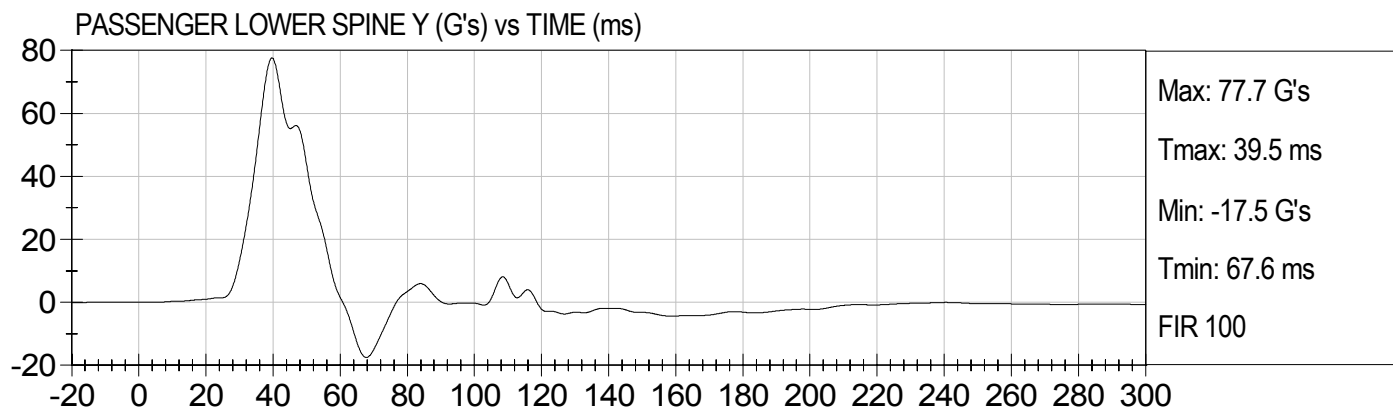
Driver Upper Neck Moment Y
Driver Upper Neck Moment Z
Driver Upper Rib Redundant Y
Driver Lower Rib Redundant Y
Driver Lower Spine Redundant Y
Driver Pelvis Redundant Y
Driver Thorax Contact
Driver Pelvis Contact
Passenger Head X Primary
Passenger Head Y Primary
Passenger Head Z Primary
Passenger Head 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: 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	


Laboratory Technician

05/09/2006

Test Date


Approved By

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

ATD Serial No: 904

Test I.D: D061481

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	29	Pass
Peak Resultant Acceleration	G's	120 to 150	133	Pass
Is Resultant Curve Unimodal?	Yes/No	15% of peak	Yes	Pass
Peak Longitudnal Acceleration	G's	+/- 15	-9	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

05/23/2006

Test Date

David Winkelbauer
Approved By



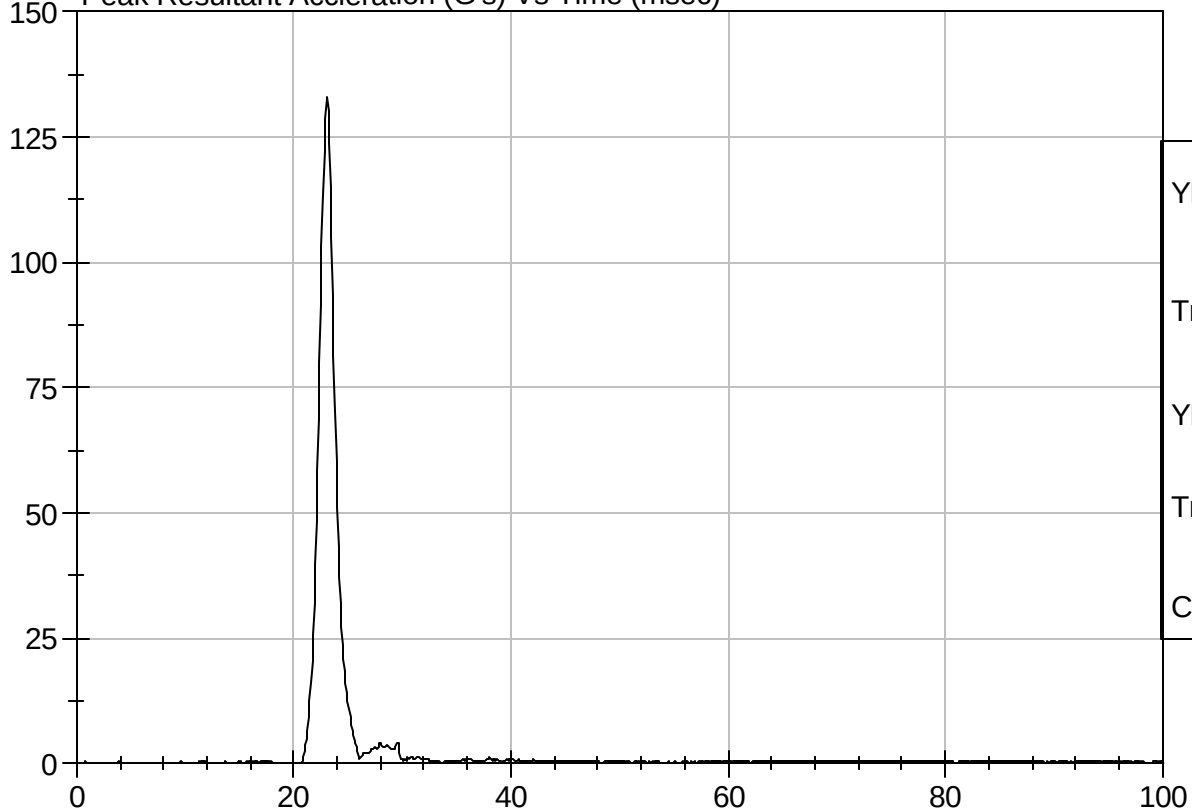
Test Description: Head Drop

Test Date: 05/23/2006

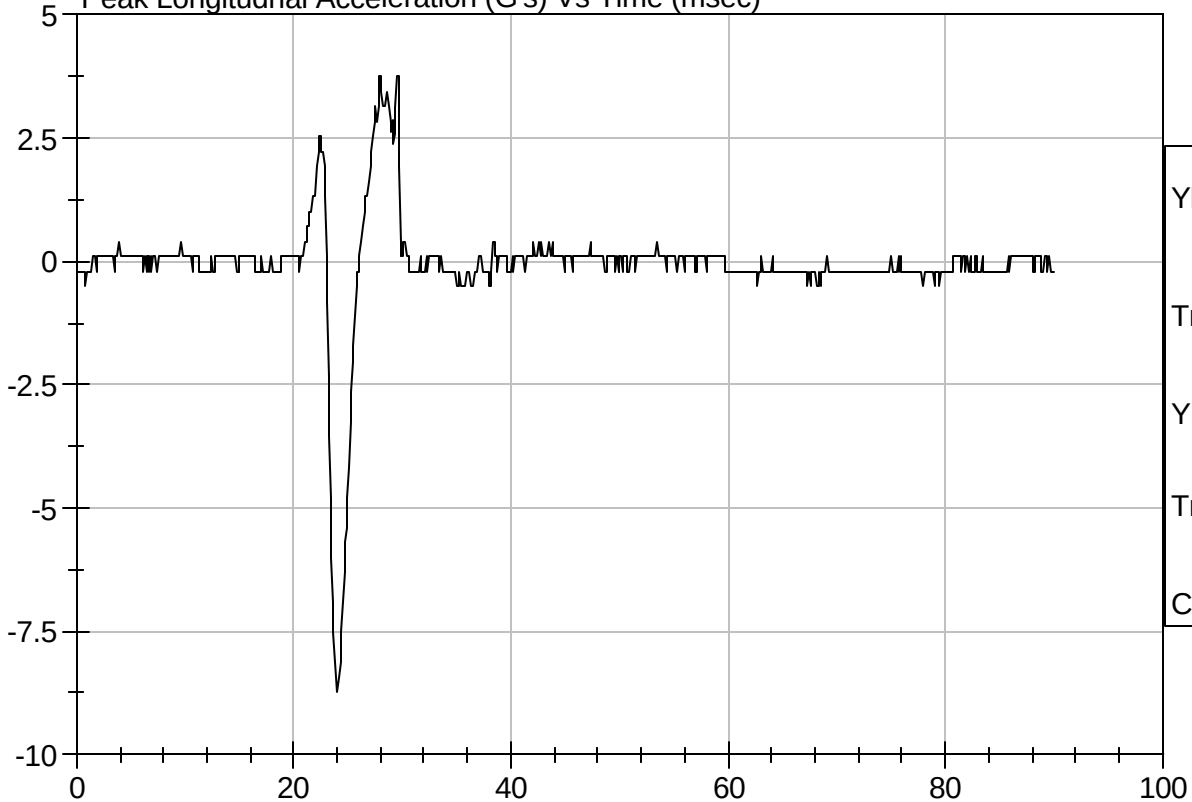
Component: D061481

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: D061482

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.6	Pass
Laboratory Relative Humidity	%	10 to 70	28	Pass
Probe Velocity	m/s	4.22 - 4.31	4.29	Pass
Upper Rib	G's	37 - 46	44	Pass
Lower Rib	G's	37 - 46	41	Pass
Lower Spine	G's	15 - 22	21	Pass
Overall Test Results				Pass


Laboratory Technician

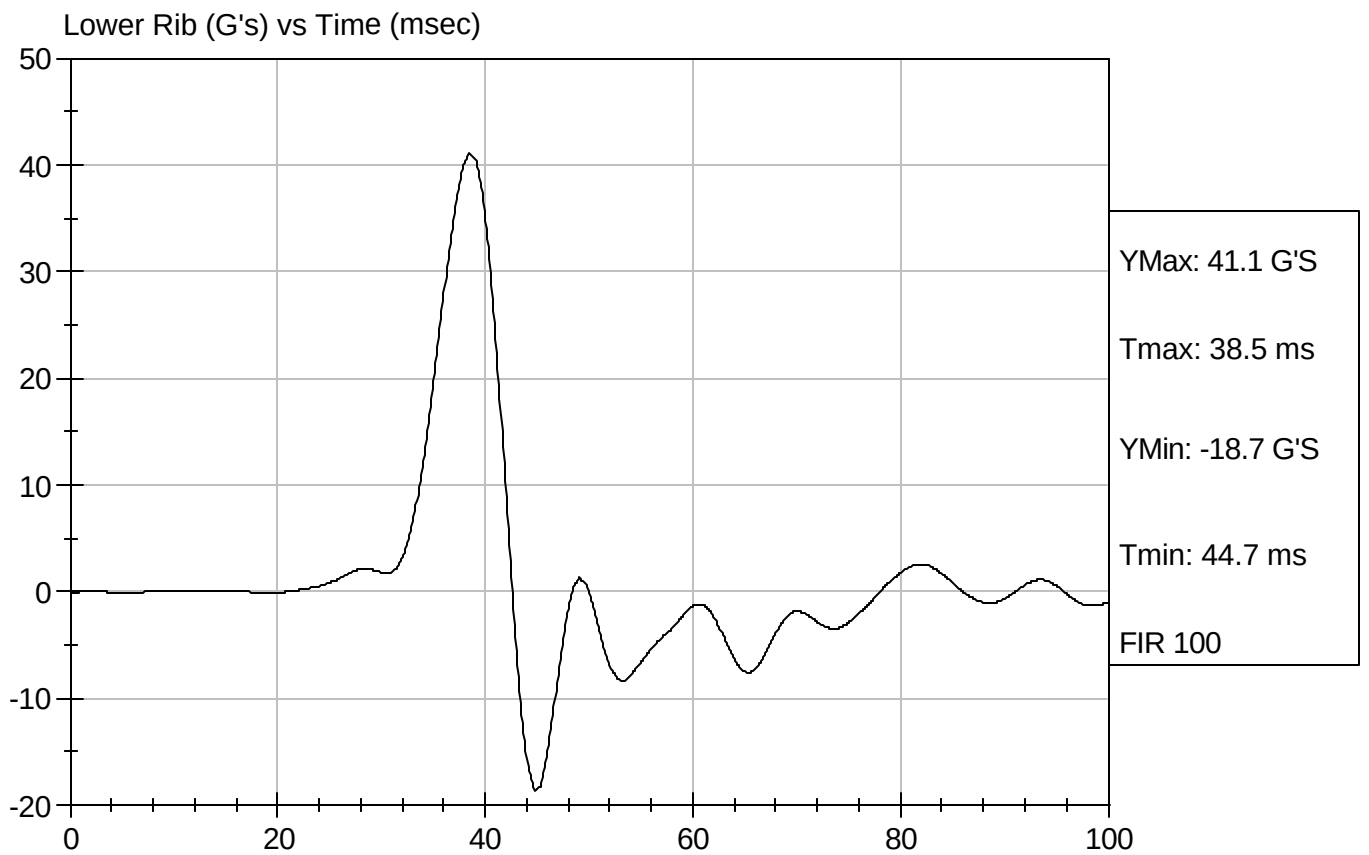
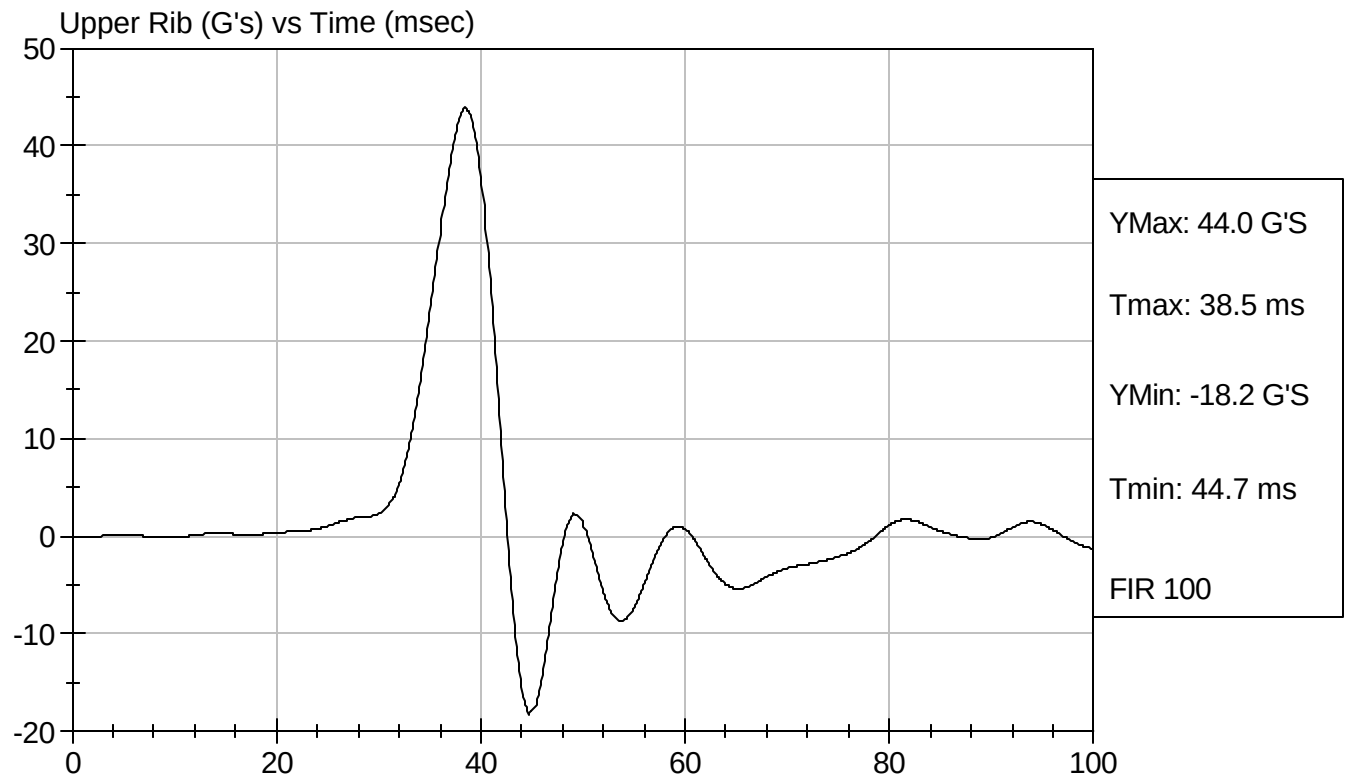
05/23/2006
Test Date


Approved By



Test Desc: Thorax Impact
Component ID: D061482

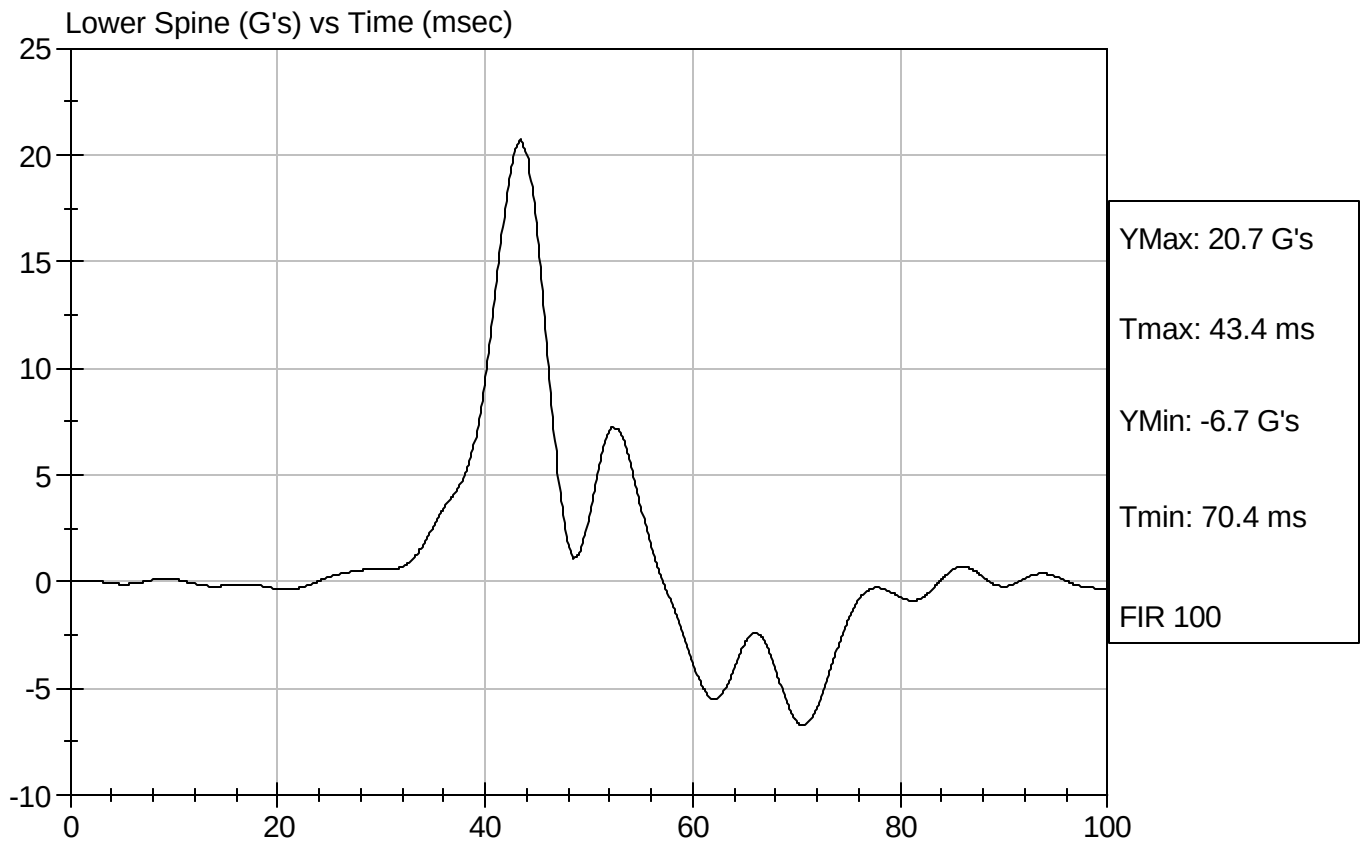
Test Date: 05/23/2006
Speed: 14.09 ft/sec, 4.29 m/sec





Test Desc: Thorax Impact
Component ID: D061482

Test Date: 05/23/2006
Speed: 14.09 ft/sec, 4.29 m/sec



SID Calibration Data Sheet
Side Impact Dummy
Pelvis Impact Test

ATD Serial No: 904

Test I.D: D061483

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	28	Pass
Probe Velocity	m/s	4.27 - 4.33	4.31	Pass
Pelvis Acceleration	G's	40 - 60	42	Pass
Overall Test Results			Pass	

Jessica Hall
Laboratory Technician

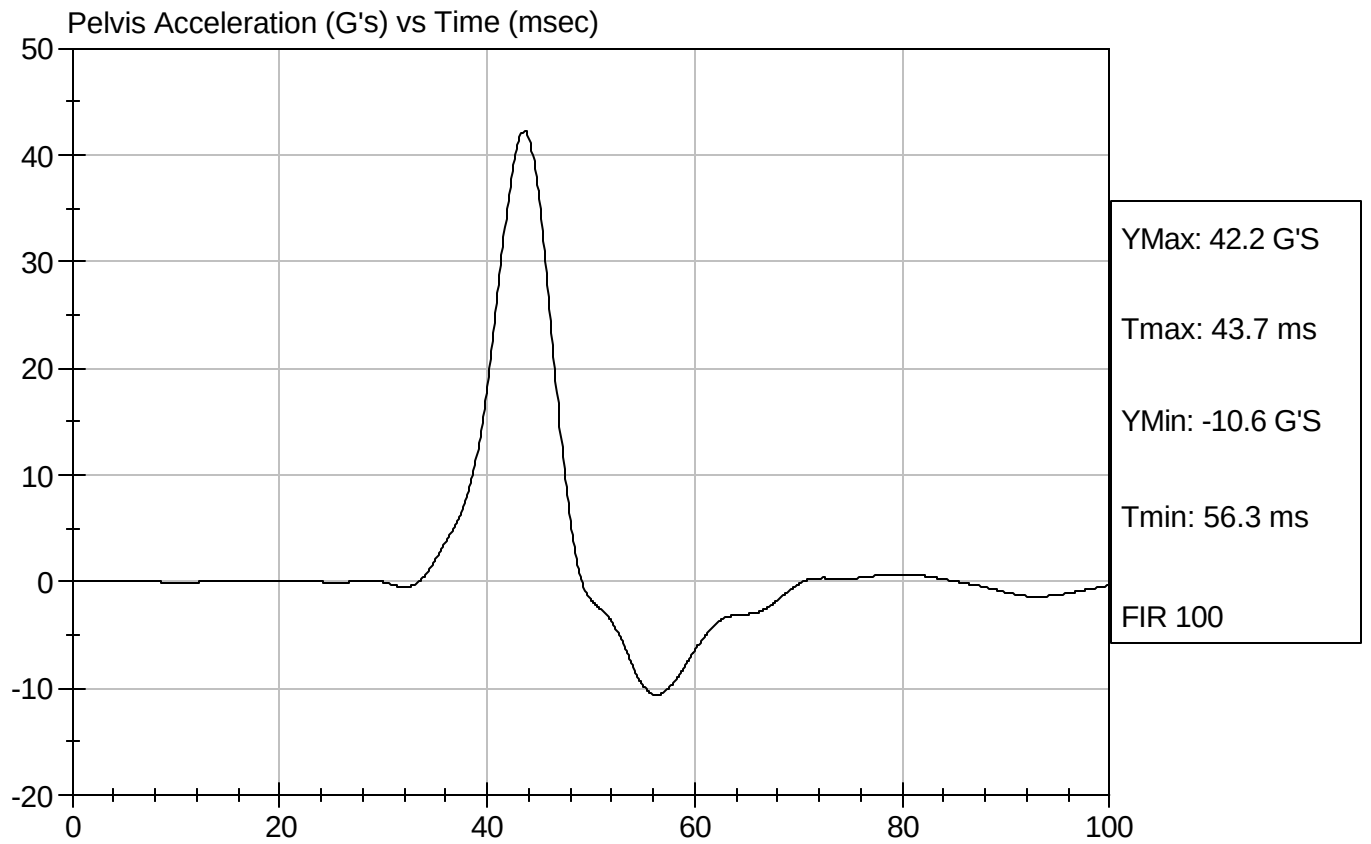
05/23/2006
Test Date

David Winkelbauer
Approved By



Test Desc: Pelvis Impact
Component ID: D061483

Test Date: 05/23/2006
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: 904

Test I.D: D061484

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.5	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Force At 12.7 mm	N	104 -162	140	Pass
Force At 19 mm	N	163 - 222	201	Pass
Force At 25.4 mm	N	222 - 280	263	Pass
Force At 33 mm	N	325 - 391	363	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

05/23/2006

Test Date

David Winkelbauer
Approved By

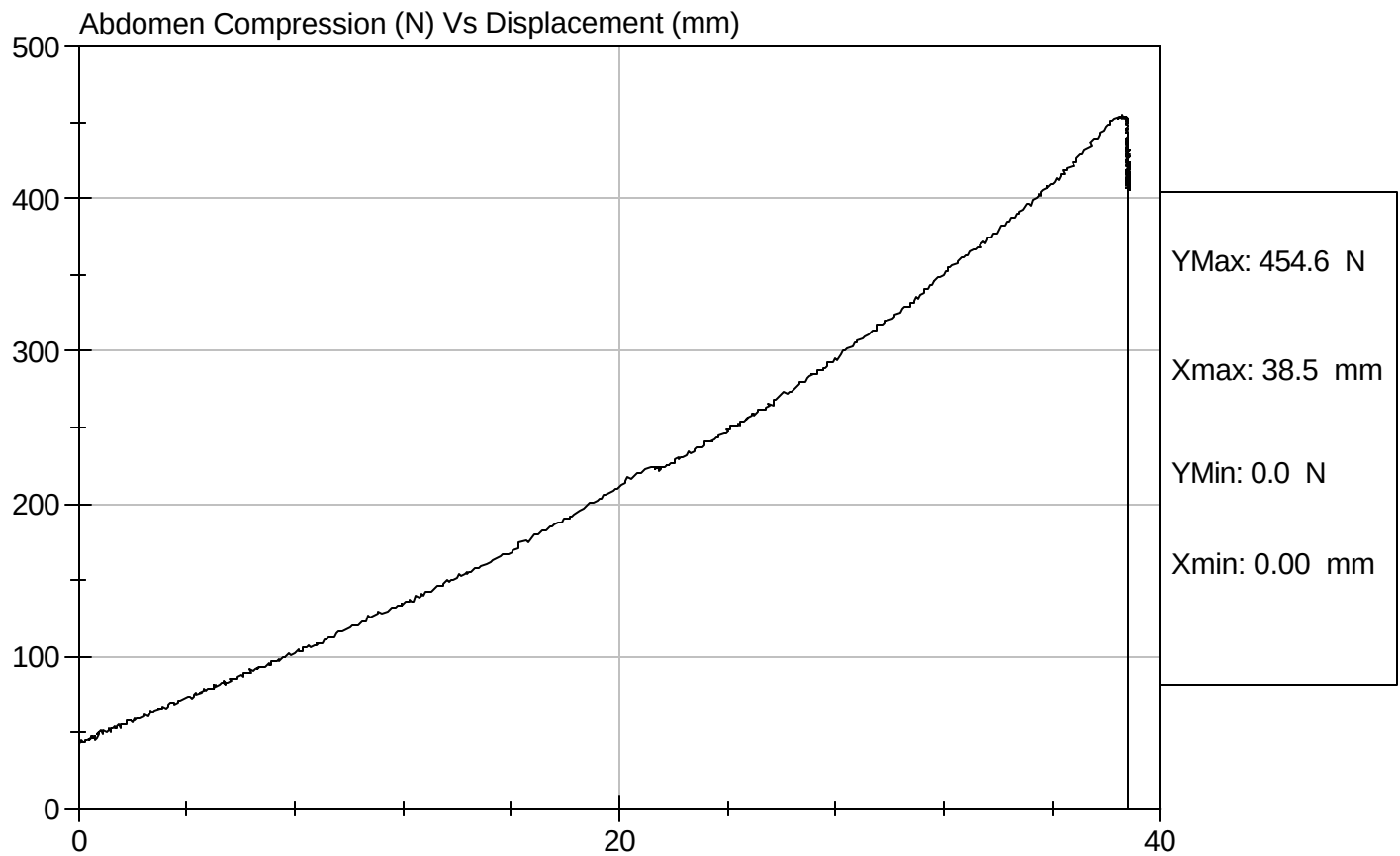


Test Description: Abdomen Compression

Test Date: 05/23/2006

Component: D061484

Speed: 0 ft/sec, 0 m/sec



SID Calibration Data Sheet
Side Impact Dummy
Lumbar Flexion Calibration

ATD Serial No: 904

Test I.D: D061485

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Force At 0 deg	N	0 - 26.7	0.0	Pass
Force At 20 deg	N	97.9 - 151.2	125.4	Pass
Force At 30 deg	N	151.2 - 204.6	175.0	Pass
Force At 40 deg	N	204.6 - 258.0	241.2	Pass
Return Angle	Deg	12 Maximum	6	Pass
			Overall Test Results	Pass

Jessica Hall
Laboratory Technician

05/23/2006
Test Date

David Winkelbauer
Approved By

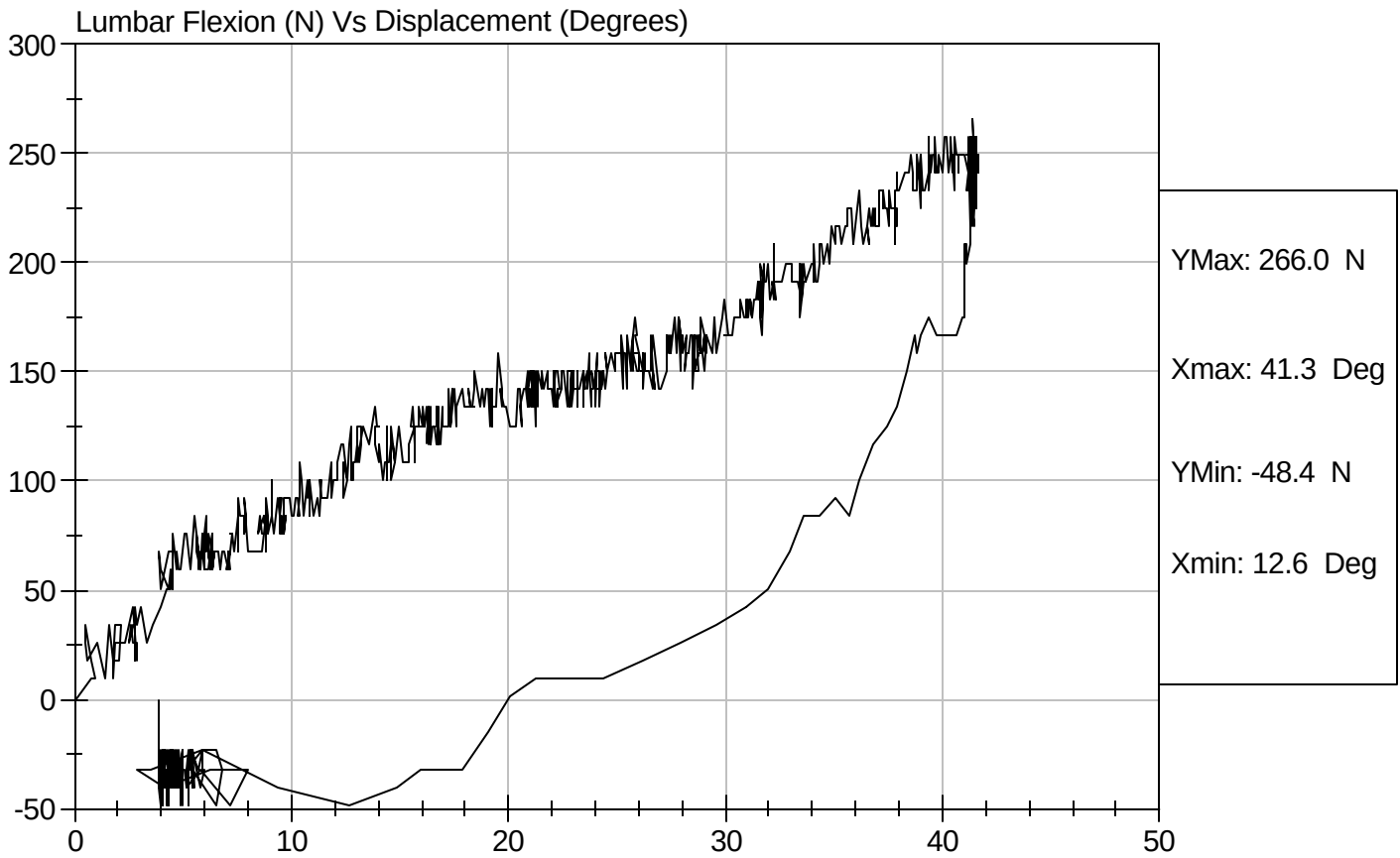


Test Description: Lumbar Flexion

Test Date: 05/23/2006

Component: D061485

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: D061489

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	31	Pass
Impact Velocity		m/s	6.89 to 7.13	7.10	Pass
Pendulum Deceleration	10 msec	m/s	1.96 to 2.55	2.33	Pass
	20 msec	m/s	4.12 to 5.10	4.52	Pass
	30 msec	m/s	5.73 to 7.01	6.20	Pass
	40 to 70 msec	m/s	6.27 to 7.64	7.26	Pass
Midsagittal Plane Max Rotation		deg	66 to 82	72	Pass
Head Rotation Peak to Zero - Decay Time		msec	58 to 67	59	Pass
Max. Mx at Occipital Condyles		Nm	73 to 88	78	Pass
Mx Peak To Zero - Decay Time		msec	49 to 64	56	Pass
Mx Peak to Max. Head Rotation		msec	2 to 16	9	Pass


 Laboratory Technician

05/23/2006

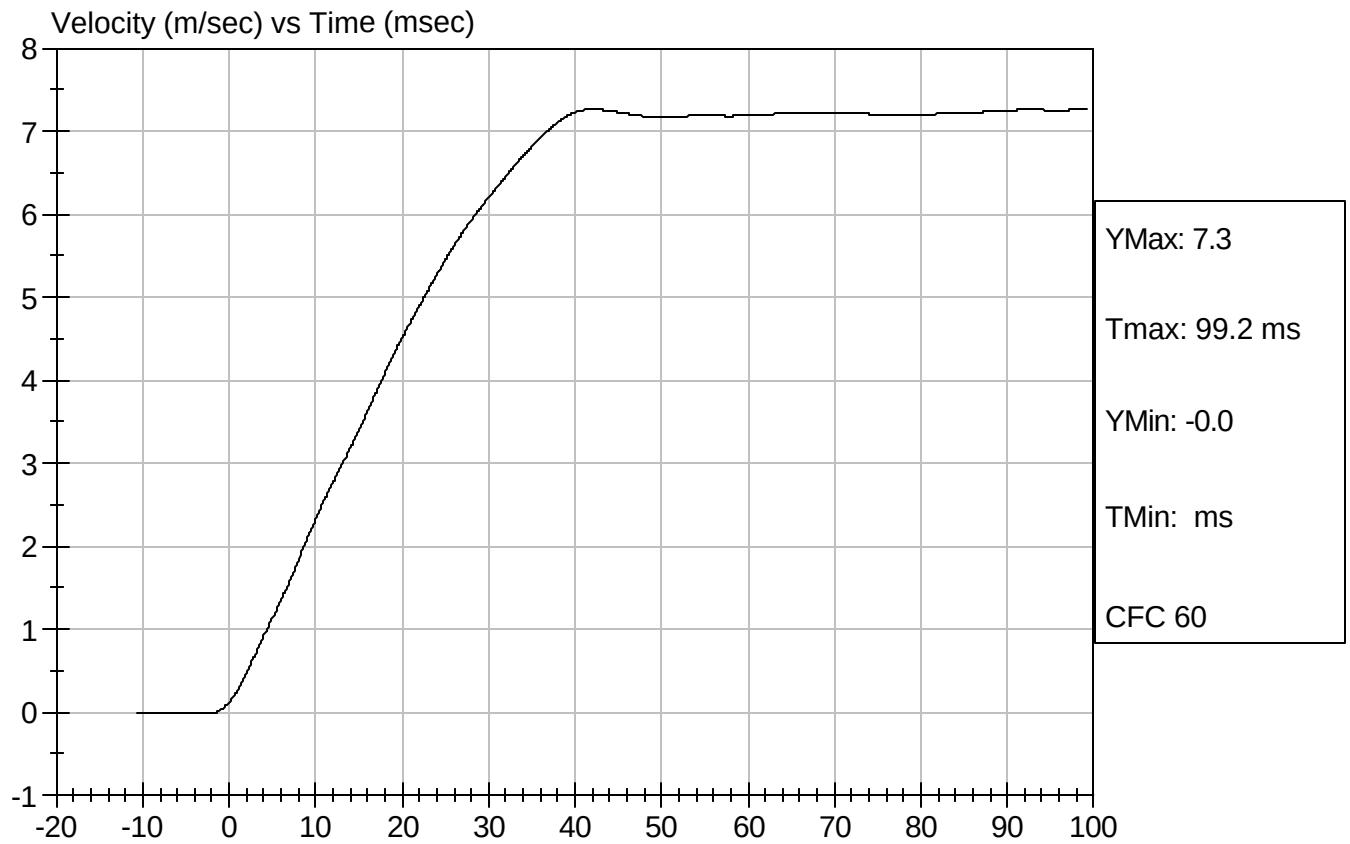
Test Date


 Approved By



Test Desc: Neck Bending
Component ID: D061489

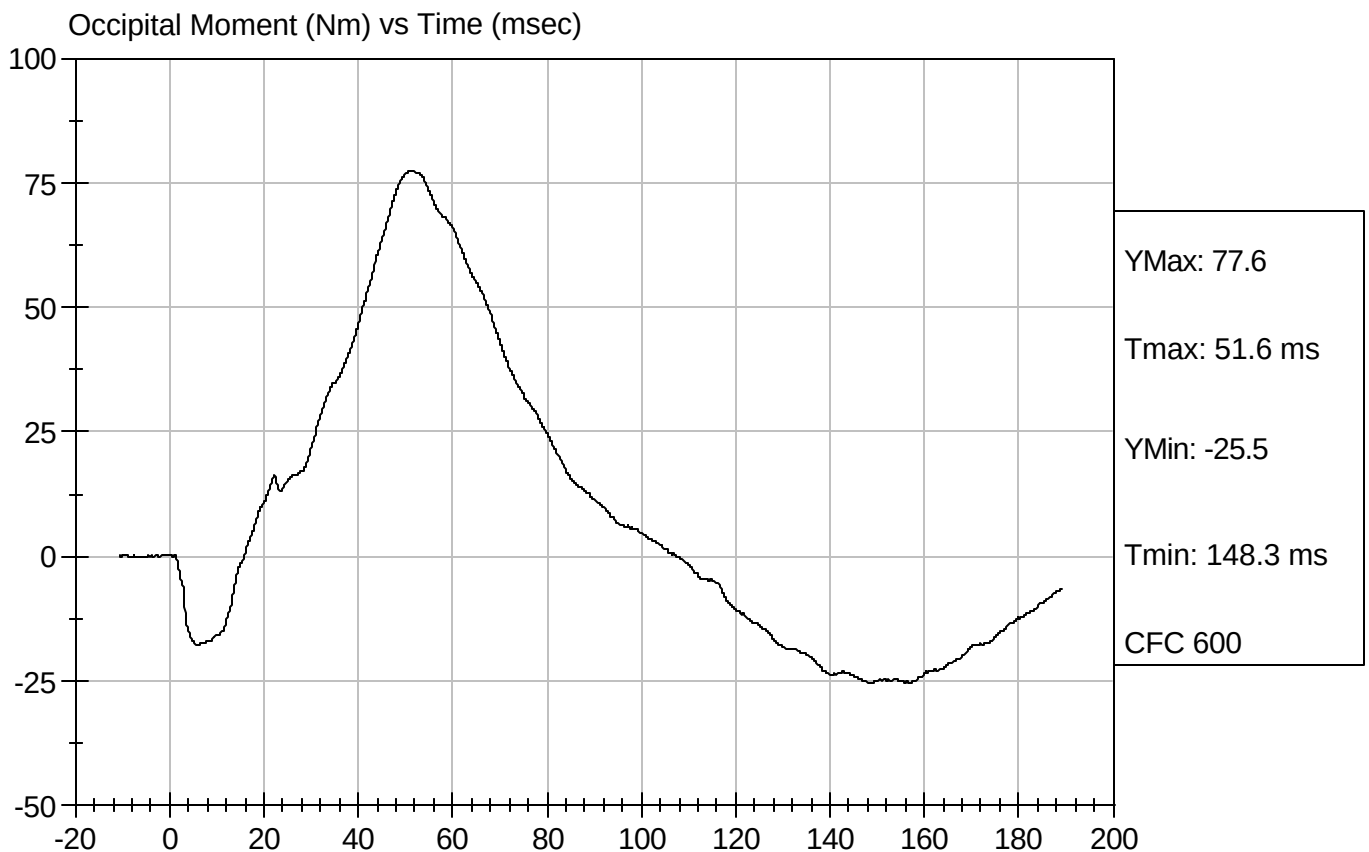
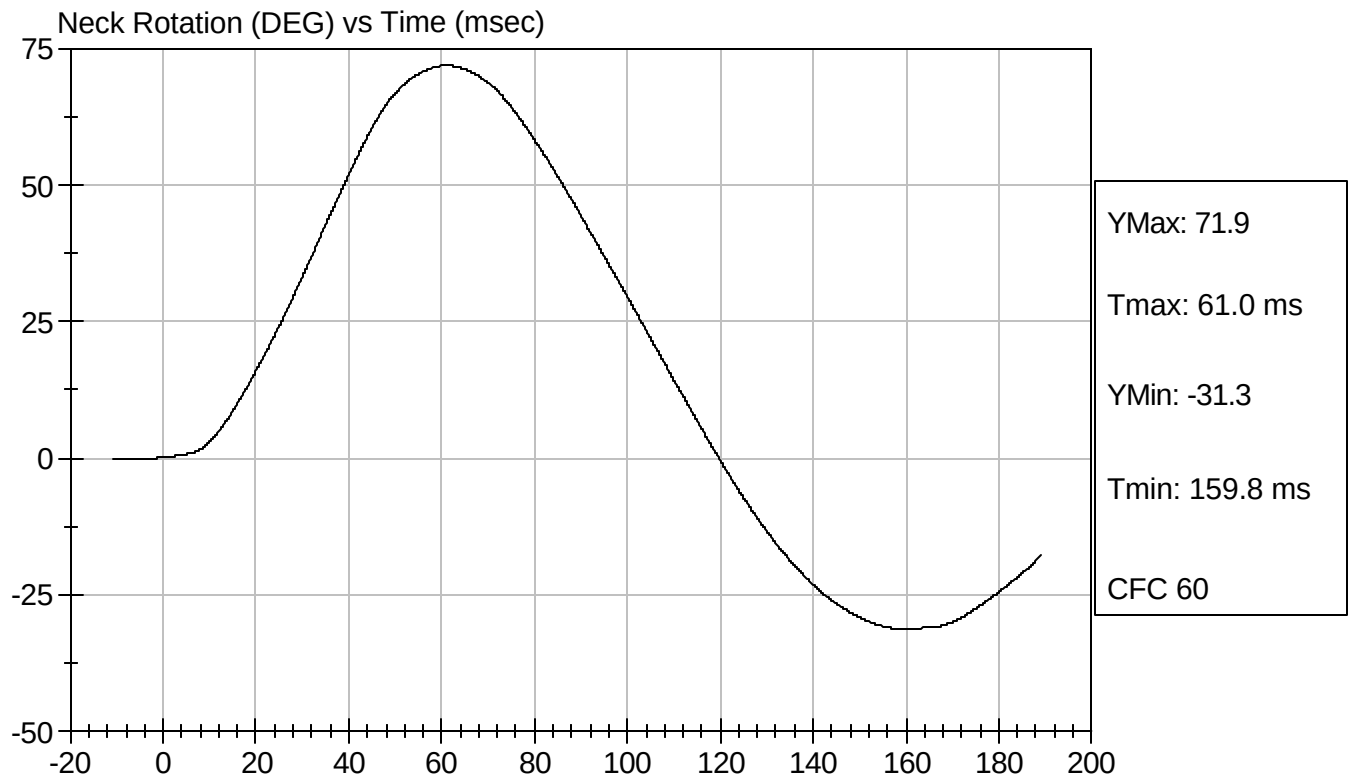
Test Date: 05/23/2006
Speed: 23.30 ft/sec, 7.10 m/sec





Test Desc: Neck Bending
Component ID: D061489

Test Date: 05/23/2006
Speed: 23.30 ft/sec, 7.10 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: D061551

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	23.0	Pass
Laboratory Relative Humidity	%	10 to 70	40	Pass
Peak Resultant Acceleration	G's	120 to 150	133	Pass
Is Resultant Curve Unimodal?	Yes/No	15% of peak	Yes	Pass
Peak Longitudnal Acceleration	G's	+/- 15	-9	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

05/31/2006

Test Date

David Winkelbauer
Approved By



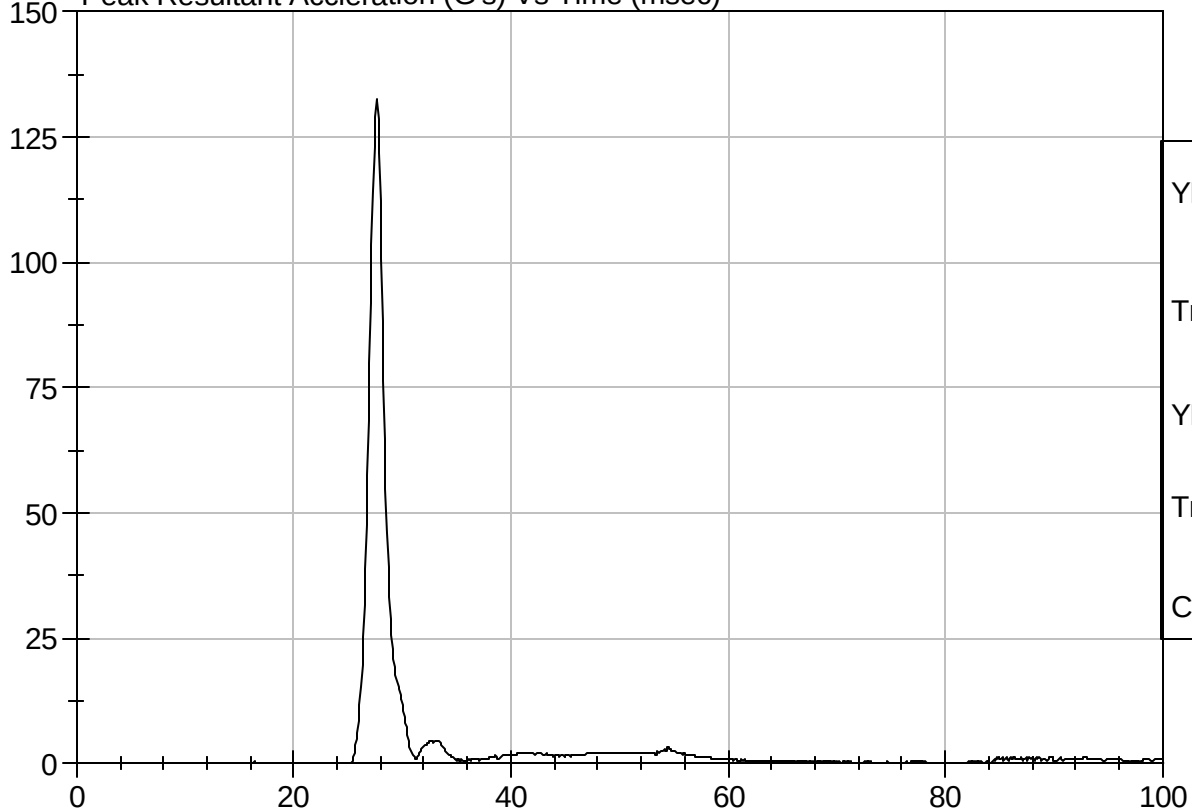
Test Description: Head Drop

Test Date: 05/31/2006

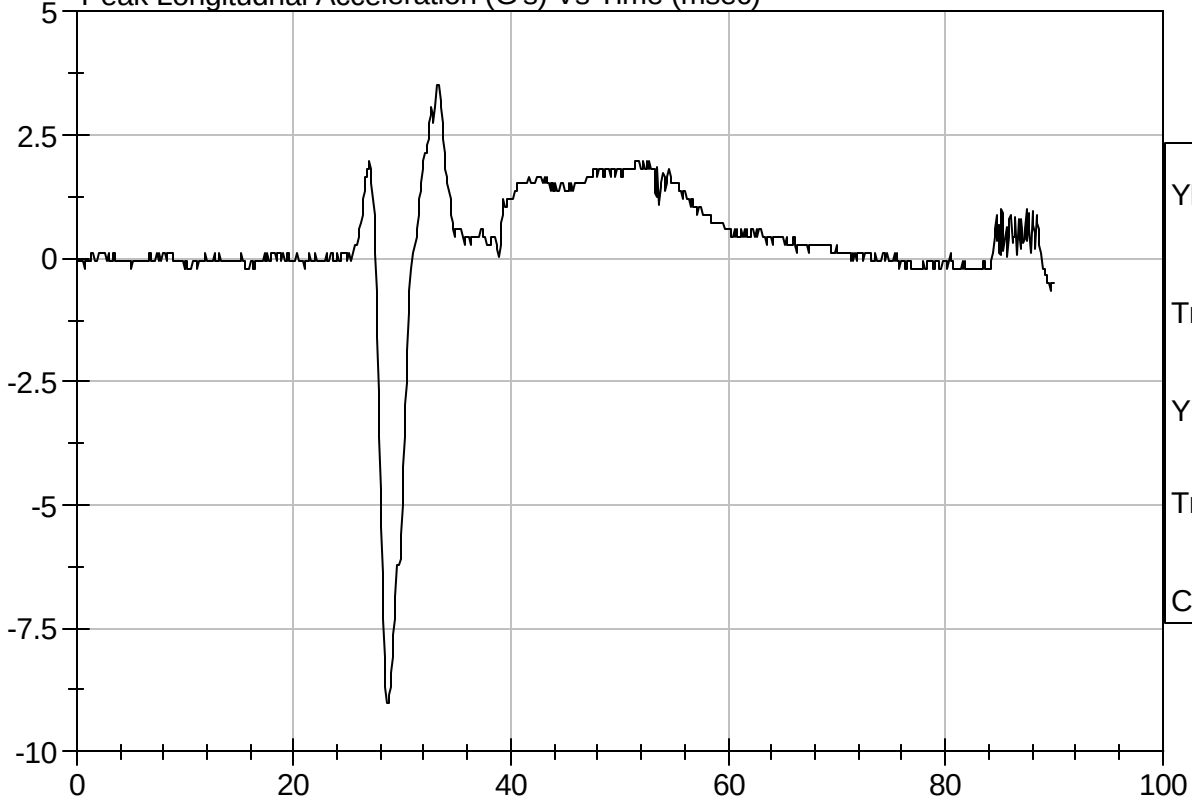
Component: D061551

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: D061552

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	55	Pass
Probe Velocity	m/s	4.22 - 4.31	4.28	Pass
Upper Rib	G's	37 - 46	40	Pass
Lower Rib	G's	37 - 46	39	Pass
Lower Spine	G's	15 - 22	22	Pass
Overall Test Results				Pass


Laboratory Technician

05/31/2006

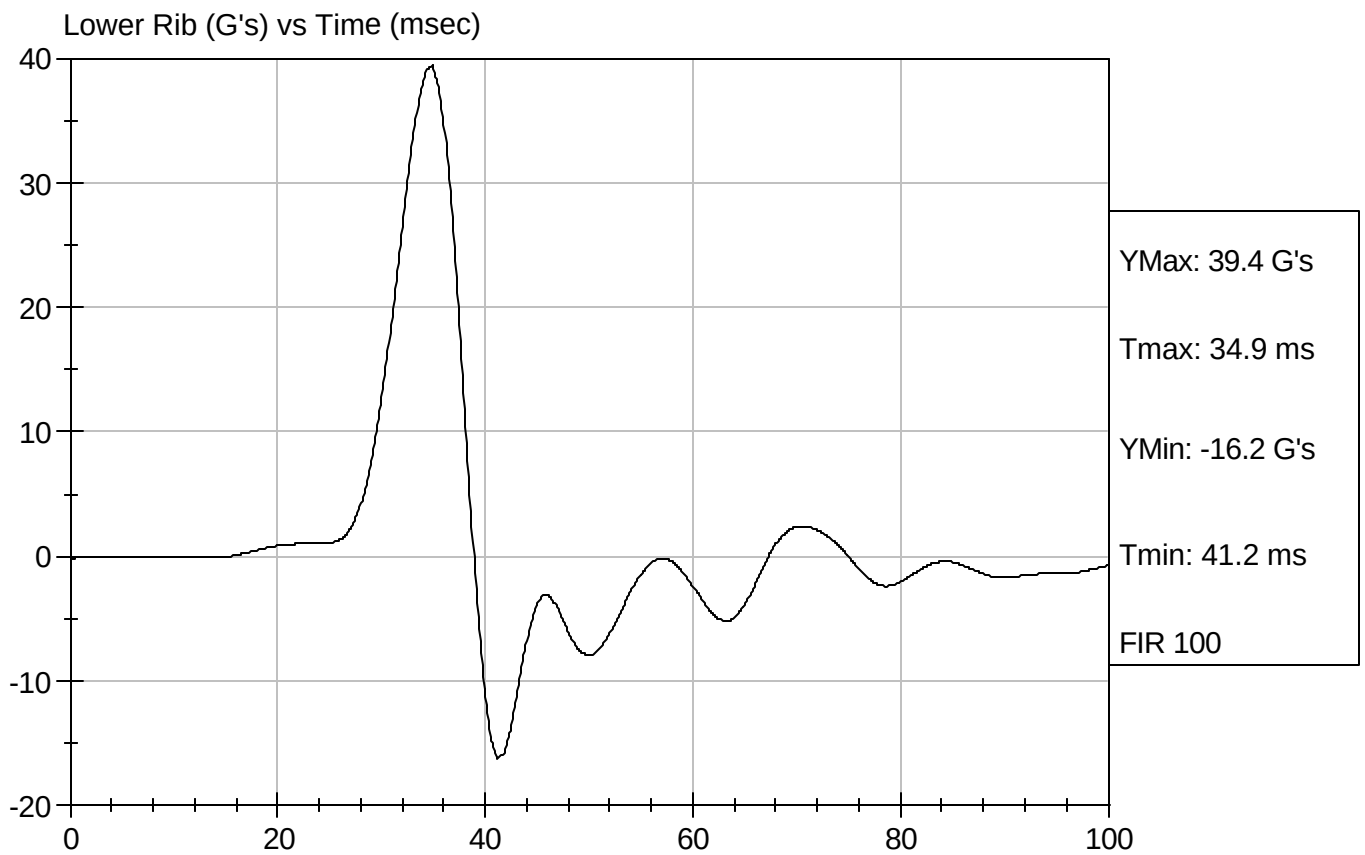
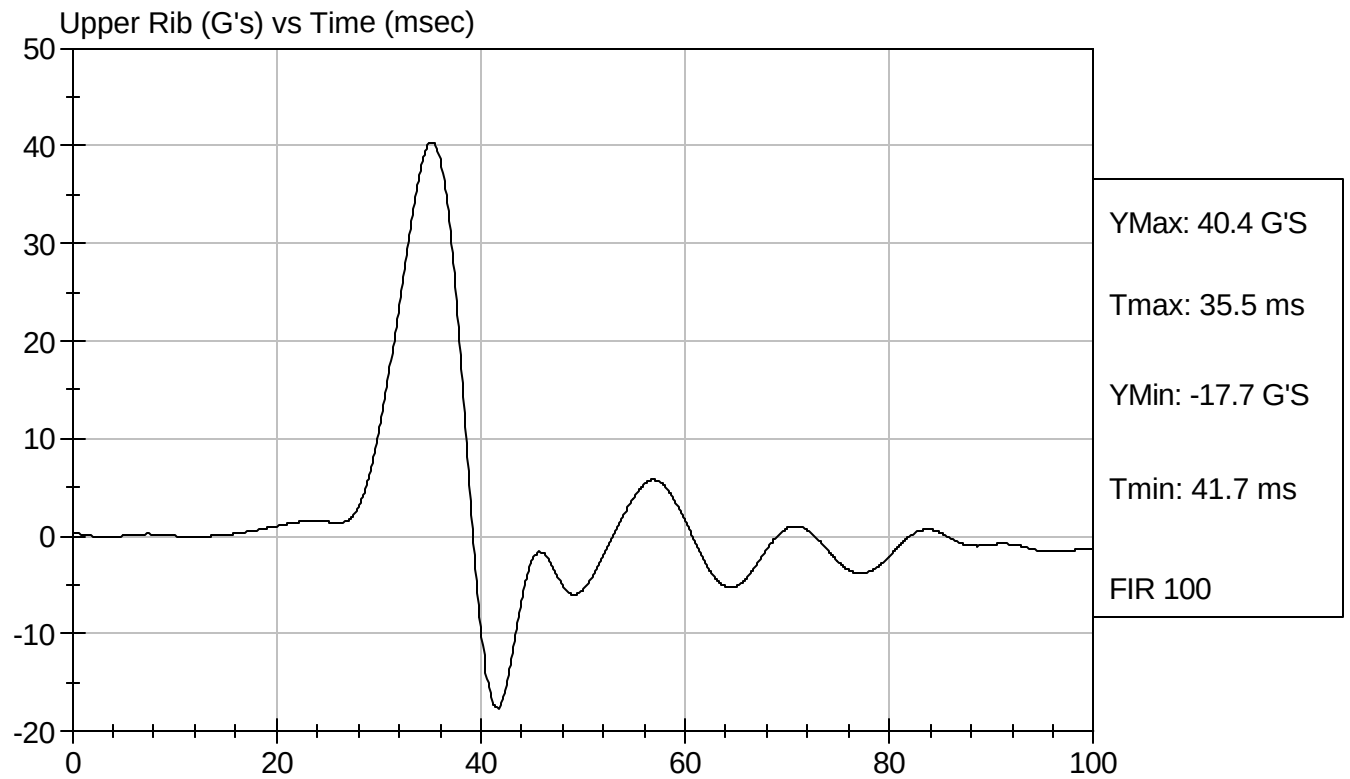
Test Date


Approved By



Test Desc: Thorax Impact
Component ID: D061552

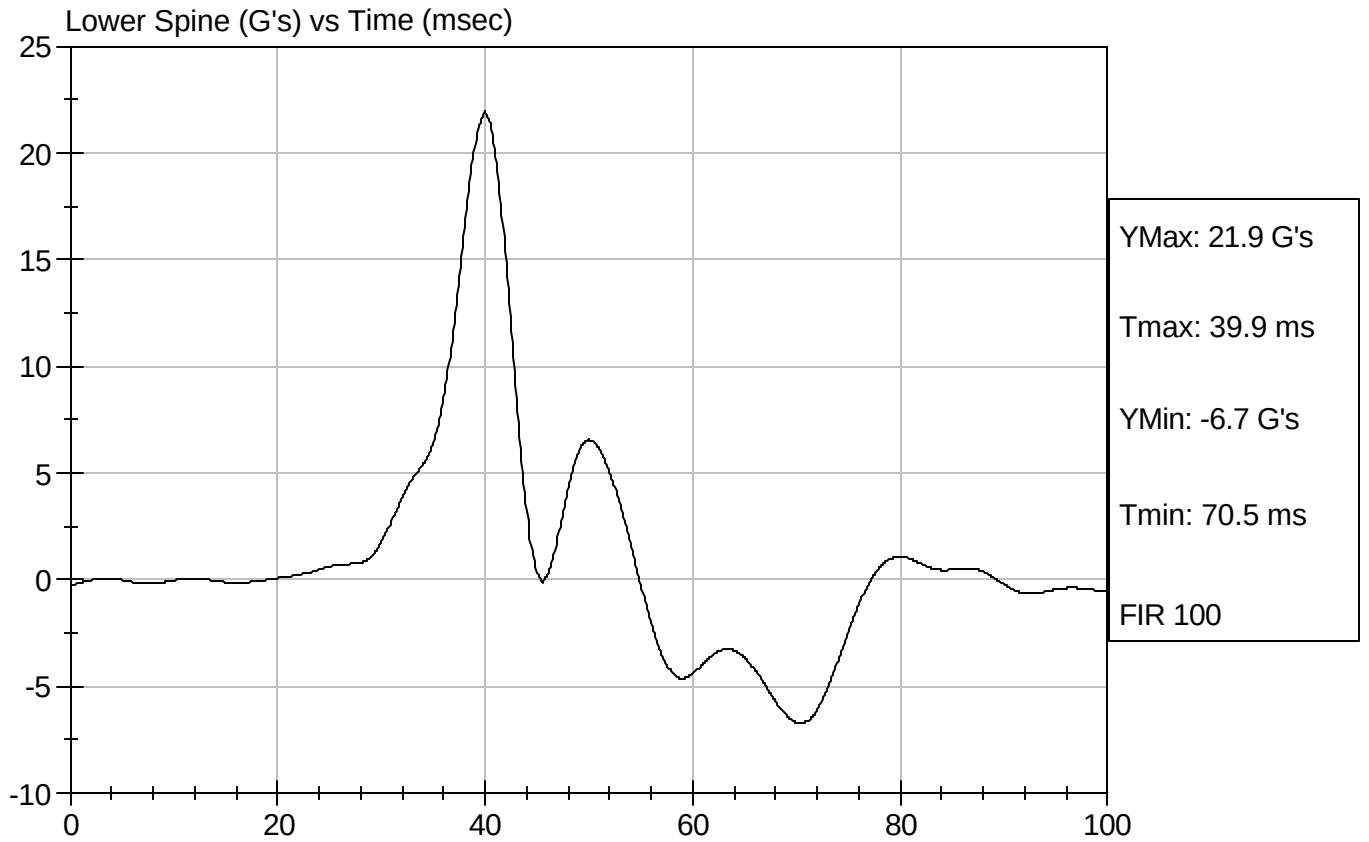
Test Date: 05/31/2006
Speed: 14.03 ft/sec, 4.28 m/sec





Test Desc: Thorax Impact
Component ID: D061552

Test Date: 05/31/2006
Speed: 14.03 ft/sec, 4.28 m/sec



SID Calibration Data Sheet
Side Impact Dummy
Pelvis Impact Test

ATD Serial No: 904

Test I.D: D061553

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	21.9	Pass
Laboratory Relative Humidity	%	10 to 70	52	Pass
Probe Velocity	m/s	4.27 - 4.33	4.31	Pass
Pelvis Acceleration	G's	40 - 60	45	Pass
			Overall Test Results	Pass

Jessica Hall
Laboratory Technician

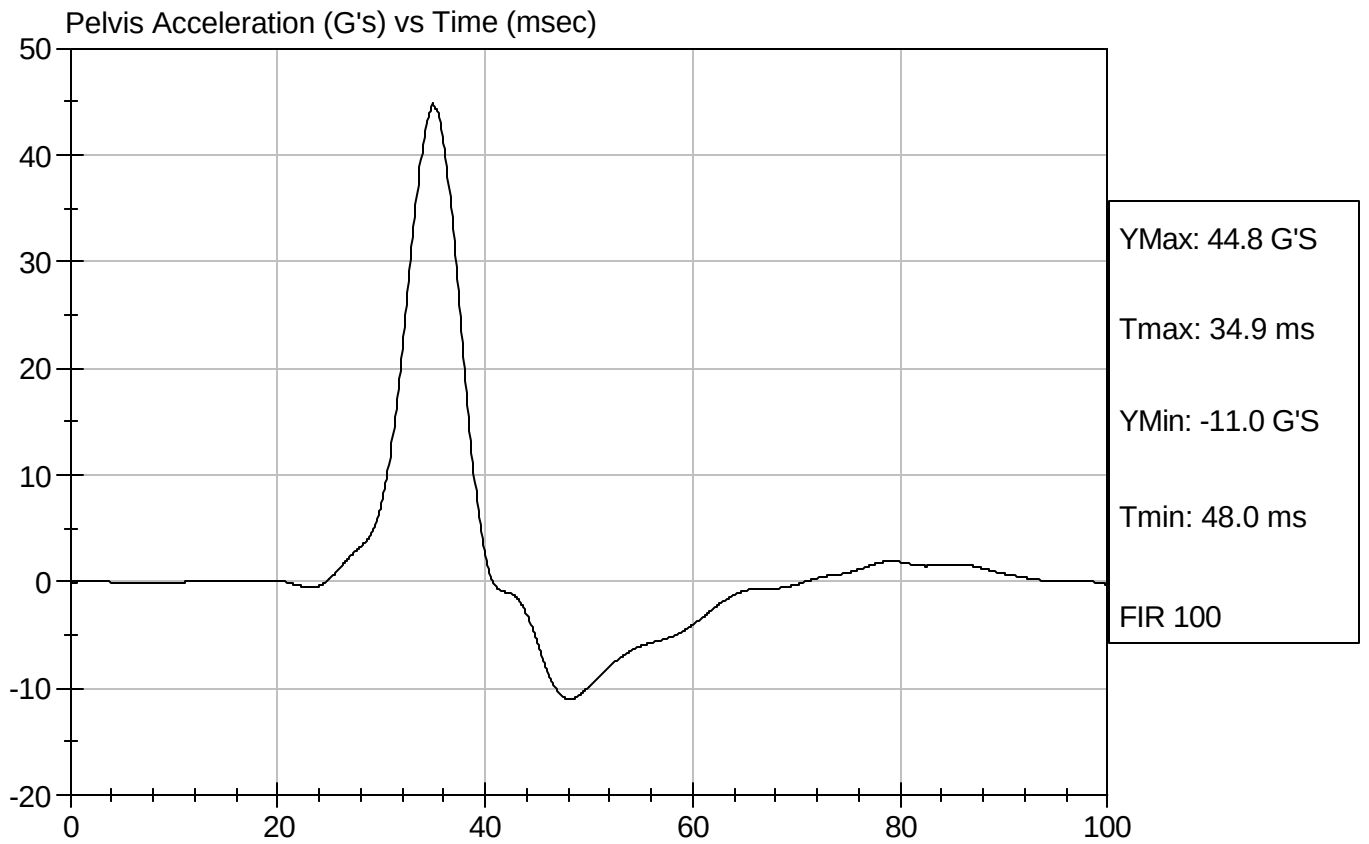
05/31/2006
Test Date

David Winkelbauer
Approved By



Test Desc: Pelvis Impact
Component ID: D061553

Test Date: 05/31/2006
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: 904

Test I.D: D061554

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	23.1	Pass
Laboratory Relative Humidity	%	10 to 70	41	Pass
Force At 12.7 mm	N	104 -162	138	Pass
Force At 19 mm	N	163 - 222	186	Pass
Force At 25.4 mm	N	222 - 280	250	Pass
Force At 33 mm	N	325 - 391	338	Pass
			Overall Test Results	Pass


Laboratory Technician

05/31/2006
Test Date


Approved By

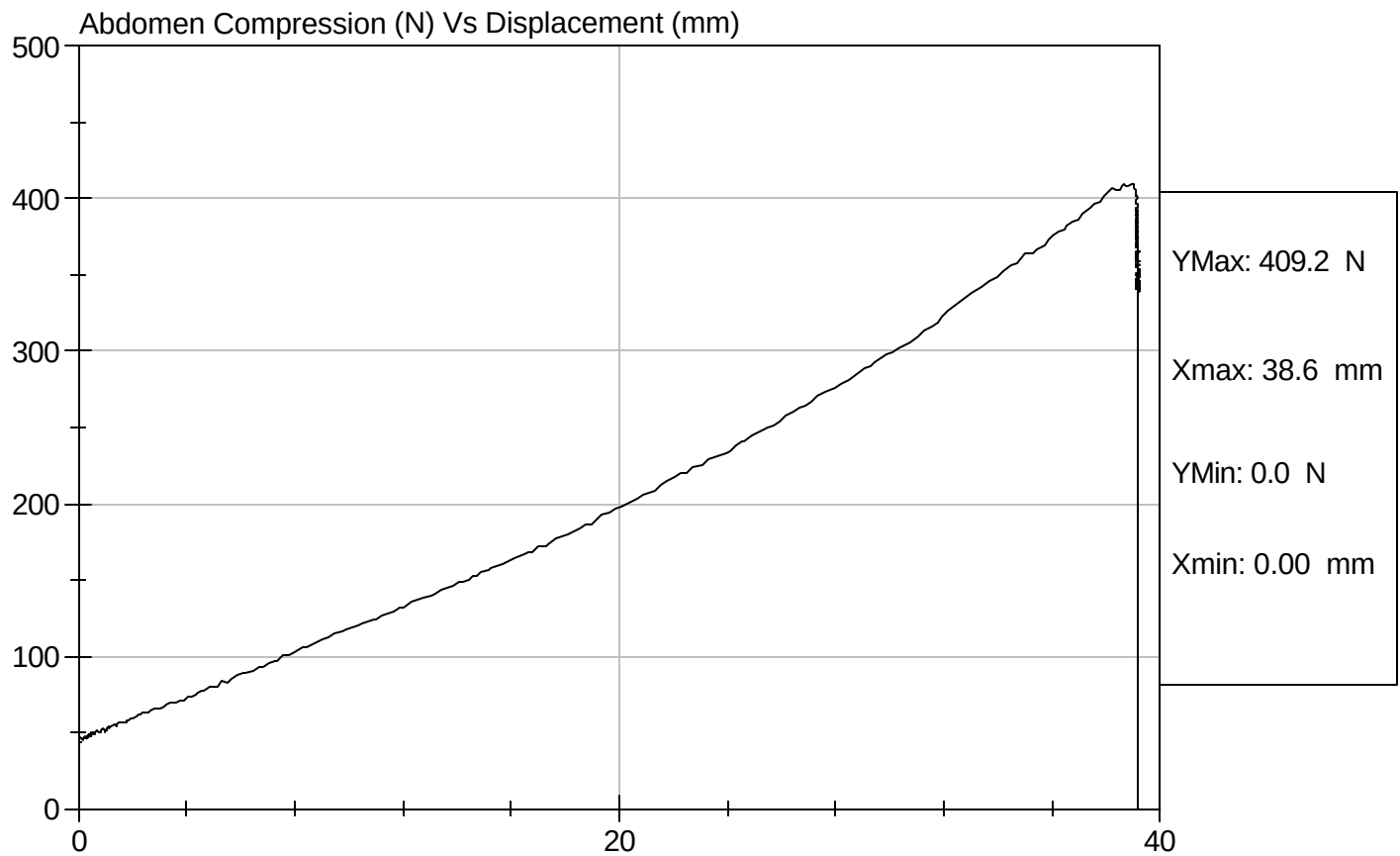


Test Description: Abdomen Compression

Test Date: 05/31/2006

Component: D061554

Speed: 0 ft/sec, 0 m/sec

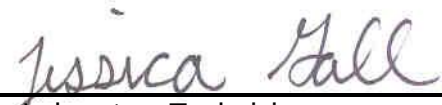


SID Calibration Data Sheet
Side Impact Dummy
Lumbar Flexion Calibration

ATD Serial No: 904

Test I.D: D061555

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	22.7	Pass
Laboratory Relative Humidity	%	10 to 70	40	Pass
Force At 0 deg	N	0 - 26.7	0.0	Pass
Force At 20 deg	N	97.9 - 151.2	143.8	Pass
Force At 30 deg	N	151.2 - 204.6	185.2	Pass
Force At 40 deg	N	204.6 - 258.0	243.0	Pass
Return Angle	Deg	12 Maximum	6	Pass
Overall Test Results			Pass	


Laboratory Technician

05/31/2006

Test Date


Approved By

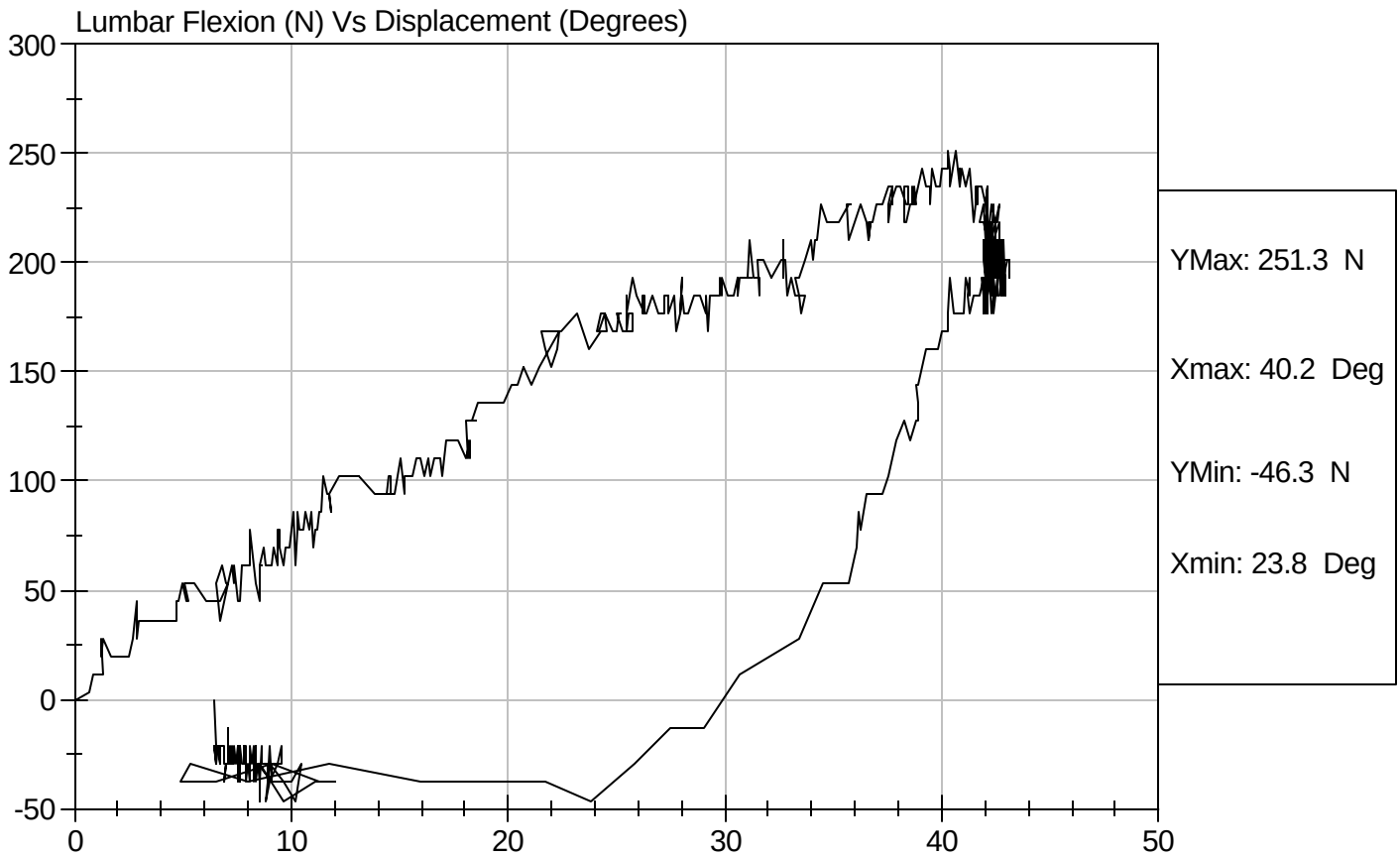


Test Description: Lumbar Flexion

Test Date: 05/31/2006

Component: D061555

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: D061559

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	22.1	Pass
Laboratory Relative Humidity		%	10 to 70	40	Pass
Impact Velocity		m/s	6.89 to 7.13	7.08	Pass
Pendulum Deceleration	10 msec	m/s	1.96 to 2.55	2.38	Pass
	20 msec	m/s	4.12 to 5.10	4.63	Pass
	30 msec	m/s	5.73 to 7.01	6.30	Pass
	40 to 70 msec	m/s	6.27 to 7.64	7.26	Pass
Midsagittal Plane Max Rotation		deg	66 to 82	74	Pass
Head Rotation Peak to Zero - Decay Time		msec	58 to 67	58	Pass
Max. Mx at Occipital Condyles		Nm	73 to 88	81	Pass
Mx Peak To Zero - Decay Time		msec	49 to 64	56	Pass
Mx Peak to Max. Head Rotation		msec	2 to 16	11	Pass


 Laboratory Technician

05/31/2006

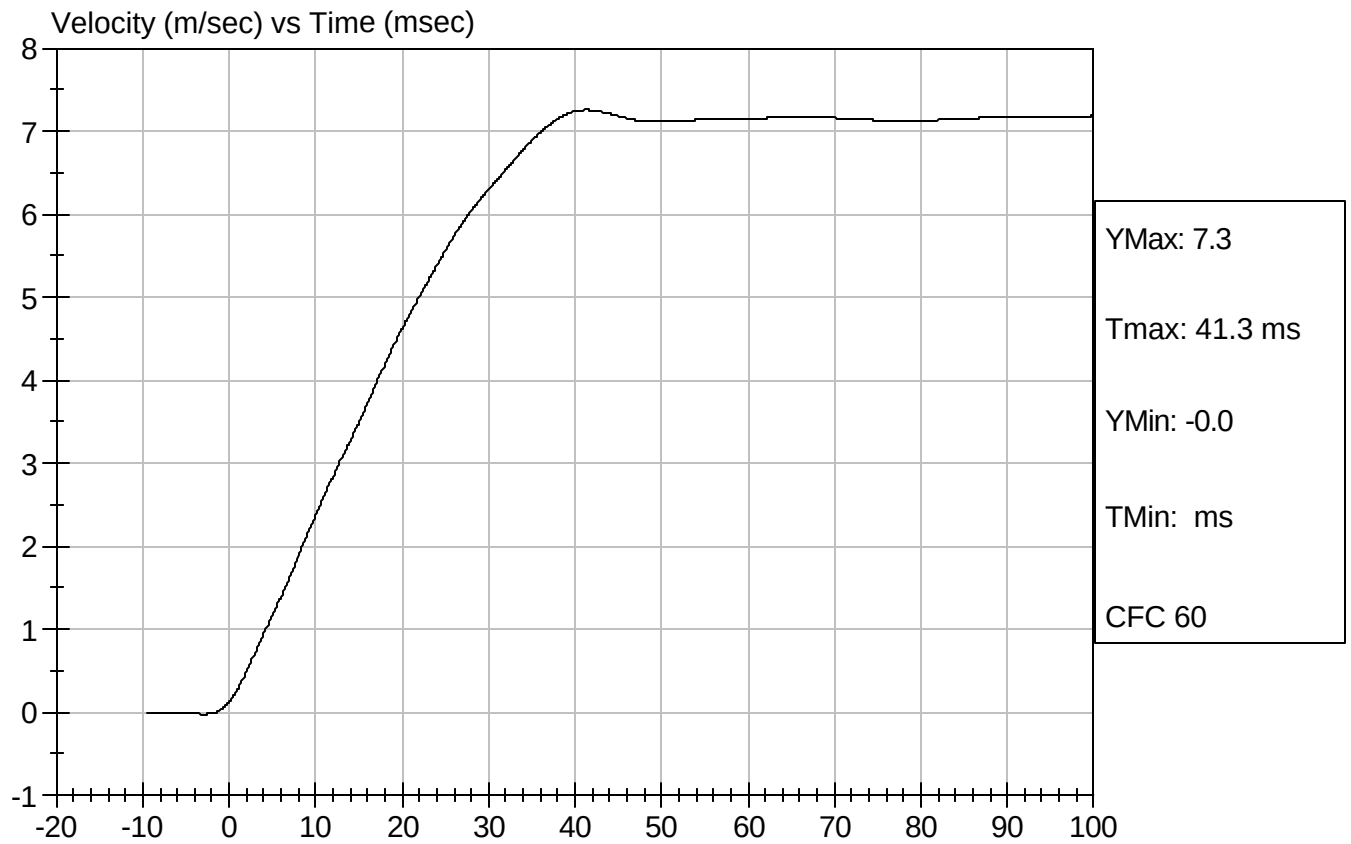
Test Date


 Approved By



Test Desc: Neck Bending
Component ID: D061559

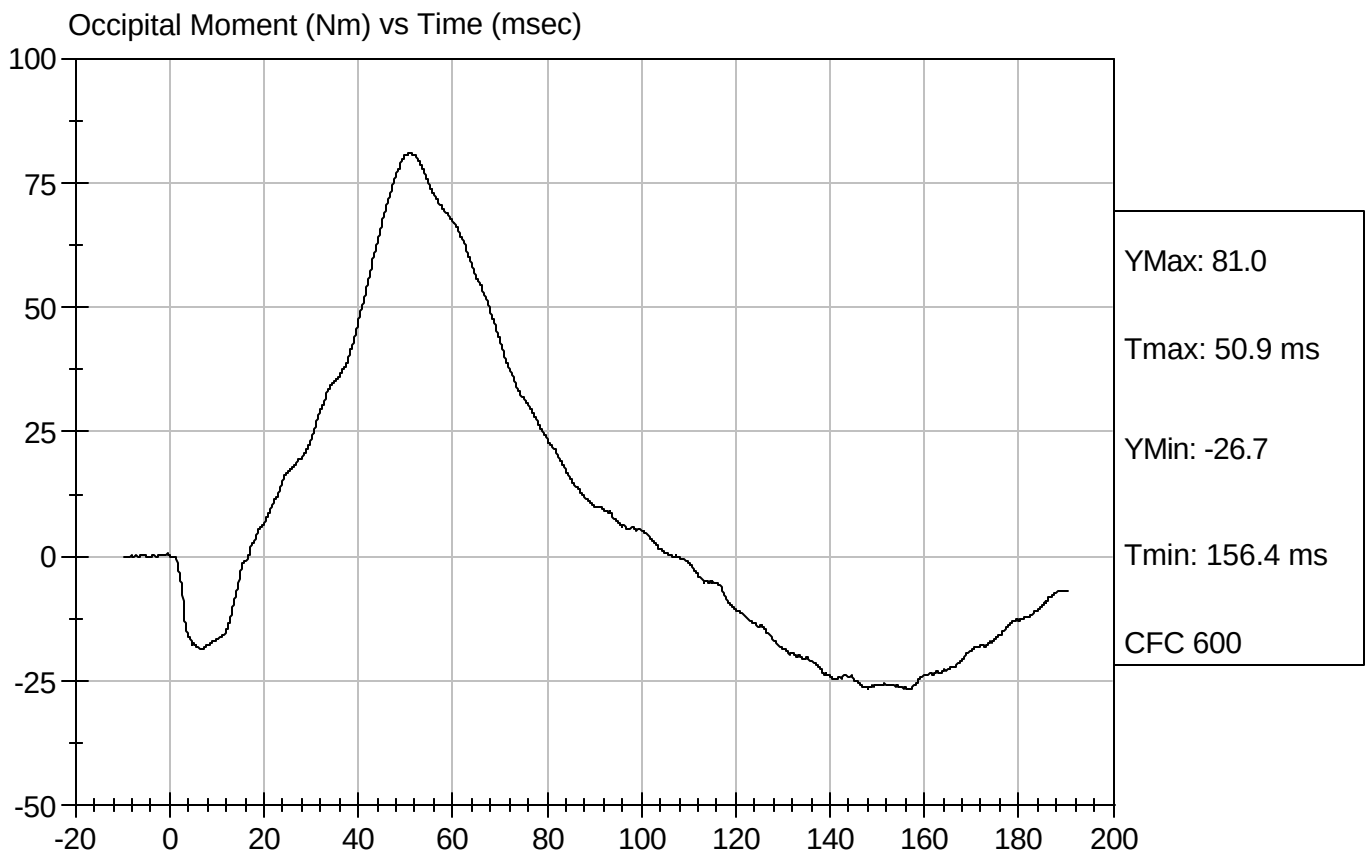
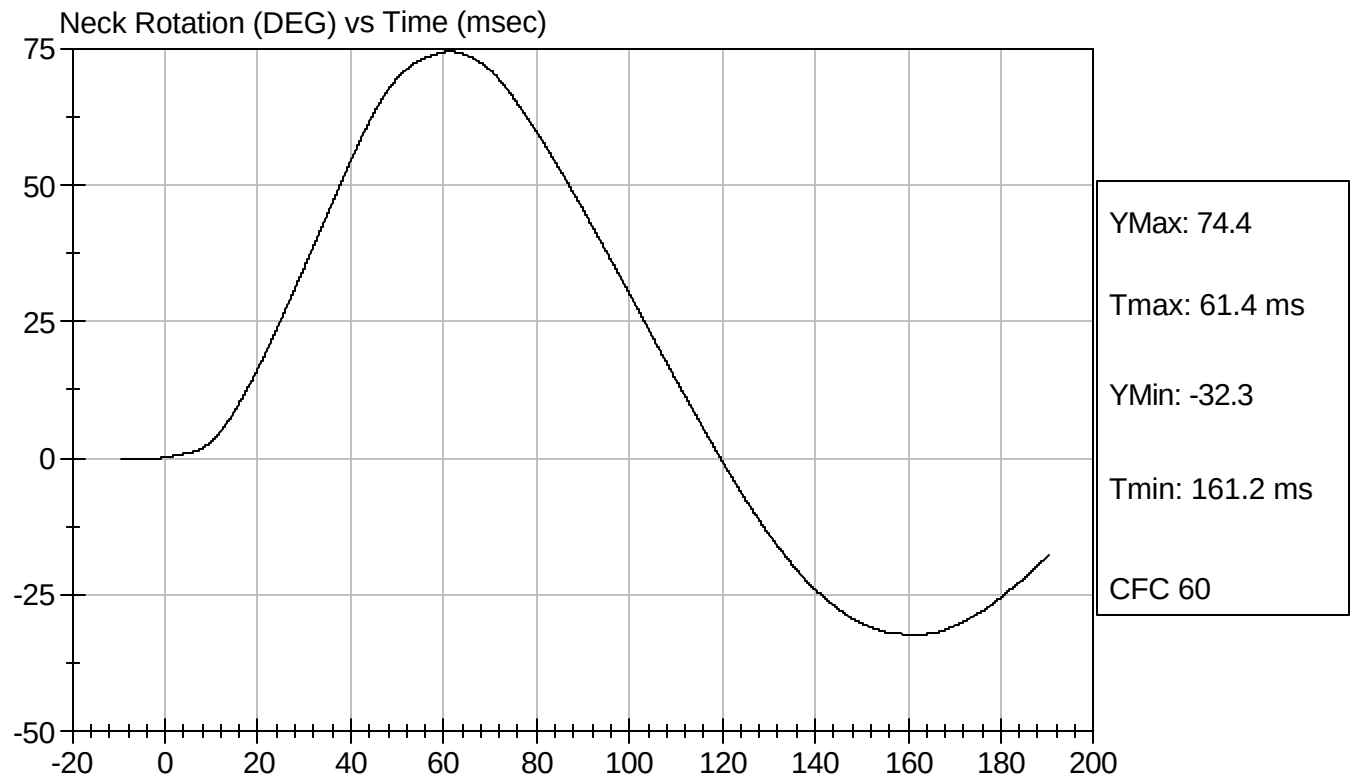
Test Date: 05/31/2006
Speed: 23.22 ft/sec, 7.08 m/sec





Test Desc: Neck Bending
Component ID: D061559

Test Date: 05/31/2006
Speed: 23.22 ft/sec, 7.08 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

05/31/2006

Test Date

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

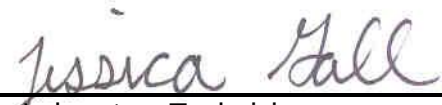
David Winkelbauer
Approved By

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

ATD Serial No: 272

Test I.D: D061471

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	30	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	5	Pass
Overall Test Results				Pass


Laboratory Technician

05/23/2006

Test Date


Approved By



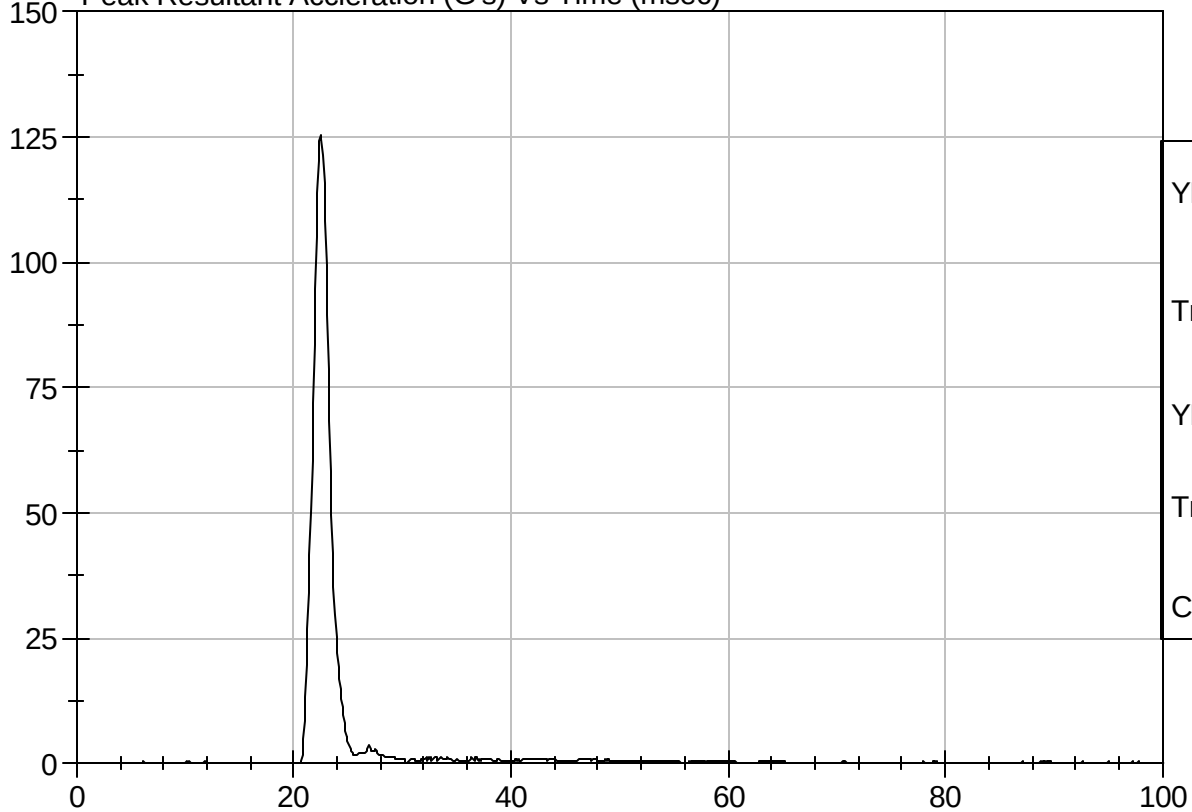
Test Description: Head Drop

Test Date: 05/23/2006

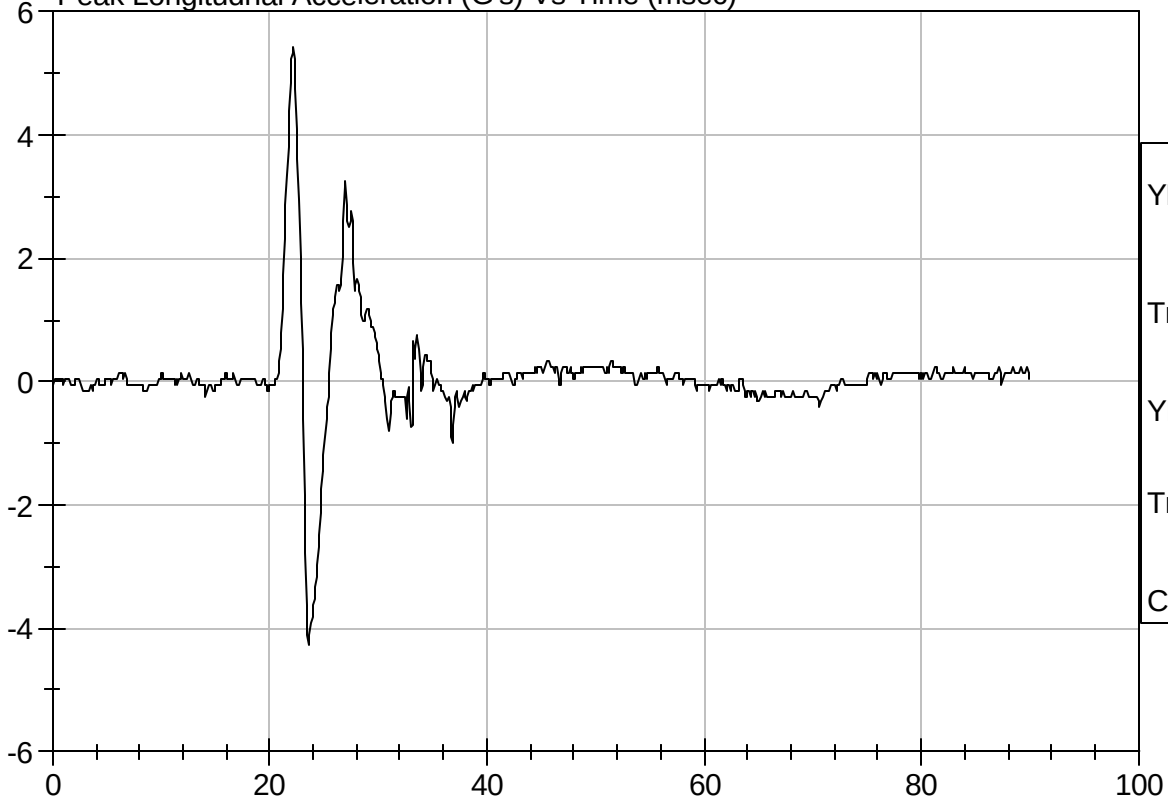
Component: D061471

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: D061472

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	29	Pass
Probe Velocity	m/s	4.22 - 4.31	4.29	Pass
Upper Rib	G's	37 - 46	40	Pass
Lower Rib	G's	37 - 46	39	Pass
Lower Spine	G's	15 - 22	20	Pass
Overall Test Results				Pass


Laboratory Technician

05/23/2006

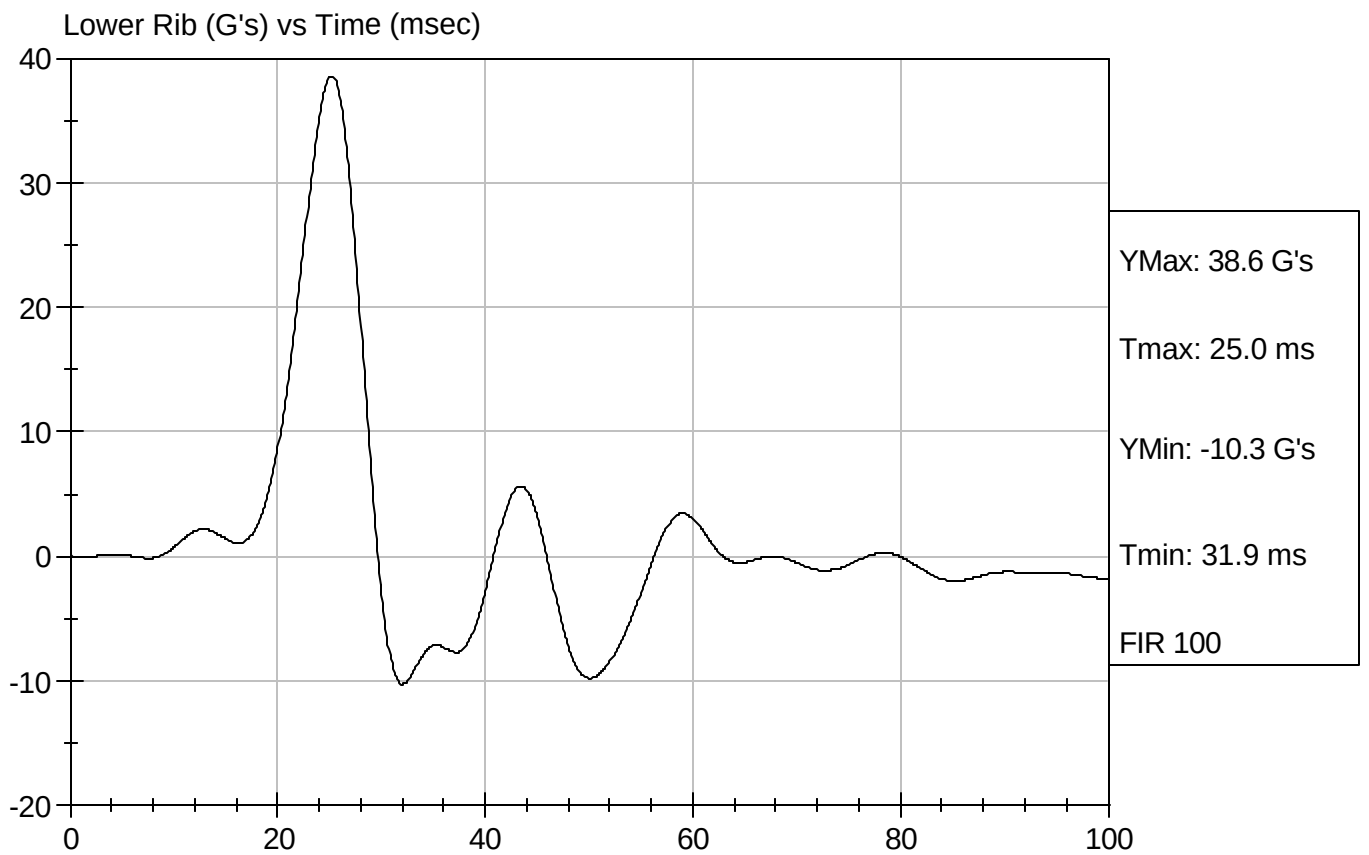
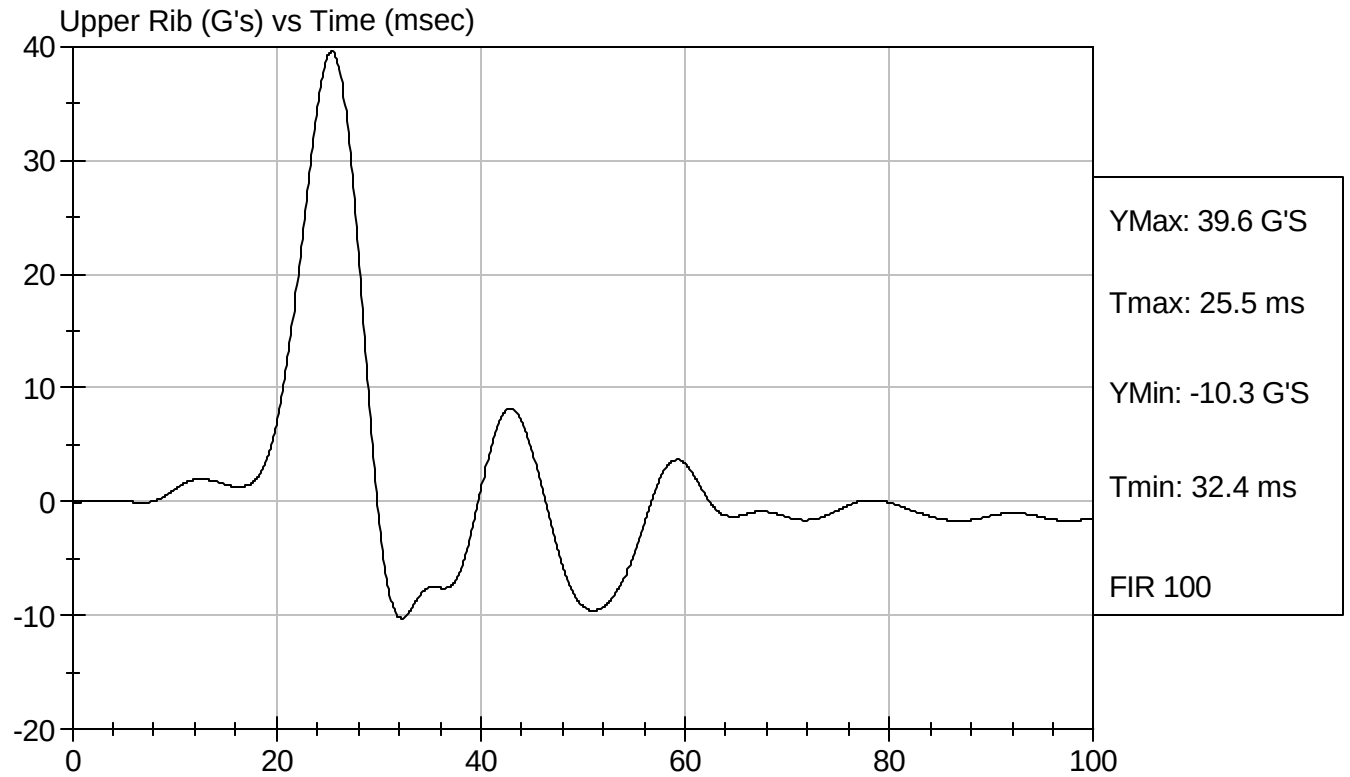
Test Date


Approved By



Test Desc: Thorax Impact
Component ID: D061472

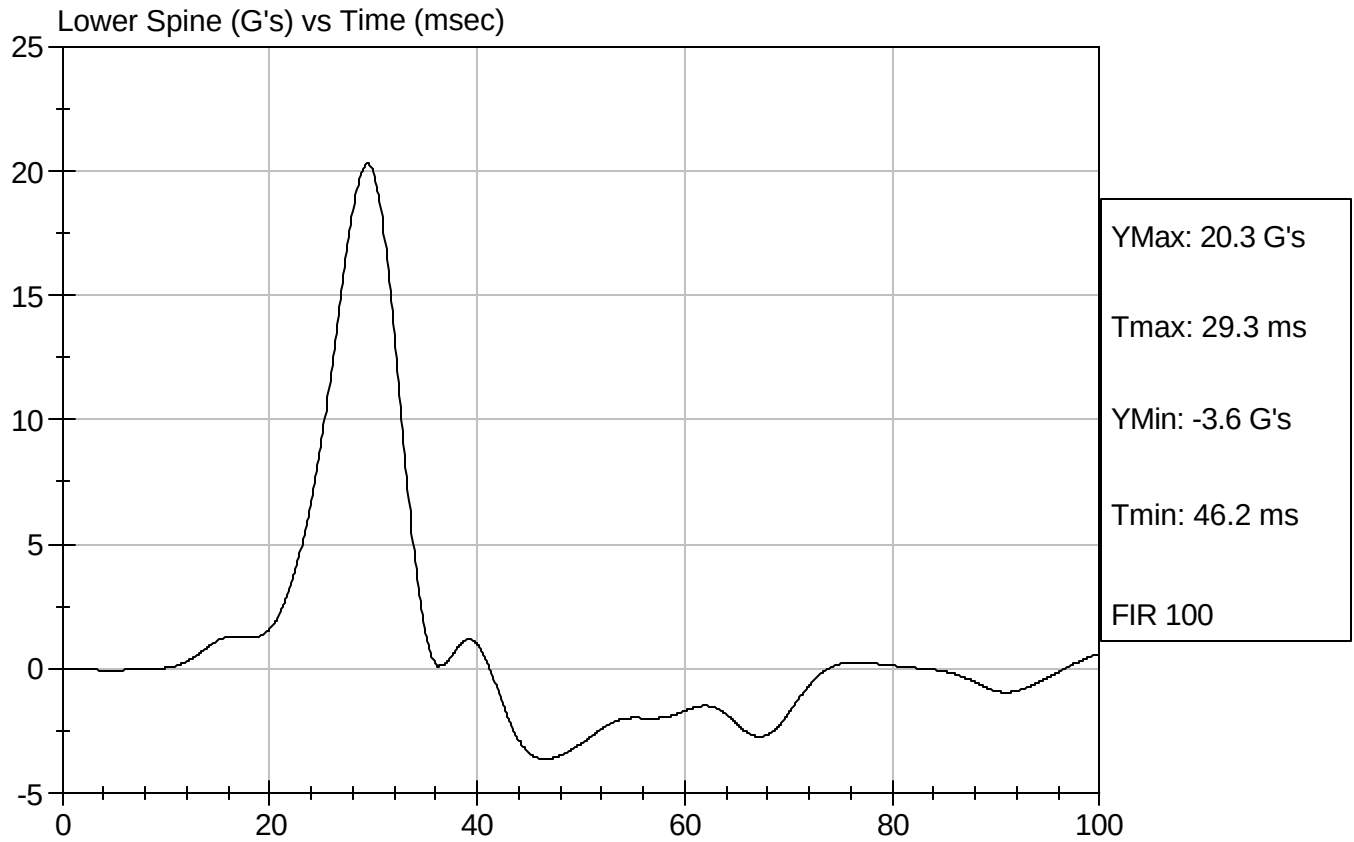
Test Date: 05/23/2006
Speed: 14.07 ft/sec, 4.29 m/sec





Test Desc: Thorax Impact
Component ID: D061472

Test Date: 05/23/2006
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: D061473

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	29	Pass
Probe Velocity	m/s	4.27 - 4.33	4.31	Pass
Pelvis Acceleration	G's	40 - 60	42	Pass
			Overall Test Results	Pass

Jessica Hall
Laboratory Technician

05/23/2006

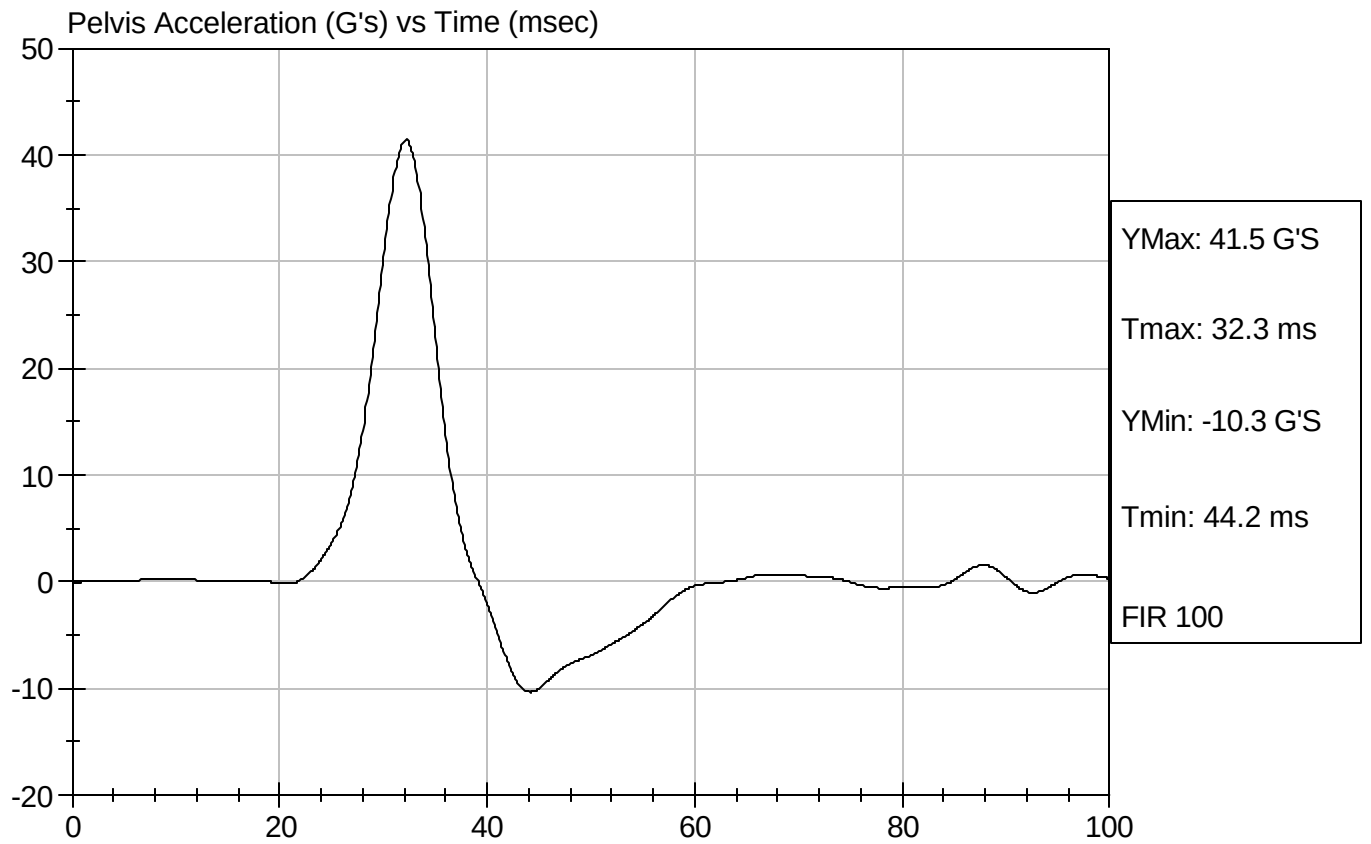
Test Date

David Winkelbauer
Approved By



Test Desc: Pelvis Impact
Component ID: D061473

Test Date: 05/23/2006
Speed: 14.14 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: D061474

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.5	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Force At 12.7 mm	N	104 -162	138	Pass
Force At 19 mm	N	163 - 222	195	Pass
Force At 25.4 mm	N	222 - 280	265	Pass
Force At 33 mm	N	325 - 391	368	Pass
Overall Test Results				Pass


Laboratory Technician

05/23/2006
Test Date


Approved By

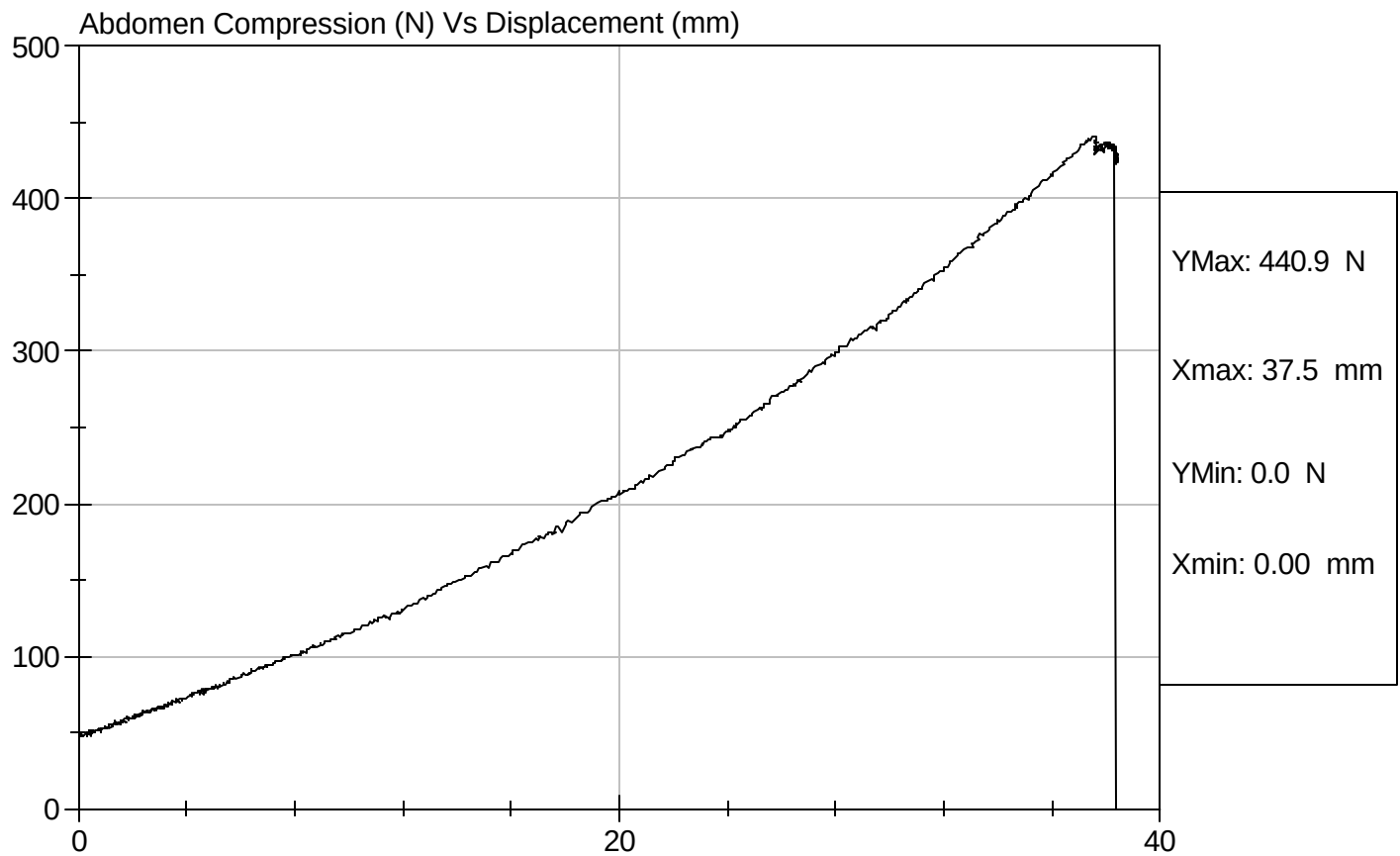


Test Description: Abdomen Compression

Test Date: 05/23/2006

Component: D061474

Speed: 0 ft/sec, 0 m/sec



SID Calibration Data Sheet
Side Impact Dummy
Lumbar Flexion Calibration

ATD Serial No: 272

Test I.D: D061475

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Force At 0 deg	N	0 - 26.7	0.0	Pass
Force At 20 deg	N	97.9 - 151.2	109.4	Pass
Force At 30 deg	N	151.2 - 204.6	167.4	Pass
Force At 40 deg	N	204.6 - 258.0	225.3	Pass
Return Angle	Deg	12 Maximum	5	Pass
			Overall Test Results	Pass


Laboratory Technician

05/23/2006

Test Date


Approved By

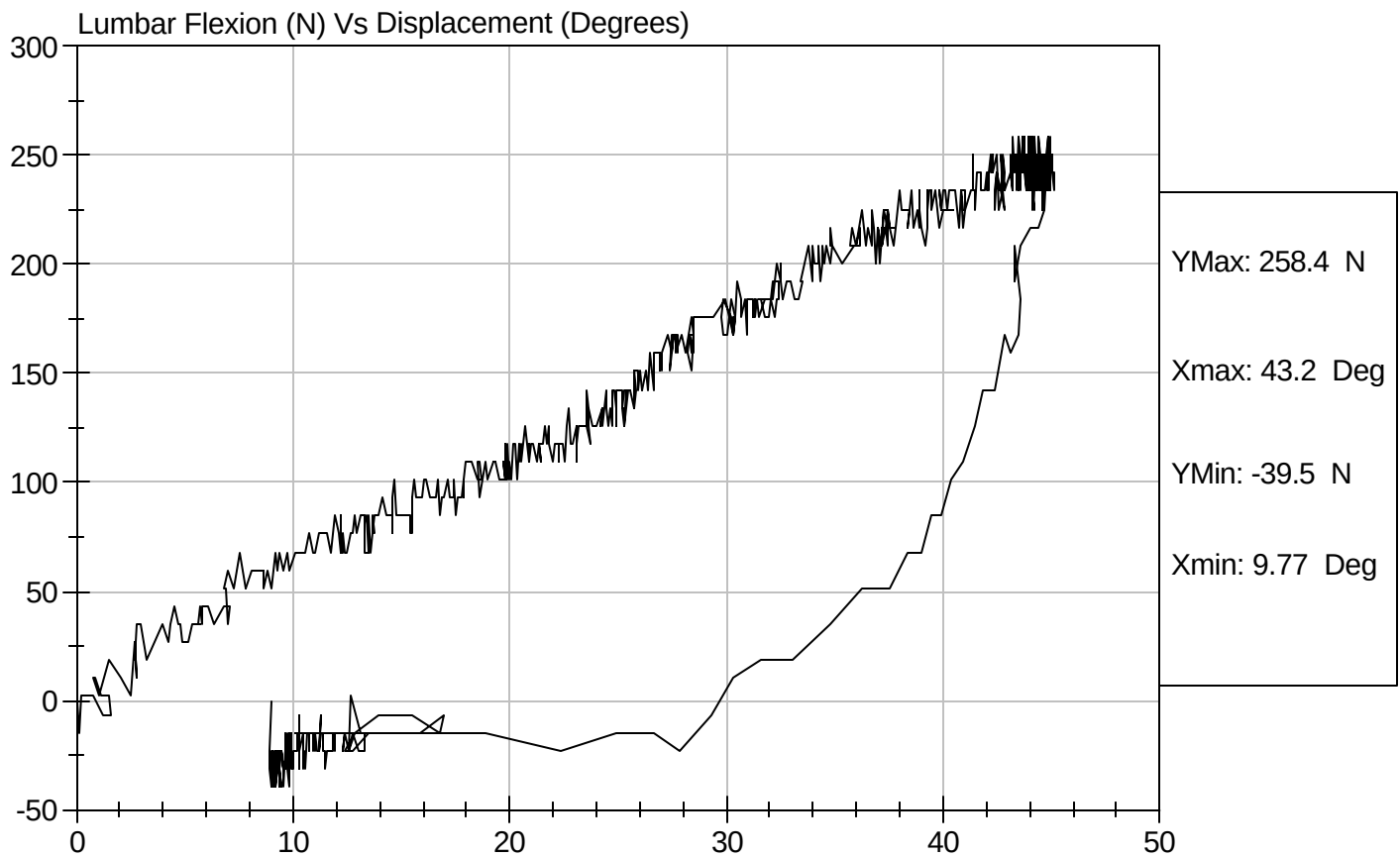


Test Description: Lumbar Flexion

Test Date: 05/23/2006

Component: D061475

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: D061479

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	21.8	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Impact Velocity		m/s	6.89 to 7.13	7.11	Pass
Pendulum Deceleration	10 msec	m/s	1.96 to 2.55	2.25	Pass
	20 msec	m/s	4.12 to 5.10	4.35	Pass
	30 msec	m/s	5.73 to 7.01	6.00	Pass
	40 to 70 msec	m/s	6.27 to 7.64	7.15	Pass
Midsagittal Plane Max Rotation		deg	66 to 82	71	Pass
Head Rotation Peak to Zero - Decay Time		msec	58 to 67	60	Pass
Max. Mx at Occipital Condyles		Nm	73 to 88	75	Pass
Mx Peak To Zero - Decay Time		msec	49 to 64	53	Pass
Mx Peak to Max. Head Rotation		msec	2 to 16	5	Pass


 Laboratory Technician

05/23/2006

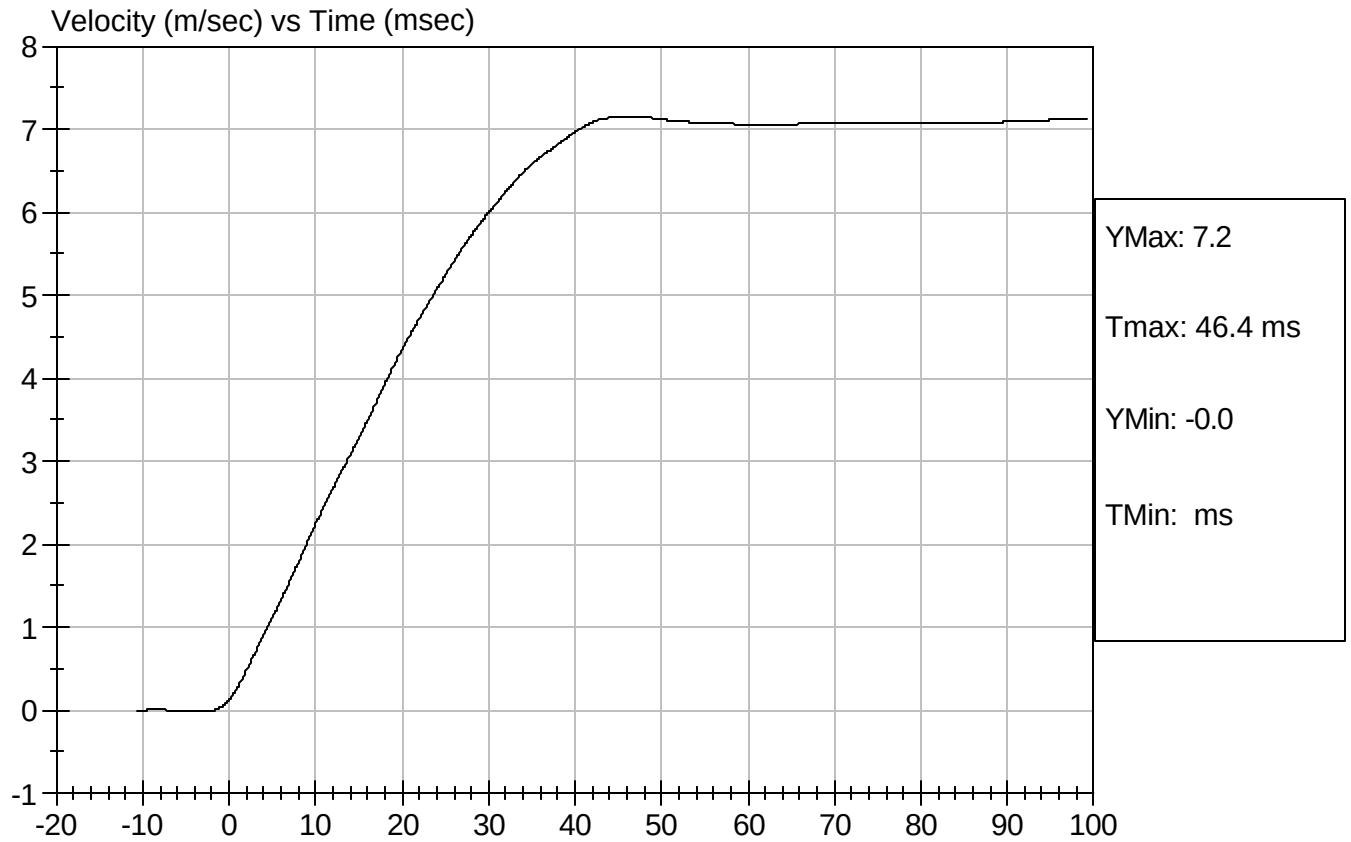
Test Date


 Approved By



Test Desc: Neck Bending
Component ID: D061479

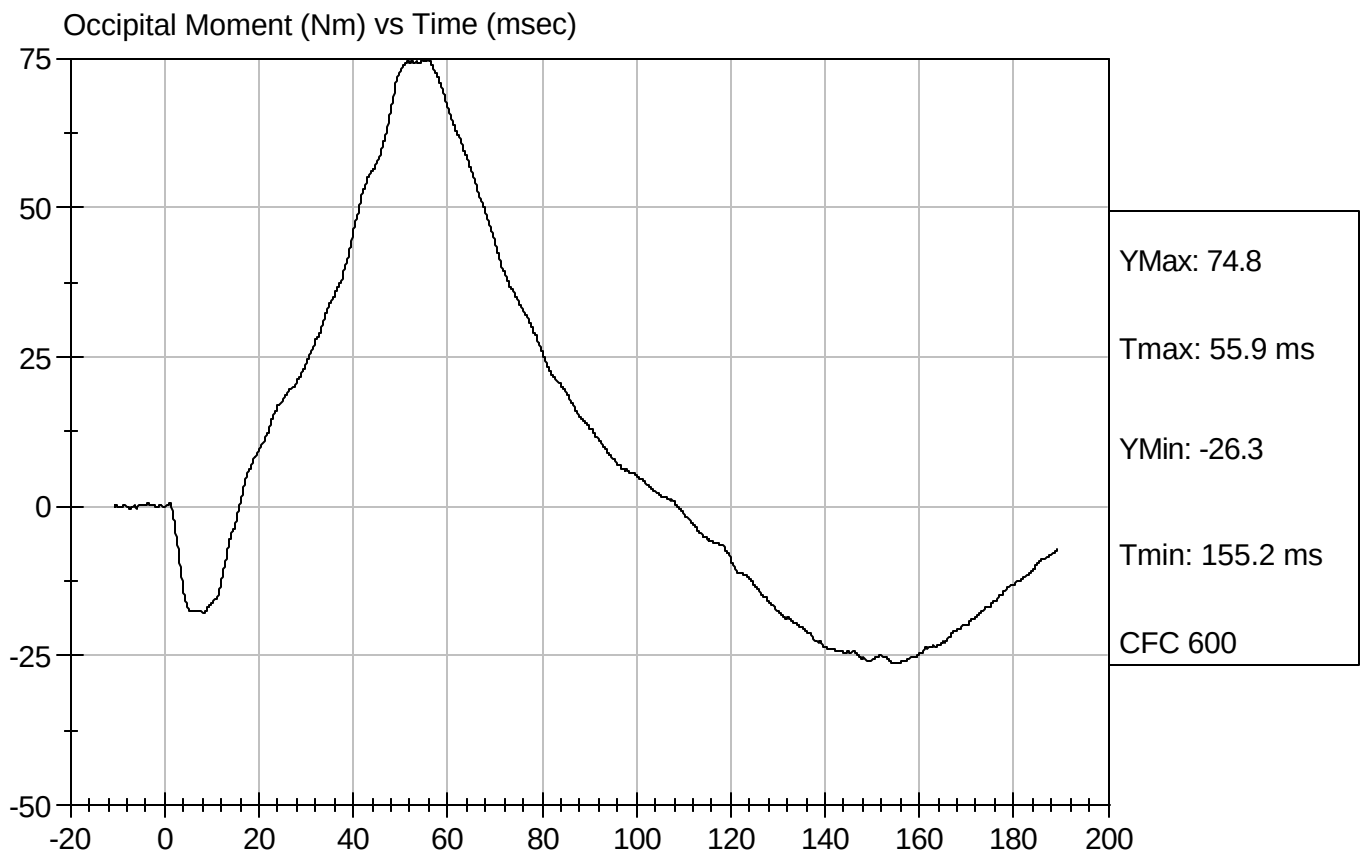
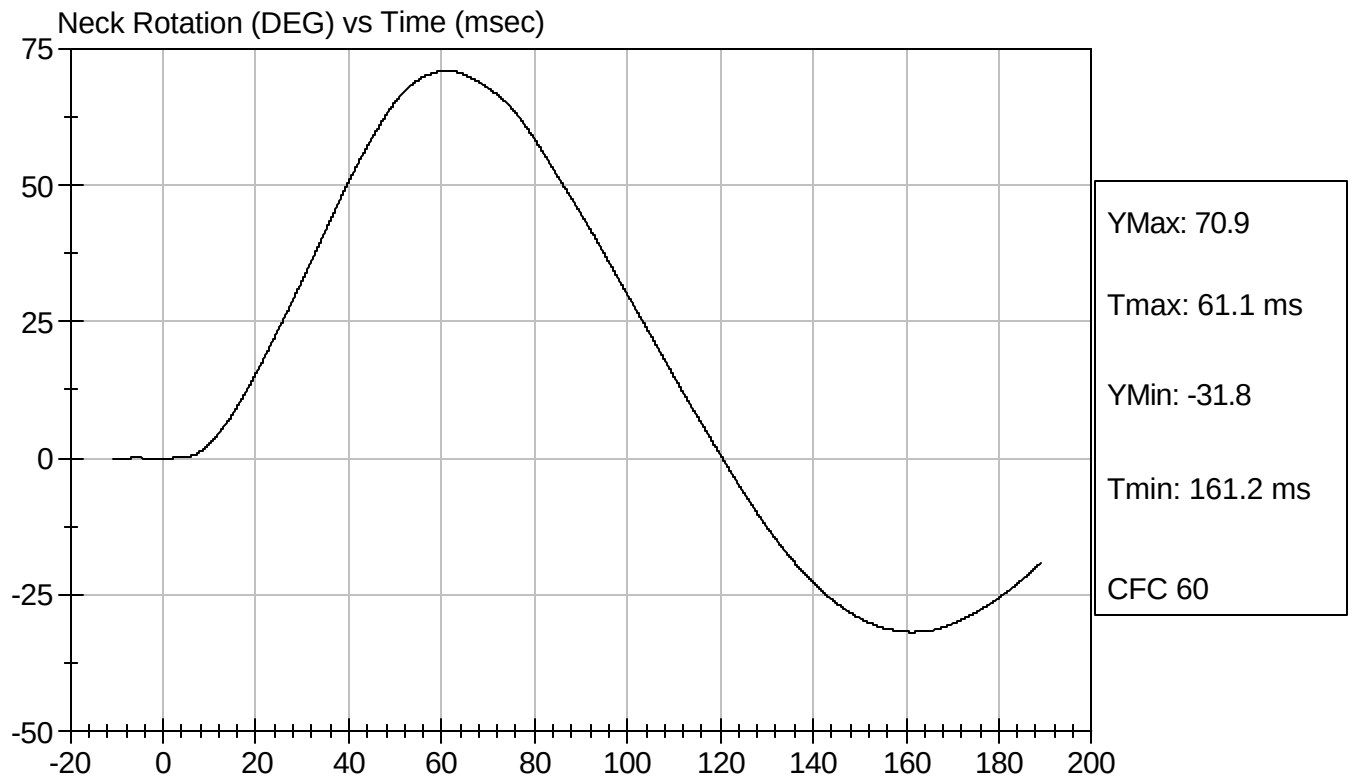
Test Date: 05/23/2006
Speed: 23.33 ft/sec, 7.11 m/sec





Test Desc: Neck Bending
Component ID: D061479

Test Date: 05/23/2006
Speed: 23.33 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: D061541

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	41	Pass
Peak Resultant Acceleration	G's	120 to 150	137	Pass
Is Resultant Curve Unimodal?	Yes/No	15% of peak	Yes	Pass
Peak Longitudnal Acceleration	G's	+/- 15	8	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

05/31/2006
Test Date

David Winkelbauer
Approved By



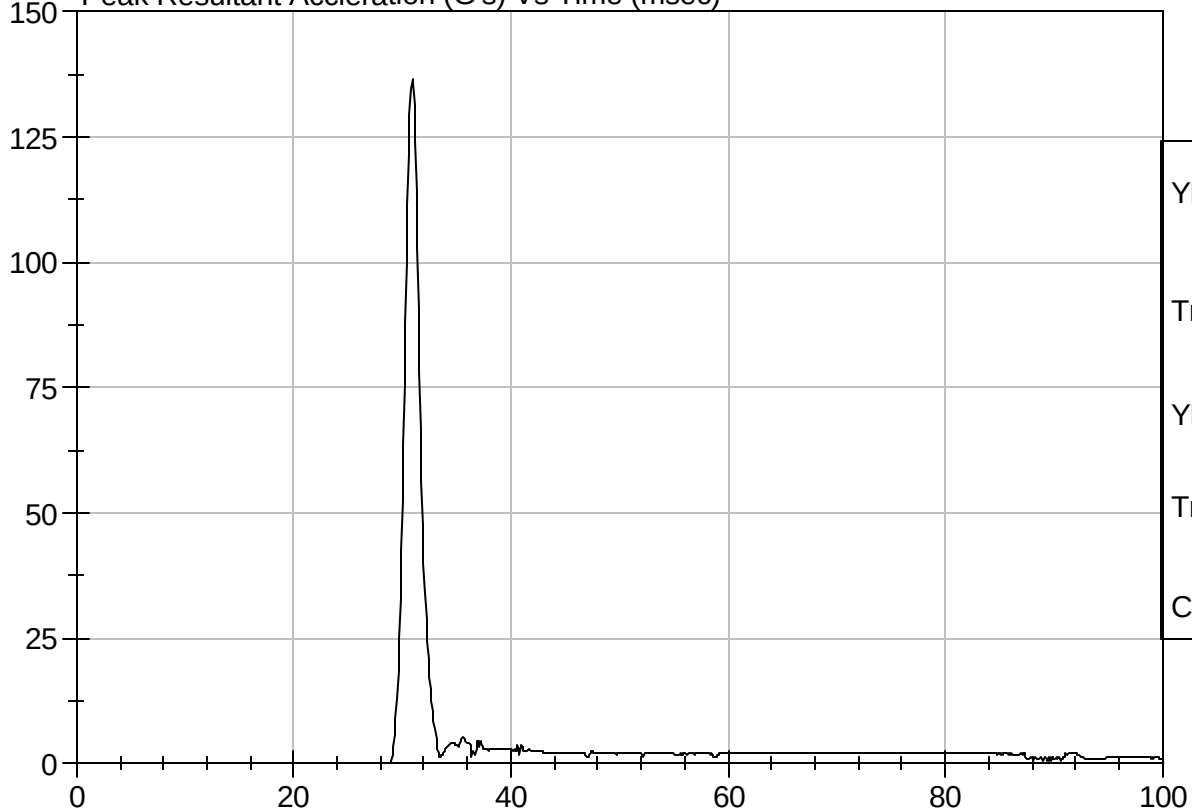
Test Description: Head Drop

Test Date: 05/31/2006

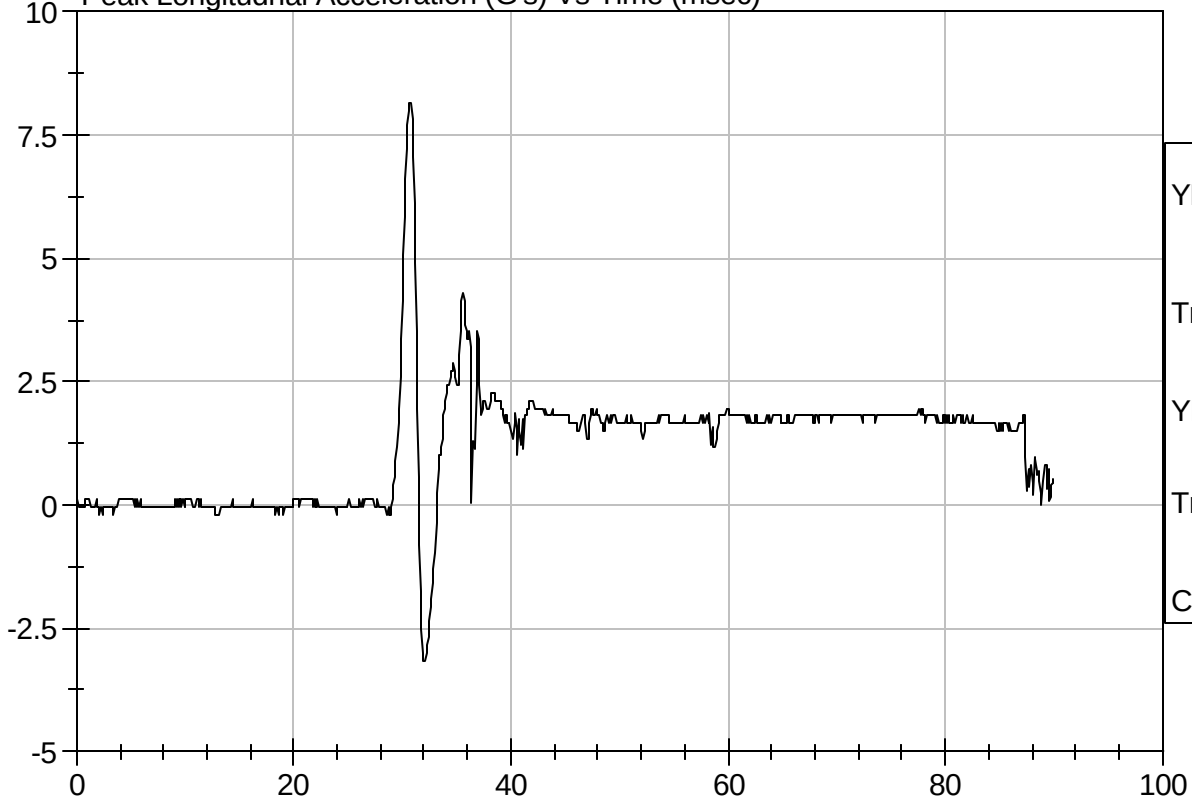
Component: D061541

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: D061542

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	56	Pass
Probe Velocity	m/s	4.22 - 4.31	4.24	Pass
Upper Rib	G's	37 - 46	40	Pass
Lower Rib	G's	37 - 46	41	Pass
Lower Spine	G's	15 - 22	18	Pass
Overall Test Results				Pass


Laboratory Technician

05/31/2006

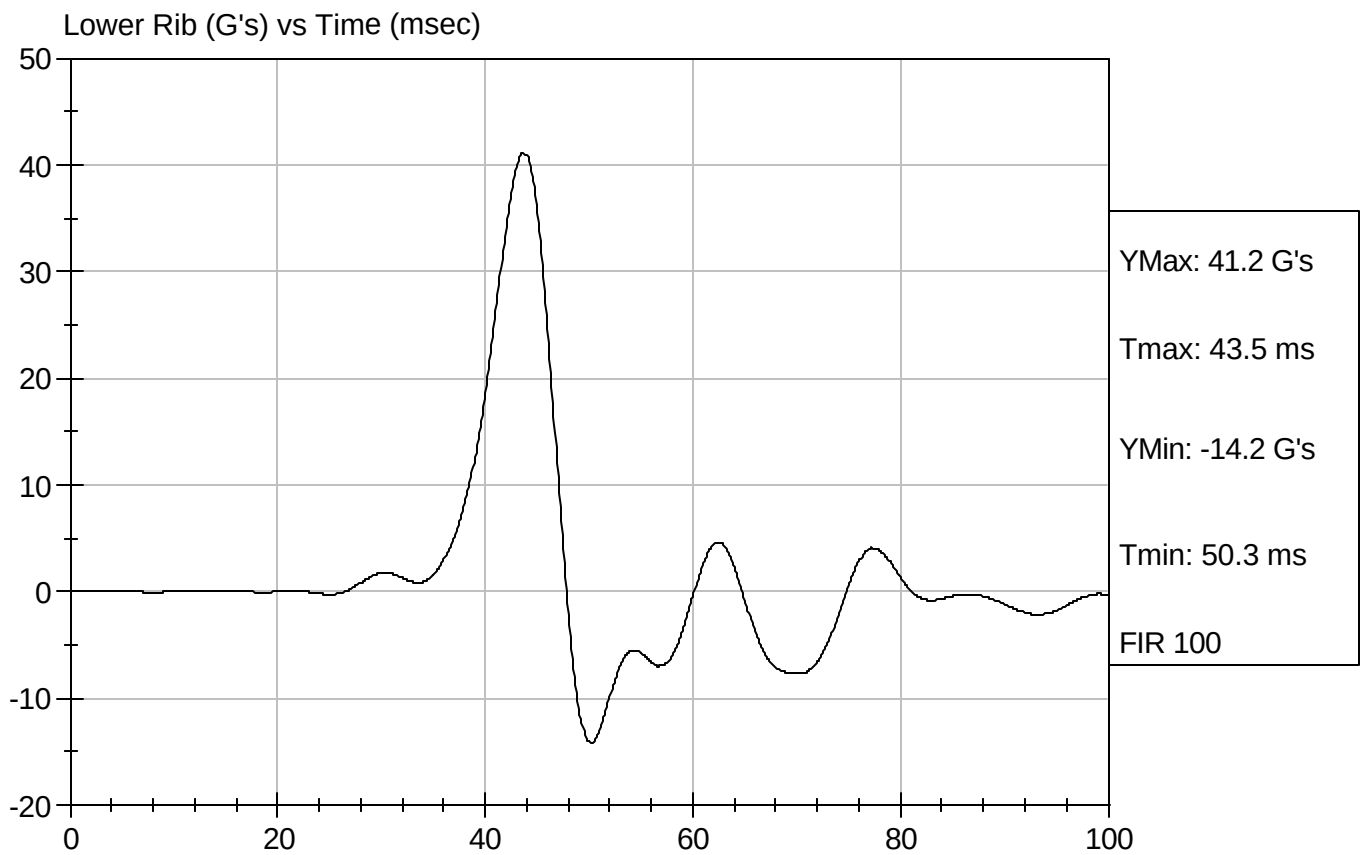
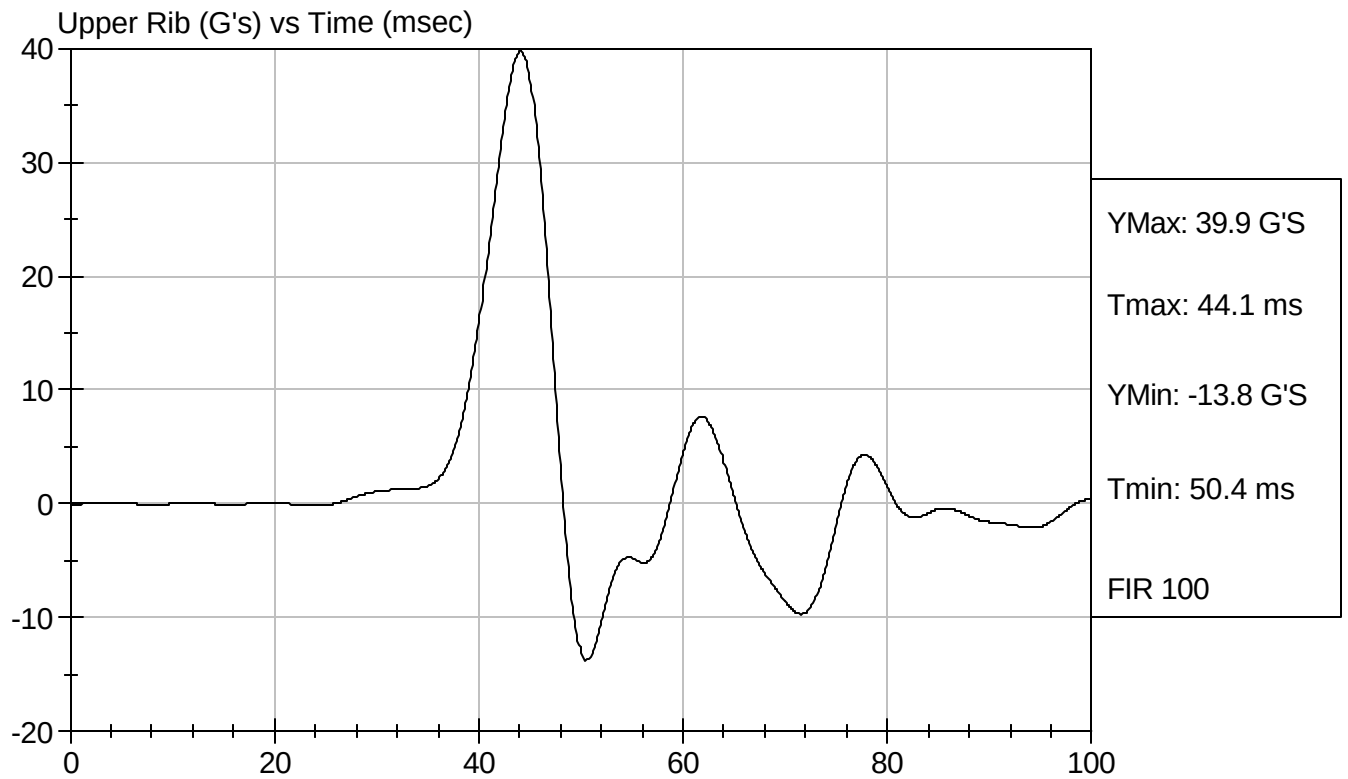
Test Date


Approved By



Test Desc: Thorax Impact
Component ID: D061542

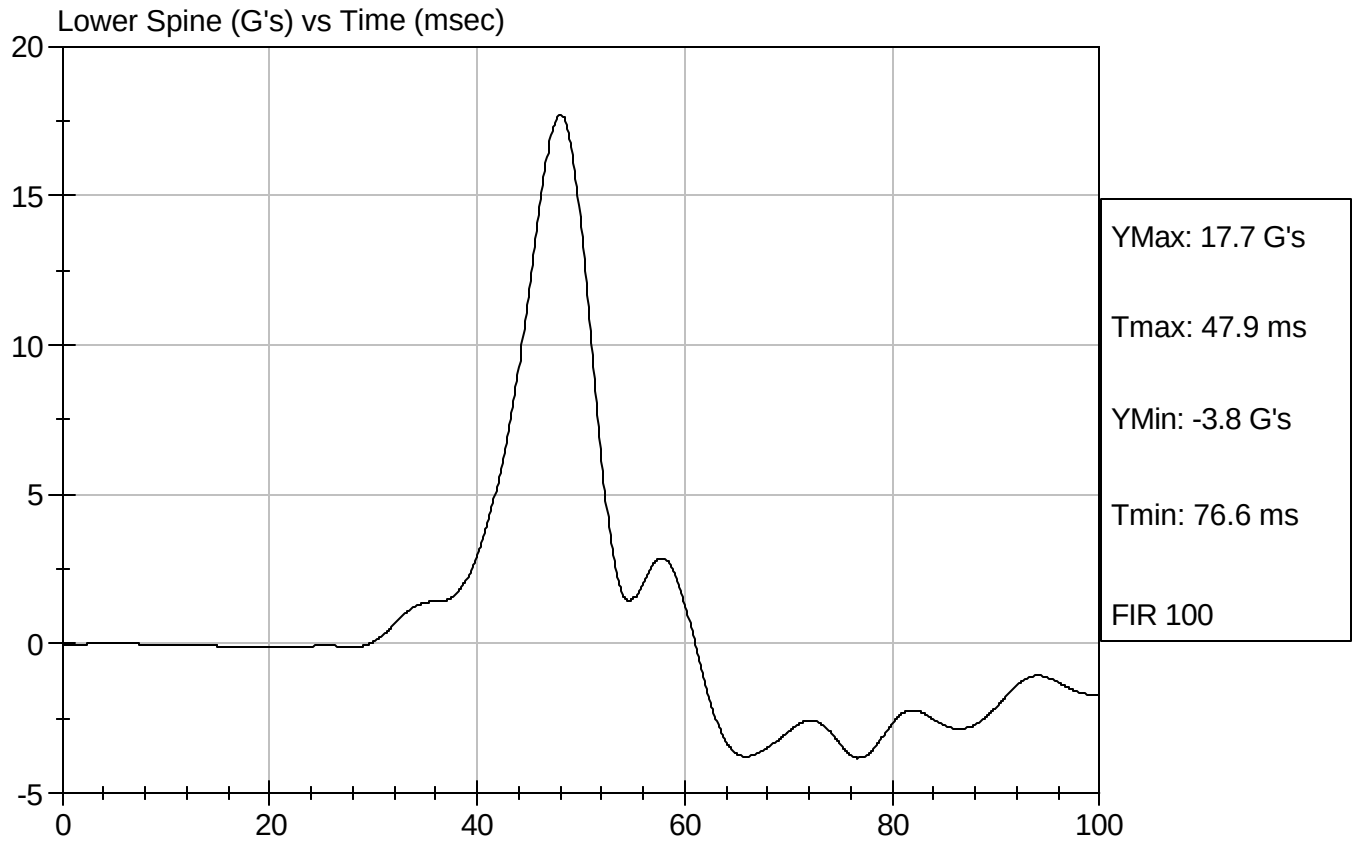
Test Date: 05/31/2006
Speed: 13.92 ft/sec, 4.24 m/sec





Test Desc: Thorax Impact
Component ID: D061542

Test Date: 05/31/2006
Speed: 13.92 ft/sec, 4.24 m/sec



SID Calibration Data Sheet
Side Impact Dummy
Pelvis Impact Test

ATD Serial No: 272

Test I.D: D061543

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	56	Pass
Probe Velocity	m/s	4.27 - 4.33	4.32	Pass
Pelvis Acceleration	G's	40 - 60	42	Pass
			Overall Test Results	Pass

Jessica Hall
Laboratory Technician

05/31/2006

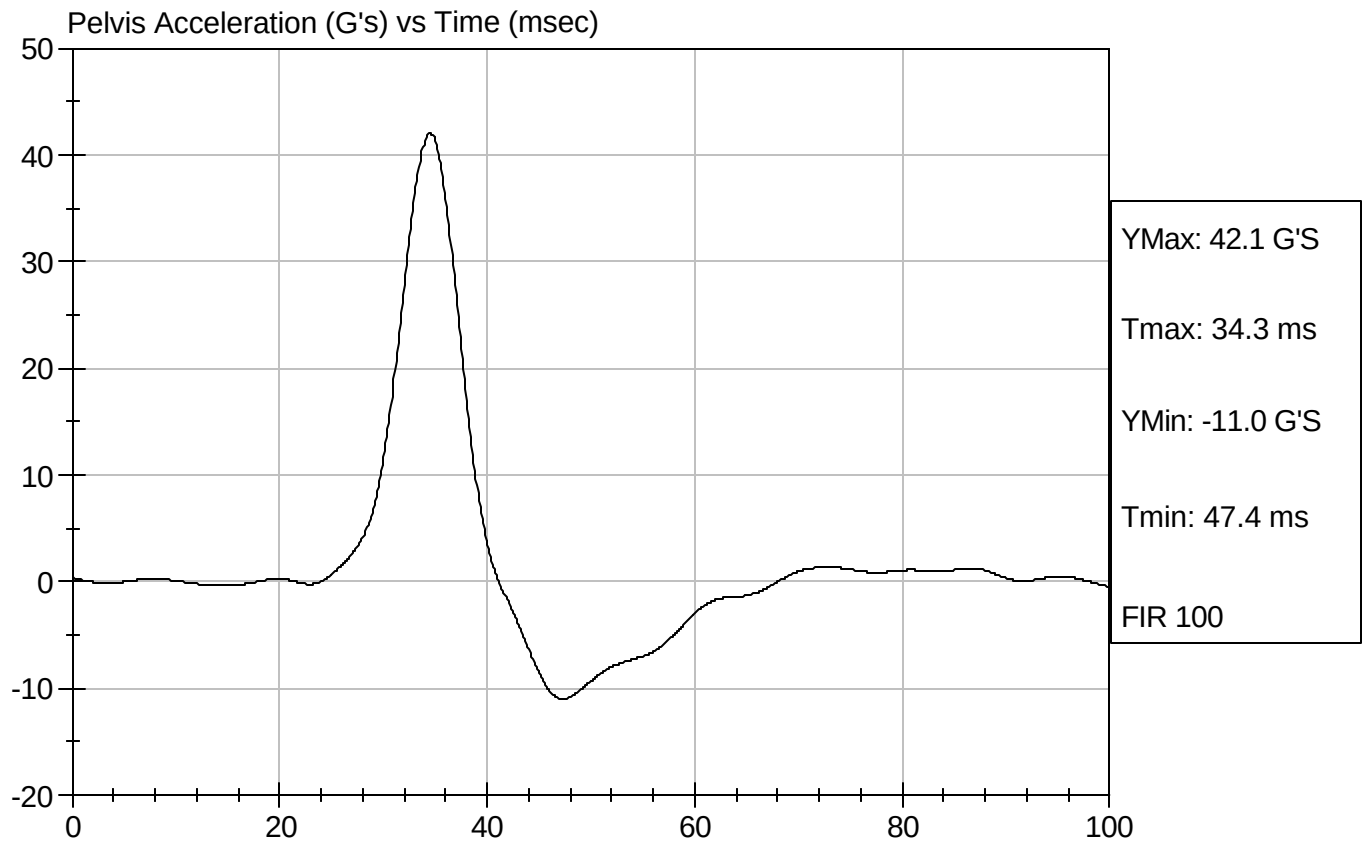
Test Date

David Winkelbauer
Approved By



Test Desc: Pelvis Impact
Component ID: D061543

Test Date: 05/31/2006
Speed: 14.18 ft/sec, 4.32 m/sec



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

ATD Serial No: 272

Test I.D: D061544

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	23.1	Pass
Laboratory Relative Humidity	%	10 to 70	41	Pass
Force At 12.7 mm	N	104 -162	141	Pass
Force At 19 mm	N	163 - 222	191	Pass
Force At 25.4 mm	N	222 - 280	256	Pass
Force At 33 mm	N	325 - 391	350	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

05/31/2006
Test Date

David Winkelbauer
Approved By

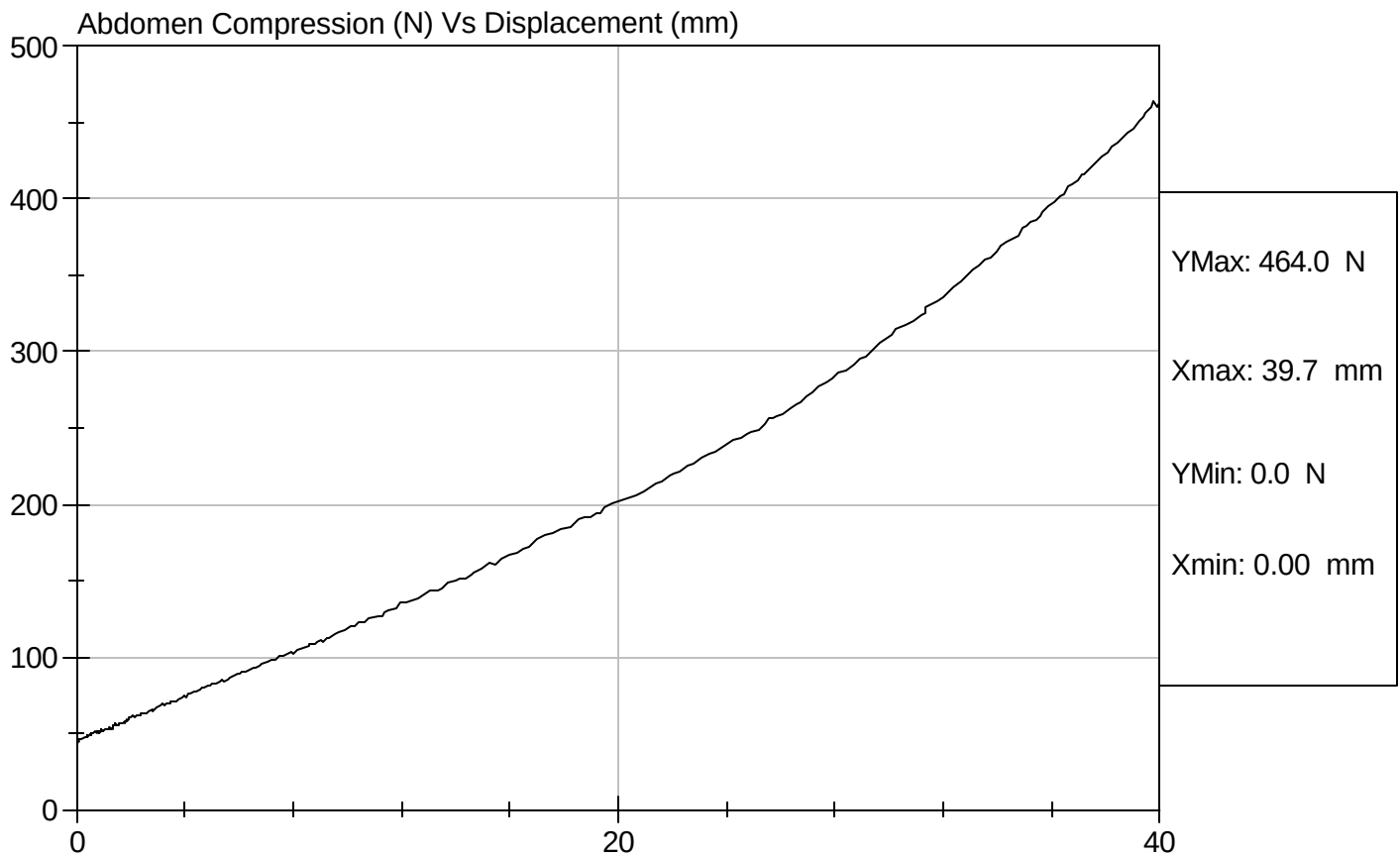


Test Description: Abdomen Compression

Test Date: 05/31/2006

Component: D061544

Speed: 0 ft/sec, 0 m/sec



SID Calibration Data Sheet
Side Impact Dummy
Lumbar Flexion Calibration

ATD Serial No: 272

Test I.D: D061545

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.5	23.0	Pass
Laboratory Relative Humidity	%	10 to 70	40	Pass
Force At 0 deg	N	0 - 26.7	0.0	Pass
Force At 20 deg	N	97.9 - 151.2	105.5	Pass
Force At 30 deg	N	151.2 - 204.6	179.9	Pass
Force At 40 deg	N	204.6 - 258.0	237.7	Pass
Return Angle	Deg	12 Maximum	3	Pass
Overall Test Results			Pass	


Laboratory Technician

05/31/2006

Test Date


Approved By

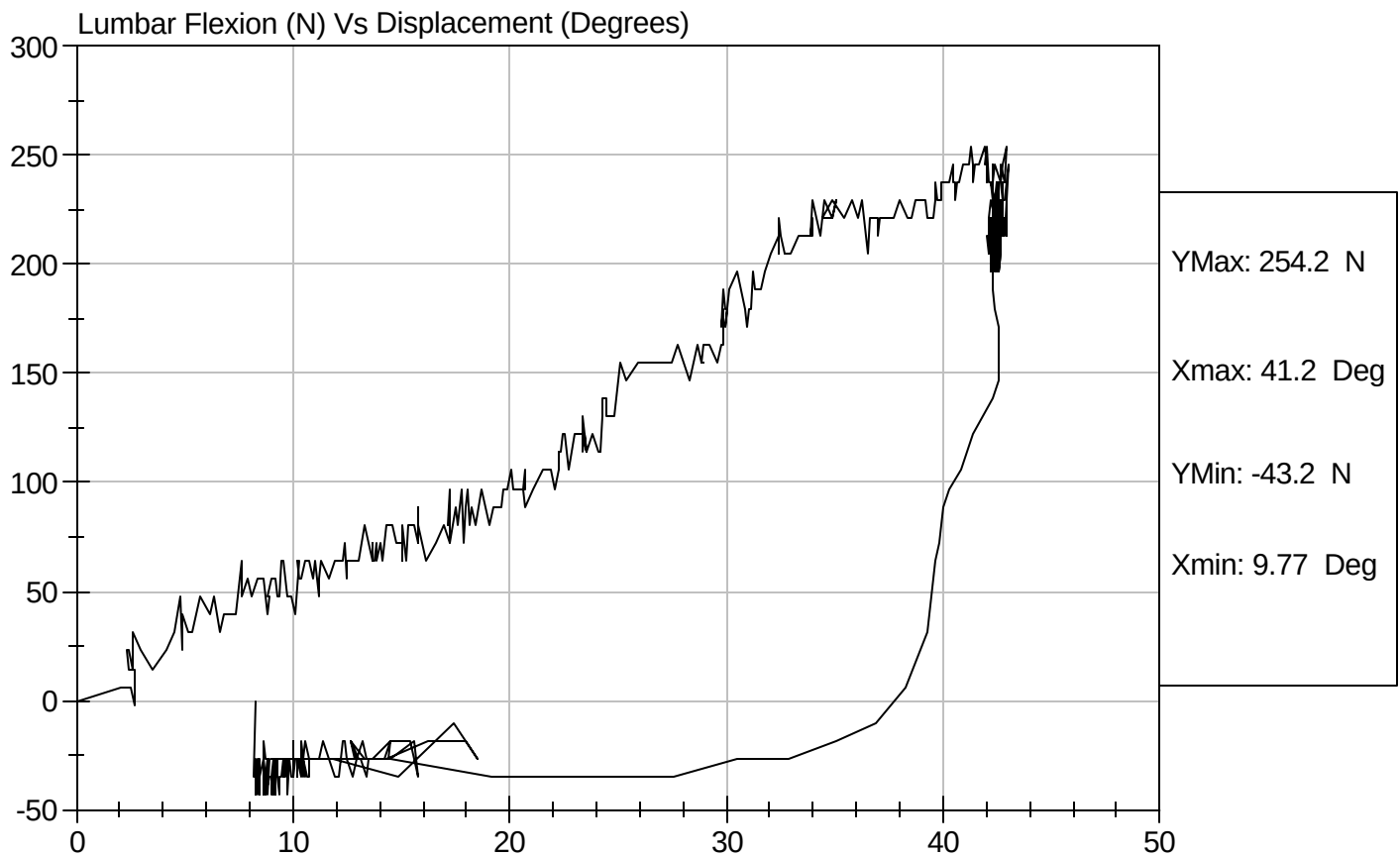


Test Description: Lumbar Flexion

Test Date: 05/31/2006

Component: D061545

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: D061549

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	22.1	Pass
Laboratory Relative Humidity		%	10 to 70	40	Pass
Impact Velocity		m/s	6.89 to 7.13	7.05	Pass
Pendulum Deceleration	10 msec	m/s	1.96 to 2.55	2.24	Pass
	20 msec	m/s	4.12 to 5.10	4.53	Pass
	30 msec	m/s	5.73 to 7.01	6.26	Pass
	40 to 70 msec	m/s	6.27 to 7.64	7.31	Pass
Midsagittal Plane Max Rotation		deg	66 to 82	71	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	55	Pass
Mx Peak to Max. Head Rotation		msec	2 to 16	8	Pass


 Laboratory Technician

05/31/2006

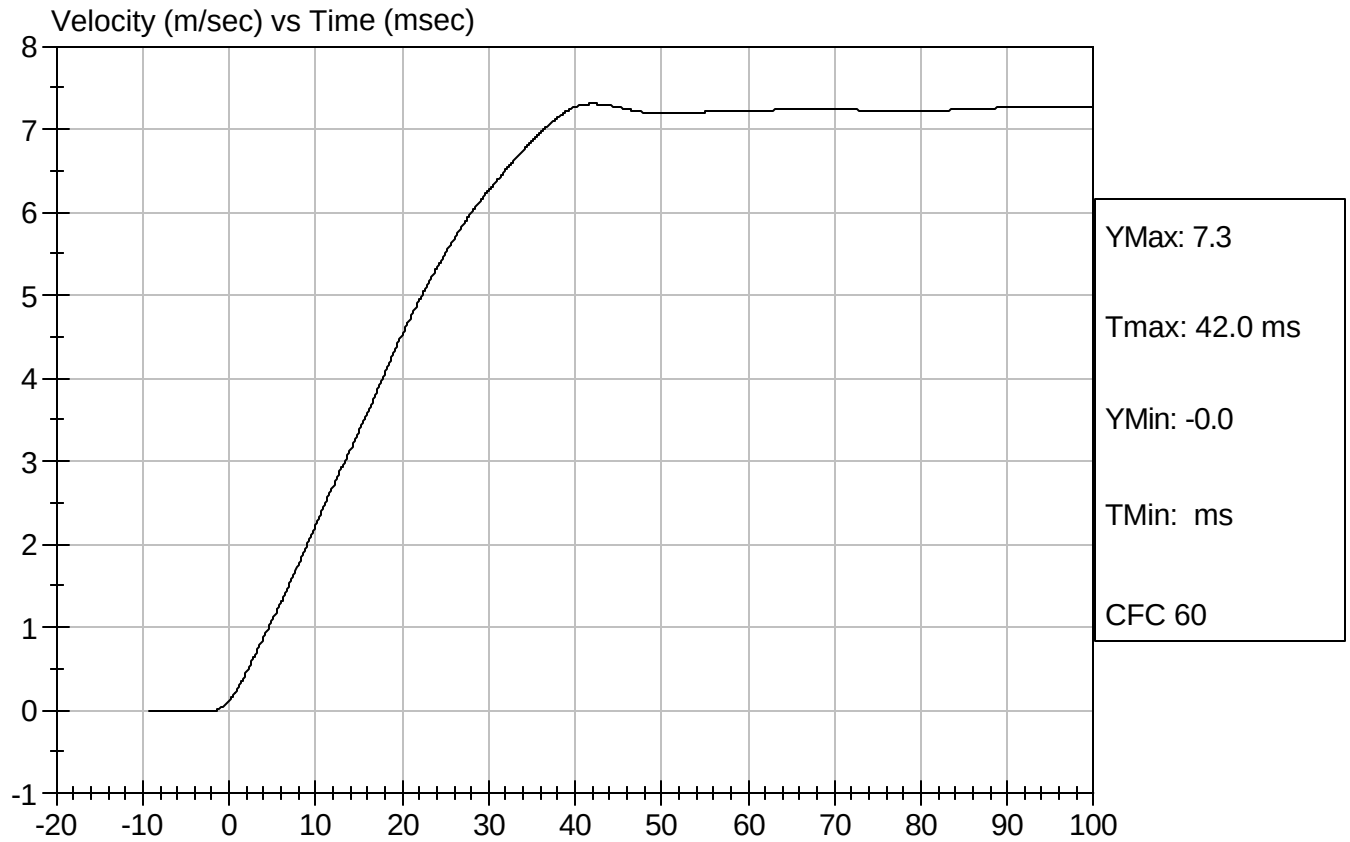
Test Date


 Approved By



Test Desc: Neck Bending
Component ID: D061549

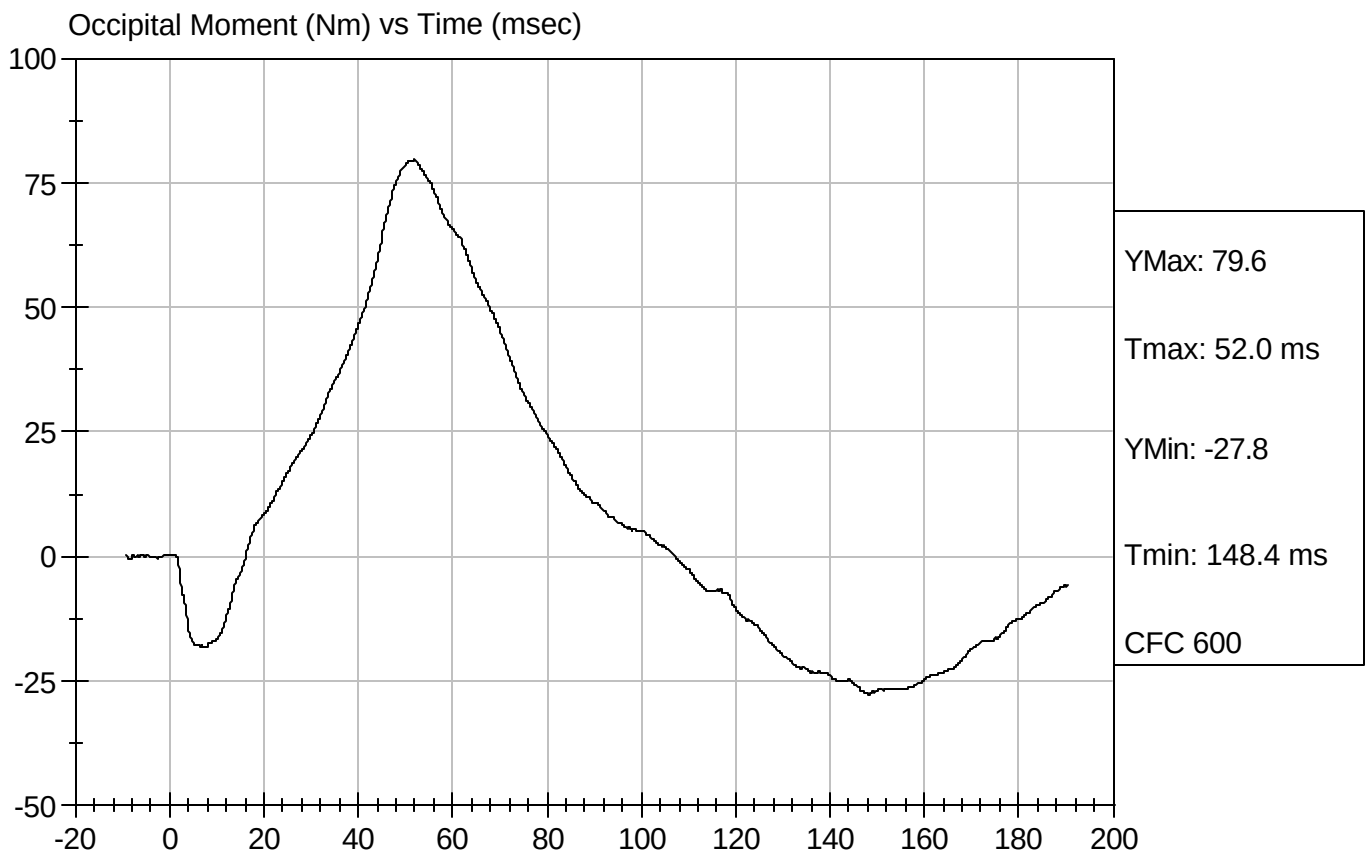
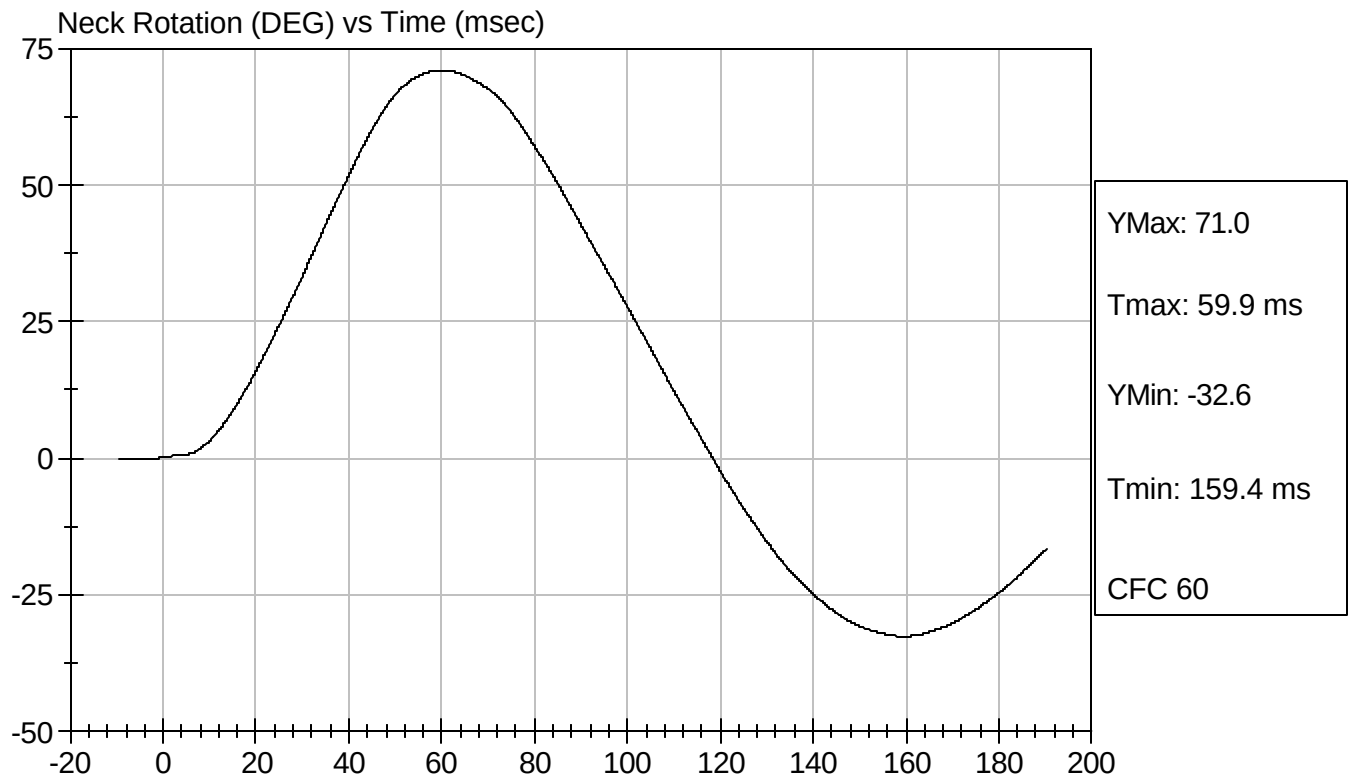
Test Date: 05/31/2006
Speed: 23.12 ft/sec, 7.05 m/sec





Test Desc: Neck Bending
Component ID: D061549

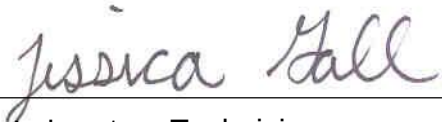
Test Date: 05/31/2006
Speed: 23.12 ft/sec, 7.05 m/sec



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


Laboratory Technician

Approved By

05/31/2006

Test Date