

REPORT NUMBER: SPNCAP-MGA-2012-060

**NEW CAR ASSESSMENT PROGRAM (NCAP)
Side Impact Pole Test**

**HONDA MOTOR CO., LTD
2012 Honda Civic IMA 4-Dr Sedan
NHTSA No.: MC5302**

**MGA RESEARCH CORPORATION
5000 Warren Road
Burlington, WI 53105**



Test Date: February 14, 2012

Final Report Date: April 12, 2012

FINAL REPORT

**U.S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Office of Crashworthiness Standards
Mail Code: NVS-111
1200 New Jersey Ave, SE
Room W43-410
Washington, DC 20590**

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Approved by: 
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Approval Date: April 12, 2012

FINAL REPORT ACCEPTANCE BY OCWS:

Division Chief, New Car Assessment Program
NHTSA, Office of Crashworthiness Standards

Date: _____

COTR, New Car Assessment Program
NHTSA, Office of Crashworthiness Standards

Date: _____

Technical Report Documentation Page

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16. Abstract A 32.2 km/h (20 mph), 75° oblique impact Side NCAP Test was conducted on the subject 2012 Honda Civic IMA 4-Dr Sedan in accordance with the specifications of the Office of Crashworthiness Standards Side NCAP Pole Laboratory Test Procedure for the generation of consumer information on vehicle side pole crash protection. The test was conducted at MGA Research Corporation, in Burlington, Wisconsin, on February 14, 2012. The impact velocity was 32.0 km/h, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 21.8°C. The test vehicle post-test maximum crush was 370 mm at level 3. The test vehicle's performance was as follows: <table border="1" style="margin: 10px auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">Measurement Description</th> <th colspan="3">Driver ATD (SID-IIs)</th> </tr> <tr> <th>Units</th> <th>Threshold</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₃₆)</td> <td>N/A</td> <td>1000</td> <td>169</td> </tr> <tr> <td>Resultant Lower Spine Acceleration</td> <td>Gs</td> <td>82</td> <td>49</td> </tr> <tr> <td>Total Pelvic Force (sum of acetabular and iliac forces)</td> <td>N</td> <td>5525</td> <td>3634</td> </tr> <tr> <td>Maximum Thoracic Rib Deflection</td> <td>mm</td> <td>38*</td> <td>15</td> </tr> <tr> <td>Maximum Abdomen Rib Deflection</td> <td>mm</td> <td>45*</td> <td>26</td> </tr> </tbody> </table> * Proposed IARV 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.						Measurement Description	Driver ATD (SID-IIs)			Units	Threshold	Result	Head Injury Criteria (HIC ₃₆)	N/A	1000	169	Resultant Lower Spine Acceleration	Gs	82	49	Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	3634	Maximum Thoracic Rib Deflection	mm	38*	15	Maximum Abdomen Rib Deflection	mm	45*	26
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17. Key Words New Car Assessment Program (NCAP) Side Impact Pole Part 572V SID-IIs				18. Distribution Statement Copies of this report are available from: National Highway Traffic Safety Administration Technical Information Services Division, NPO-411 1200 New Jersey Ave, SE, Room E12-100 Washington, DC 20590 Email: tis@nhtsa.dot.gov FAX: 202-493-2833																												
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TABLE OF CONTENTS

<u>Section</u>		<u>Page No.</u>
----------------	--	-----------------

1	Test Purpose and Procedure	1
2	Summary of Test Results	2
3	Occupant and Vehicle Information	4

<u>Data Sheet No.</u>		<u>Page No.</u>
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1	General Test and Vehicle Parameter Data	5
2	Seat, Seat Belt, Steering Wheel Adjustment and Fuel System Data	8
3	Dummy Longitudinal Clearance Dimensions	11
4	Dummy Lateral Clearance Dimensions	12
5	Camera and Instrumentation Data	13
6	Test Vehicle Accelerometer Data	14
7	Rigid Pole Load Cell Data	15
8	Post Test Observations	16
9	Vehicle Profile Measurements	18
10	Vehicle Exterior Crush Measurements	19
11	FMVSS 301 Fuel System Integrity Post-Impact Data	22
12	Dummy/Vehicle Temperature Stabilization Data	23

Appendix

A	Photographs	A
B	Dummy Response Data Plots	B
C	Dummy Configuration and Performance Verification Data	C
D	Test Equipment and Instrumentation Calibration Data	D

SECTION 1

TEST PURPOSE AND PROCEDURE

This side impact test is part of the MY 2012 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-09-D-00124. The purpose of this test is to generate comparative side impact performance in a 2012 Honda Civic IMA 4-Dr Sedan. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Side NCAP Pole Laboratory Test Procedure, dated August 2011.

SECTION 2 SUMMARY OF TEST RESULTS

A rigid pole side impact test was conducted on a 2012 Honda Civic IMA 4-Dr Sedan. The subject vehicle was towed into the rigid pole at an angle of 75° and a velocity of 32.0 km/h. The test was conducted by MGA Research Corporation in Burlington, Wisconsin, on February 14, 2012. Pre-test and post-test photographs of the test vehicle and side impact dummy (SID-IIs) are included in Appendix A of this report.

One Part 572V (SID-IIs) dummy was placed in the driver designated seating position according to instructions specified in the OCWS Side NCAP Pole Laboratory Test Procedure dated August 2011. Camera locations and other pertinent camera information are included in this report.

The Part 572V (SID-IIs) dummy was instrumented accordingly:

Primary and Redundant Head CG Triaxial Accelerometers
Chest Upper Rib, Middle Rib, and Lower Rib Y-Axis Displacement Potentiometers
Abdomen Upper Rib and Lower Rib Y-Axis Displacement Potentiometers
Lower Spine (T12) Triaxial Accelerometers
Acetabulum and Iliac Wing Y-Axis Load Cells

Appendix B contains the dummy response data. Dummy configuration and performance verification data can be found in Appendix C of this report. Appendix D contains the test equipment and instrumentation calibration data.

Injury readings for the SID-IIs dummy were recorded as follows:

Measurement Description	Driver ATD (SID-IIs)		
	Units	Threshold	Result
Head Injury Criteria (HIC ₃₆)	N/A	1000	169
Resultant Lower Spine Acceleration	Gs	82	49
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	3634
Maximum Thoracic Rib Deflection	mm	38*	15
Maximum Abdomen Rib Deflection	mm	45*	26

*Proposed IARV

Supplemental restraint information is given below:

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Struck Side Driver		Struck Side Rear Passenger	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No		
Knee Airbag	No			
Side Curtain Airbag	Yes	Yes	Yes	Yes
Side Torso Airbag	Yes	Yes	No	
Seat Belt Pretensioner	Yes	Yes	No	
Seat Belt Load Limiter	Yes		No	
Other				

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

GENERAL COMMENTS

There was no valid data collected for:

Driver Seat Track Y after 12ms

Vehicle CG X is questionable from 174-178ms

Vehicle CG Y is questionable from 32-38ms

Left Mid B-Post Y is questionable from 11-21ms

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

SECTION 3
OCCUPANT AND VEHICLE INFORMATION

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2012 Honda Civic IMA 4-Dr Sedan
Test Program: NCAP Side Pole Impact Test

NHTSA No. MC5302
Test Date: 2/14/2012

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	MC5302	Traction Control System (TCS)	Yes
Model Year	2012	Auto-Leveling System	No
Make	Honda	Automatic Door Locks (ADL)	Yes
Model	Civic IMA	Power Window Auto-Reverse	No
Body Style	Sedan	Other Optional Feature	N/A
VIN	JHMF84F25CS002922	Driver Front Airbag	Yes
Body Color	Polished Metal	Driver Curtain Airbag	Yes
Odometer Reading (km/mi)	201 / 125	Driver Head/Torso Airbag	No
Engine Displacement (L)	1.5	Driver Torso Airbag	Yes
Type/No. Cylinders	4	Driver Torso/Pelvis Airbag	No
Engine Placement	Lateral	Driver Pelvis Airbag	No
Transmission Type	Automatic	Driver Knee Airbag	No
Transmission Speeds	Continuous	Rear Pass. Curtain Airbag	Yes
Overdrive	No	Rear Pass. Head/Torso Airbag	No
Final Drive	Front	Rear Pass. Torso Airbag	No
Roof Rack	No	Rear Pass. Torso/Pelvis Airbag	No
Sunroof/T-Top	No	Rear Pass. Pelvis Airbag	No
Running Boards	No	Driver Seat Belt Pretensioner	Yes
Tilt Steering Wheel	Yes	Rear Pass. Seat Belt Pretensioner	No
Power Seats	No	Driver Load Limiter	Yes
Anti-Lock Brakes (ABS)	Yes	Rear Pass. Load Limiter	No
All Wheel Drive (AWD)	No	Other Safety Restraint	N/A
Does owner's manual provide instruction to turn off automatic door locks?			Yes

DATA FROM CERTIFICATION LABEL

Manufactured By	Honda Motor Co., Ltd	GVWR (kg)	1740
Date of Manufacture	09/11	GAWR Front (kg)	910
Vehicle Type	Passenger Car	GAWR Rear (kg)	840

VEHICLE SEATING AND WEIGHT CAPACITY DATA

Measured Parameter	Front	Rear	Third	Total	
Designated Seating Capacity (DSC)	2	3		5	
Capacity Weight (VCW) (kg)				385	(A)
DSC x 68.04 kg				340	(B)
Rated Cargo and Luggage Weight (RCLW)				45	(A-B)

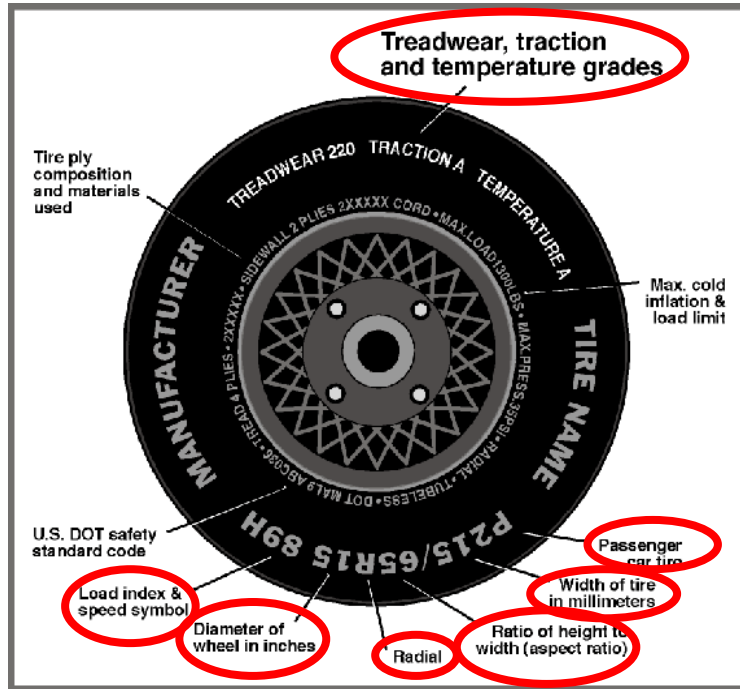
VEHICLE SEAT TYPE

Seating Location	Type of Seat Pan				Type of Seat Back		
	Bucket	Bench	Split Bench	Contoured	Fixed	Adjustable	
						Manual	Power
Front Seat	X					w/lever	
Rear or Second Row		X			X		
Third Row Seat							

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

Test Vehicle: 2012 Honda Civic IMA 4-Dr Sedan
Test Program: NCAP Side Pole Impact Test

NHTSA No. MC5302
Test Date: 2/14/2012



TIRE PLACARD INFORMATION

Measured Parameter	Front	Rear
Recommended Cold Tire Pressure (kPa)	220	220
Recommended Tire Size	P195/65R15	P195/65R15

TIRE SIDEWALL INFORMATION

Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	300	300
Tire Size on Vehicle	P195/65R15	P195/65R15
Tire Manufacturer	Bridgestone	Bridgestone
Tire Name	ECOPIA	ECOPIA
Tire Type	Passenger	Passenger
Tire Width	195	195
Aspect Ratio	65	65
Radial	Yes	Yes
Wheel Diameter	15	15
Load Index/Speed Symbol	89S	89S
Treadwear	380	380
Traction Grade	B	B
Temperature Grade	B	B
Tire Material	Rubber	Rubber

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

Test Vehicle: 2012 Honda Civic IMA 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MC5302
 Test Date: 2/14/2012

TEST PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kpa	220	220	220	220
Tire Placard	kpa	220	220	220	220
Owner's Manual	kpa				
As Tested	kpa	220	220	220	220

TEST VEHICLE AXLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	386.5	269.9		408.2	302.6		404.6	314.8	
Right	kg	375.5	260.4		383.8	288.4		376.5	293.5	
Ratio	%	59.0	41.0		57.3	42.7		56.2	43.8	
Totals	kg	762.0	530.3	1292.3	792.0	591.0	1383.0	781.1	608.3	1389.4

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	1292.3	(A)
Actual Weight of 1 P572V ATD (SID-IIs) ATD Used	kg	52.2	(B)
Rated Cargo/Luggage Weight (RCLW)	kg	45	(C)
Calculated Vehicle Target Weight (TVTW)	kg	1389.5	(A+B+C)

Does the measured As Tested Vehicle Weight lie within the required weight range (i.e. Calculated Test Vehicle Target Weight – 4.5 kg to 9 kg)? **YES**

WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW

Component Description	Weight (kg)
Weight of Ballast, if any	0.0
Spare tire, jack & tools, left and right taillight, trunk carpet and liner, both right door panels, both right windows, right side mirror, all rear headrests, rear floor mats.	33.1

TEST VEHICLE ATTITUDES AND CG

	Units	As Delivered	As Tested	Fully Loaded	Meets Requirement***
Driver Door Sill Angle (front-to-rear)*	deg	-0.5	-0.2	-0.2	Yes
Front Pass. Sill Angle (front-to-rear)*	deg	-0.8	-0.4	-0.4	Yes
Front Bumper Angle (left-to-right)**	deg	-0.3	-0.4	-0.6	Yes
Rear Bumper Angle (left-to-right)**	deg	-0.4	-0.4	-0.5	Yes
Vehicle CG (Aft of Front Axle)	mm	1096	1141	1169	
Vehicle CG (Left (+) / Right (-) from Longitudinal Centerline)	mm	12	21	27	

*ND=Nose Down (-), NU=Nose Up (+) ** LD=Left Down (-), LU=Left Up (+)

*** The "As Tested" vehicle attitude measurements must be equal to or between the "As Delivered" and "Fully Loaded" vehicle attitude measurements.

DATA SHEET NO. 2
SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA

Test Vehicle: 2012 Honda Civic IMA 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MC5302
 Test Date: 2/14/2012

SEAT POSITIONING

The driver's seat, front center seat (if applicable), and right front passenger's seat should be set to the forward-most, mid-height, mid-angle position. The struck-side rear passenger's seat, rear center seat, and non-struck side rear passenger's seats should be set to the rear-most, lowest, mid-angle position.

SCRL ANGLE RANGE

Seat	SCRL (°)		
	Max	Min	Mid
Driver Seat	1.2	0.0	0.6
Front Passenger Seat	Fixed	Fixed	Fixed
Front Center Seat			
Struck Side Rear Seat	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Fixed

SEAT HEIGHT AND ANGLE

Seat	As Tested SCRL Angle (Mid) (°)	As Tested SCR Height (mm)	SCR Height Position	SCR Height (mm)		
				Rear-most	Mid-Fore/Aft	Forward-Most
Driver Seat	0.6	Fixed	Max	Fixed	Fixed	Fixed
	0.6	Fixed	Mid	Fixed	Fixed	Fixed
	0.6	Fixed	Min	Fixed	Fixed	Fixed
Front Passenger Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
	Fixed	Fixed	Mid	Fixed	Fixed	Fixed
	Fixed	Fixed	Min	Fixed	Fixed	Fixed
Front Center Seat			Max			
			Mid			
			Min			
Struck Side Rear Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
	Fixed	Fixed	Mid	Fixed	Fixed	Fixed
	Fixed	Fixed	Min	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
	Fixed	Fixed	Mid	Fixed	Fixed	Fixed
	Fixed	Fixed	Min	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
	Fixed	Fixed	Mid	Fixed	Fixed	Fixed
	Fixed	Fixed	Min	Fixed	Fixed	Fixed

DATA SHEET NO. 2 (CONTINUED)
SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT, AND FUEL SYSTEM DATA

Test Vehicle: 2012 Honda Civic IMA 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

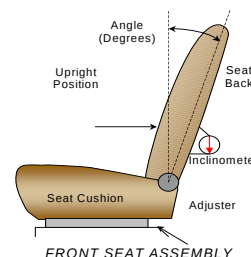
NHTSA No. MC5302
 Test Date: 2/14/2012

SEAT FORE/AFT POSITIONS

Seat	Total Fore/Aft Travel		Test Position from Forward-most Position	
	mm	Detents	mm	Detent
Driver Seat	240	25 (1 st as 1)	0	0 (1 st as 0)
Front Passenger Seat	240	25 (1 st as 1)	0	0 (1 st as 0)
Front Center Seat				
Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Non-Struck Side	Fixed	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Fixed	Fixed

SEAT BACK ANGLE ADJUSTMENT

The driver's seat back is positioned such that the dummy's head is level. The front center and front passenger's seat backs are positioned in a similar manner as the driver's seat back. The struck-side rear passenger seat back is positioned in accordance with the information provided by the manufacturer on Form No. 1 for the 5th percentile female dummy in a Side NCAP MDB test. The rear center and non-struck side rear passenger's seat back is set to match the struck-side rear seat back.



Seat	Total Seat Back Angle Range		Test Position from Vertical	
	Degrees	Detents	Degrees	Detent
Driver Seat w/Seated Dummy	61.3		0.2	0 (1 st as 0)
Front Passenger Seat	61.4		3.4	0 (1 st as 0)
Front Center Seat				
Struck Side Rear Seat	Fixed		Fixed	Fixed
Non-Struck Side Rear Seat	Fixed		Fixed	Fixed
Rear Center Seat	Fixed		Fixed	Fixed

SEAT BELT ANCHORAGE ADJUSTMENT

Seat belt anchorages are adjusted in accordance with the information provided by the manufacturer on Form No. 1.

	Total # of Positions	Placed in Position #
Driver Seat	4 (1 st as 1)	0 (uppermost as 0)

HEAD RESTRAINT ADJUSTMENT

Head restraints are adjusted to the lowest and most full forward in-use position.

	Total # of Positions	Placed in Position #
Driver Seat	6	Lowest

DATA SHEET NO. 2 (CONTINUED)
SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT, AND FUEL SYSTEM DATA

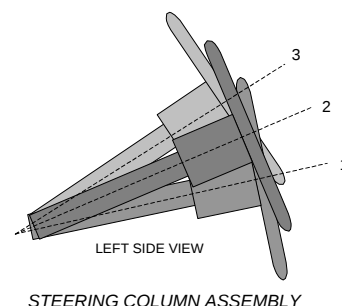
Test Vehicle: 2012 Honda Civic IMA 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MC5302
 Test Date: 2/14/2012

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel geometric locus is described when it moves through its full range of motion.

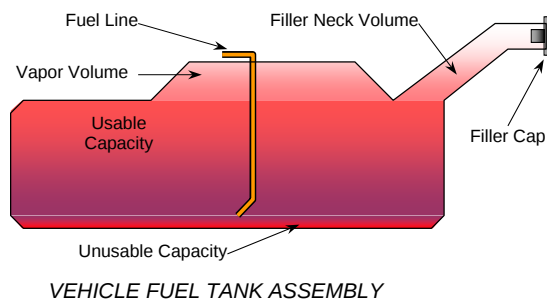
	Degrees	Fore/Aft Position (mm)
Lowermost, Position 1	70.0	170
Geometric Center, Position 2	67.0	150
Uppermost, Position 3	64.0	130
Telescoping Steering Wheel Travel		40
Test Position	67.0	150



FUEL PUMP

Describe the fuel pump type, details about how it operates and the location of the fuel filler pipe.

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. The fuel pipe is on the left side.



FUEL TANK CAPACITY DATA

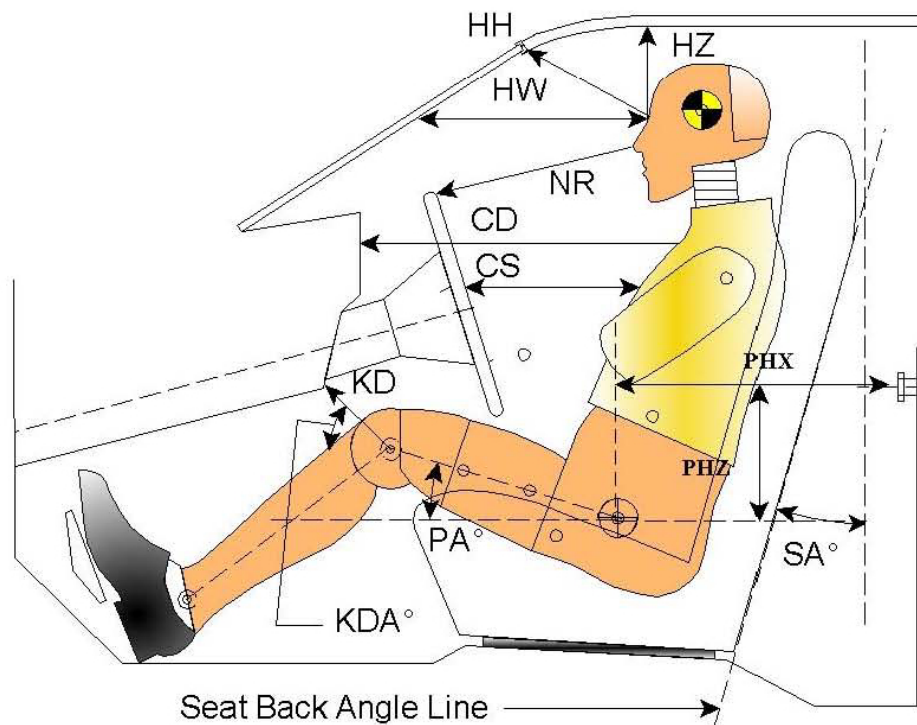
	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	50.0
Usable Capacity of "Optional Tank" (see Form No. 1)	
Usable Capacity of Standard Tank as Specified in Owner's Manual	50.0
Usable Capacity of Optional Tank as Specified in Owner's Manual	
93% of Usable Capacity	46.5
Actual Amount of Solvent Used	46.5
1/3 of Usable Capacity	16.7

Is the actual amount of solvent used in the test equal to 93% $\pm$ 1% of the Usable Capacity stated in Form No. 1? **YES**

.DATA SHEET NO. 3
DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2012 Honda Civic IMA 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MC5302
 Test Date: 2/14/2012



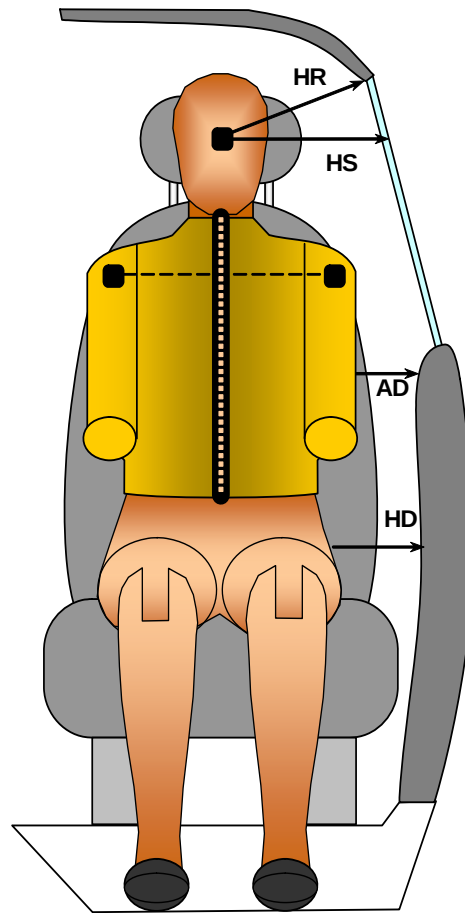
LEFT SIDE VIEW

Code	Measurement Description	Driver S/N 306	
		Length (mm)	Angle (°)
HH	Head to Header	218	
HW	Head to Windshield	613	
HZ	Head to Roof Liner	172	
NR	Nose to Rim	200	
CD	Chest to Dashboard	407	
CS	Chest to Steering Wheel	154	
KDL/KDAL°	Left Knee to Dash	97	49.5
KDR/KDAR°	Right Knee to Dash	84	46.2
PAX°	Pelvic Tilt Angle (X-Axis)		18.4
PAY°	Pelvic Tilt Angle (Y-Axis)		-0.2
PHX	Hip Point to Striker (X-Axis)	378	
PHZ	Hip Point to Striker (Z-Axis)	194	

DATA SHEET NO. 4
DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2012 Honda Civic IMA 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MC5302
 Test Date: 2/14/2012



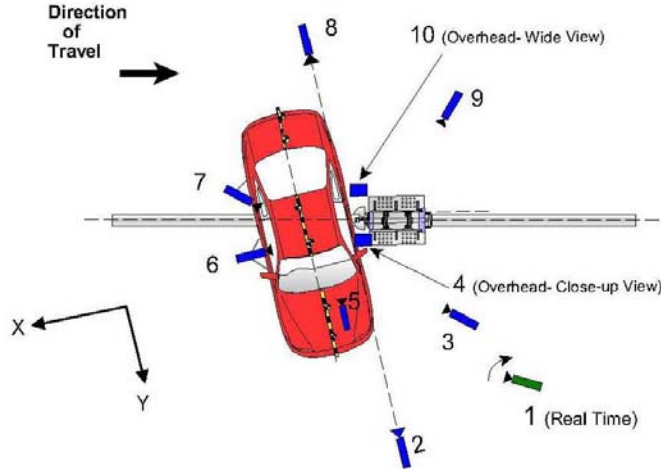
FRONT VIEW OF DUMMY

Code	Measurement Description	Driver S/N 306
		Length (mm)
HR	Head to Side Header	227
HS	Head to Side Window	353
AD	Arm to Door	148
HD	Hip Point to Door	167

DATA SHEET NO. 5
CAMERA AND INSTRUMENTATION DATA

Test Vehicle: 2012 Honda Civic IMA 4-Dr Sedan
Test Program: NCAP Side Pole Impact Test

NHTSA No. MC5302
Test Date: 2/14/2012



Reference: (from Point of Impact for X and Y; from Ground for Z):
+X = Forward of Impact, + Y = Right of Impact, +Z = Down

Camera No.	View	Coordinates (mm)			Lens (mm)	Film Speed (fps)
		X*	Y*	Z*		
1	Real-Time Pan View					30
2	Front Ground Level	-80	5680	-1800	24	1000
3	Impact Side 45° Forward	-2590	5090	-1910	20	1000
4	Overhead Closeup	200	0	-4420	50	1000
5	Onboard – Driver Front				16	1000
6	Onboard – Driver Side				8	1000
7	Onboard – Driver Rear				8	1000
8	Rear Ground Level	-90	-5810	-1820	24	1000
9	Impact Side 45° Rearward	-4010	-4210	-1930	20	1000
10	Overhead Wide View	450	0	-4610	14	1000
11	Real-Time Dummy Front View					30

* All measurements accurate to ± 6 mm

Note: Vehicle was at a 15° angle to the rigid pole.

Explain why camera(s) did not operate as intended: Not Applicable

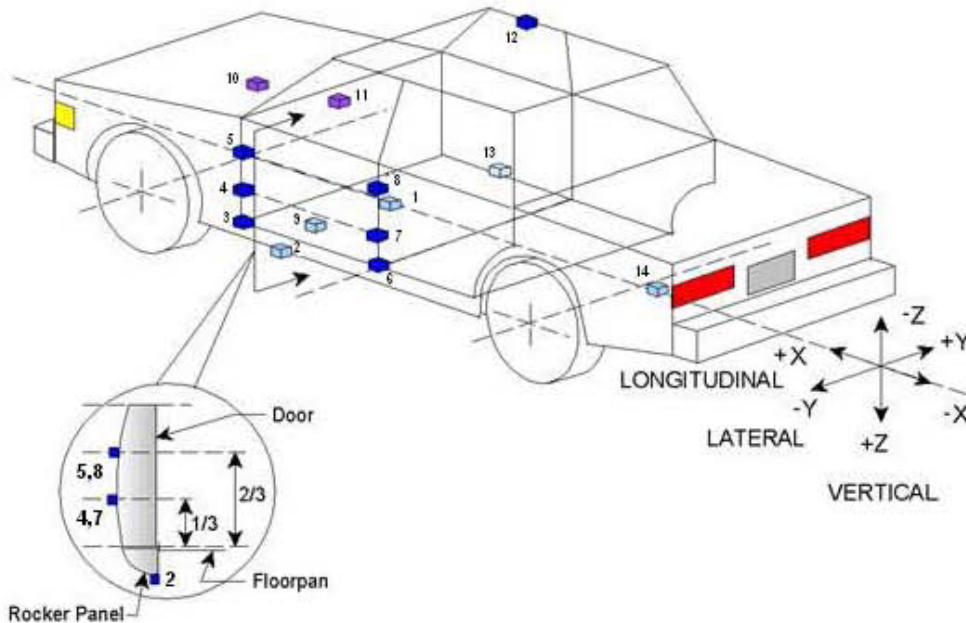
INSTRUMENTATION

	Number of Channels
Driver Dummy	16
Vehicle Structure	18
Pole Load Cells	8
TOTAL	42

DATA SHEET NO. 6
TEST VEHICLE ACCELEROMETER DATA

Test Vehicle: 2012 Honda Civic IMA 4-Dr Sedan
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	Accelerometer Location			
	ID	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	2492	145	-230
2	Left Floor Sill	2677	-734	-178
3	A Pillar Sill	3108	-732	-173
4	A Pillar Low	3083	-682	-441
5	A Pillar Mid	3133	-788	-714
6	B Pillar Sill	1987	-734	-185
7	B Pillar Low	1979	-725	-442
8	B Pillar Mid	2008	-690	-711
9	Driver Seat Track	2350	-532	-302
10	Engine Top	3764	0	-764
11	Firewall	3575	35	-811
12	Right Roof	1898	482	-1426
13	Right Floor Sill	2706	734	-185
14	Rear Floorpan	245	0	-355

Reference:

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

DATA SHEET NO. 7
RIGID POLE LOAD CELL DATA

Test Vehicle: 2012 Honda Civic IMA 4-Dr Sedan
Test Program: NCAP Side Pole Impact Test

NHTSA No. MC5302
Test Date: 2/14/2012



254 mm Diameter Rigid Pole

Load Cell Locations	
ID	Height From Impact Surface (mm)
1	182
2	470
3	698
4	986
5	1212
6	1641
7	1854
8	2053

DATA SHEET NO. 8
POST-TEST OBSERVATIONS

Test Vehicle: 2012 Honda Civic IMA 4-Dr Sedan
Test Program: NCAP Side Pole Impact Test

NHTSA No. MC5302
Test Date: 2/14/2012

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Driver SID-IIs Dummy
Face	Curtain Airbag
Top of Head	Curtain Airbag
Left Side of Head	Curtain Airbag
Back of Head	Curtain Airbag, Headrest
Left Shoulder	Side Airbag
Upper Torso	Side Airbag, Seatback
Lower Torso	Door Panel, Seatback
Left Hip	Door Panel, Seat Cushion
Left Knee	Door Panel

POST-TEST DOOR PERFORMANCE

Description	Struck Side		Non-Struck Side		Rear Hatch/ Other Door
	Front	Rear	Front	Rear	
Remained Closed and Operational	No	No	Yes	Yes	Yes
Total Separation from Vehicle at Hinges or Latches	No	No	No	No	No
Latch or Hinge Systems Pulled Out of Their Anchorages	No	No	No	No	No
Disengaged from Latched Position	No	No	No	No	No
Latch Separated from Striker	No	No	No	No	No
Jammed Shut	Yes	Yes	No	No	No
If Door Opened at Striker, Record Width of Opening at Striker (mm)	N/A	N/A	N/A	N/A	N/A

POST-TEST SEAT PERFORMANCE

Description	Struck Side		Non-Struck Side	
	Front	Rear	Front	Rear
Seat Movement Along Seat Track	No	No	No	No
Seat Disengagement from Floor Pan	No	No	No	No
Seat Back Movement from Initial Position	No	No	No	No
Seat Back Collapse	No	No	No	No

POST-TEST STRUCTURAL OBSERVATIONS

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

DATA SHEET NO. 8 (CONTINUED)
POST-TEST OBSERVATIONS

Test Vehicle: 2012 Honda Civic IMA 4-Dr Sedan
Test Program: NCAP Side Pole Impact Test

NHTSA No. MC5302
Test Date: 2/14/2012

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Struck Side Driver		Struck Side Rear Passenger	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No		
Knee Airbag	No			
Side Curtain Airbag	Yes	Yes	Yes	Yes
Side Torso Airbag	Yes	Yes	No	
Seat Belt Pretensioner	Yes	Yes	No	
Seat Belt Load Limiter	Yes		No	
Other				

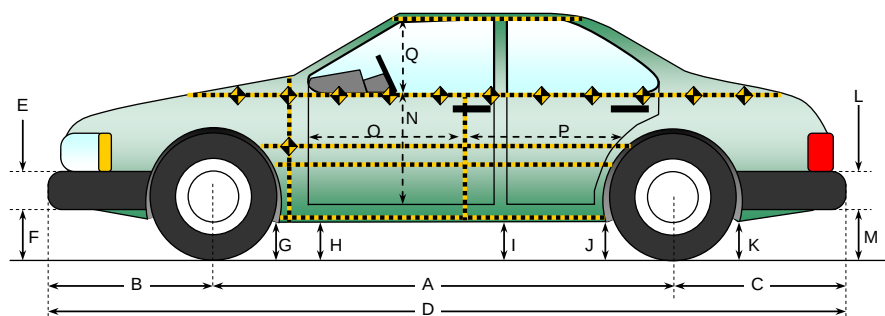
VEHICLE SPEED, VEHICLE ANGLE AT IMPACT, AND IMPACT POINT LOCATION DATA

Measured Parameter	Units	Tolerance	Value
Vertical Impact Reference Line (Aft of Front Axle) (Intended Impact Point)	mm		1067
Actual Impact Point (Aft of Front Axle)	mm		1068
Horizontal Offset (+forward / -rearward)	mm	+/- 38 of Intended Impact Point	-1
Angle Between Vehicle's Longitudinal Centerline and Line of Forward Motion	Deg	75 +/- 3	75
Trap No. 1 Velocity (Primary)	km/h	31.4 to 33.0	32.0
Trap No. 2 Velocity (Redundant)	km/h	31.4 to 33.0	32.1

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

Test Vehicle: 2012 Honda Civic IMA 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MC5302
 Test Date: 2/14/2012



All measurements in (mm) with tolerance of ± 3 mm

LEFT SIDE VIEW

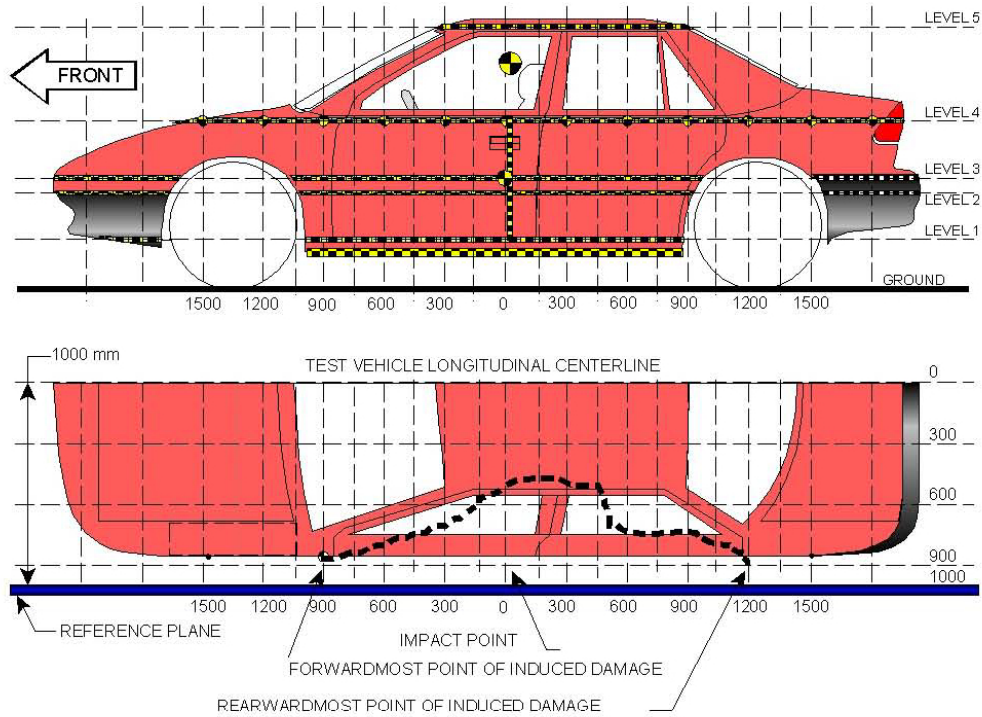
VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2670	2588	82
B	Front Axle to FSOV	884	885	-1
C	Rear Axle to RSOV	953	953	0
D	Total Vehicle Length at Centerline	4507	4426	81
E	Front Bumper Thickness	120	120	0
F	Front Bumper Bottom to Ground	244	260	-16
G	Sill Height at Front Wheel Well	165	147	18
H	Sill Height at Front Door Leading Edge	158	150	8
I	Sill Height at B Pillar	170	190	-20
J1	Sill Height at Rear Wheel Well	175	195	-20
J2	Pinch Weld Height at Rear Wheel Well	169	190	-21
K	Sill Height Aft of Rear Wheel Well	258	253	5
L	Rear Bumper Thickness	130	130	0
M	Rear Bumper Bottom to Ground	336	330	6
N	Sill Height to Bottom of Front Window Sill	702	712	-10
O	Front Door Leading Edge to Impact CL	672	668	4
P	Rear Door Trailing Edge to Impact CL	1223	1225	-2
Q	Front Window Opening	390	358	32
R	Right Side Length	3424	3432	-8
S	Left Side Length	3424	3312	112
T	Vehicle Width at B-Pillars	1744	1641	103

DATA SHEET NO. 10 **VEHICLE EXTERIOR CRUSH MEASUREMENTS**

Test Vehicle: 2012 Honda Civic IMA 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MC5302
 Test Date: 2/14/2012



NOTE: The measurements are taken along the vertical impact reference line.
 Vehicle measurements forward of the vertical impact reference line are negative.

MAXIMUM EXTERIOR CRUSH MEASUREMENTS

Level	Measurement Description	Height Above Ground (mm)
1	Sill Top	227
2	Occupant Hip Point	495
3	Mid Door	597
4	Window Sill	859
5	Window Top	1338

DATA SHEET NO. 10 (CONTINUED)
VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2012 Honda Civic IMA 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MC5302
 Test Date: 2/14/2012

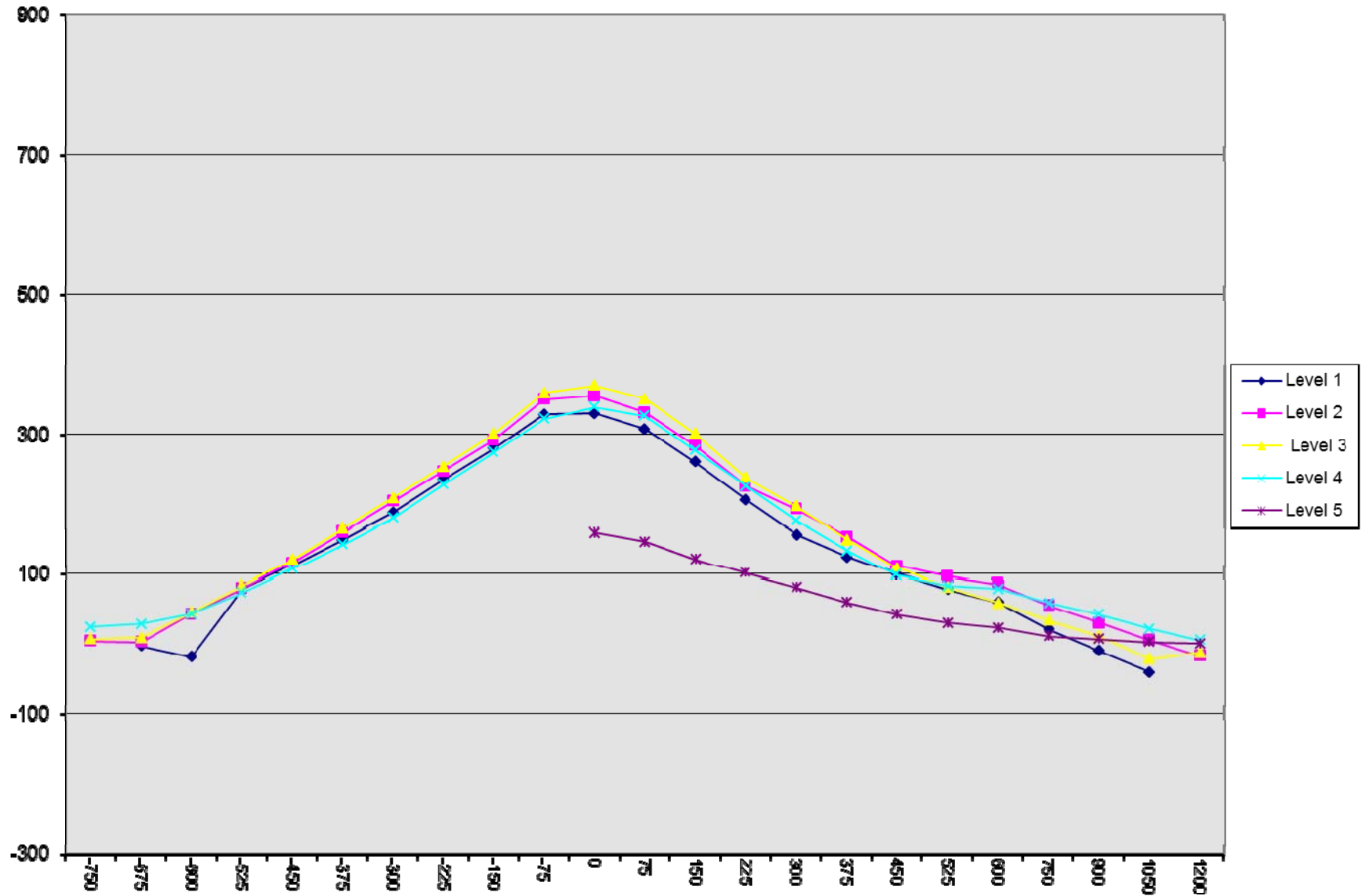
	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-750		225	227	285			231	236	312			6	9	27	
-675	254	229	228	281		253	234	239	312		-1	5	11	31	
-600	257	231	230	278		241	276	277	323		-16	45	47	45	
-525	261	232	230	273		342	313	315	348		81	81	85	75	
-450	263	232	230	272		377	350	353	380		114	118	123	108	
-375	263	232	229	271		413	393	395	415		150	161	166	144	
-300	263	232	228	270		451	436	437	450		188	204	209	180	
-225	262	232	228	269		497	479	482	497		235	247	254	228	
-150	263	232	227	268		543	524	528	542		280	292	301	274	
-75	263	231	227	267		591	581	586	589		328	350	359	322	
0	262	231	227	266	485	592	586	597	605	645	330	355	370	339	160
75	262	231	226	263	480	569	562	577	589	627	307	331	351	326	147
150	263	231	226	260	476	523	515	527	537	599	260	284	301	277	123
225	263	230	226	257	472	469	456	464	483	574	206	226	238	226	102
300	263	231	225	255	472	420	424	422	432	554	157	193	197	177	82
375	264	231	225	252	471	390	385	375	387	532	126	154	150	135	61
450	266	232	225	249	471	367	345	335	348	515	101	113	110	99	44
525	266	233	226	247	471	345	330	308	331	503	79	97	82	84	32
600	267	234	227	246	473	328	320	287	326	498	61	86	60	80	25
750	267	235	228	245	477	290	292	264	305	490	23	57	36	60	13
900	266	236	229	244	482	258	268	242	288	491	-8	32	13	44	9
1050	262	233	230	244	490	224	241	211	268	495	-38	8	-19	24	5
1200		223	222	256	503		208	212	264	506		-15	-10	8	3

NOTE: Pre-test measurements are taken when the vehicle is in the "As Tested" weight condition. Vehicle measurements forward of the vertical impact reference line are negative. The crush profile grid is established prior to the test based on an estimated impact point. The final distance from impact is determined after the final dummy positioning and the pole is aligned with the center of gravity of the dummy's head.

DATA SHEET NO. 10 (CONTINUED)
VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2012 Honda Civic IMA 4-Dr Sedan
Test Program: NCAP Side Pole Impact Test

NHTSA No. MC5302
Test Date: 2/14/2012



DATA SHEET NO. 11
FMVSS 301 FUEL SYSTEM INTEGRITY POST-IMPACT DATA

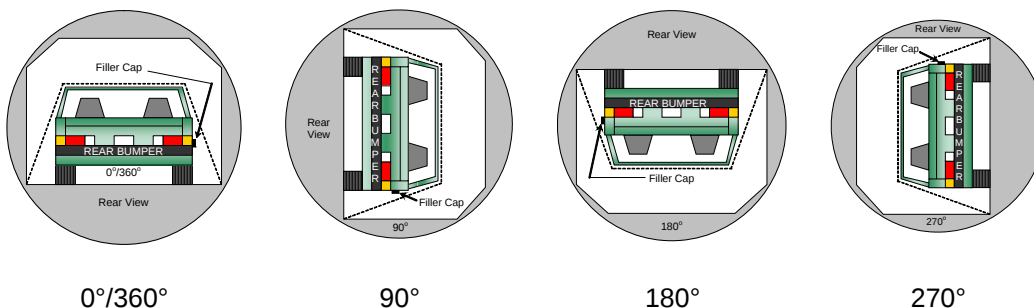
Test Vehicle: 2012 Honda Civic IMA 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MC5302
 Test Date: 2/14/2012

Test Time: 10:13 am Temperature: 21.8° C

- 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



ROLLOVER SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° to 90°	118	300	418
90° to 180°	111	300	411
180° to 270°	107	300	407
270° to 360°	116	300	416

FMVSS 301 ROLLOVER SPILLAGE TABLE (units in ounces)

Test Phase	First 5 Minutes	Sixth Minute	Seventh Minute	Eight Minute
0° to 90°	0	0	0	0
90° to 180°	0	0	0	0
180° to 270°	0	0	0	0
270° to 360°	0	0	0	0

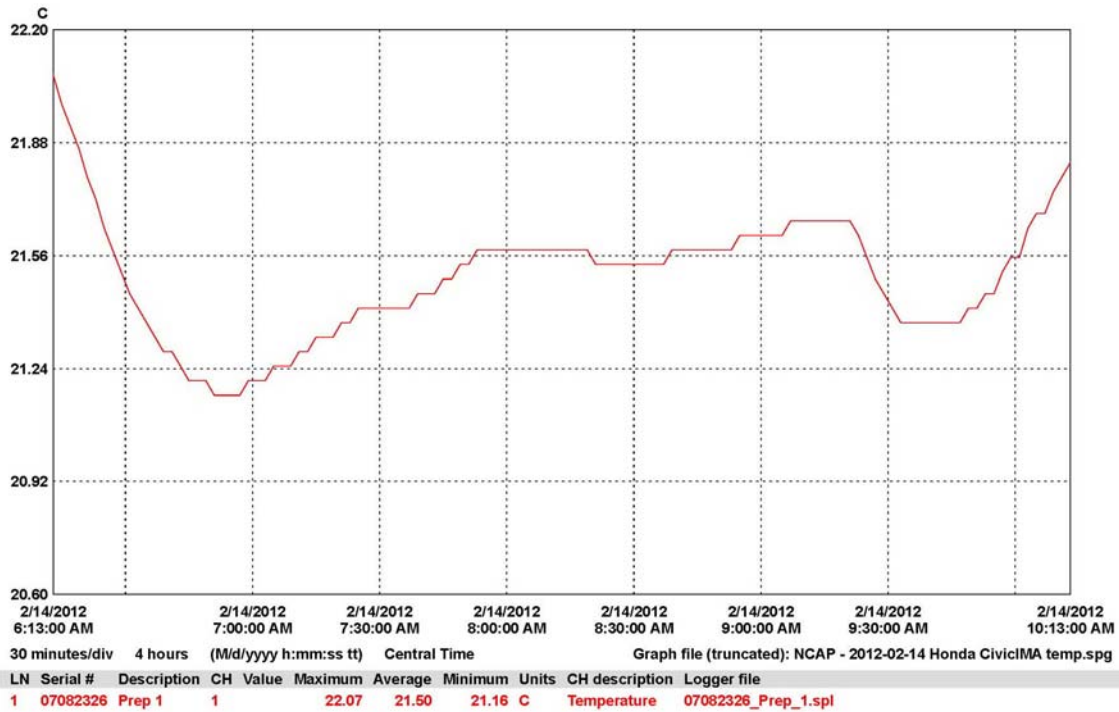
ROLLOVER SOLVENT SPILLAGE LOCATION TABLE

Test Phase	Spillage Location
0° to 90°	
90° to 180°	
180° to 270°	
270° to 360°	

DATA SHEET NO. 12 **DUMMY/VEHICLE TEMPERATURE STABILIZATION DATA**

Test Vehicle: 2012 Honda Civic IMA 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MC5302
 Test Date: 2/14/2012



APPENDIX A
PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

	<u>Page No.</u>
Photo No. 1. As Delivered Right Front $\frac{3}{4}$ View of Test Vehicle	A-1
Photo No. 2. As Delivered Left Rear $\frac{3}{4}$ View of Test Vehicle	A-1
Photo No. 3. Pre-Test Frontal View of Test Vehicle	A-2
Photo No. 4. Post-Test Frontal View of Test Vehicle	A-2
Photo No. 5. Pre-Test Left Front $\frac{3}{4}$ View of Test Vehicle	A-3
Photo No. 6. Post-Test Left Front $\frac{3}{4}$ View of Test Vehicle	A-3
Photo No. 7. Pre-Test Left Side View of Test Vehicle	A-4
Photo No. 8. Post-Test Left Side View of Test Vehicle	A-4
Photo No. 9. Pre-Test Left Rear $\frac{3}{4}$ View of Test Vehicle	A-5
Photo No. 10. Post-Test Left Rear $\frac{3}{4}$ View of Test Vehicle	A-5
Photo No. 11. Pre-Test Rear View of Test Vehicle	A-6
Photo No. 12. Post-Test Rear View of Test Vehicle	A-6
Photo No. 13. Pre-Test Right Side View of Test Vehicle	A-7
Photo No. 14. Post-Test Right Side View of Test Vehicle	A-7
Photo No. 15. Pre-Test Overhead View of Test Area	A-8
Photo No. 16. Post-Test Overhead View of Test Area	A-8
Photo No. 17. Pre-Test Left Side View of Pole Positioned Against Side of Vehicle	A-9
Photo No. 18. Pre-Test Right Side View of Pole Positioned Against Side of Vehicle	A-9
Photo No. 19. Pre-Test Close-Up View of Impact Point Target	A-10
Photo No. 20. Post-Test Close-Up View of Impact Point Target Showing Impact Location	A-10
Photo No. 21. Pre-Test Front Close-Up View of Dummy Head and Chest	A-11
Photo No. 22. Post-Test Front Close-Up View of Dummy	A-11
Photo No. 23. Pre-Test Left Side View of Dummy Showing Belt and Chalking	A-12

		<u>Page No.</u>
Photo No. 24.	Pre-Test Left Side View of Dummy Shoulder and Door Top View	A-12
Photo No. 25.	Post-Test Left Side View of Dummy Shoulder and Door Top View	A-13
Photo No. 26.	Pre-Test Front View of Seat Back Prior to Dummy Positioning	A-13
Photo No. 27.	Pre-Test Front Close-Up View of Dummy Head and Shoulders in Relation to Head Restraint	A-14
Photo No. 28.	Pre-Test Front Close-Up View of Dummy Head and Shoulders in Relation to Head Restraint	A-14
Photo No. 29.	Pre-Test Front View of Seat Pan Prior to Dummy Positioning	A-15
Photo No. 30.	Pre-Test Overhead View of Dummy Thighs on Seat Pan	A-15
Photo No. 31.	Pre-Test Left Side View of Dummy's Neck Showing Position of Adjustable Neck Bracket	A-16
Photo No. 32.	Pre-Test Left Side View of Dummy's Head Showing Dummy's Head is Level	A-16
Photo No. 33.	Pre-Test Placement of Dummy's Feet	A-17
Photo No. 34.	Pre-Test View of Belt Anchorage for Dummy	A-17
Photo No. 35.	Pre-Test Left Side View of Steering Wheel	A-18
Photo No. 36.	Pre-Test View of Disengaged Parking Brake	A-18
Photo No. 37.	Pre-Test View of Parking Brake	A-19
Photo No. 38.	Pre-Test Close-Up Left Side View of Driver Seat Track	A-19
Photo No. 39.	Pre-Test Close-Up Left Side View of Driver Seat Back	A-20
Photo No. 40.	Pre-Test Close-Up View of Driver Seat Back or Head Restraint	A-20
Photo No. 41.	Pre-Test Dummy and Door Clearance View	A-21
Photo No. 42.	Post-Test Dummy and Door Clearance View	A-21
Photo No. 43.	Pre-Test Right Side View of Dummy and Front Seat of Occupant Compartment	A-22
Photo No. 44.	Post-Test Right Side View of Dummy and Front Seat of Occupant Compartment	A-22
Photo No. 45.	Pre-Test Inner Door Panel View	A-23
Photo No. 46.	Post-Test Inner Door Panel View Showing Dummy Contact Location	A-23
Photo No. 47.	Post-Test Dummy Close-Up Head Contact with Vehicle Interior View	A-24
Photo No. 48.	Post-Test Dummy Close-Up Head Contact with Side Air Bag View	A-24

	<u>Page No.</u>
Photo No. 49. Post-Test Dummy Close-Up Torso Contact with Vehicle Interior View	A-25
Photo No. 50. Post-Test Dummy Close-Up Torso Contact with Vehicle Interior View	A-25
Photo No. 51. Post-Test Dummy Close-Up Torso Contact with Side Air Bag View	A-26
Photo No. 52. Post-Test Dummy Close-Up Pelvis Contact with Vehicle Interior View	A-26
Photo No. 53. Post-Test Dummy Close-Up Pelvis Contact with Side Air Bag View	A-27
Photo No. 54. Pre-Test View of Fuel Filler Cap or Fuel Filler Neck	A-27
Photo No. 55. Post-Test View of Fuel Filler Cap or Fuel Filler Neck	A-28
Photo No. 56. Close-Up View of Vehicle's Certification Label	A-28
Photo No. 57. Close-Up View of Vehicle's Tire Information Placard or Label	A-29
Photo No. 58. Pre-Test Pole Barrier Front View	A-29
Photo No. 59. Post-Test Pole Barrier Front View	A-30
Photo No. 60. Pre-Test Pole Barrier Side View	A-30
Photo No. 61. Post-Test Pole Barrier Side View	A-31
Photo No. 62. Pre-Test Ballast View	A-31
Photo No. 63. Post-Test Primary and Redundant Speed Trap Read-Out	A-32
Photo No. 64. FMVSS No. 301 Static Rollover 0 Degrees	A-32
Photo No. 65. FMVSS No. 301 Static Rollover 90 Degrees	A-33
Photo No. 66. FMVSS No. 301 Static Rollover 180 Degrees	A-33
Photo No. 67. FMVSS No. 301 Static Rollover 270 Degrees	A-34
Photo No. 68. FMVSS No. 301 Static Rollover 360 Degrees	A-34
Photo No. 69. Impact Event	A-35
Photo No. 70. Monroney Label	A-35
Photo No. 71. Head Restraint Use and Adjustment Information from Vehicle Owner's Manual	A-36
Photo No. 72. Post-Test Dummy Knee Contact with Vehicle Interior View	A-36



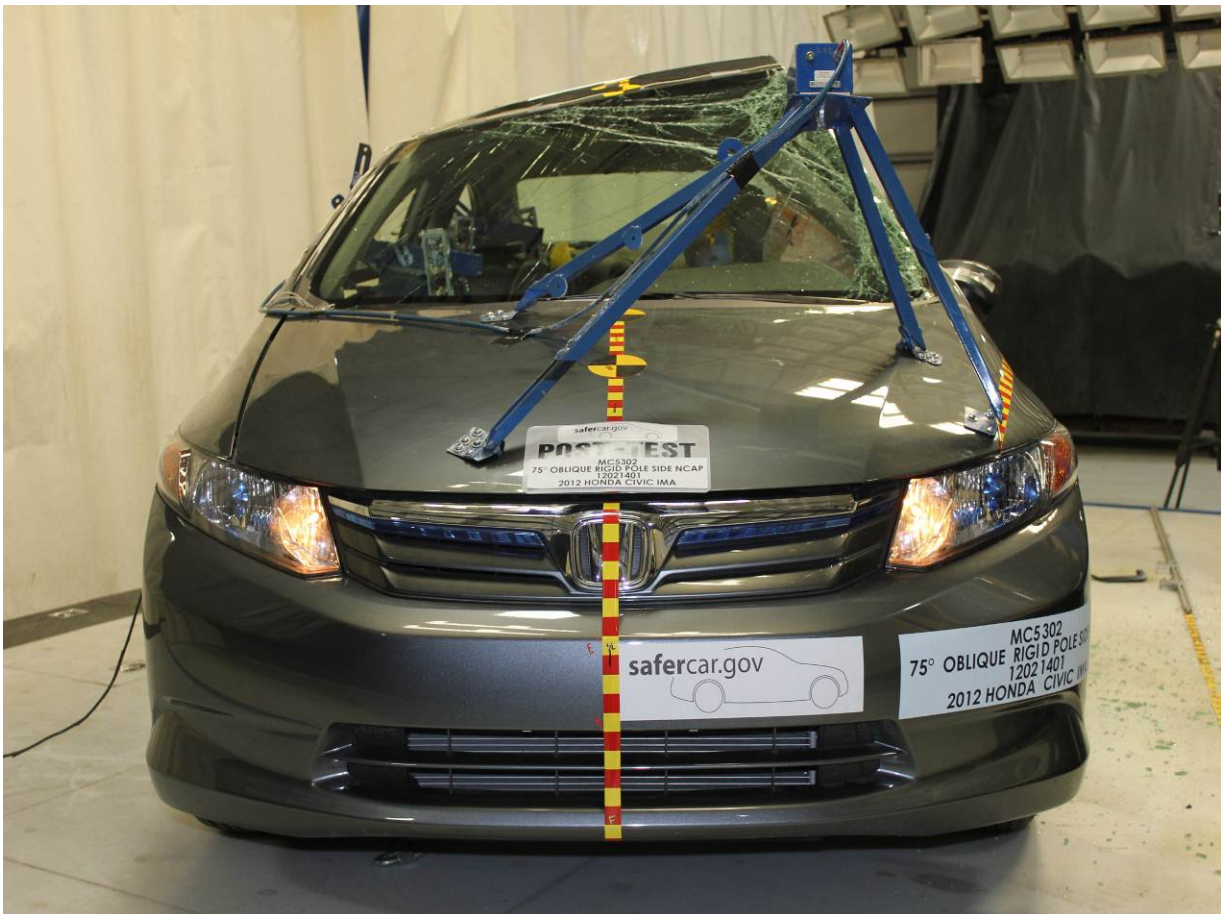
As Delivered Right Front ¾ View of Test Vehicle



As Delivered Left Rear ¾ View of Test Vehicle



Pre-Test Frontal View of Test Vehicle



Post-Test Frontal View of Test Vehicle



Pre-Test Left Front ¾ View of Test Vehicle



Post-Test Left Front ¾ View of Test Vehicle



Pre-Test Left Side View of Test Vehicle



Post-Test Left Side View of Test Vehicle



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



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



Pre-Test Rear View of Test Vehicle



Post-Test Rear View of Test Vehicle



Pre-Test Right Side View of Test Vehicle



Post-Test Right Side View of Test Vehicle



Pre-Test Overhead View of Test Area



Post-Test Overhead View of Test Area



Pre-Test Left Side View of Pole Positioned Against Side of Vehicle



Pre-Test Right Side View of Pole Positioned Against Side of Vehicle



Pre-Test Close-Up View of Impact Point Target



Post-Test Close-Up View of Impact Point Target Showing Impact Location



Pre-Test Front Close-Up View of Dummy Head and Chest



Post-Test Front Close-Up View of Dummy



Pre-Test Left Side View of Dummy Showing Belt and Chalking



Pre-Test Left Side View of Dummy Shoulder and Door Top View



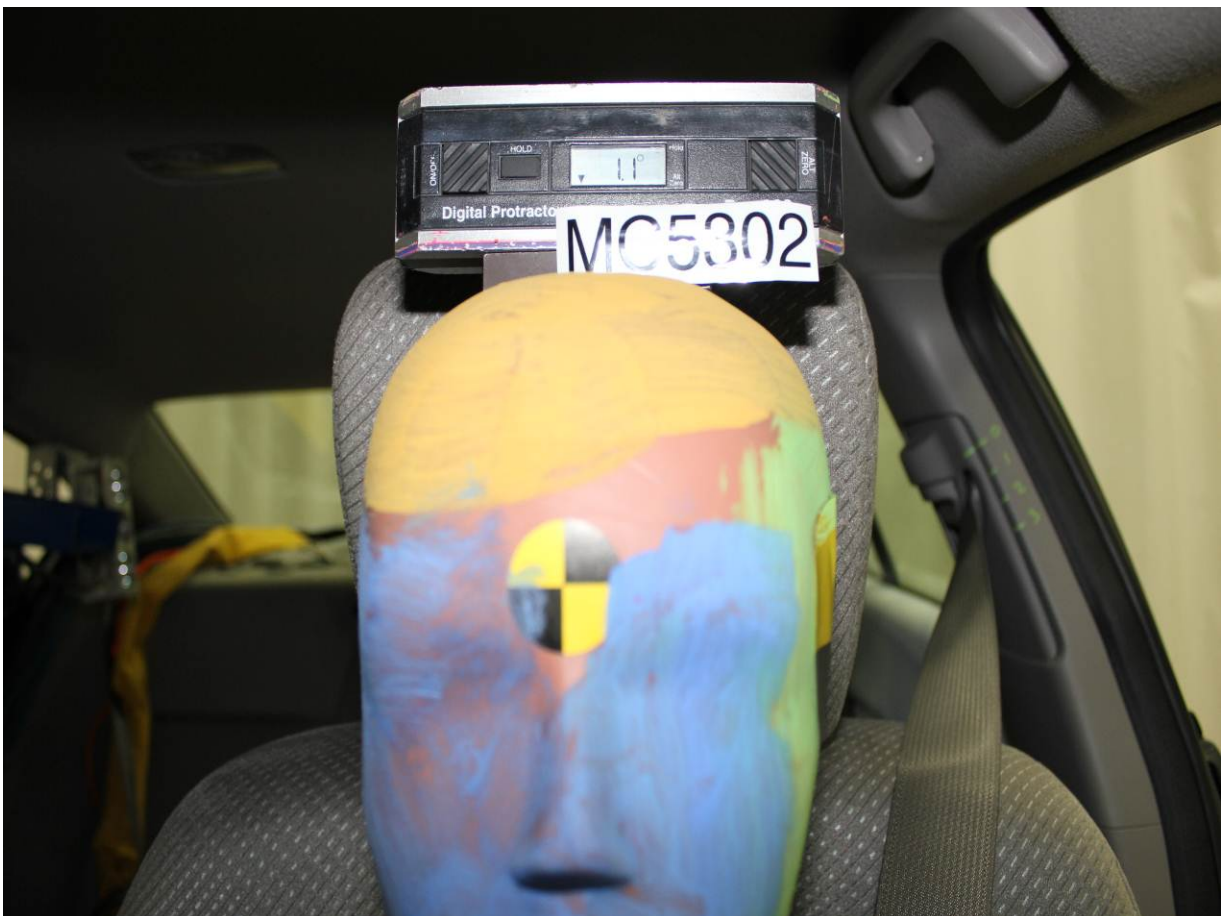
Post-Test Left Side View of Dummy Shoulder and Door Top View



Pre-Test Front View of Seat Back Prior to Dummy Positioning



Pre-Test Front Close-Up View of Dummy Head and Shoulders in Relation to Head Restraint



Pre-Test Front Close-Up View of Dummy Head and Shoulders in Relation to Head Restraint



Pre-Test Front View of Seat Pan Prior to Dummy Positioning



Pre-Test Overhead View of Dummy Thighs on Seat Pan



Pre-Test Left Side View of Dummy's Neck Showing Position of Adjustable Neck Bracket



Pre-Test Left Side View of Dummy's Head Showing Dummy's Head is Level



Pre-Test Placement of Dummy's Feet



Pre-Test View of Belt Anchorage for Dummy



Pre-Test Left Side View of Steering Wheel



Pre-Test View of Disengaged Parking Brake



Pre-Test View of Parking Brake



Pre-Test Close-Up Left Side View of Driver Seat Track



Pre-Test Close-Up Left Side View of Driver Seat Back



Pre-Test Close-Up View of Driver Seat Back or Head Restraint



Pre-Test Dummy and Door Clearance View



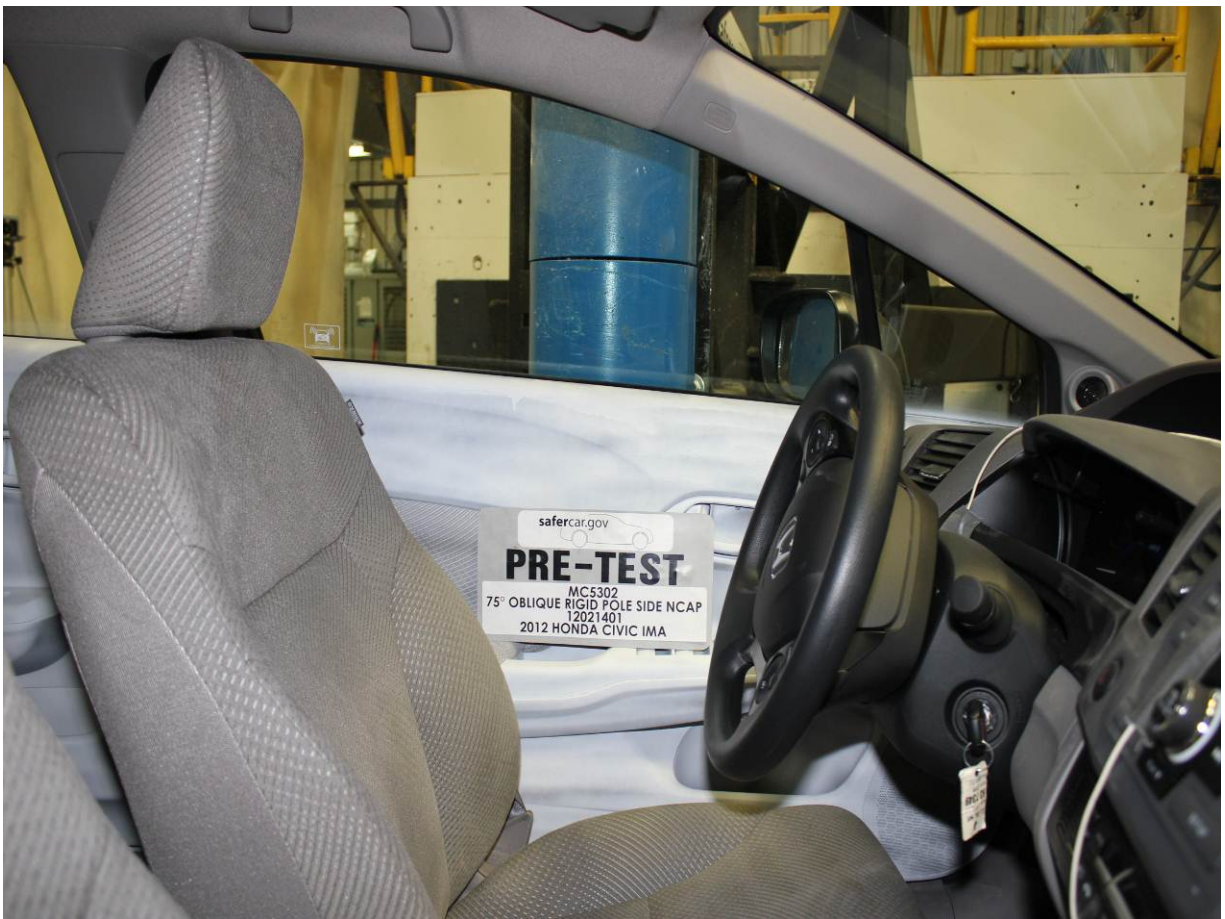
Post-Test Dummy and Door Clearance View



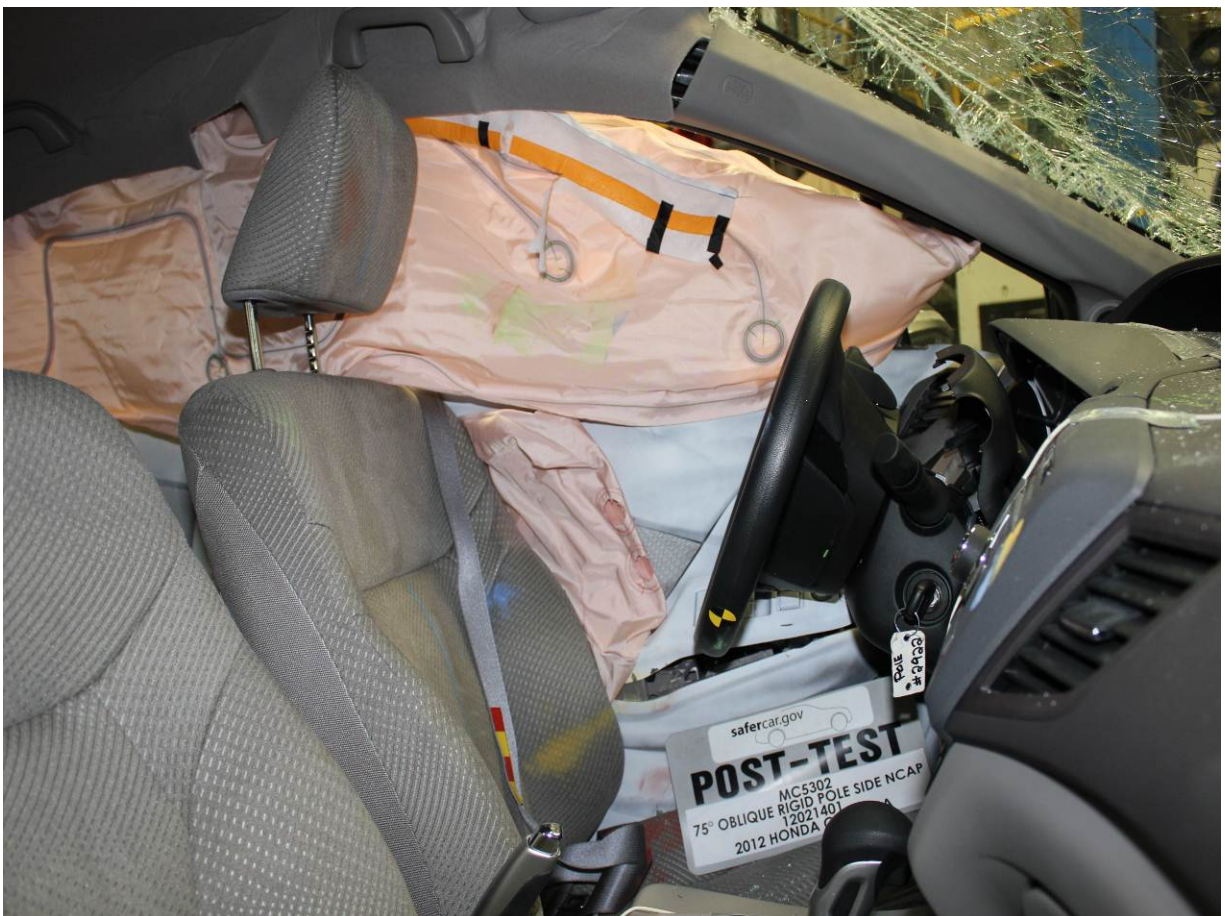
Pre-Test Right Side View of Dummy and Front Seat of Occupant Compartment



Post-Test Right Side View of Dummy and Front Seat of Occupant Compartment



Pre-Test Inner Door Panel View



Post-Test Inner Door Panel View Showing Dummy Contact Location



Post-Test Dummy Close-Up Head Contact with Vehicle Interior View



Post-Test Dummy Close-Up Head Contact with Side Air Bag View



Post-Test Dummy Close-Up Torso Contact with Vehicle Interior View



Post-Test Dummy Close-Up Torso Contact with Vehicle Interior View



Post-Test Dummy Close-Up Torso Contact with Side Air Bag View



Post-Test Dummy Close-Up Pelvis Contact with Vehicle Interior View

PHOTOGRAPH NOT APPLICABLE

Post-Test Dummy Close-Up Pelvis Contact with Side Air Bag View



Pre-Test View of Fuel Filler Cap or Fuel Filler Neck



Post-Test View of Fuel Filler Cap or Fuel Filler Neck



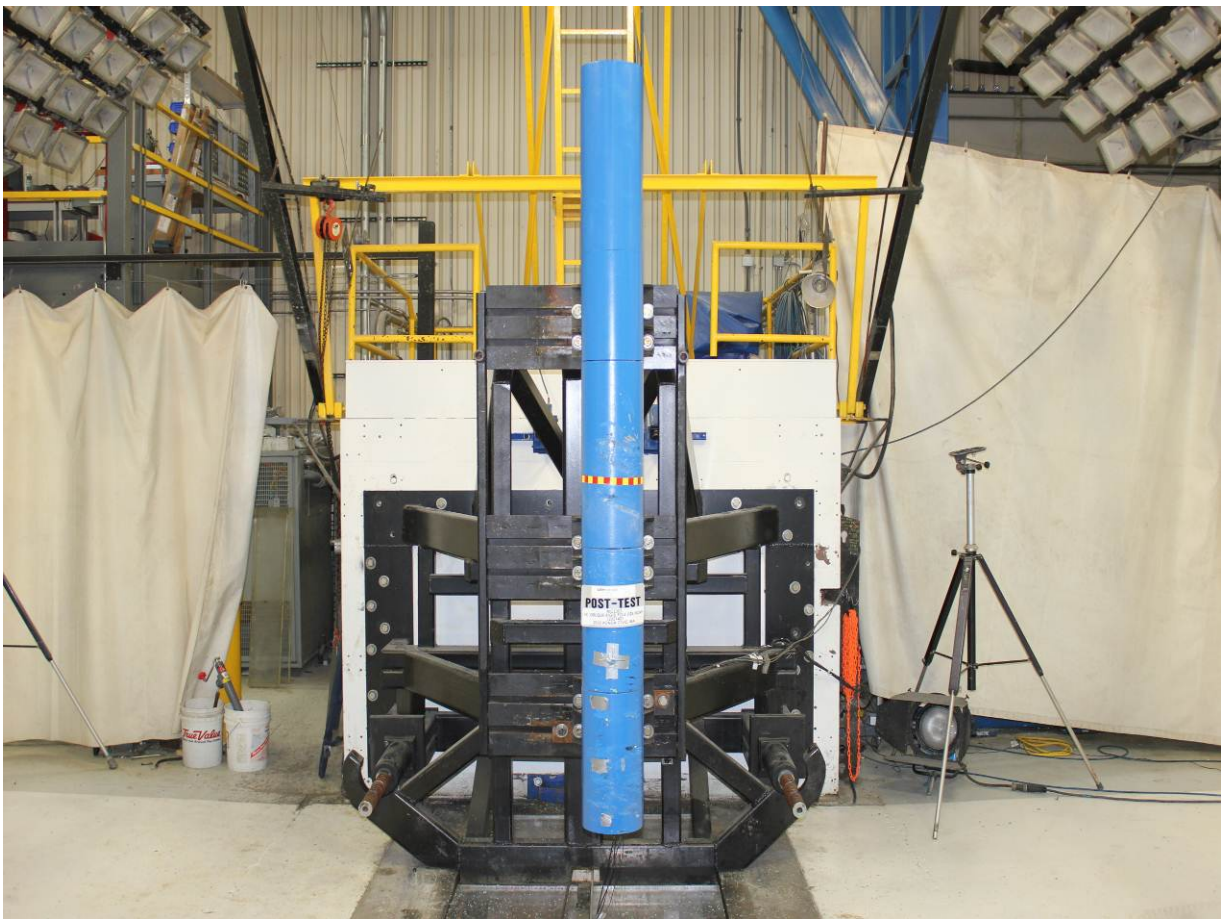
Close-Up View of Vehicle's Certification Label



Close-Up View of Vehicle's Tire Information Placard or Label



Pre-Test Pole Barrier Front View



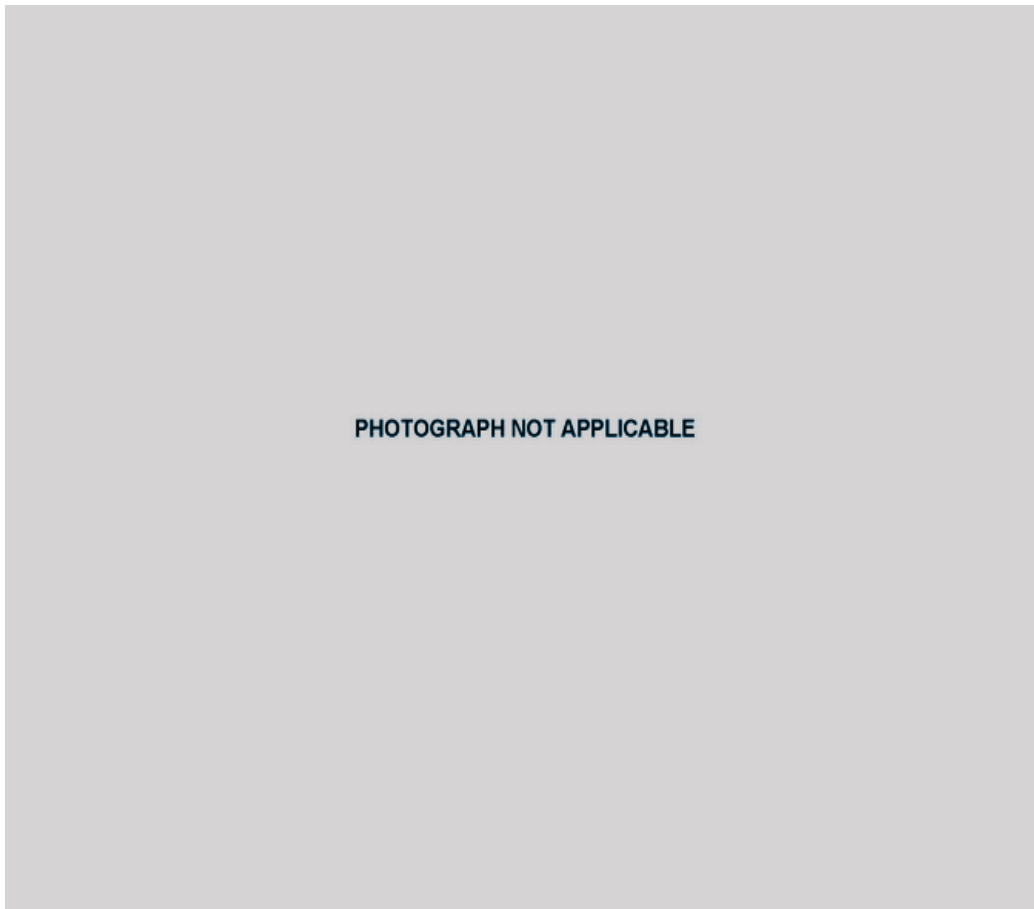
Post-Test Pole Barrier Front View



Pre-Test Pole Barrier Side View



Post-Test Pole Barrier Side View



Pre-Test Ballast View



Post-Test Primary and Redundant Speed Trap Read-Out



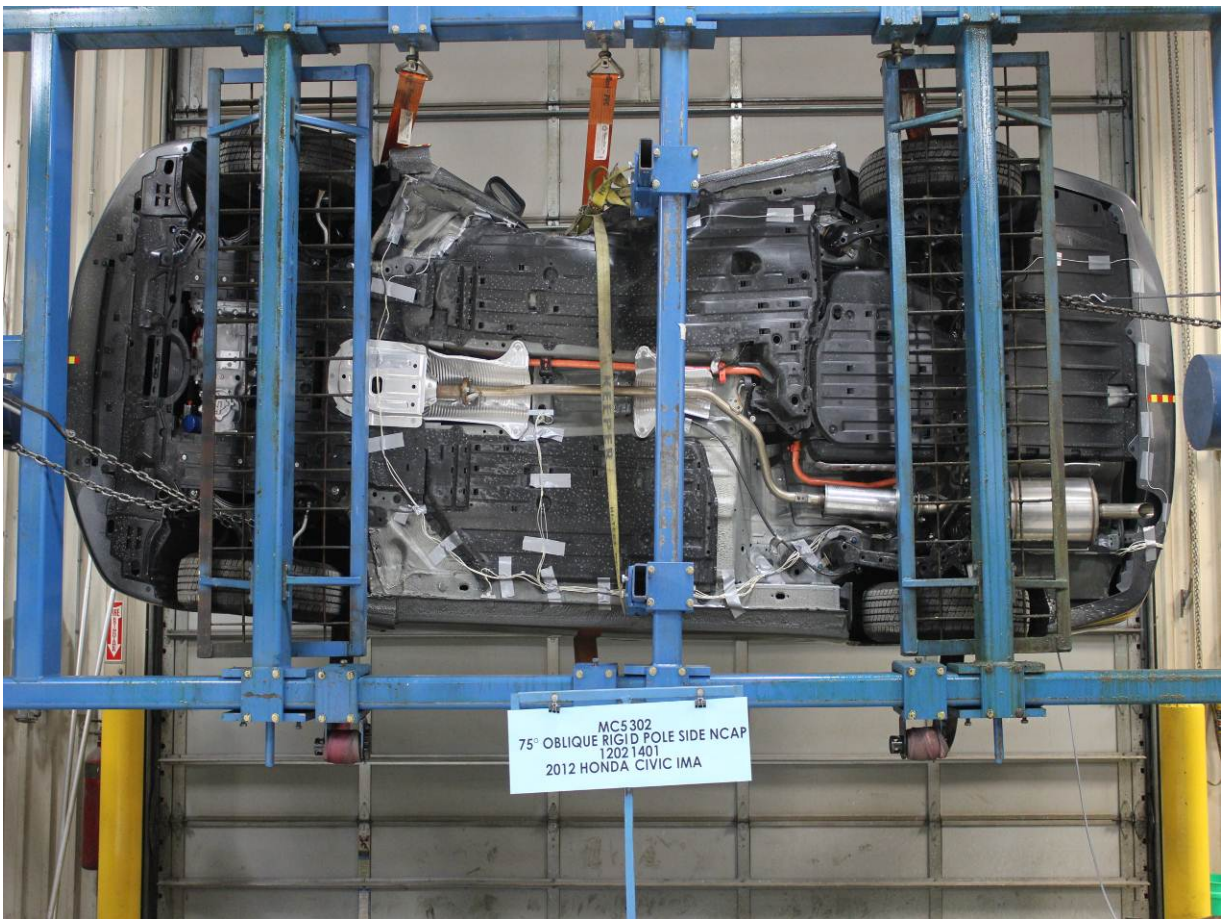
FMVSS No. 301 Static Rollover 0 Degrees



FMVSS No. 301 Static Rollover 90 Degrees



FMVSS No. 301 Static Rollover 180 Degrees



FMVSS No. 301 Static Rollover 270 Degrees



FMVSS No. 301 Static Rollover 360 Degrees



Impact Event

2012 CIVIC IMA 4DR HYB

VEHICLE NUMBER: JHMF84F25C002922
ENGINE NUMBER: LEA2-10C3281 EXT: POLISHED METAL M.
CONTROL NUMBER: 029562 INT: GRAY

EPA Fuel Economy Estimates

CITY MPG 44 Expected range for most drivers 36 to 52 MPG	Estimated Annual Fuel Cost \$1,260 based on 15,000 miles at \$3.70 per gallon	HIGHWAY MPG 44 Expected range for most drivers 36 to 52 MPG
--	---	---

Combined Fuel Economy
This Vehicle
44
10 44 60 All Compact Cars

See the FREE Fuel Economy Guide at dealers or www.fueleconomy.gov

STANDARD EQUIPMENT AT NO EXTRA COST

TECHNICAL FEATURES *

- 110hp 1.8-Liter SOHC i-VTEC 4-Cylinder Engine with Integrated Motor Assist (IMA)
- Idle Stop Feature
- Continuously Variable Transmission (CVT)
- Front MacPherson Strut Suspension
- Rear Multi-Link Suspension
- Electric Power-Assisted Rack-and-Pinion Steering
- CARB-Certified LLEV
- Immobilizer Theft-Deterrent System

SAFETY FEATURES *

- Driver's and Front Passenger's Dual-Stage Airbags (SRS)
- Driver's and Front Passenger's Side Airbags
- Side Curtain Airbags
- Vehicle Stability Assist (VSA)
- Anti-Lock Braking System (ABS)
- Brake Assist
- Electronic Brake Distribution (EBD)
- 3-Point Seat Belts
- Front Seat Belts with Automatic Tensioning System
- Tire Pressure Monitoring System
- Side-Impact Door Beams
- Front and Rear Crumple Zones
- ACE Body Structure
- Daytime Running Lights (DRL)
- LATCH System for Child Seats

INTERIOR FEATURES *

- 165-Watt AM/FM/CD Audio System with 6 Speakers Incl. MP3/WMA Playback
- Steering Wheel-Mounted Controls
- Bluetooth HandsFreeLink
- Bluetooth Audio
- MP3/Auxiliary Input Jack
- Intelligent Multi-Information Display (iMID)
- Automatic Climate Control System with Air Filtration System
- Driver's Seat Height Adjustment
- Front Center Console with Armrest
- Power Windows and Door Locks
- Driver's Auto Up/Down Window
- Tilt & Telescopic Steering Column
- Front Map Lights & Cargo Area Light
- 12-Volt Power Outlets
- Cruise Control
- Exterior Temperature Gauge
- Floor Mats
- Maintenance Minder System

EXTERIOR FEATURES *

- 15" x 6.0" Lightweight Alloy Wheels
- P195/65 R15 All-Season Tires
- Auto-On/Off Headlights
- Variable Intermittent Windshield Wipers
- Rear Window Defroster
- Power Door Mirrors with Turn Indicators
- Remote Entry System with Trunk Opener
- Security System
- Rear Decklid Spoiler

Manufacturer's Suggested Retail Price **\$24,050.00**

Full Tank of Fuel No Charge

H37349
91 miles
09/11

Destination and Handling 770.00

TOTAL VEHICLE PRICE
(Includes Pre-Delivery Service) **\$24,820.00**

License and title fees, state and local taxes and dealer options and accessories are not included in the manufacturer's suggested retail price.

Environmental Performance

Protect the environment, choose vehicles with higher scores: Global Warming Score Smog Score

10
Average new vehicle

10
Cleanest

7
Average new vehicle

10
Cleanest

Vehicle emissions are a primary contributor to global warming and smog. Scores are determined by the California Air Resources Board based on this vehicle's measured emissions. Please visit www.DriveClean.ca.gov for more information.

RUSS DAWSON HONDA
9301 W. BROWN DEER RD.
MILWAUKEE, WI 53224

PORT OF ENTRY: PORTLAND
DELIVERY POINT: SCHLAUBURG
SHIP: B82-856008
ROWSPACE:
TRANS METHOD: N50 ELWOOD
VIN: JHMF84F25C002922

ORIG. DLR: 207717
REF. NO.: 40277
HN CODE: HN-0336
EMISSION: 50 STATE

DEALER: 207717

PARTS CONTENT INFORMATION

FOR VEHICLES IN THIS CARLINE
U.S./Canadian Parts Content: **65 %**
Major Sources of Foreign Parts Content: **JAPAN 20 %**

NOTE: Parts content does not include final assembly, distribution or other non-parts costs.

GOVERNMENT SAFETY RATINGS

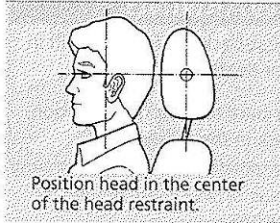
Frontal Crash	Driver Passenger	To Be Rated To Be Rated
Star ratings based on the risk of injury in a frontal impact. Frontal ratings should ONLY be compared to other vehicles of similar size and weight.		
Side Crash	Front seat Rear seat	To Be Rated To Be Rated
Star ratings based on the risk of injury in a side impact.		
Rollover		To Be Rated
Star ratings based on the risk of rollover in a single vehicle crash.		

Star ratings range from 1 to 5 stars (★★★★★) with 5 being the highest. Source: National Highway Traffic Safety Administration (NHTSA).

www.safercar.gov or 1-888-327-4236

This vehicle is equipped with a front bumper of a type that has been tested at an impact speed of 5 miles per hour, and a rear bumper of a type that has been tested at an impact speed of 5 miles per hour, resulting in no damage to the vehicle's body and safety systems and minimal damage to the bumper and attachment hardware. "Minimal damage to the bumper" means minor cosmetic damage that can be repaired with the use of common repair materials and without replacing any parts. The stronger the bumper, the less likely the vehicle will require repair after a low-speed collision. This vehicle exceeds the current federal bumper standard of 2.5 miles per hour.

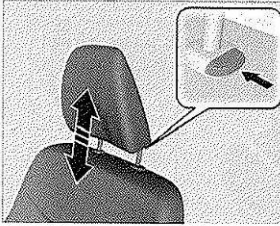
Adjusting the Head Restraints



Your vehicle is equipped with head restraints in all seating positions.

Head restraints are most effective for protection against whiplash and other rear-impact crash injuries when the center of the back of the occupant's head rests against the center of the restraint. The tops of the occupant's ears should be level with the center height of the restraint.

Adjusting the front head restraint positions



To raise the head restraint: Pull it upward.
To lower the head restraint: Push it down while pressing the release button.

Adjusting the Head Restraints

WARNING

Improperly positioning head restraints reduces their effectiveness and increases the likelihood of serious injury in a crash.

Make sure head restraints are in place and positioned properly before driving.

For a head restraint system to work properly:

- Do not hang any items on the head restraints, or from the restraint legs.
- Do not place any object between an occupant and the seat-back.
- Install each restraint in its proper location.

128

Head Restraint Use and Adjustment Information from Vehicle Owner's Manual



Post-Test Dummy Knee Contact with Vehicle Interior View

APPENDIX B

VEHICLE AND DUMMY RESPONSE DATA PLOTS

TABLE OF DATA PLOTS
Driver Dummy Instrumentation Plots

		<u>Page No.</u>
Figure No. 1.	Driver Head Acceleration (X) Primary vs. Time	B-1
Figure No. 2.	Driver Head Acceleration (Y) Primary vs. Time	B-1
Figure No. 3.	Driver Head Acceleration (Z) Primary vs. Time	B-1
Figure No. 4.	Driver Head Resultant Primary Acceleration vs. Time	B-1
Figure No. 5.	Driver Lower Spine T12 Acceleration (X) vs. Time	B-2
Figure No. 6.	Driver Lower Spine T12 Acceleration (Y) vs. Time	B-2
Figure No. 7.	Driver Lower Spine T12 Acceleration (Z) vs. Time	B-2
Figure No. 8.	Driver Lower Spine T12 Resultant Acceleration vs. Time	B-2
Figure No. 9.	Driver Iliac Wing Force on Impact Side (Y) vs. Time	B-3
Figure No. 10.	Driver Acetabulum Force on Impact Side (Y) vs. Time	B-3
Figure No. 11.	Driver Total Pelvis Force on Impact Side (Y) vs. Time	B-3

The following additional data for this test can be obtained from the Research and Development section of the NHTSA website. The website can be found at
www.NHTSA.dot.gov

Additional Driver Dummy Instrumentation Data

Driver Head Acceleration (X) Redundant
Driver Head Acceleration (Y) Redundant
Driver Head Acceleration (Z) Redundant
Driver Upper Thorax Rib Deflection (Y)
Driver Middle Thorax Rib Deflection (Y)
Driver Lower Thorax Rib Deflection (Y)
Driver Upper Abdomen Rib Deflection (Y)
Driver Lower Abdomen Rib Deflection (Y)

Vehicle Instrumentation Data

Vehicle Center of Gravity Acceleration (X)

Vehicle Center of Gravity Acceleration (Y)

Vehicle Center of Gravity Acceleration (Z)

Left Floor Sill Acceleration (Y)

Left A-Pillar Sill Acceleration (Y)

Left Lower A-Pillar Acceleration (Y)

Left Mid A-Pillar Acceleration (Y)

Left B-Pillar Sill Acceleration (Y)

Left Lower B-Pillar Acceleration (Y)

Left Mid B-Pillar Acceleration (Y)

Driver Seat Track at Dummy Hip Point Acceleration (Y)

Engine Top Acceleration (X)

Engine Top Acceleration (Y)

Firewall Center Acceleration (Y)

Right Roof at Vertical Impact Reference Line Acceleration (Y)

Right Sill at Vertical Impact Reference Line Acceleration (Y)

Rear Floorpan Behind Rear Axle at Centerline Acceleration (X)

Rear Floorpan Behind Rear Axle at Centerline Acceleration (Y)

Pole Instrumentation Data

Load Cell Pole Barrier #1 Force (Y)

Load Cell Pole Barrier #2 Force (Y)

Load Cell Pole Barrier #3 Force (Y)

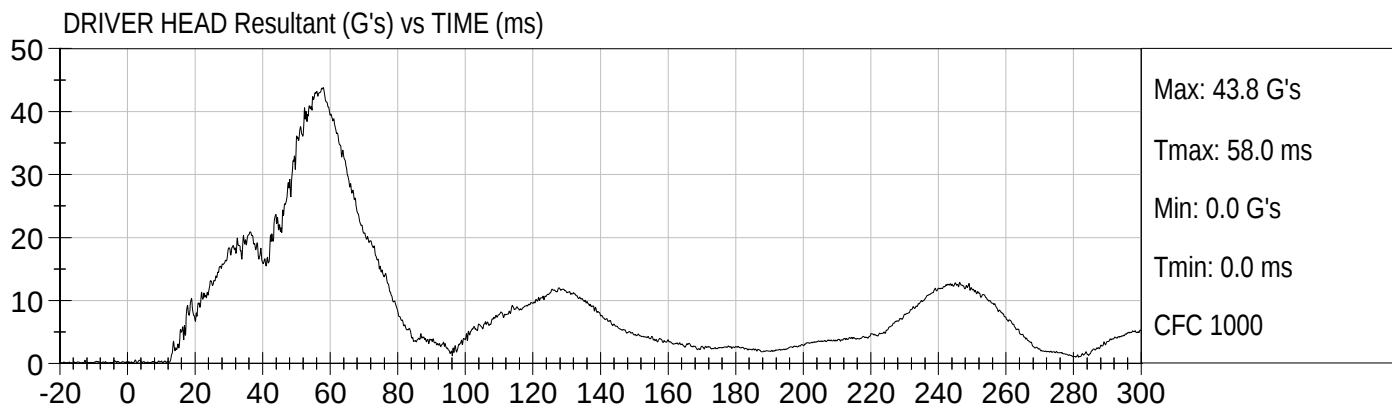
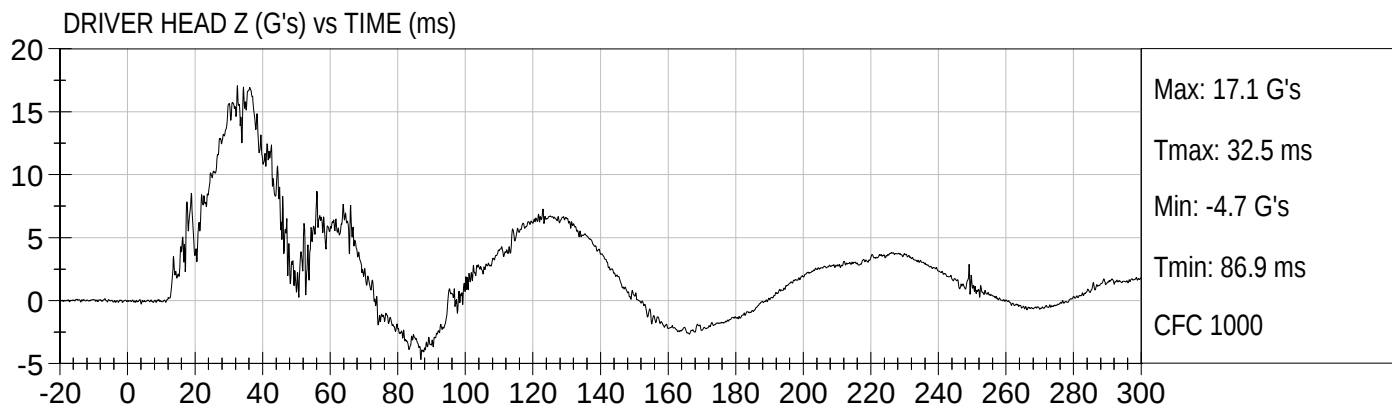
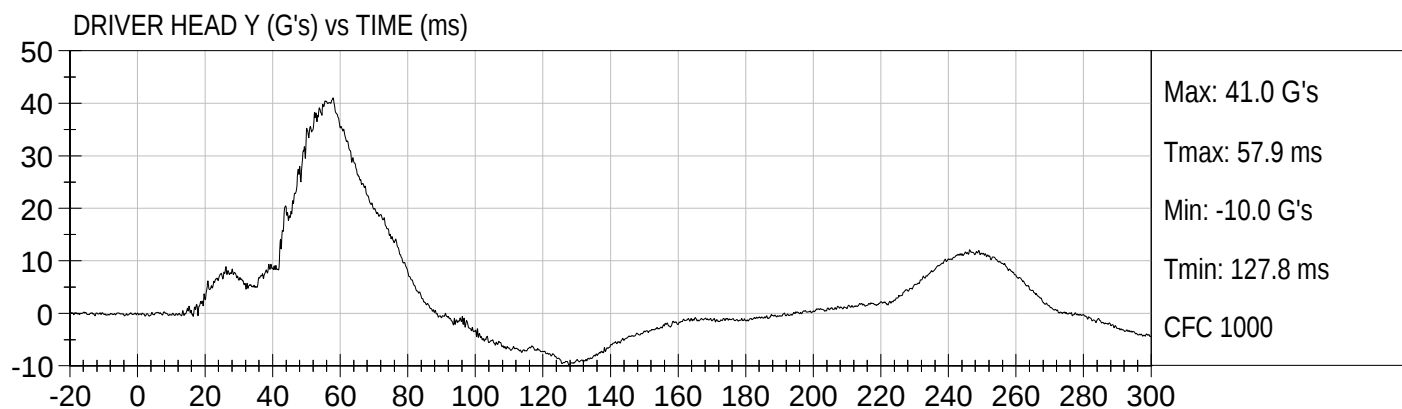
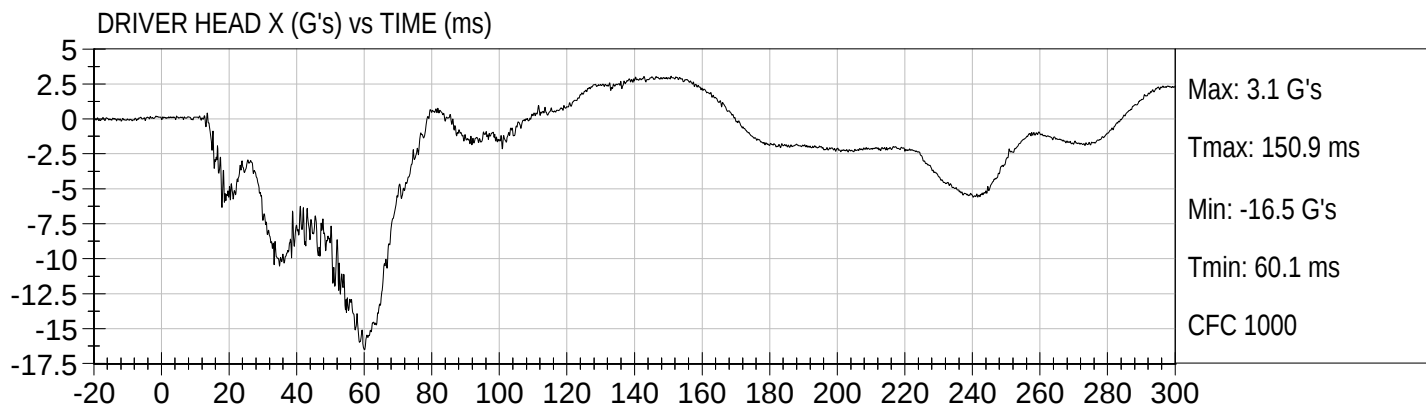
Load Cell Pole Barrier #4 Force (Y)

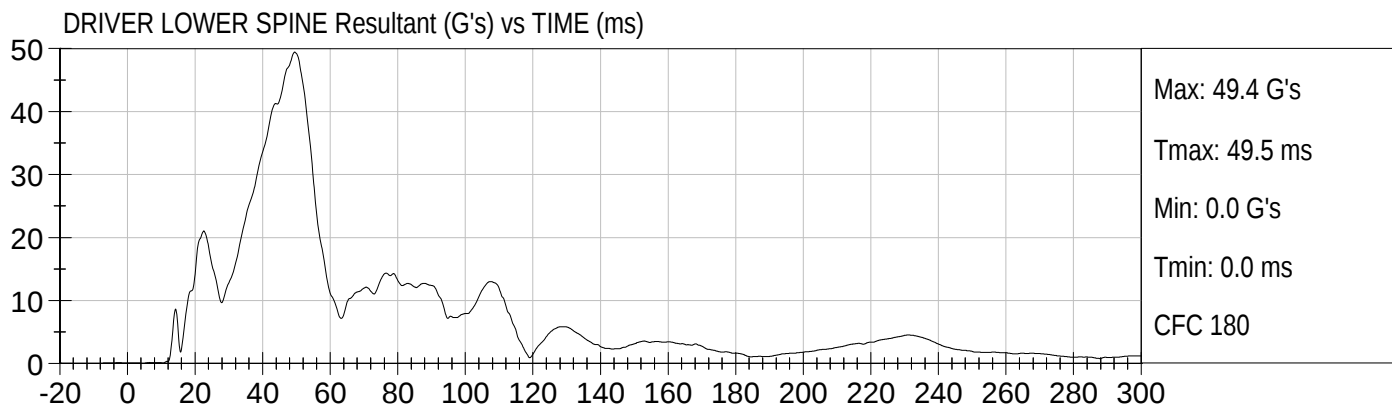
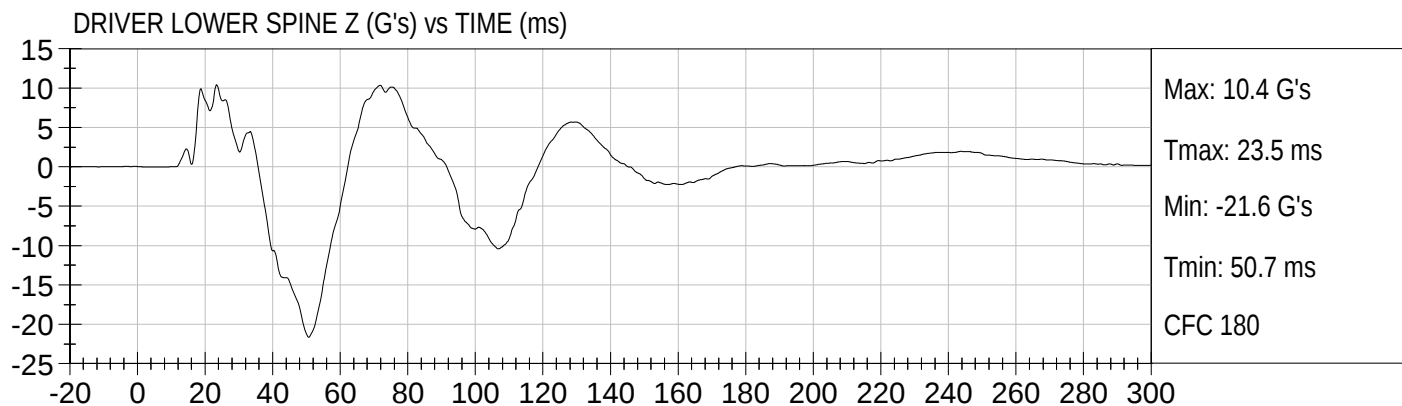
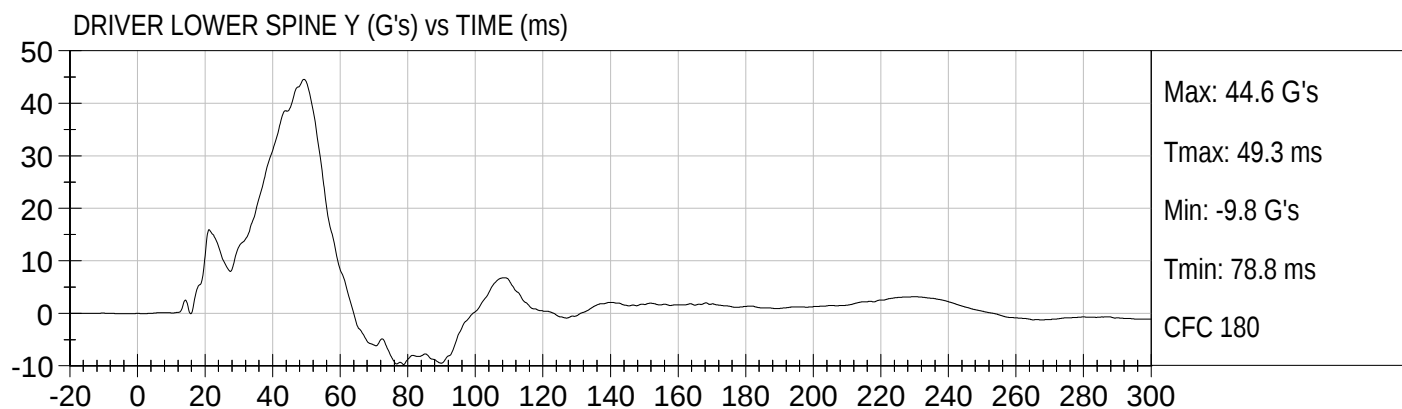
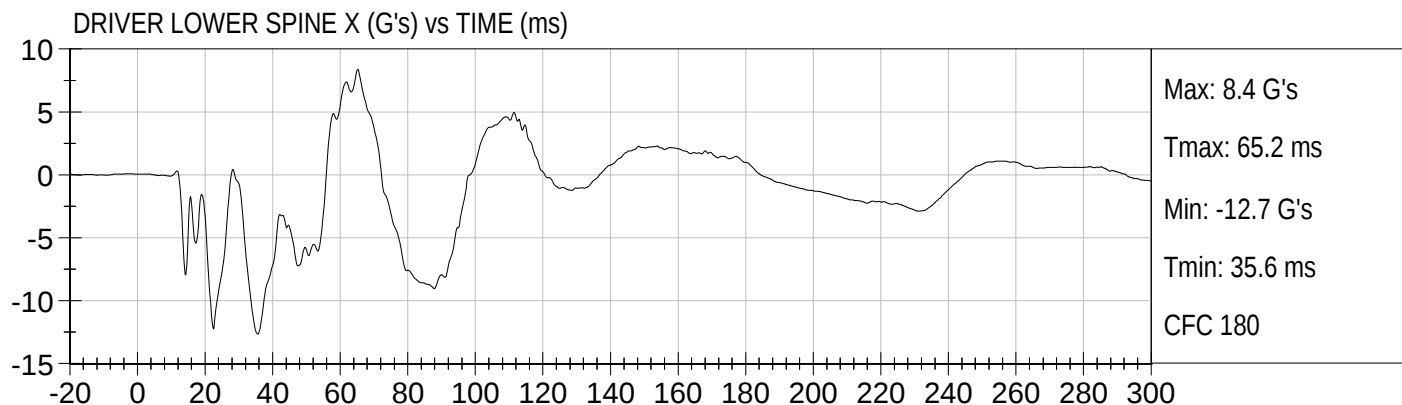
Load Cell Pole Barrier #5 Force (Y)

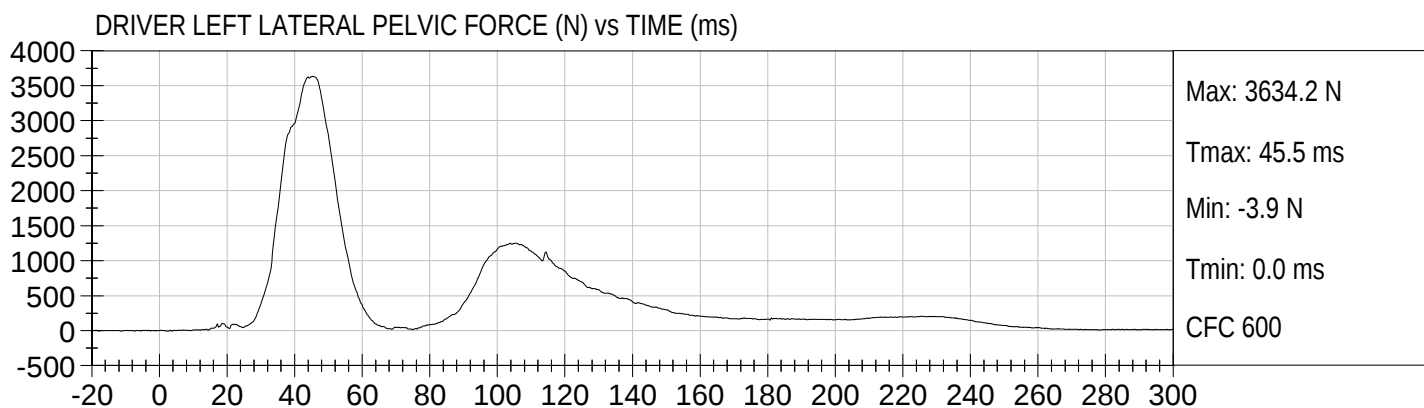
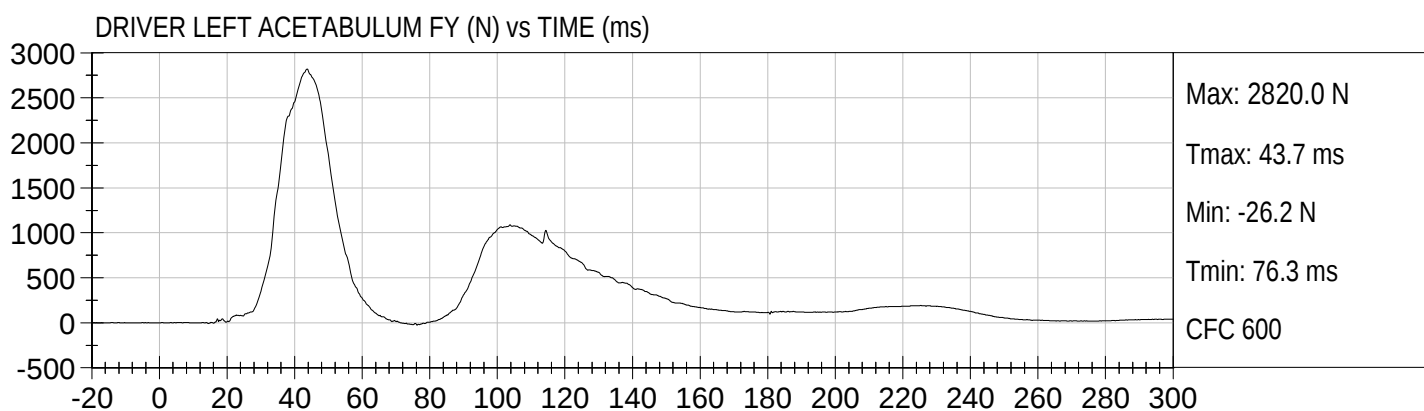
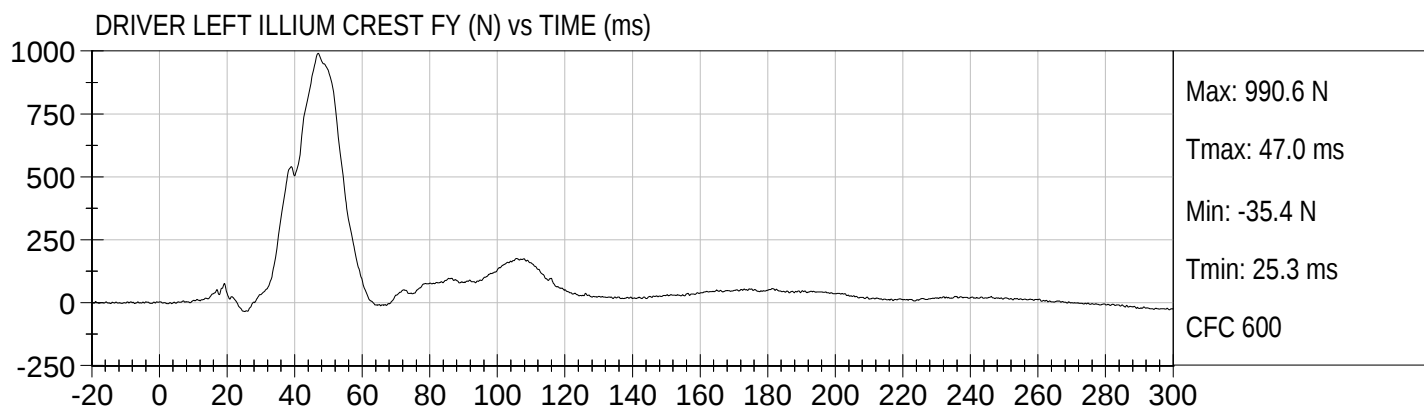
Load Cell Pole Barrier #6 Force (Y)

Load Cell Pole Barrier #7 Force (Y)

Load Cell Pole Barrier #8 Force (Y)







APPENDIX C

DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SID-IIsD External Measurements
SN: 306

No.	Name	Spec. (mm)	Result	Pass/Fail
A	Sitting Height	772 - 788	785	Pass
B	Shoulder Pivot Height	437 - 453	449	Pass
C	H-point Height	79 - 89	86	Pass
D	H-point from Seatback	141 - 151	147	Pass
E	Shoulder Pivot from Backline	97 - 107	99	Pass
F	Thigh Clearance	119 -135	120	Pass
G	Head Breadth	140 - 148	141	Pass
H	Head Back from Backline	40 - 46	45	Pass
I	Head Depth	178 - 188	182	Pass
J	Head Circumference	541 - 551	550	Pass
K	Buttock to Knee Length	514 - 540	538	Pass
L	Popliteal Height	343 - 369	349	Pass
M	Knee Pivot to Floor Height	392 - 409	394	Pass
N	Buttock Popliteal Length	416 - 442	435	Pass
O	Chest Depth w/o Jacket	195 - 211	198	Pass
P	Foot Length	216 - 232	222	Pass
Q	Hip Breadth (w/ pelvic plugs)	313 - 323	317	Pass
R	Arm Length	249 - 259	250	Pass
S	Knee Joint to Seatback	477 - 493	483	Pass
V	Shoulder Width	341 - 357	351	Pass
W	Foot Width	78 - 94	82	Pass
Y	Chest Circumference w/ jacket	851 - 881	863	Pass
Z	Waist Circumference	761 - 791	782	Pass

MGA RESEARCH CORPORATION
HEAD DROP TEST
SID-Its BUILD LEVEL D DUMMY

ATD Serial No: 306

Test ID: D12251

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	14	Pass
Peak Resultant Acceleration	G's	115 to 137	118	Pass
Peak Longitudinal Acceleration	G's	+/- 15	2.9	Pass
Unimodal	N/A	<15%	Yes	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

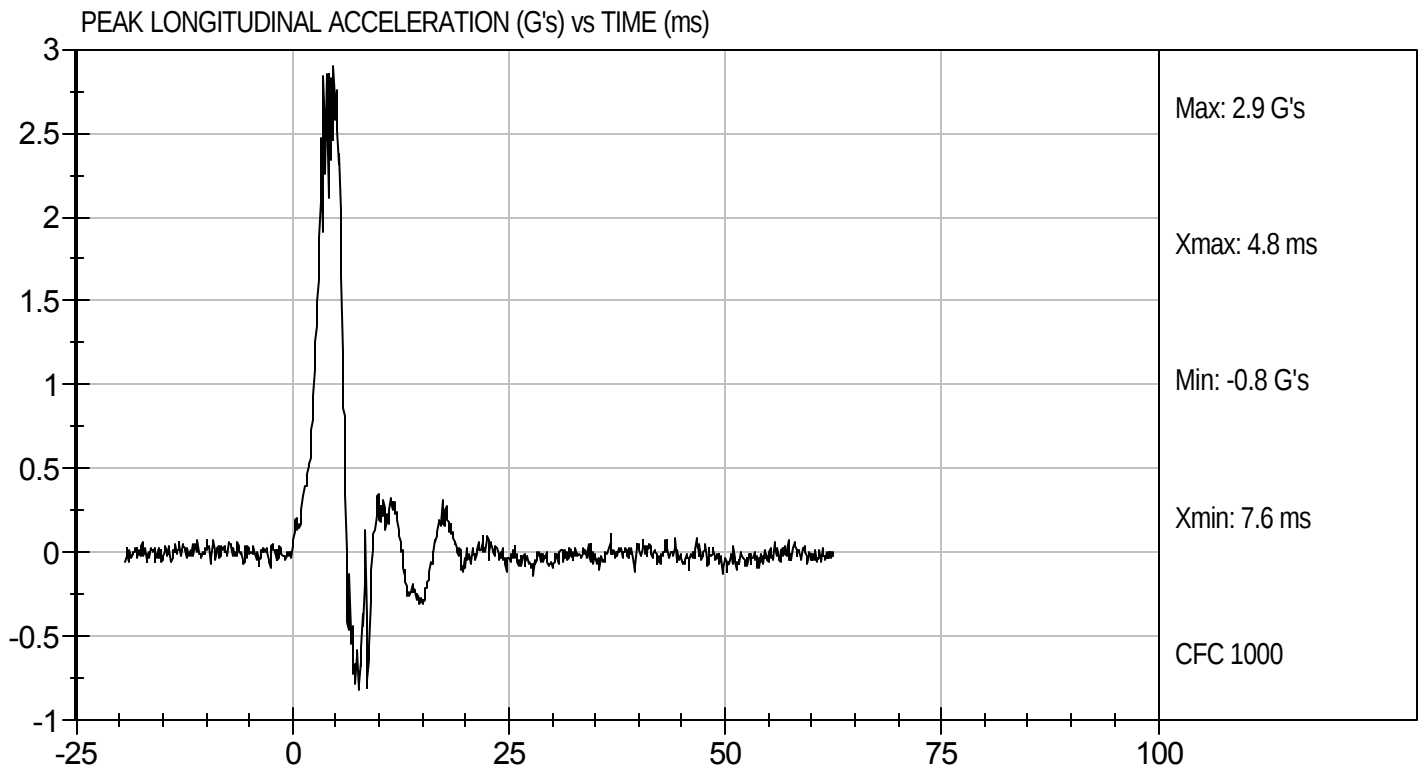
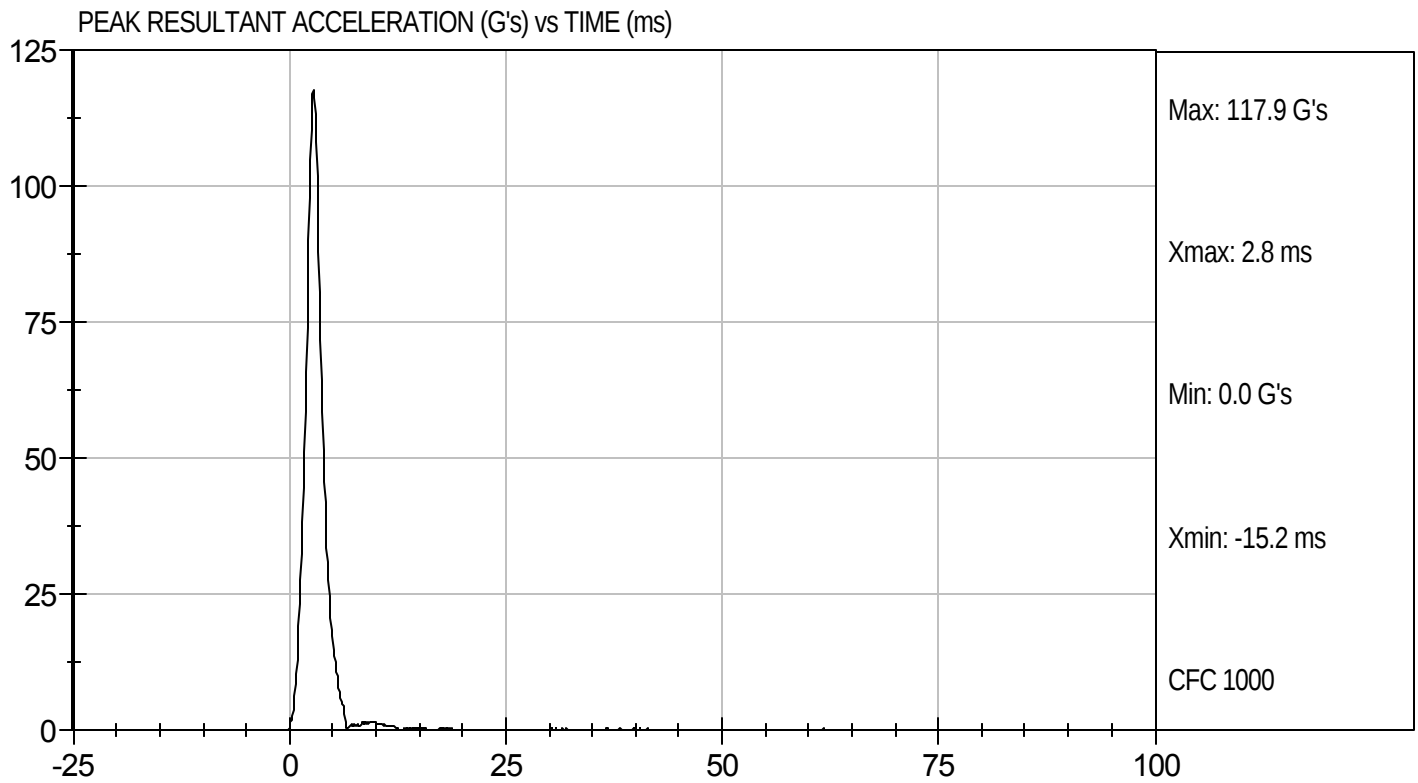
1/19/12
Test Date

David Winkelbauer
Approved By



Test Desc: Head Drop
Component ID: D12251

Test Date: 1/19/12
Velocity: 0 ft/s, 0 m/s

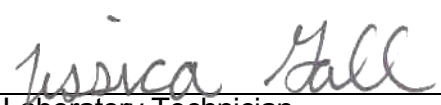


MGA RESEARCH CORPORATION
LATERAL NECK PENDULUM TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 306

Test I.D: D12252

Tested Parameter		Units	Specification	Result	Pass/Fail
Temperature		deg C	20.6 to 22.2	22.1	Pass
Humidity		%	10 to 70	14	Pass
Impact Velocity		m/s	5.51 to 5.63	5.58	Pass
Delta Velocity	10 ms	m/s	2.20 to 2.80	2.66	Pass
	15 ms	m/s	3.30 to 4.10	3.85	Pass
	20 ms	m/s	4.40 to 5.40	5.06	Pass
	25 ms	m/s	5.40 to 6.10	5.61	Pass
	25-100 ms	m/s	5.50 to 6.20	5.69	Pass
Maximum D-Plane Rotation		deg	71 to 81	71	Pass
Time of Maximum D-Plane Rotation		ms	50 to 70	60	Pass
Maximum Occipital Condyle Moment during Rotation Interval Nm			-44 to -36	-39	Pass
Time of Moment Decay to 0 Nm		ms	102 to 126	115	Pass
Overall Test Results				Pass	


 Laboratory Technician

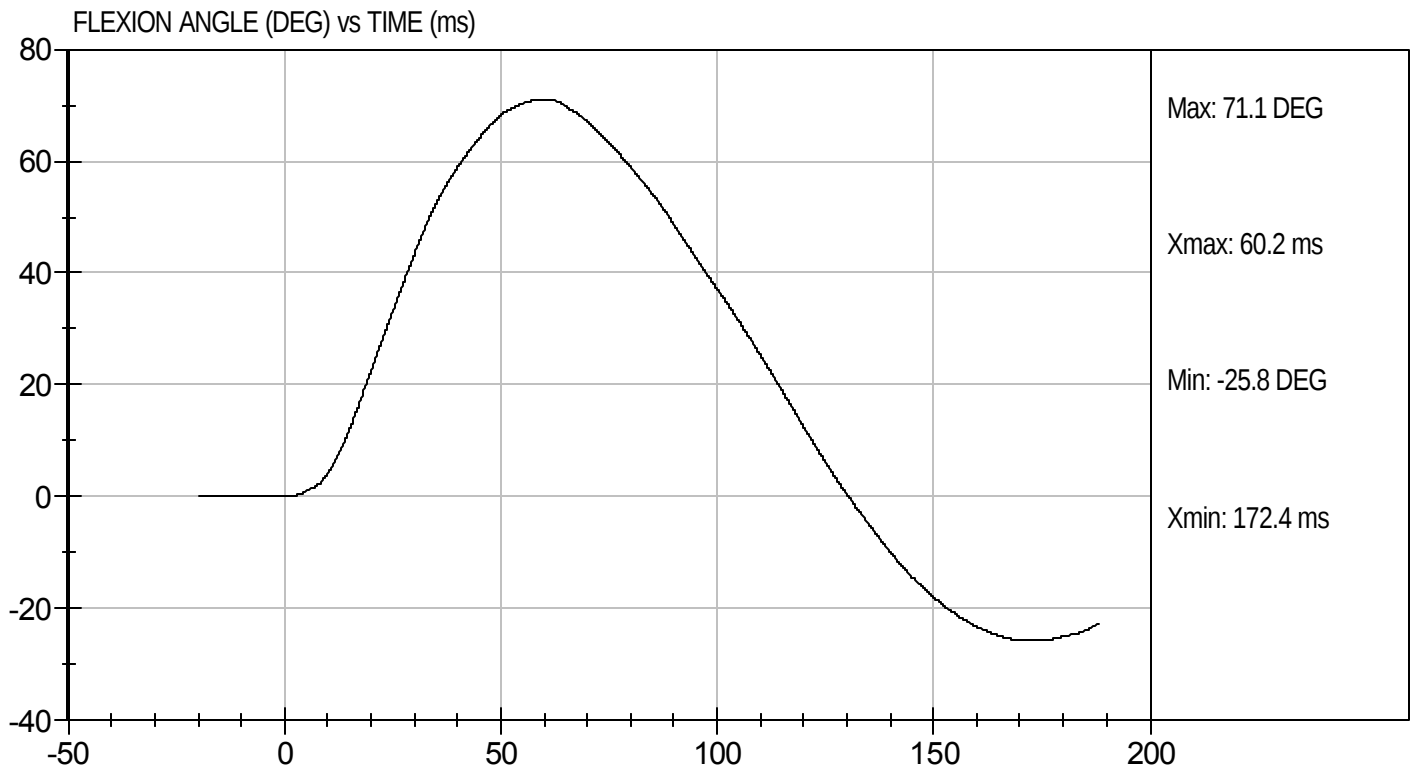
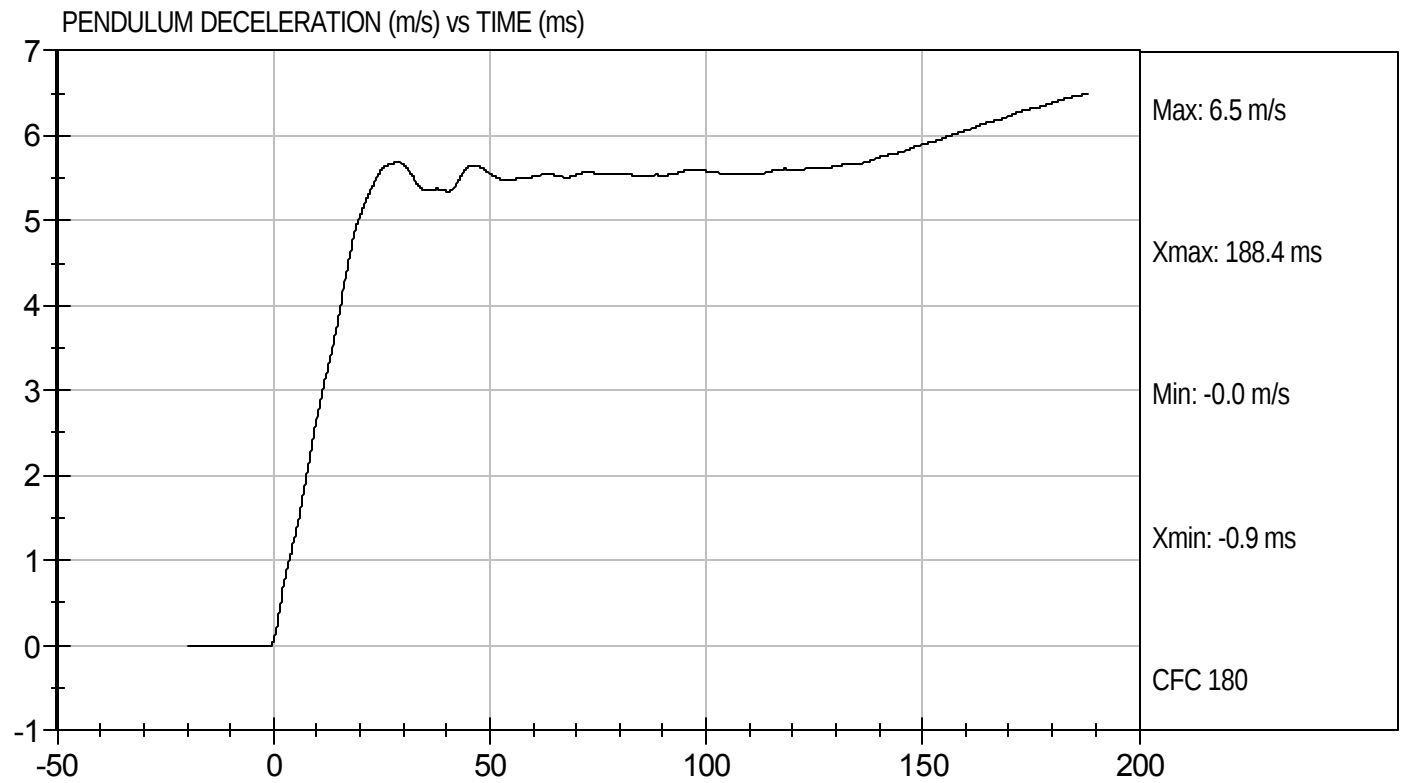
1/19/12
 Test Date


 Approved By



Test Desc: Neck Bending
Component ID: D12252

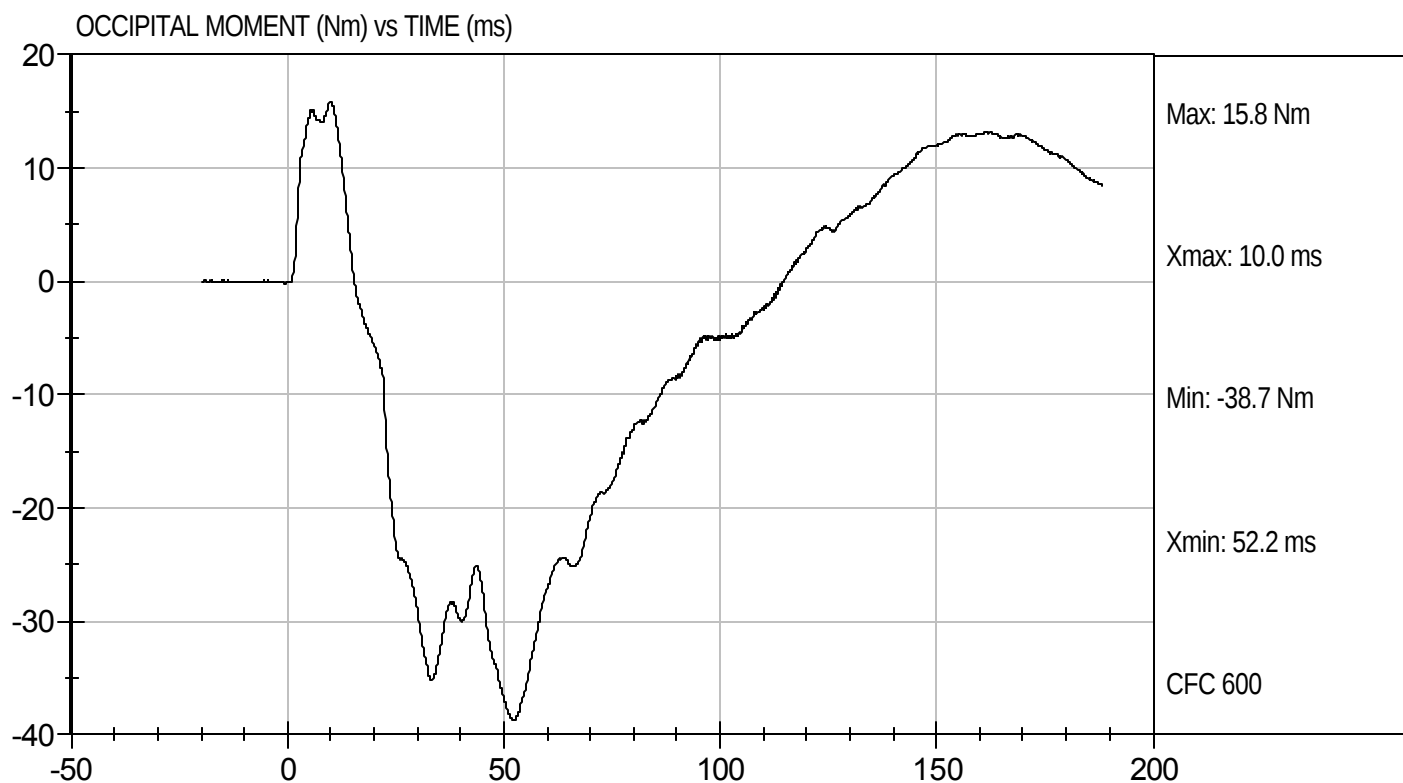
Test Date: 1/19/12
Velocity: 18.32 ft/s, 5.58 m/s





Test Desc: Neck Bending
Component ID: D12252

Test Date: 1/19/12
Velocity: 18.32 ft/s, 5.58 m/s



MGA RESEARCH CORPORATION
SHOULDER IMPACT TEST
SID-11s BUILD LEVEL D DUMMY

ATD Serial No: 306

Test ID: D12253

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.9	Pass
Laboratory Relative Humidity	%	10 to 70	12	Pass
Impact Velocity	m/s	4.20 to 4.40	4.34	Pass
Maximum Probe Acceleration	G's	13 to 18	16	Pass
Shoulder Displacement	mm	28 to 37	28	Pass
Upper Spine (T1) Y Acceleration	G's	17 to 22	19	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

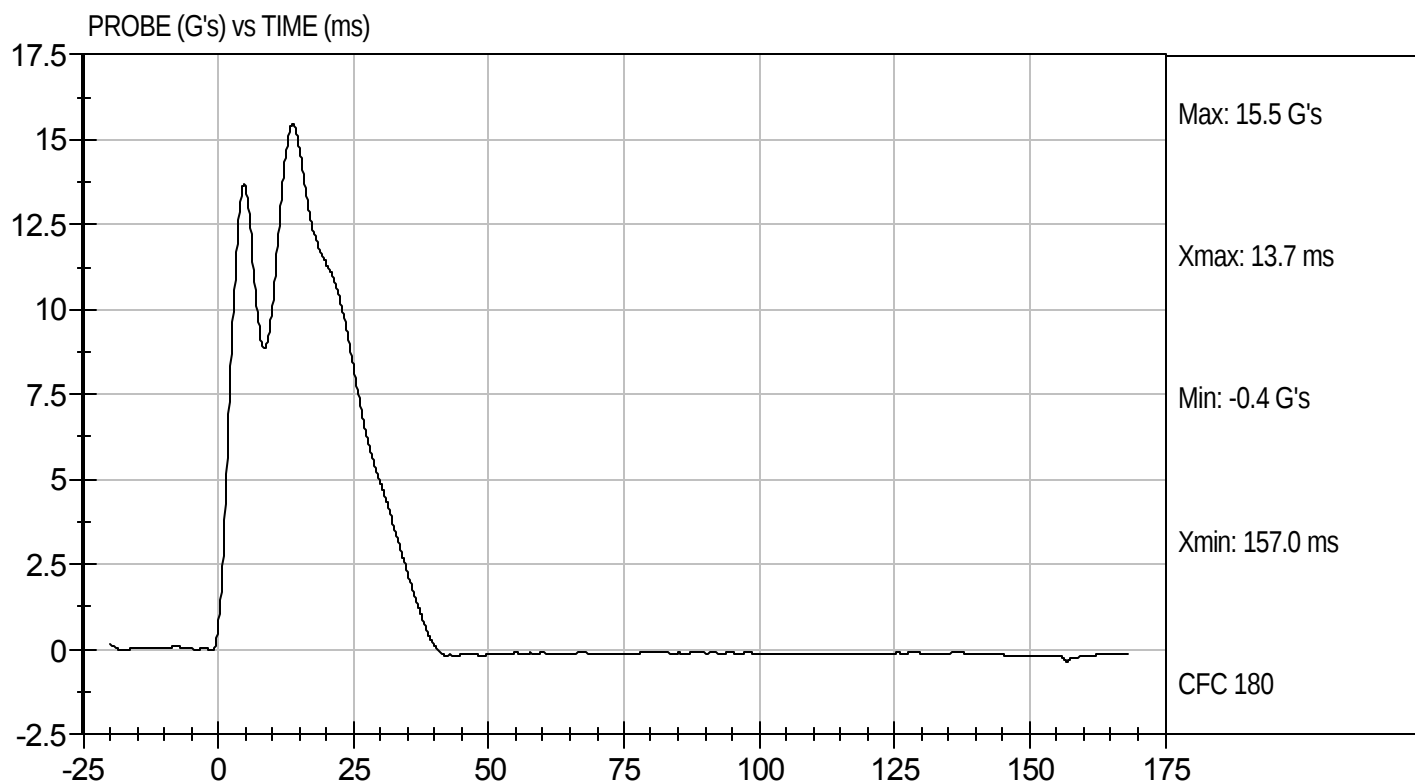
1/20/12
Test Date

David Winkelbauer
Approved By



Test Desc: Shoulder Impact
Component ID: D12253

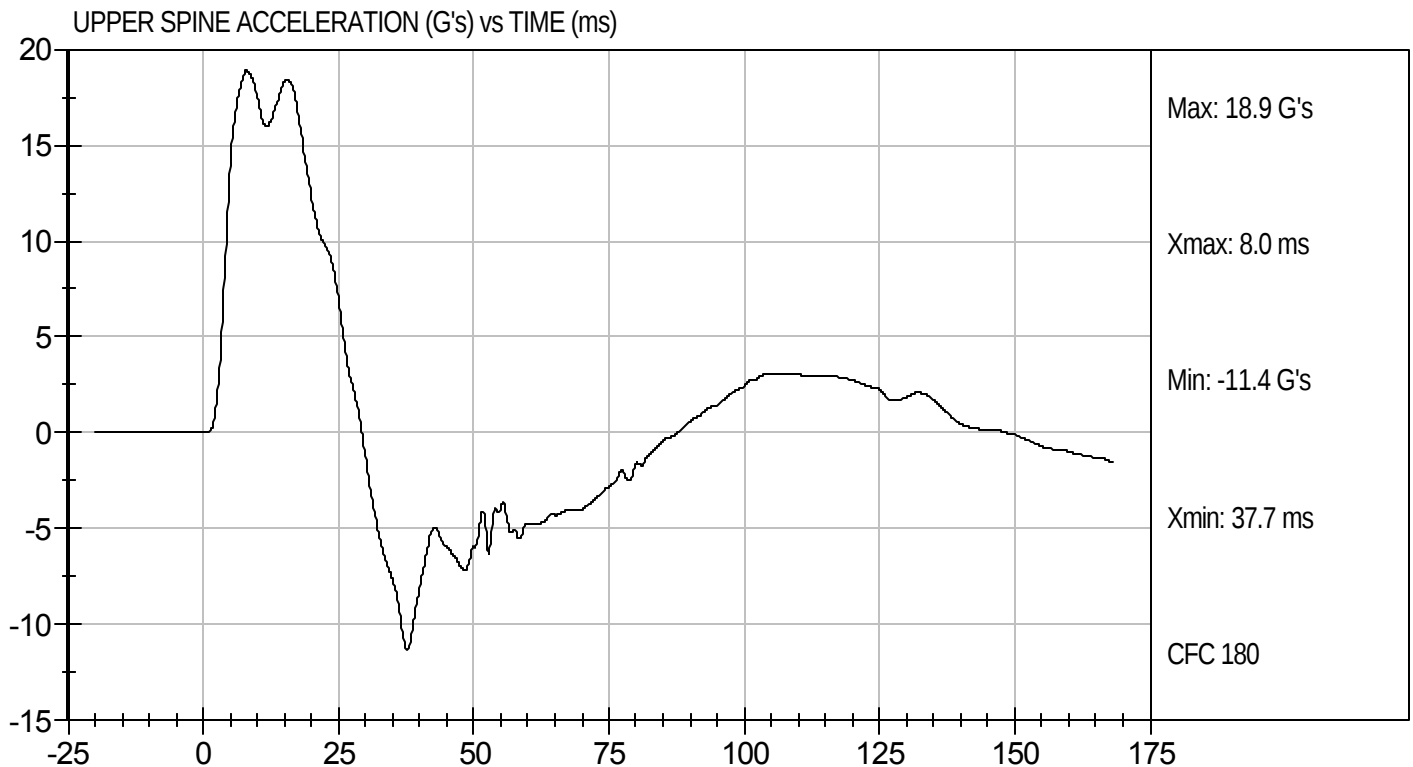
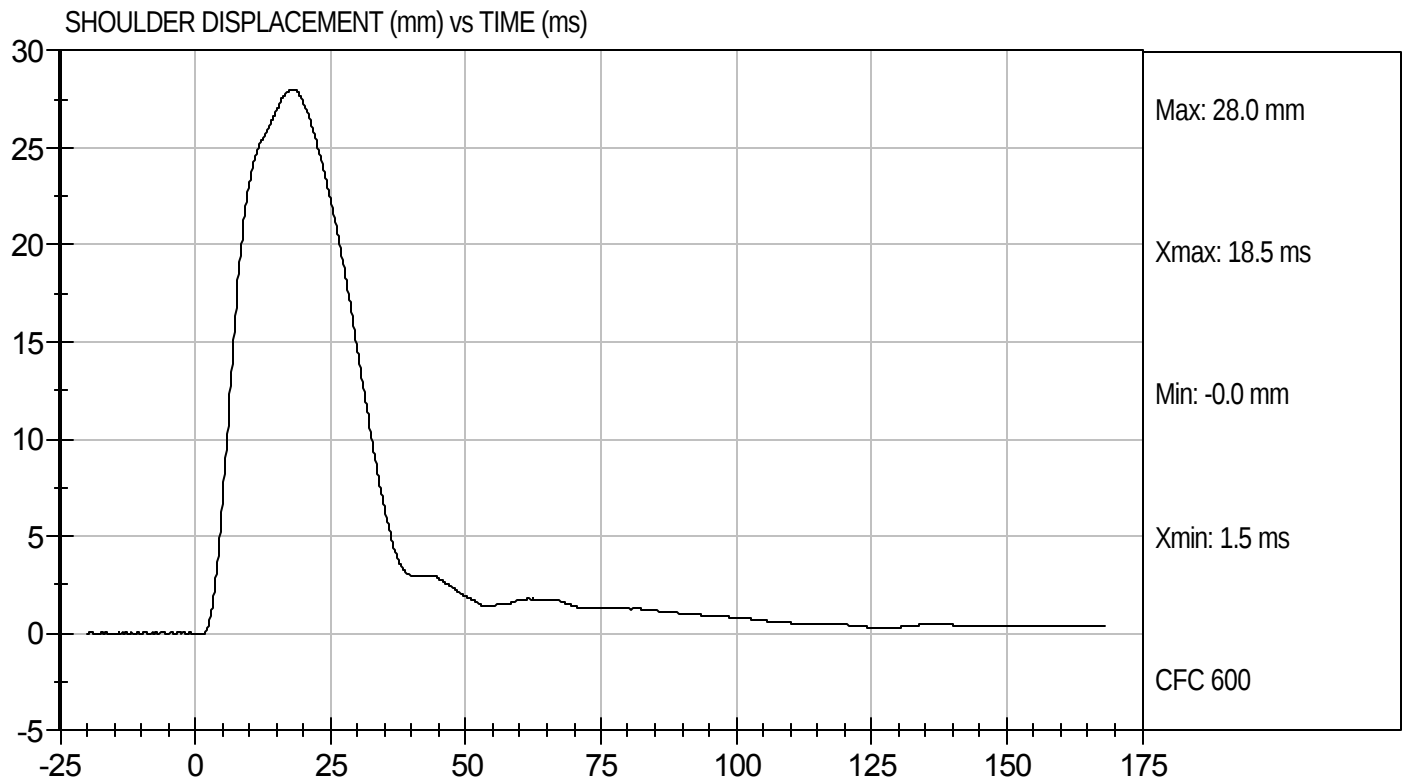
Test Date: 1/20/12
Velocity: 14.25 ft/s, 4.34 m/s





Test Desc: Shoulder Impact
Component ID: D12253

Test Date: 1/20/12
Velocity: 14.25 ft/s, 4.34 m/s

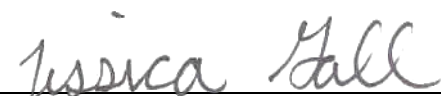


MGA RESEARCH CORPORATION
THORAX (WITH ARM) IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 306

Test I.D: D12254

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.8	Pass
Humidity	%	10 to 70	12	Pass
Impact Velocity	m/s	6.60 to 6.80	6.77	Pass
Peak Impactor Acceleration	G's	30 to 36	34	Pass
Shoulder Displacement	mm	31 to 40	32	Pass
Upper Rib Displacement	mm	25 to 32	26	Pass
Middle Rib Displacement	mm	30 to 36	30	Pass
Lower Rib Displacement	mm	32 to 38	34	Pass
Upper Spine (T1) Y Acceleration	G's	34 to 43	39	Pass
Lower Spine (T12) Y Acceleration	G's	29 to 37	34	Pass
Overall Test Results				Pass


Laboratory Technician

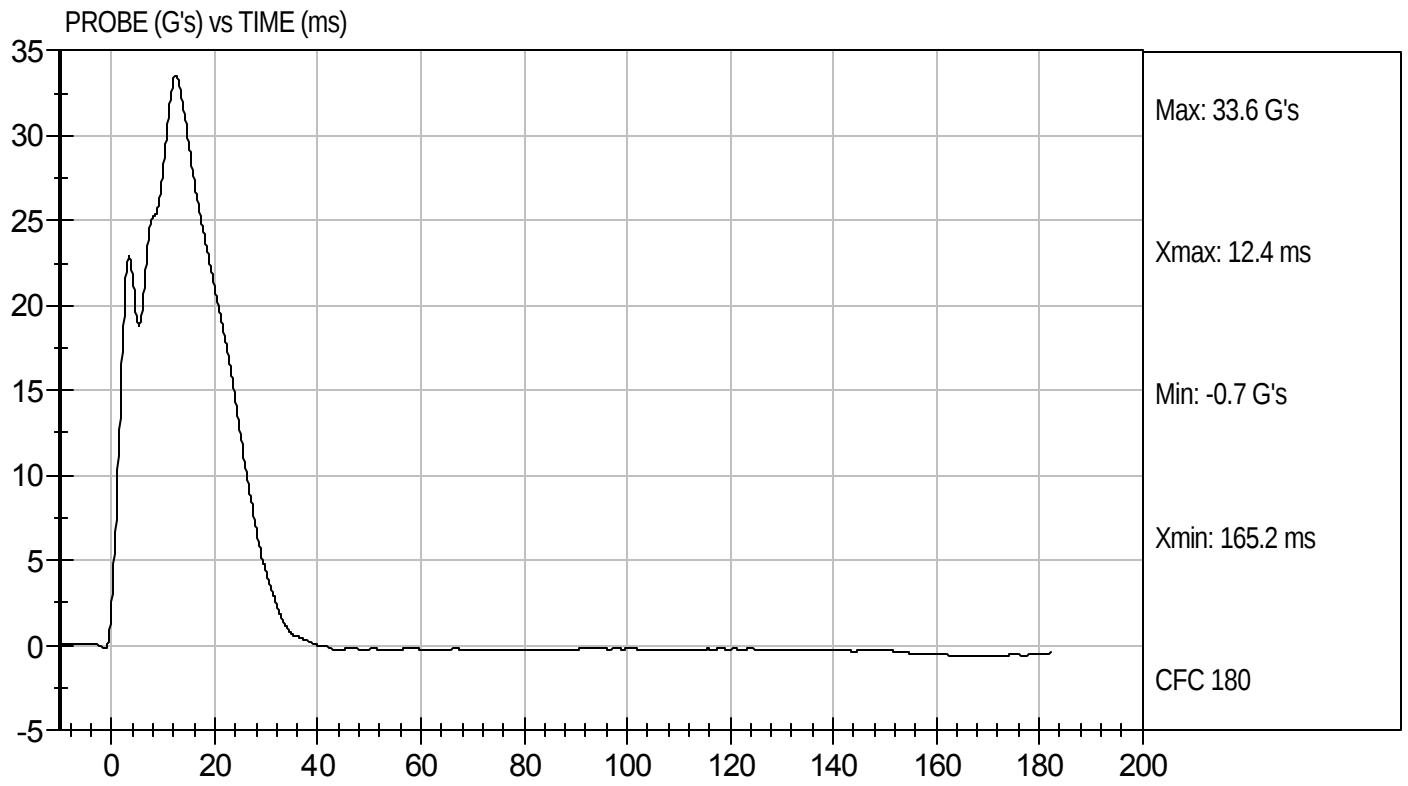
1/20/12
Test Date


Approved By



Test Desc: Thorax With Arm
Component ID: D12254

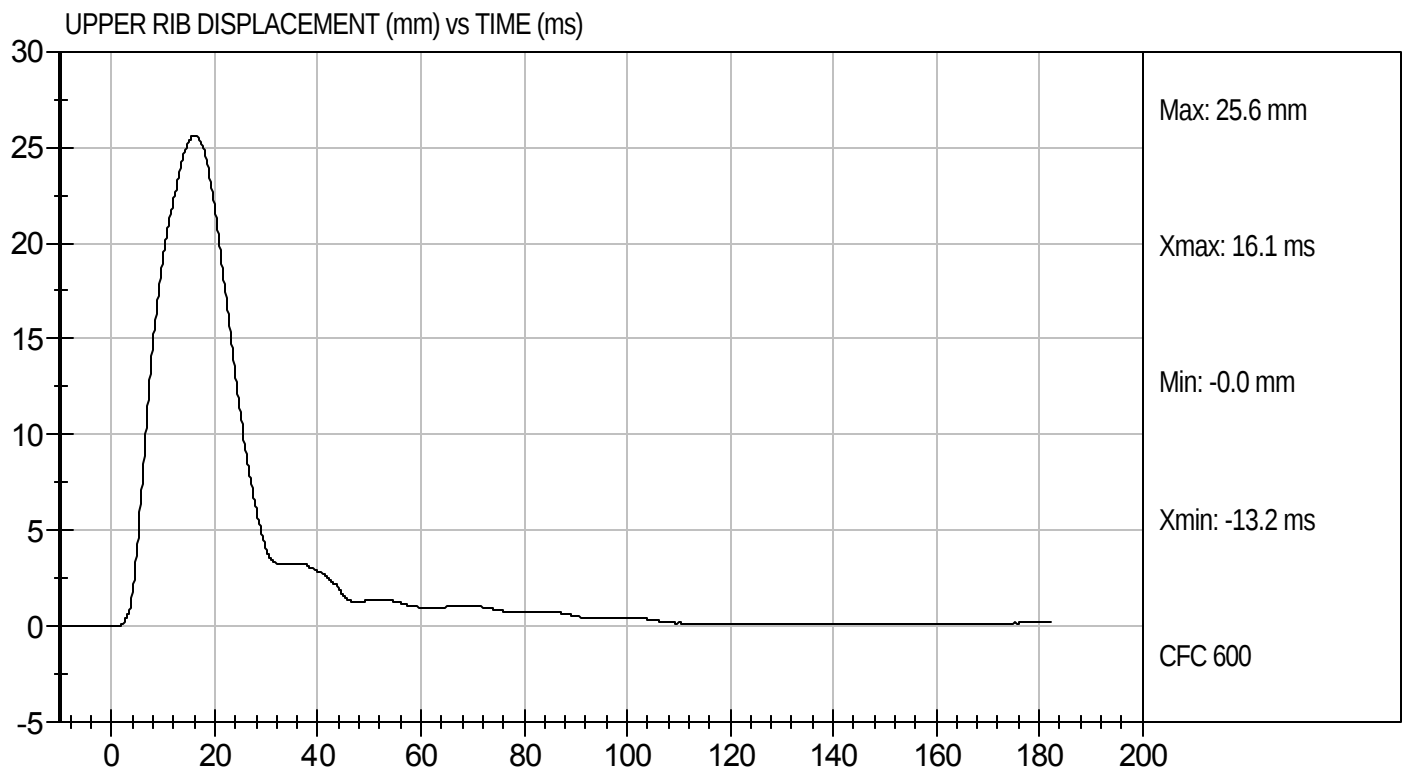
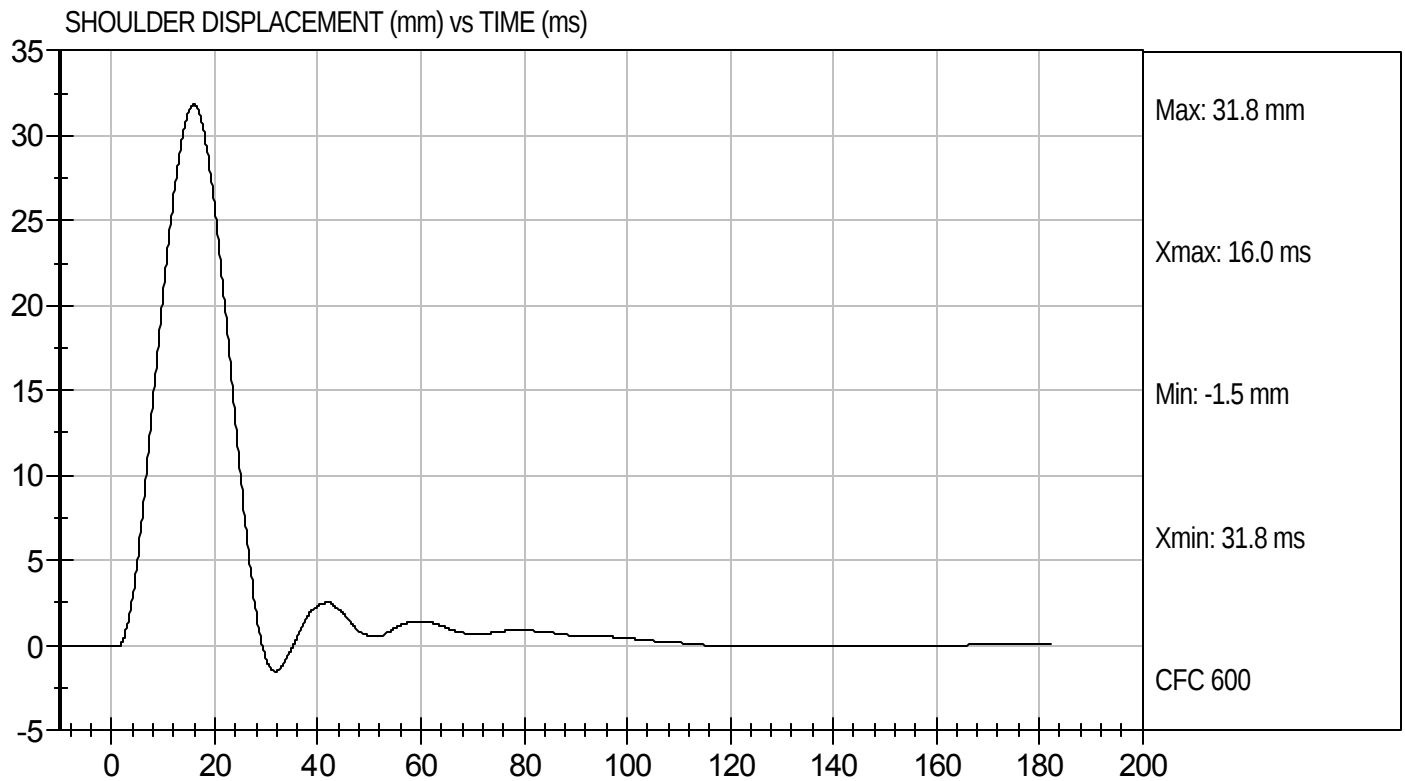
Test Date: 1/20/12
Velocity: 22.22 ft/s, 6.77 m/s





Test Desc: Thorax With Arm
Component ID: D12254

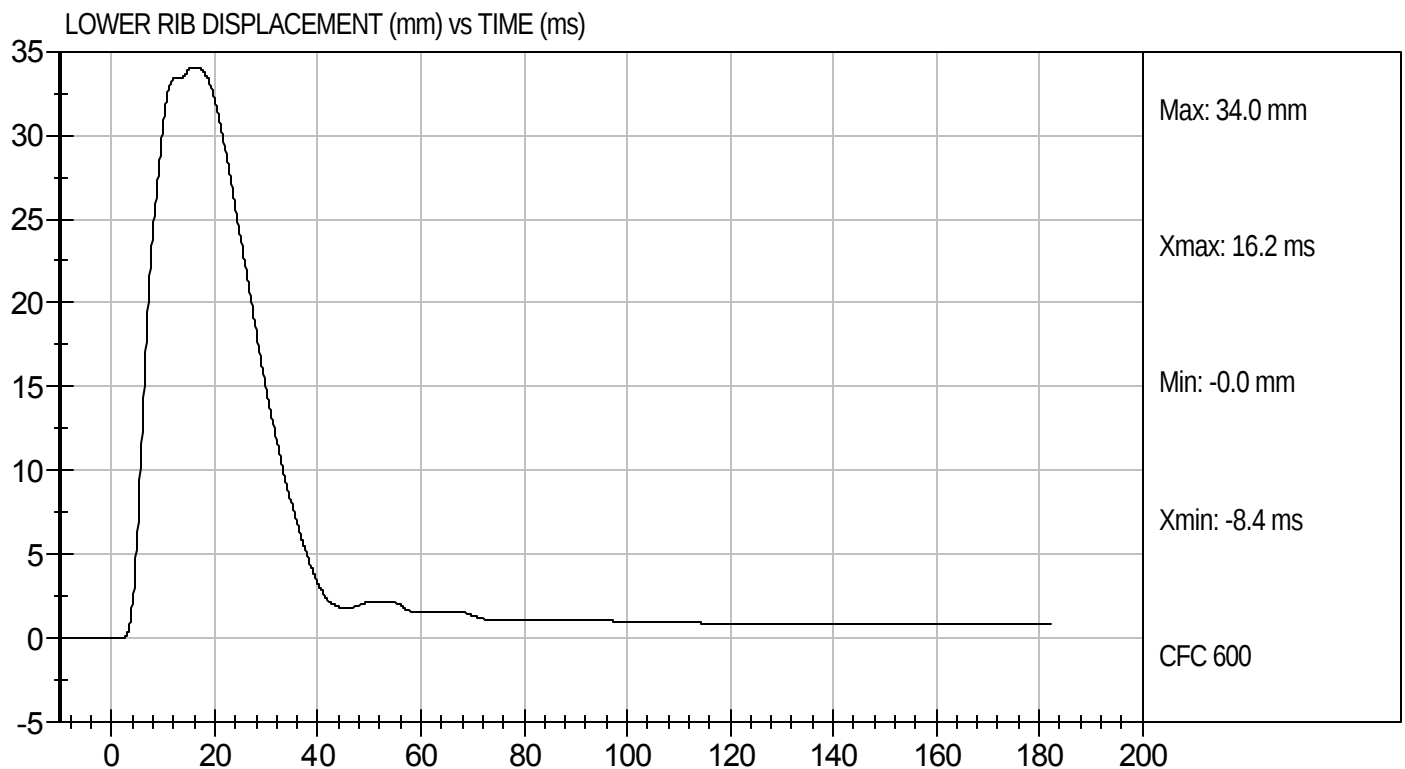
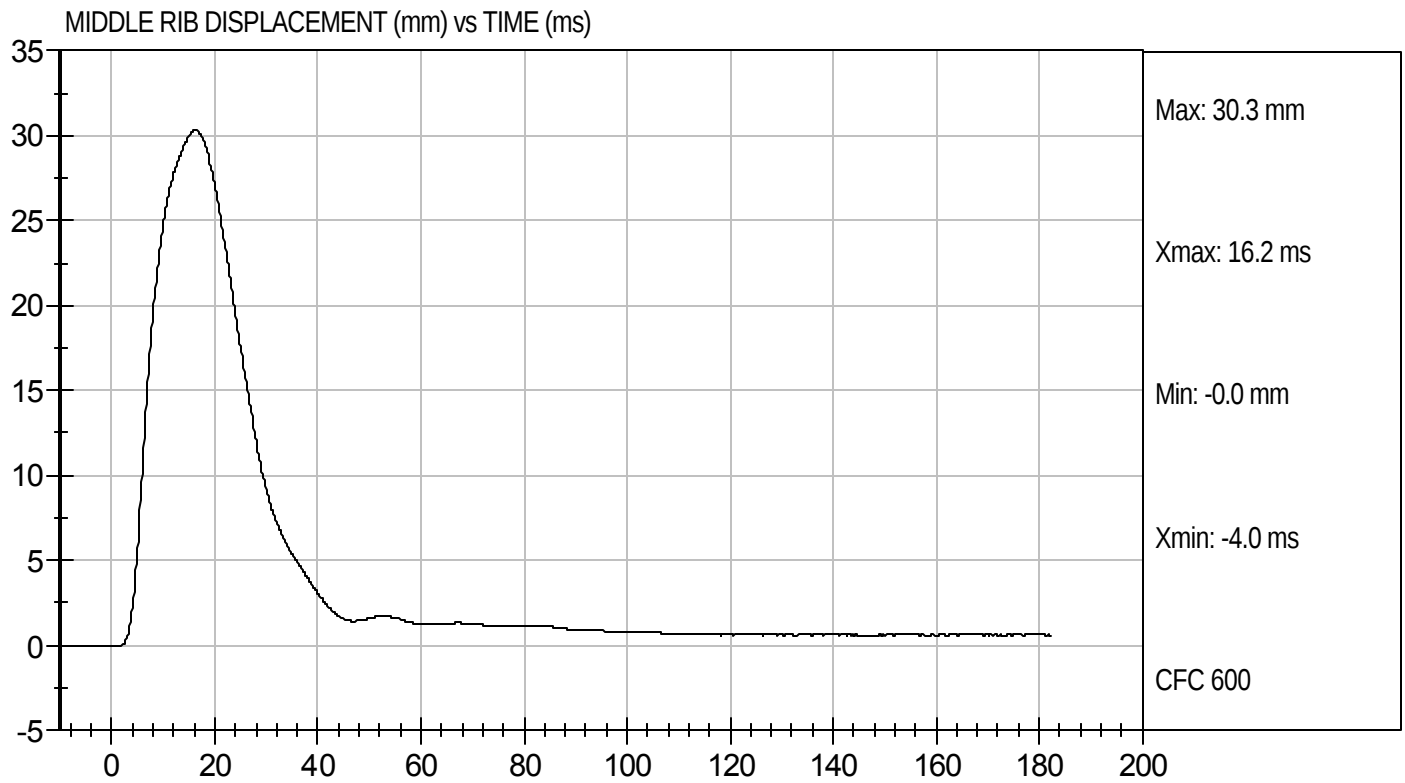
Test Date: 1/20/12
Velocity: 22.22 ft/s, 6.77 m/s





Test Desc: Thorax With Arm
Component ID: D12254

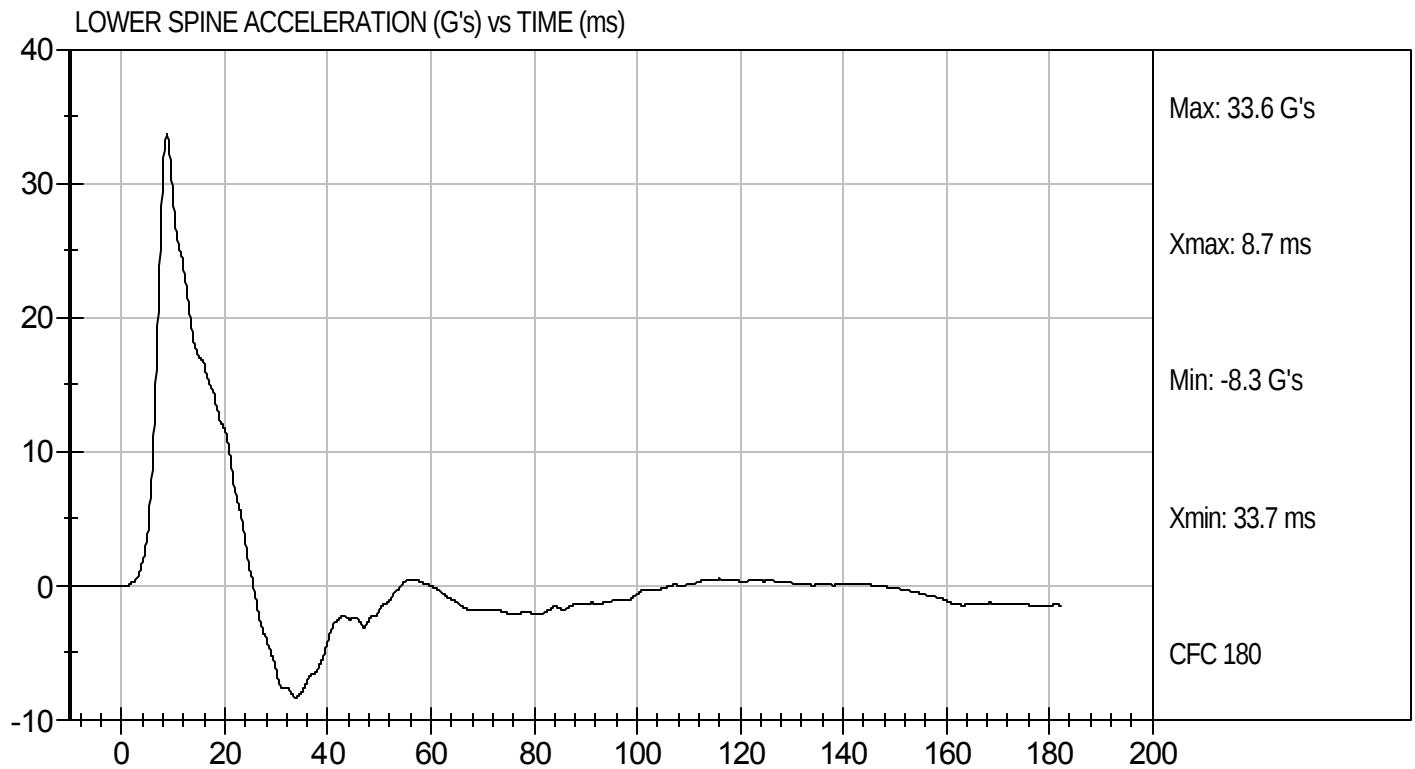
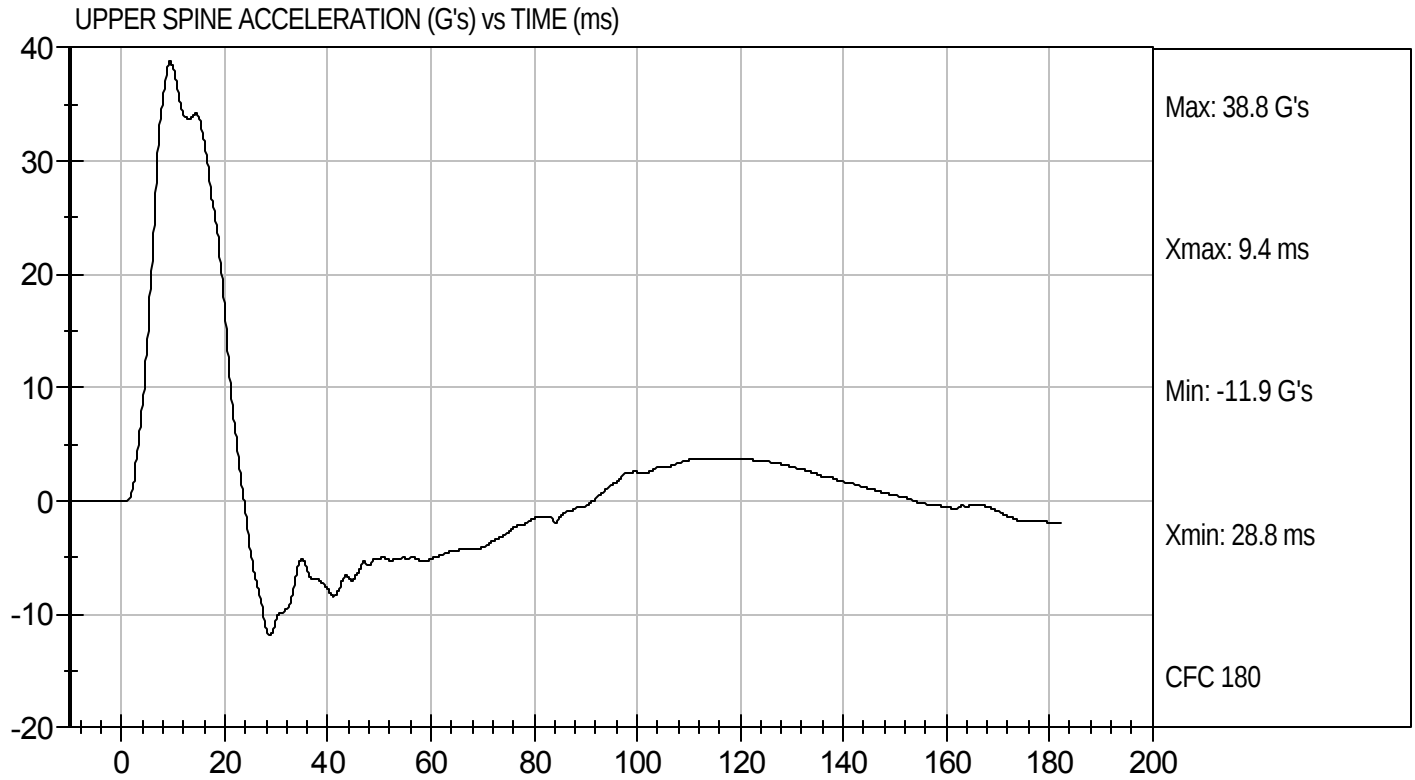
Test Date: 1/20/12
Velocity: 22.22 ft/s, 6.77 m/s





Test Desc: Thorax With Arm
Component ID: D12254

Test Date: 1/20/12
Velocity: 22.22 ft/s, 6.77 m/s



MGA RESEARCH CORPORATION
THORAX (WITHOUT ARM) IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 306

Test I.D: D12255

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.9	Pass
Humidity	%	10 to 70	12	Pass
Impact Velocity	m/s	4.20 to 4.40	4.38	Pass
Peak Impactor Force	G's	14 to 18	16	Pass
Upper Rib Displacement	mm	32 to 40	34	Pass
Middle Rib Displacement	mm	39 to 45	41	Pass
Lower Rib Displacement	mm	35 to 43	40	Pass
Upper Spine (T1) Y Acceleration	G's	13 to 17	14	Pass
Lower Spine (T12) Y Acceleration	G's	7 to 11	10	Pass
Overall Test Results			Pass	


Laboratory Technician

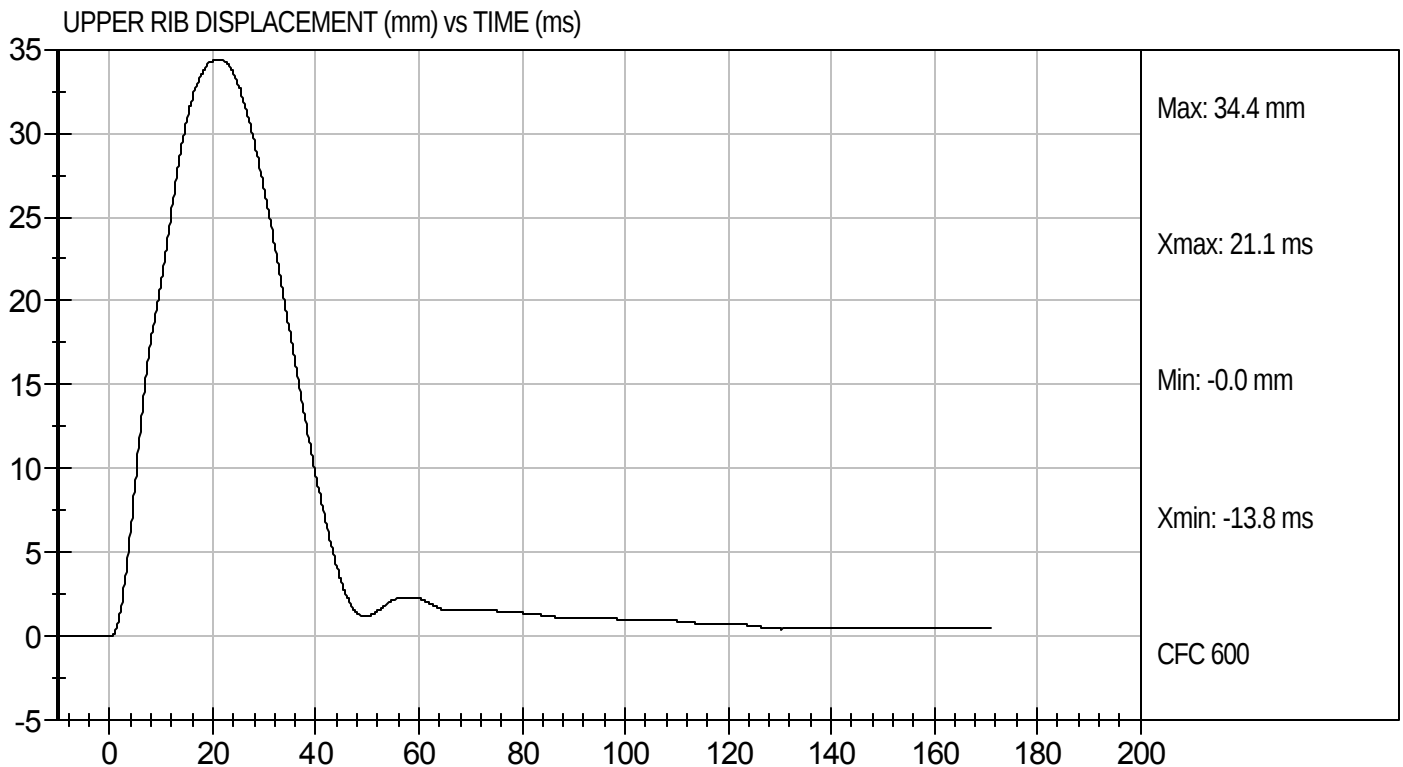
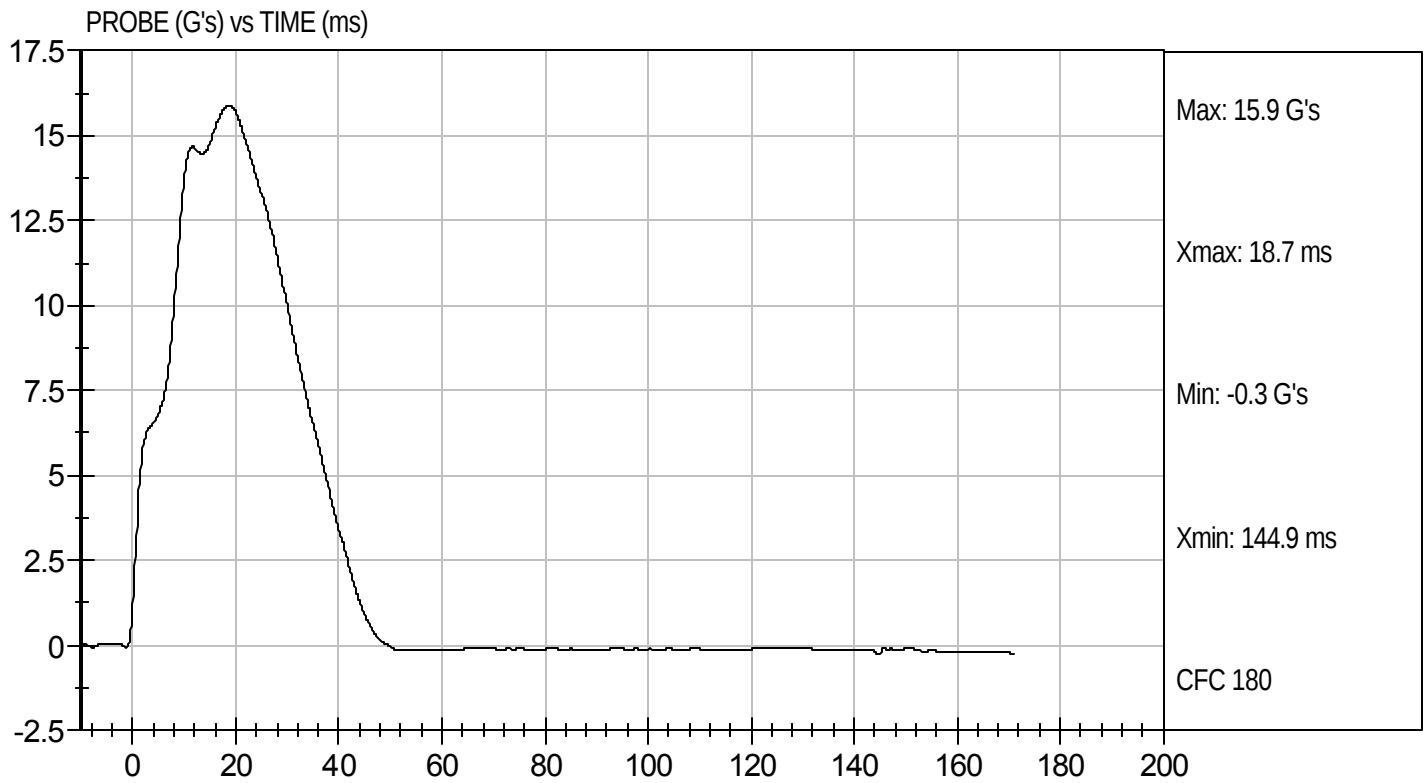
1/20/12
Test Date


Approved By



Test Desc: Thorax Without Arm
Component ID: D12255

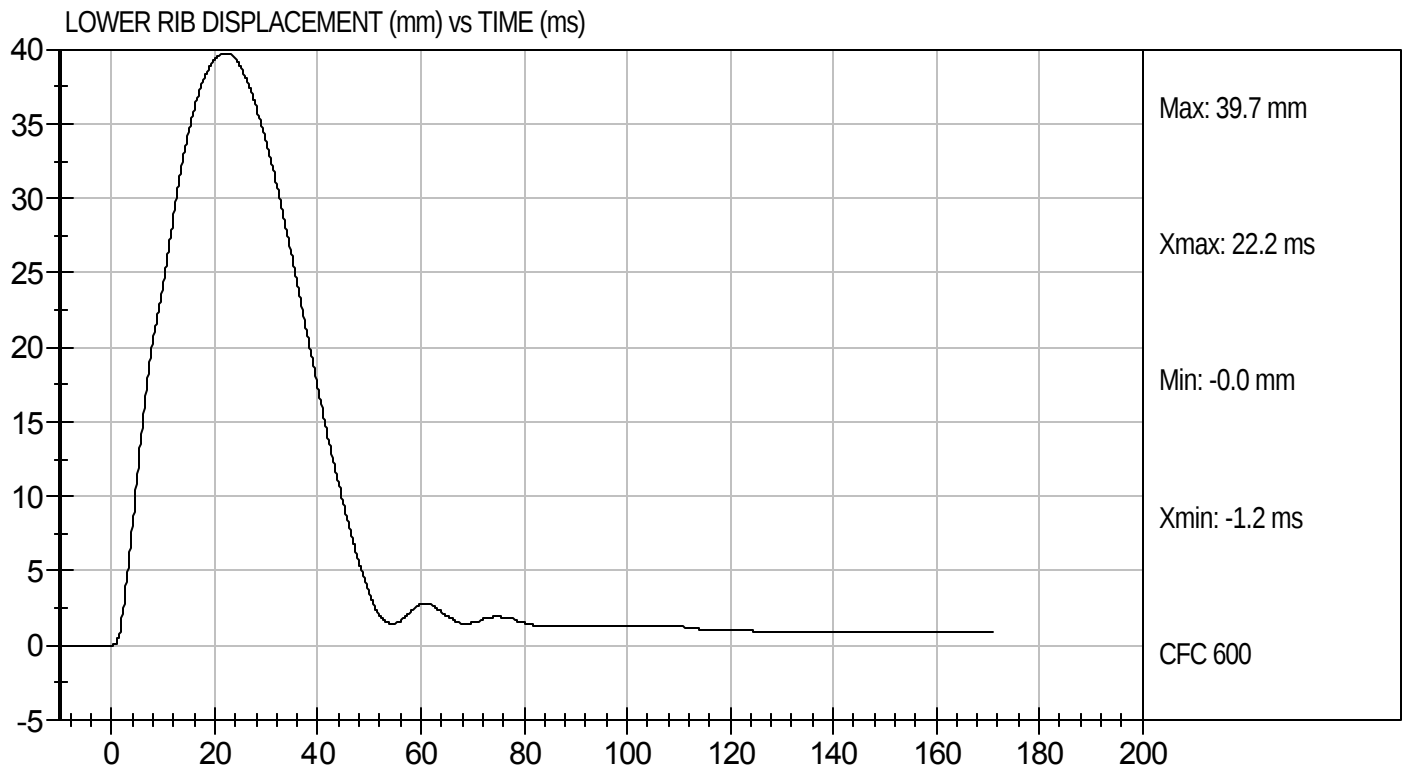
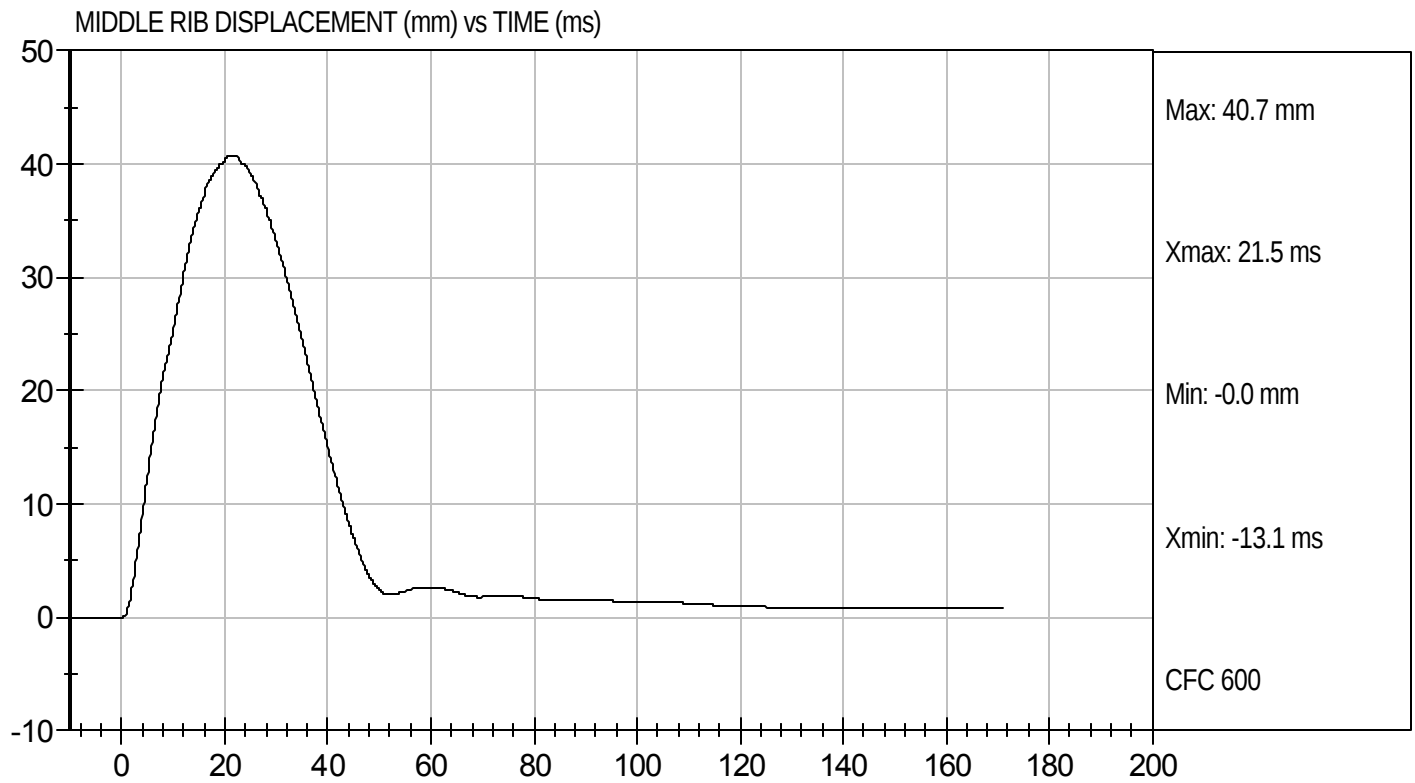
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Velocity: 14.37 ft/s, 4.38 m/s





Test Desc: Thorax Without Arm
Component ID: D12255

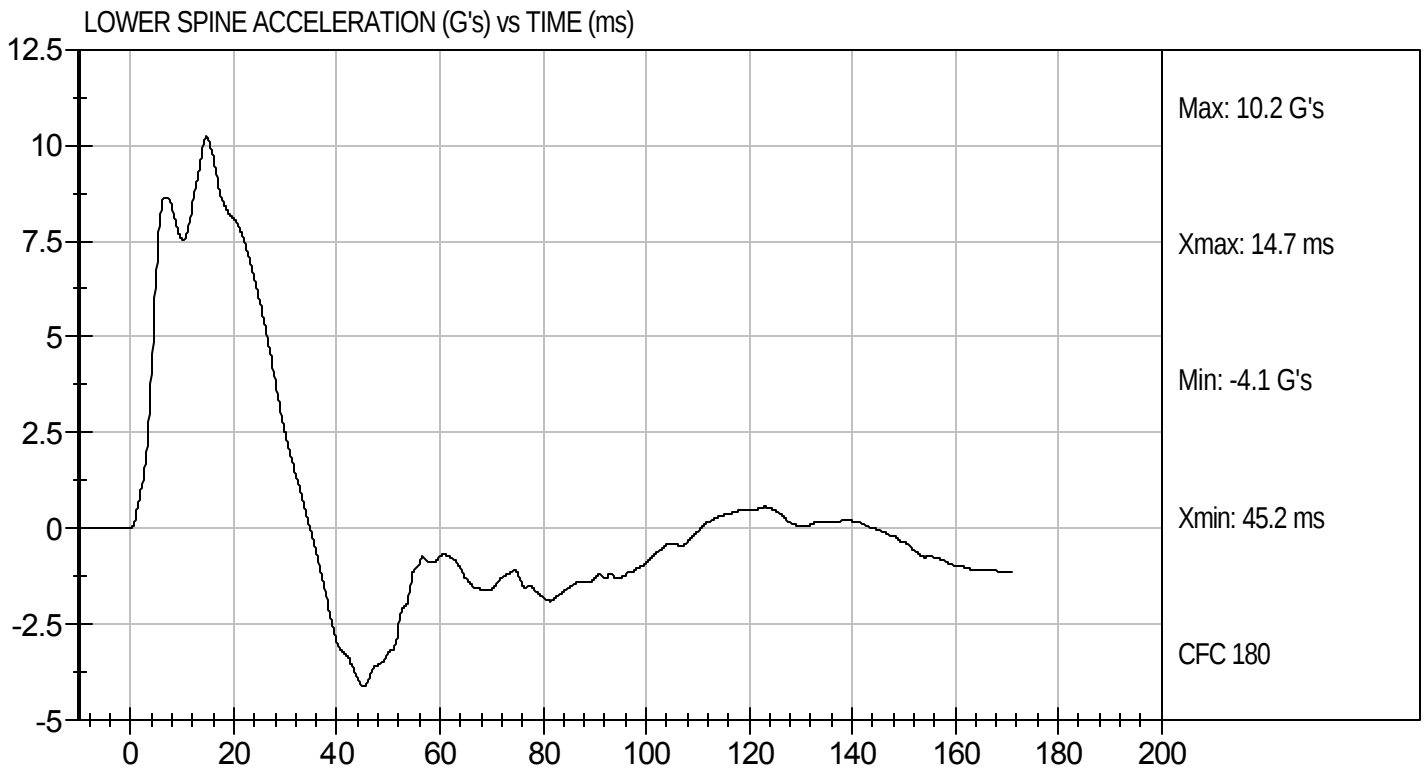
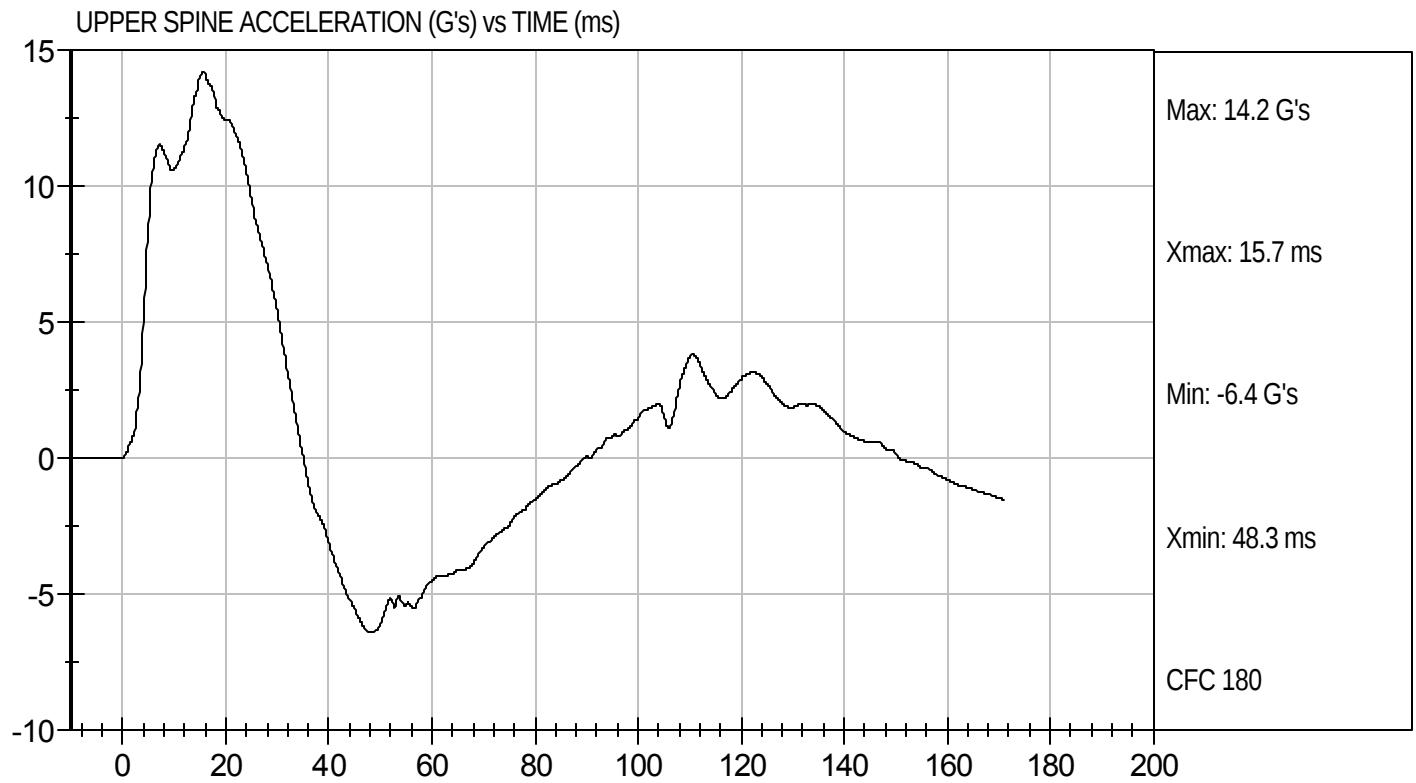
Test Date: 1/20/12
Velocity: 14.37 ft/s, 4.38 m/s





Test Desc: Thorax Without Arm
Component ID: D12255

Test Date: 1/20/12
Velocity: 14.37 ft/s, 4.38 m/s



MGA RESEARCH CORPORATION
ABDOMINAL IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 306

Test I.D: D12256

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	12	Pass
Impact Velocity	m/s	4.20 to 4.40	4.30	Pass
Peak Impactor Acceleration	G's	12 to 16	14	Pass
Upper Rib Displacement	mm	36 to 47	41	Pass
Lower Rib Displacement	mm	33 to 44	37	Pass
Lower Spine (T12) Y Acceleration	G's	9 to 14	11	Pass
			Overall Test Results	Pass



Laboratory Technician

1/20/12

Test Date

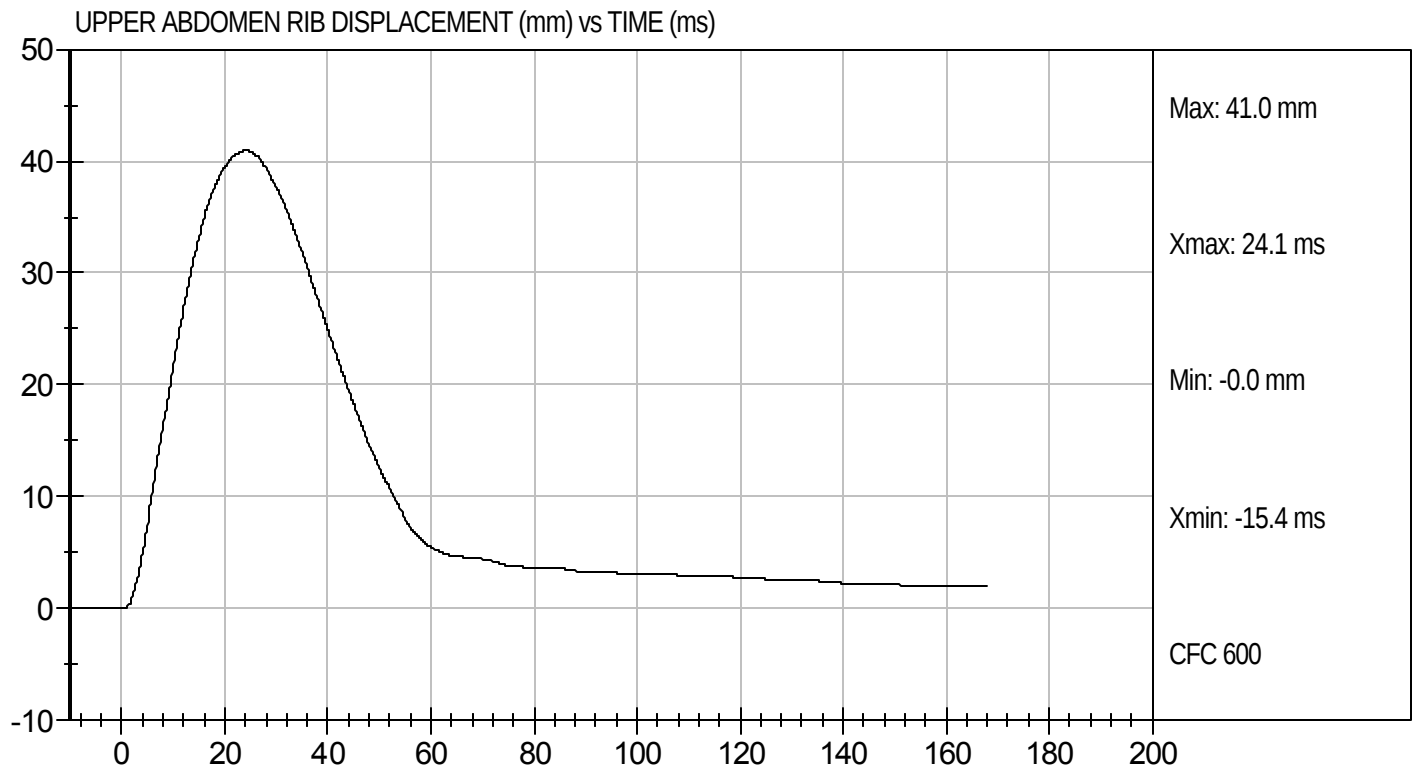
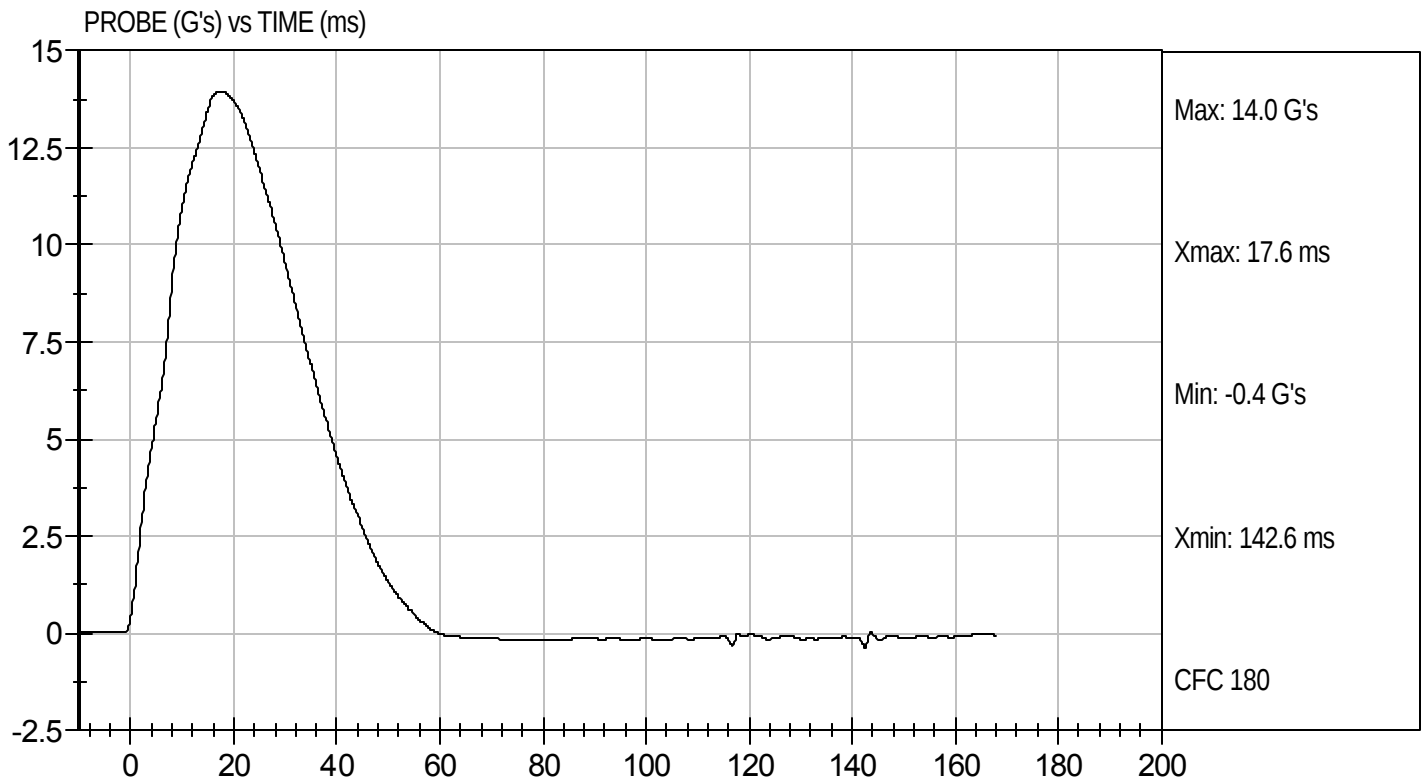


Approved By



Test Desc: Abdomen Impact
Component ID: D12256

Test Date: 1/20/12
Velocity: 14.12 ft/s, 4.30 m/s

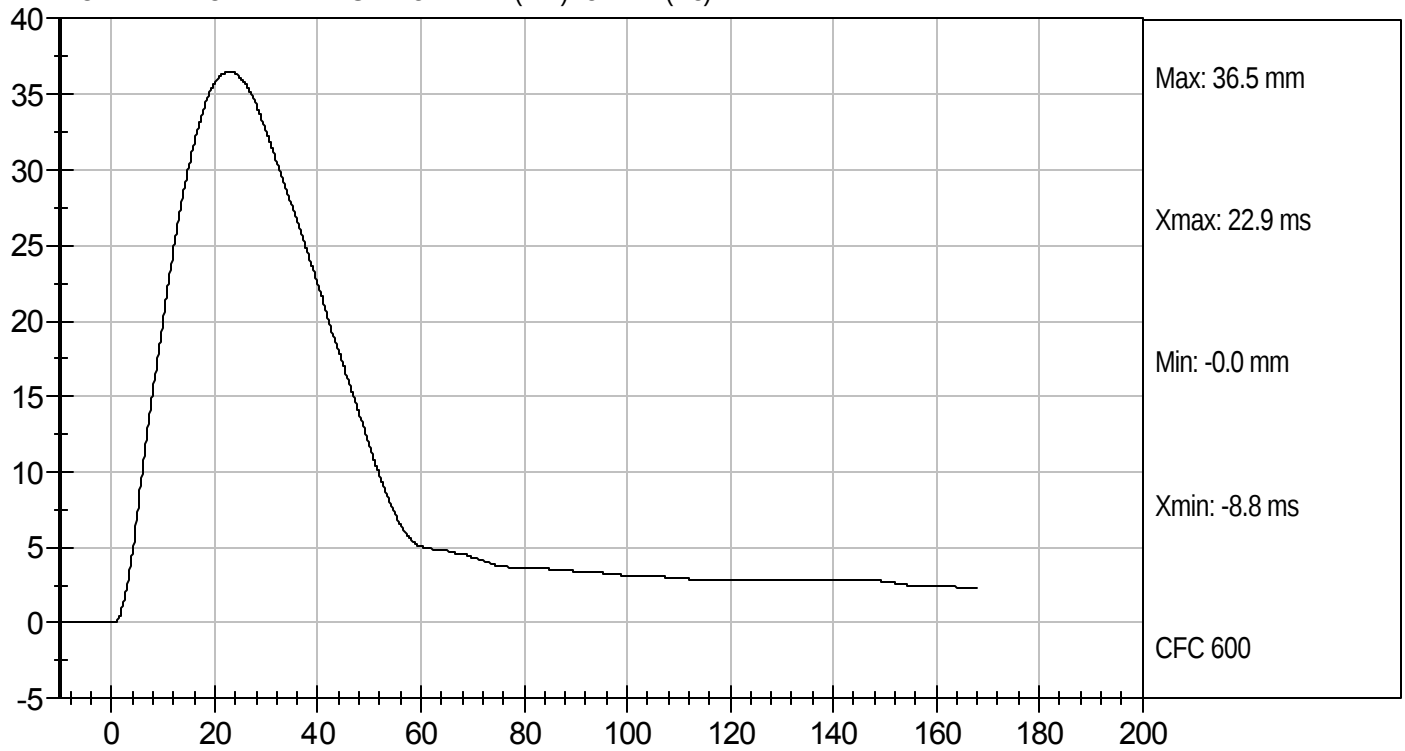




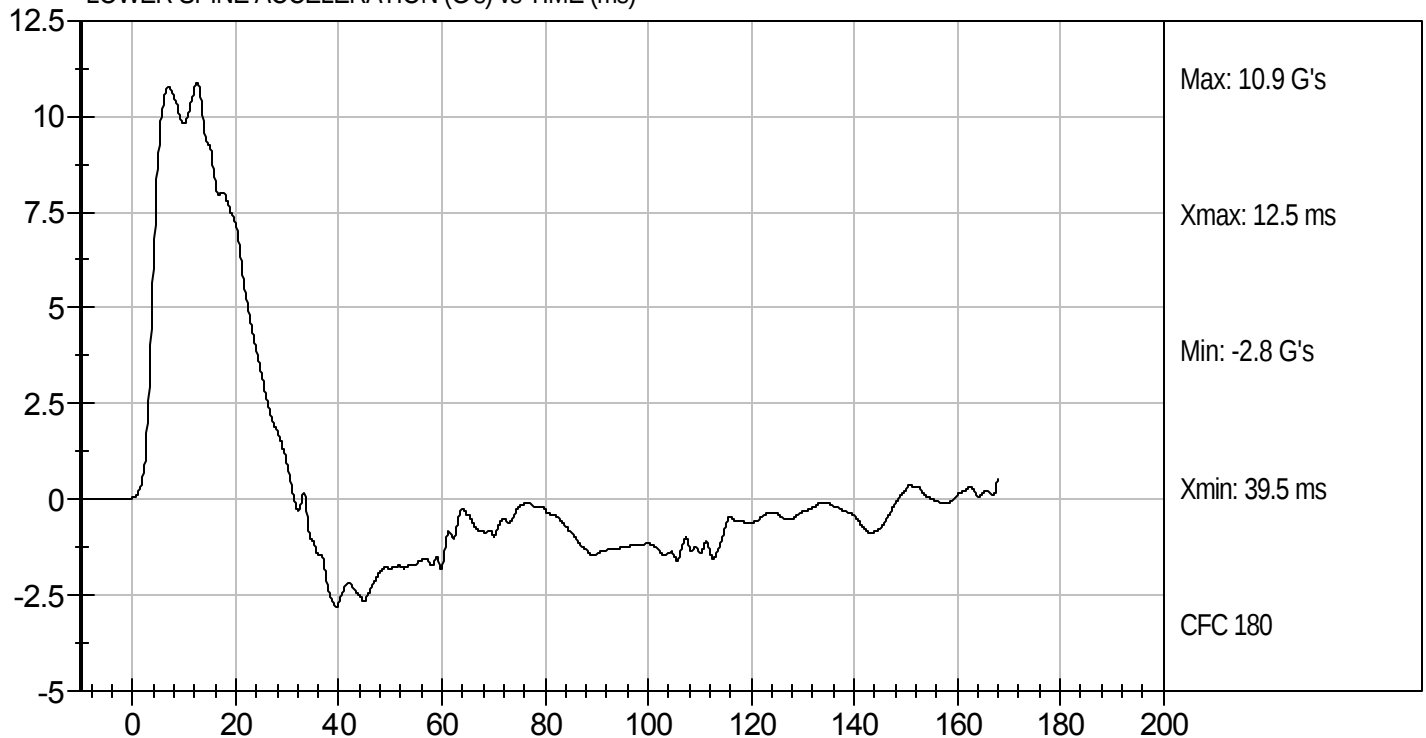
Test Desc: Abdomen Impact
Component ID: D12256

Test Date: 1/20/12
Velocity: 14.12 ft/s, 4.30 m/s

LOWER ABDOMEN RIB DISPLACEMENT (mm) vs TIME (ms)



LOWER SPINE ACCELERATION (G's) vs TIME (ms)



MGA RESEARCH CORPORATION
PELVIS IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 306

Test I.D: D12257

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	12	Pass
Impact Velocity	m/s	6.60 to 6.80	6.68	Pass
Peak Impactor Acceleration	G's	38 to 47	43	Pass
Pelvis Y Acceleration after 6 ms	G's	34 to 42	42	Pass
Peak Acetabulum Force	N	3600 to 4300	3867	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

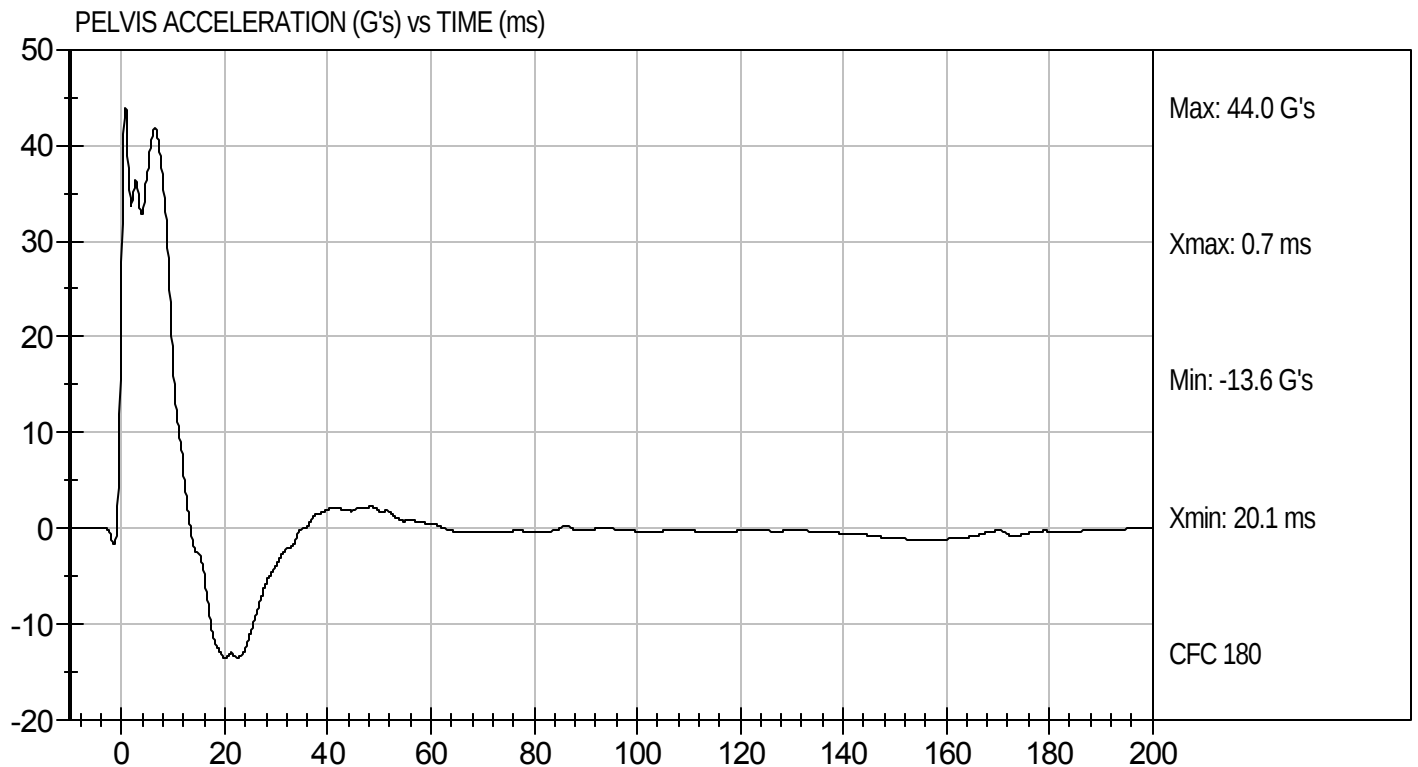
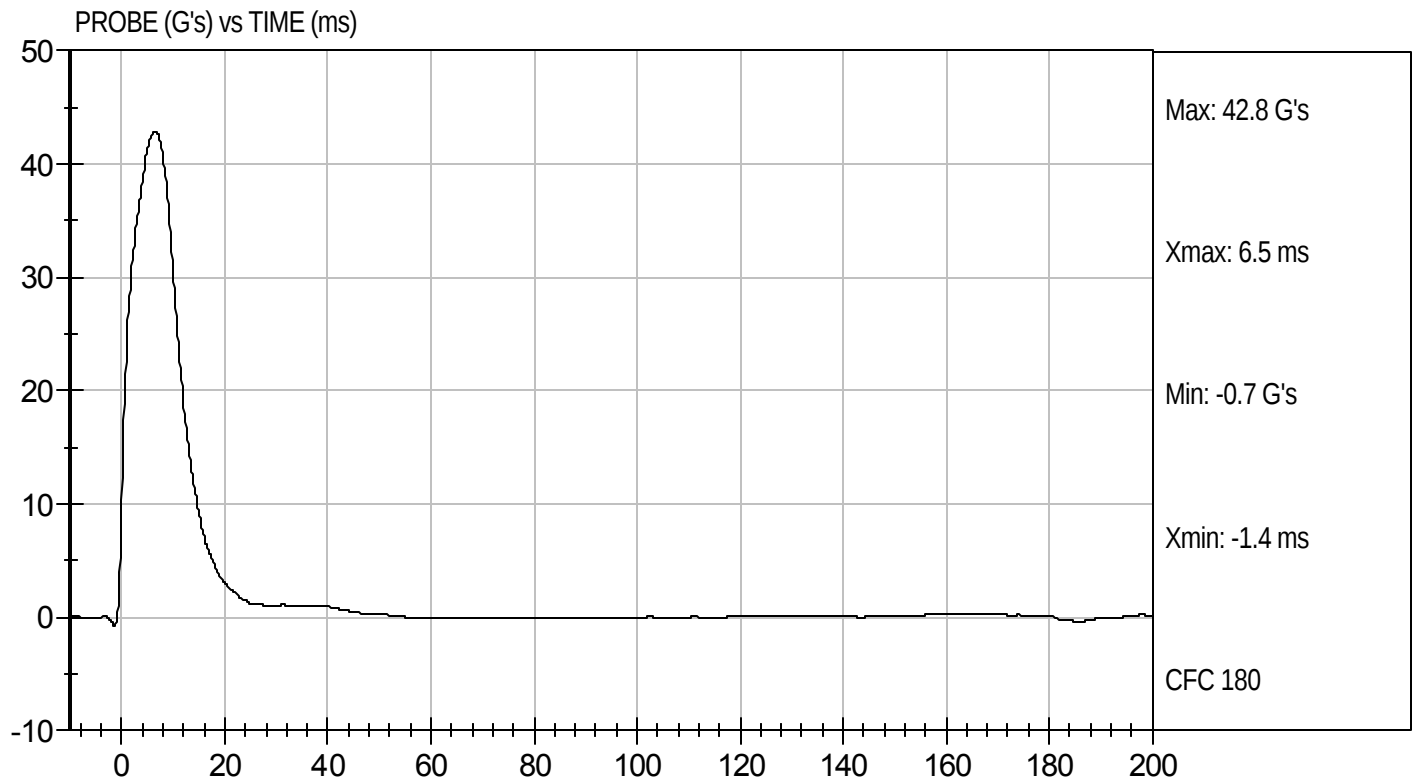
1/20/12
Test Date

David Winkelbauer
Approved By



Test Desc: Pelvis Impact
Component ID: D12257

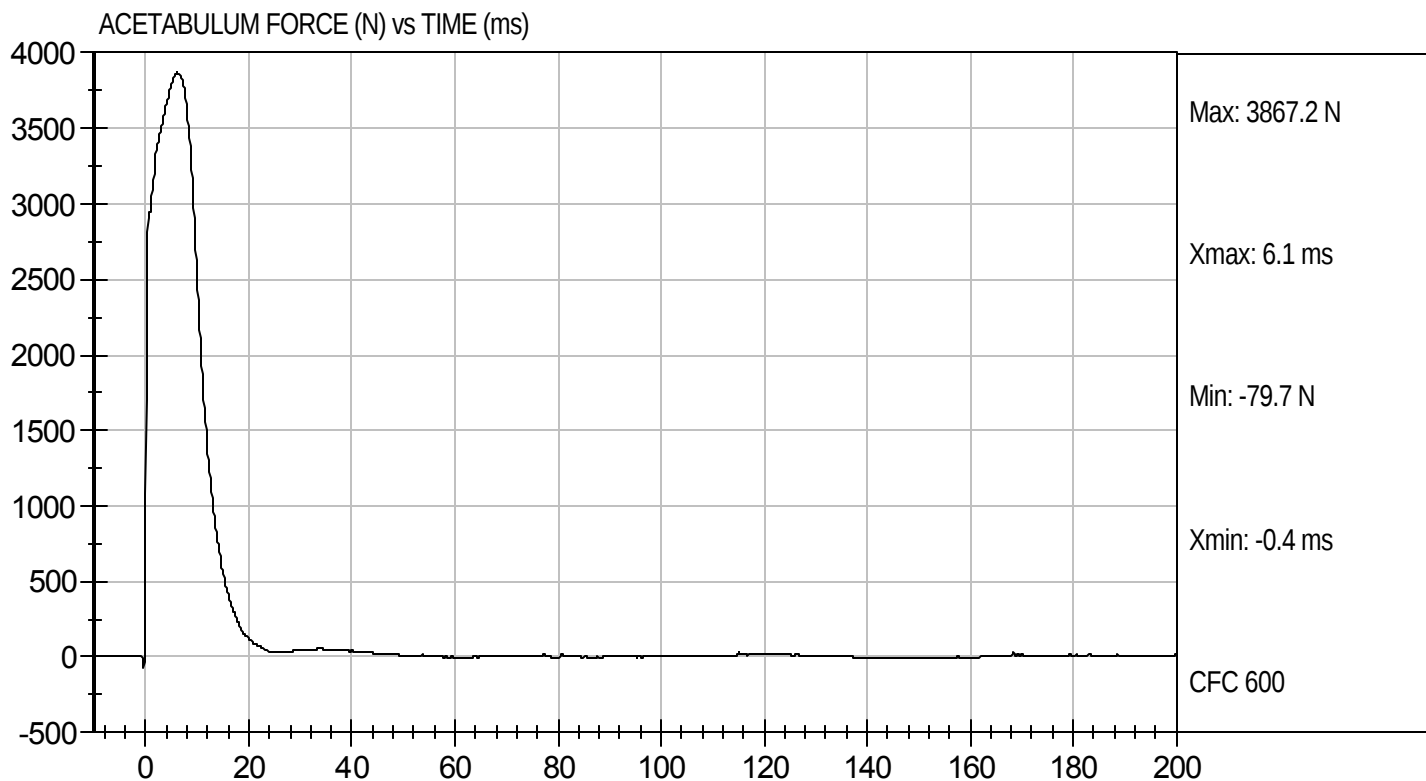
Test Date: 1/20/12
Velocity: 21.93 ft/s, 6.68 m/s





Test Desc: Pelvis Impact
Component ID: D12257

Test Date: 1/20/12
Velocity: 21.93 ft/s, 6.68 m/s



MGA RESEARCH CORPORATION
ILIAC IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 306

Test I.D: D12258

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.8	Pass
Humidity	%	10 to 70	13	Pass
Impact Velocity	m/s	4.20 to 4.40	4.34	Pass
Peak Impactor Acceleration	G's	36 to 45	40	Pass
Pelvis Y Acceleration	G's	28 to 39	33	Pass
Peak Pelvis Iliac Force	N	4100 to 5100	4854	Pass
Overall Test Results			Pass	


Laboratory Technician

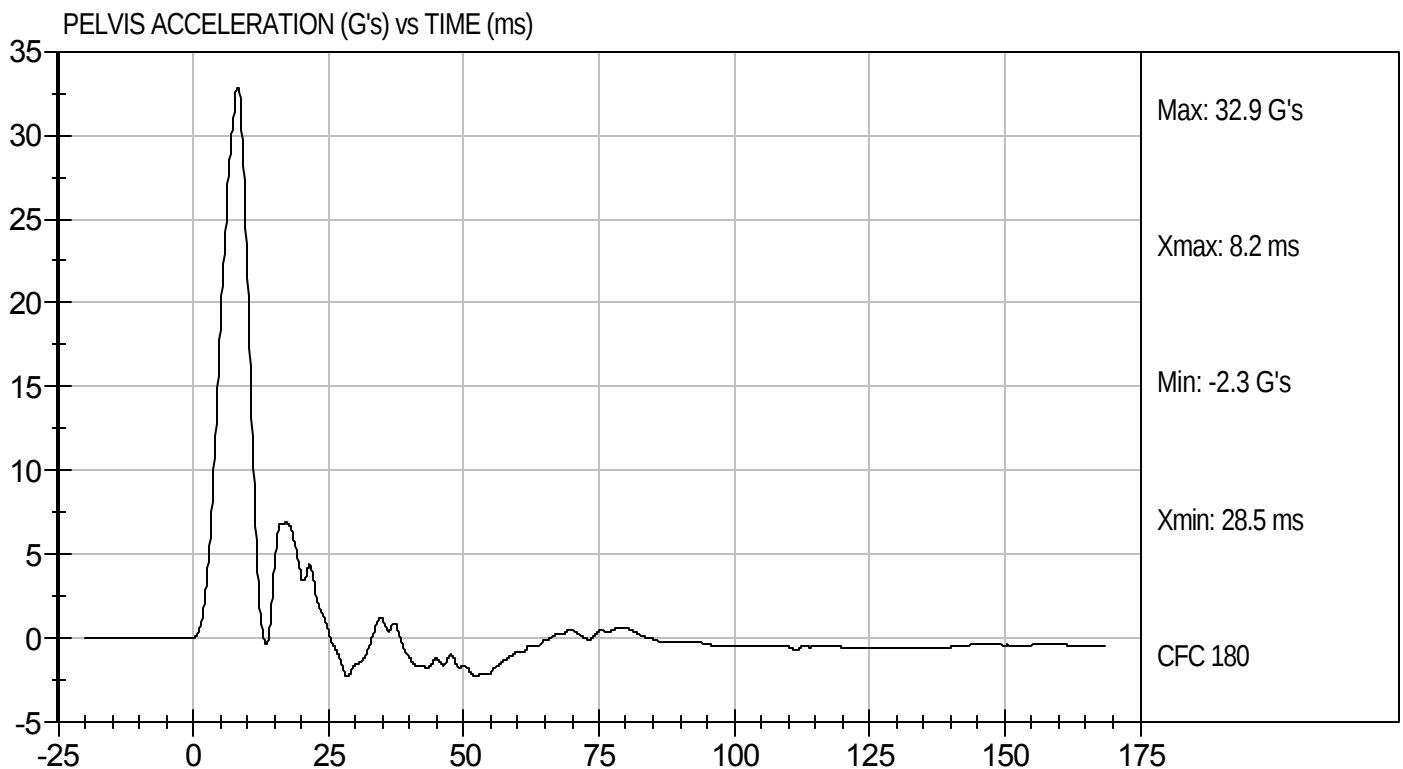
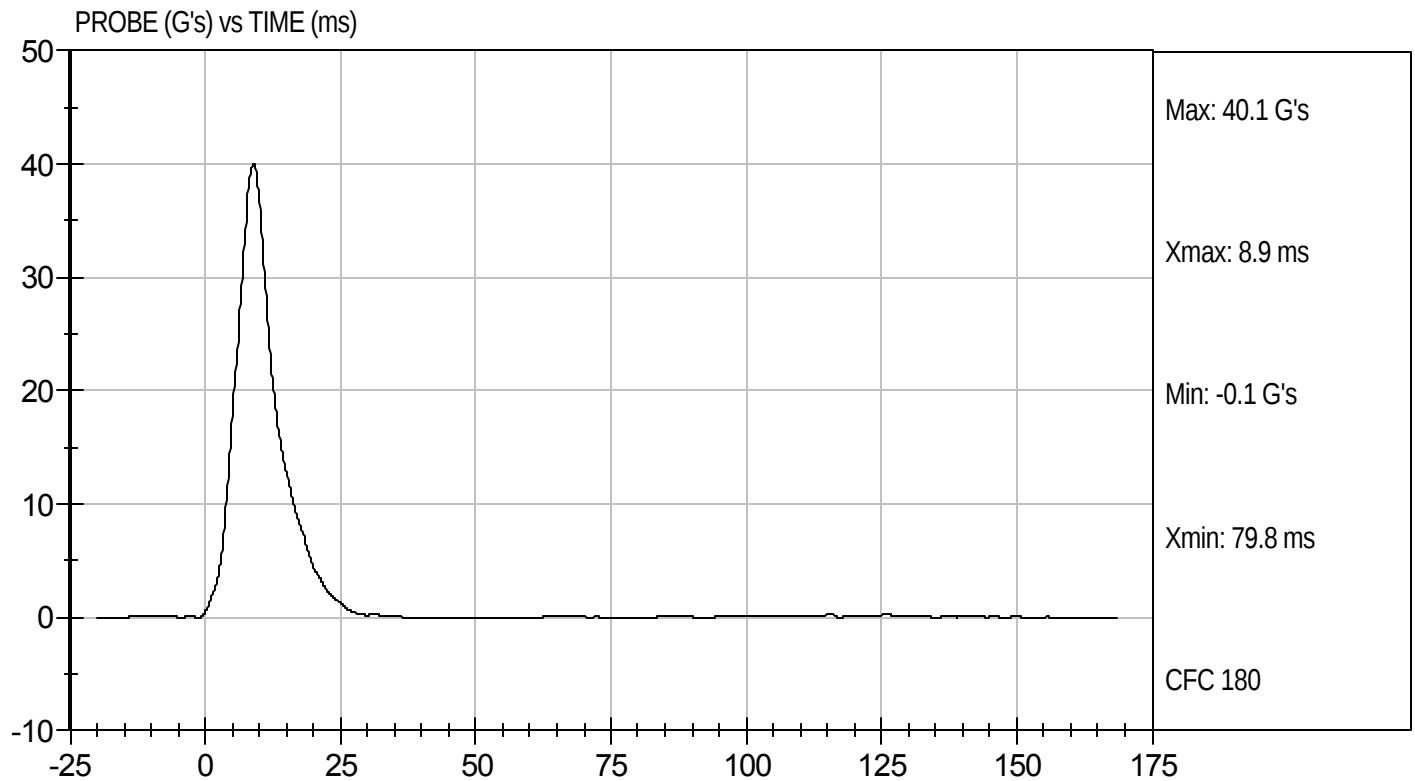
1/20/12
Test Date


Approved By



Test Desc: Iliac Impact
Component ID: D12258

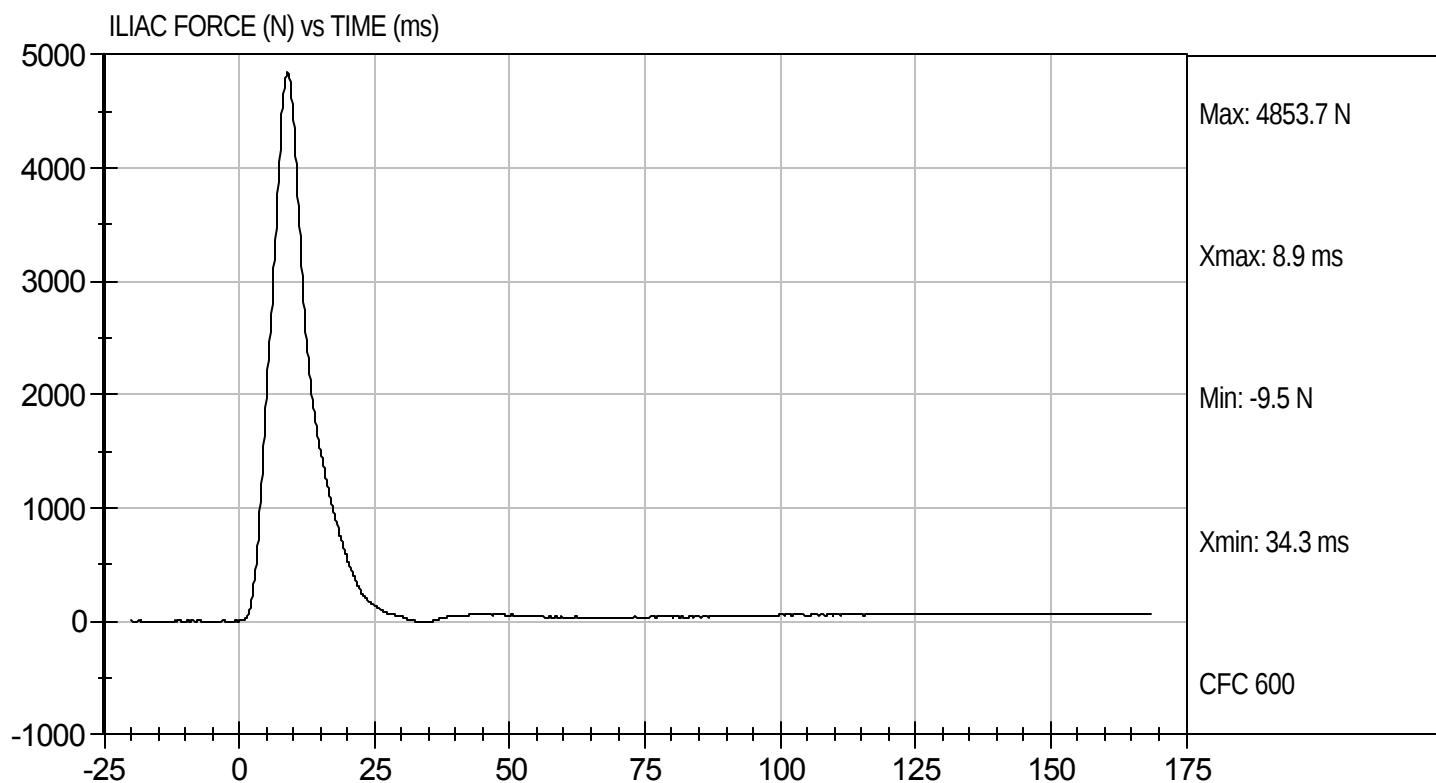
Test Date: 1/20/12
Velocity: 14.25 ft/s, 4.34 m/s





Test Desc: Iliac Impact
Component ID: D12258

Test Date: 1/20/12
Velocity: 14.25 ft/s, 4.34 m/s



MGA RESEARCH CORPORATION
HEAD DROP TEST
SID-Its BUILD LEVEL D DUMMY

ATD Serial No: 306

Test ID: D12471

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	22.0	Pass
Laboratory Relative Humidity	%	10 to 70	22	Pass
Peak Resultant Acceleration	G's	115 to 137	124	Pass
Peak Longitudinal Acceleration	G's	+/- 15	2.2	Pass
Unimodal	N/A	<15%	Yes	Pass
Overall Test Results				Pass



Laboratory Technician

2/14/12

Test Date

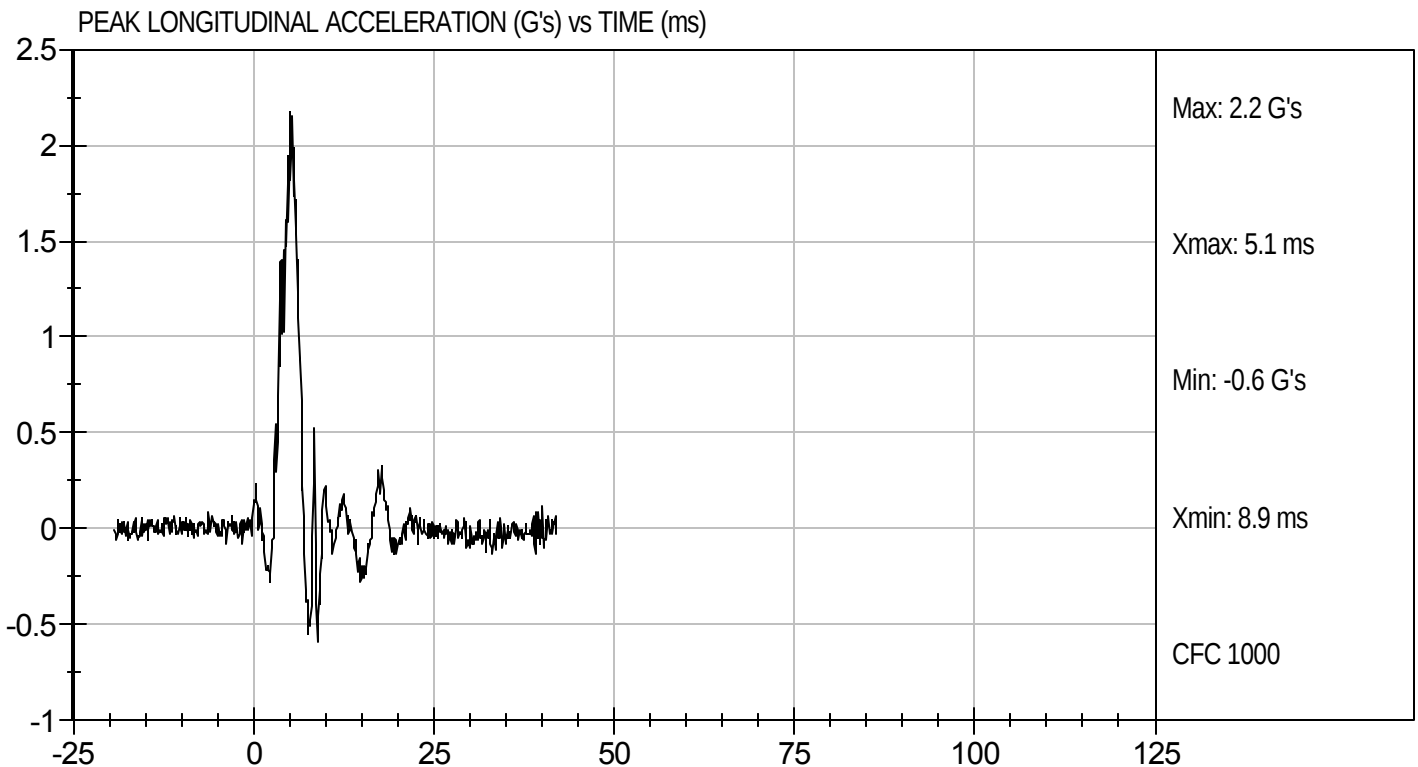
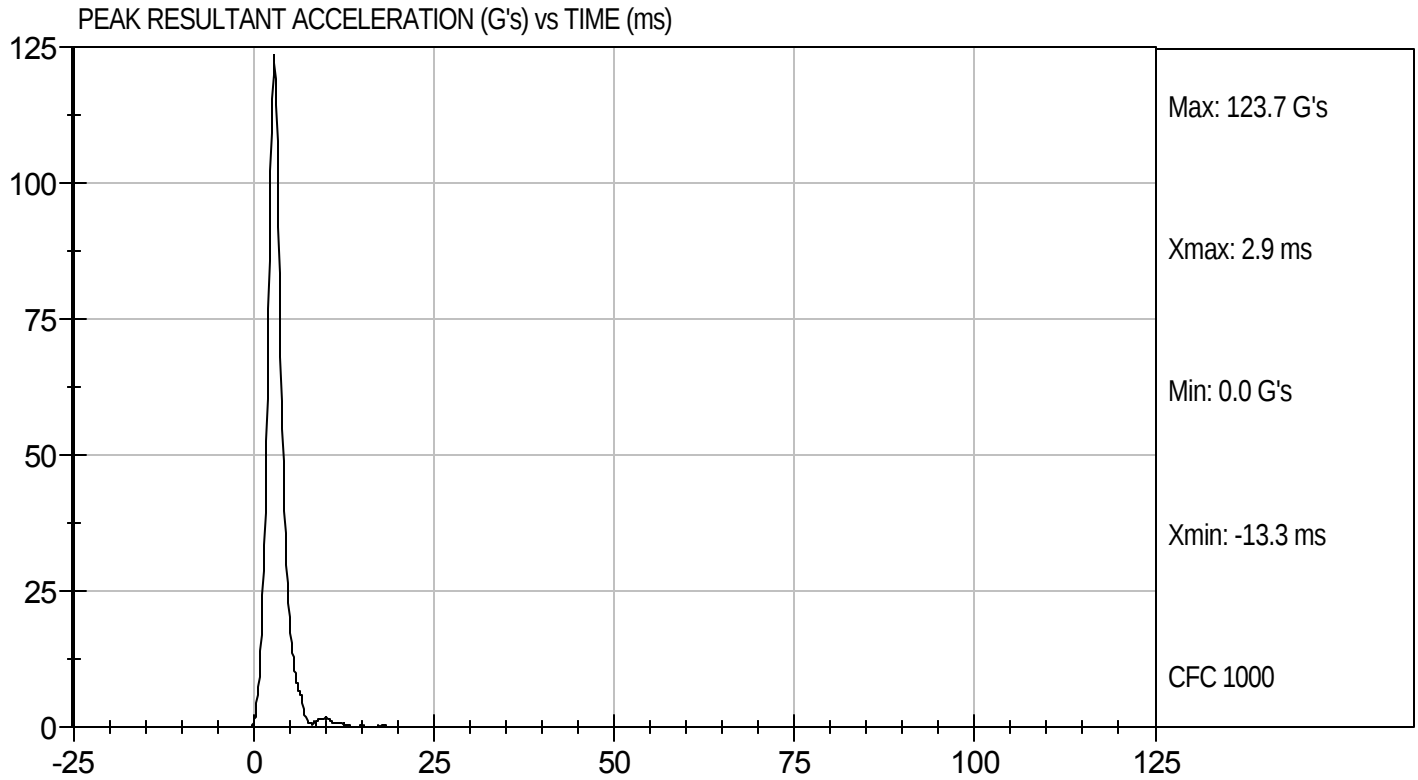


Approved By



Test Desc: Head Drop
Component ID: D12471

Test Date: 2/14/12
Velocity: 0 ft/s, 0 m/s

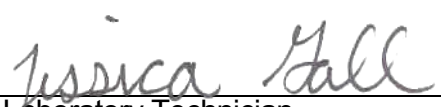


MGA RESEARCH CORPORATION
LATERAL NECK PENDULUM TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 306

Test I.D: D12472

Tested Parameter		Units	Specification	Result	Pass/Fail
Temperature		deg C	20.6 to 22.2	21.9	Pass
Humidity		%	10 to 70	22	Pass
Impact Velocity		m/s	5.51 to 5.63	5.58	Pass
Delta Velocity	10 ms	m/s	2.20 to 2.80	2.70	Pass
	15 ms	m/s	3.30 to 4.10	3.83	Pass
	20 ms	m/s	4.40 to 5.40	5.09	Pass
	25 ms	m/s	5.40 to 6.10	5.50	Pass
	25-100 ms	m/s	5.50 to 6.20	5.5	Pass
Maximum D-Plane Rotation		deg	71 to 81	72	Pass
Time of Maximum D-Plane Rotation		ms	50 to 70	59	Pass
Maximum Occipital Condyle Moment during Rotation Interval Nm			-44 to -36	-43	Pass
Time of Moment Decay to 0 Nm		ms	102 to 126	115	Pass
Overall Test Results				Pass	


 Laboratory Technician

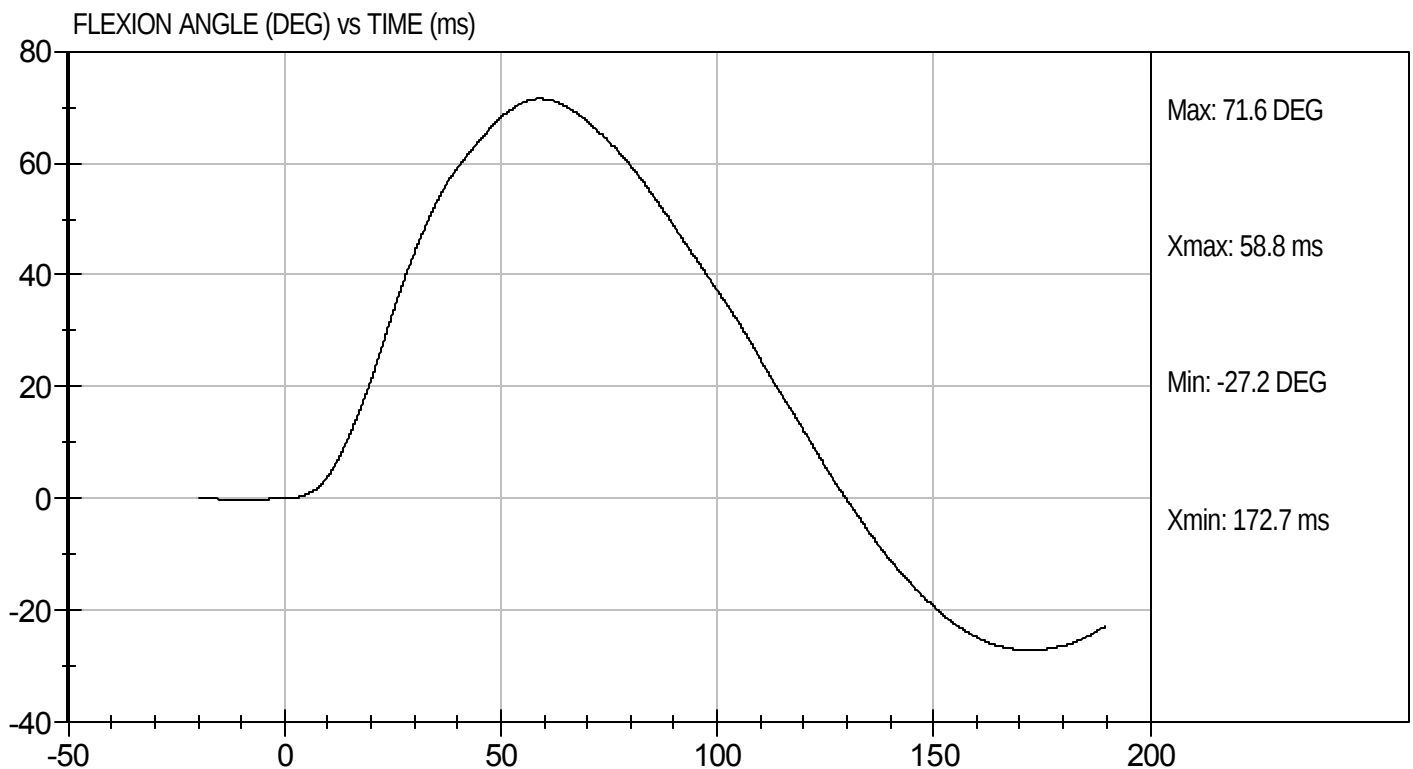
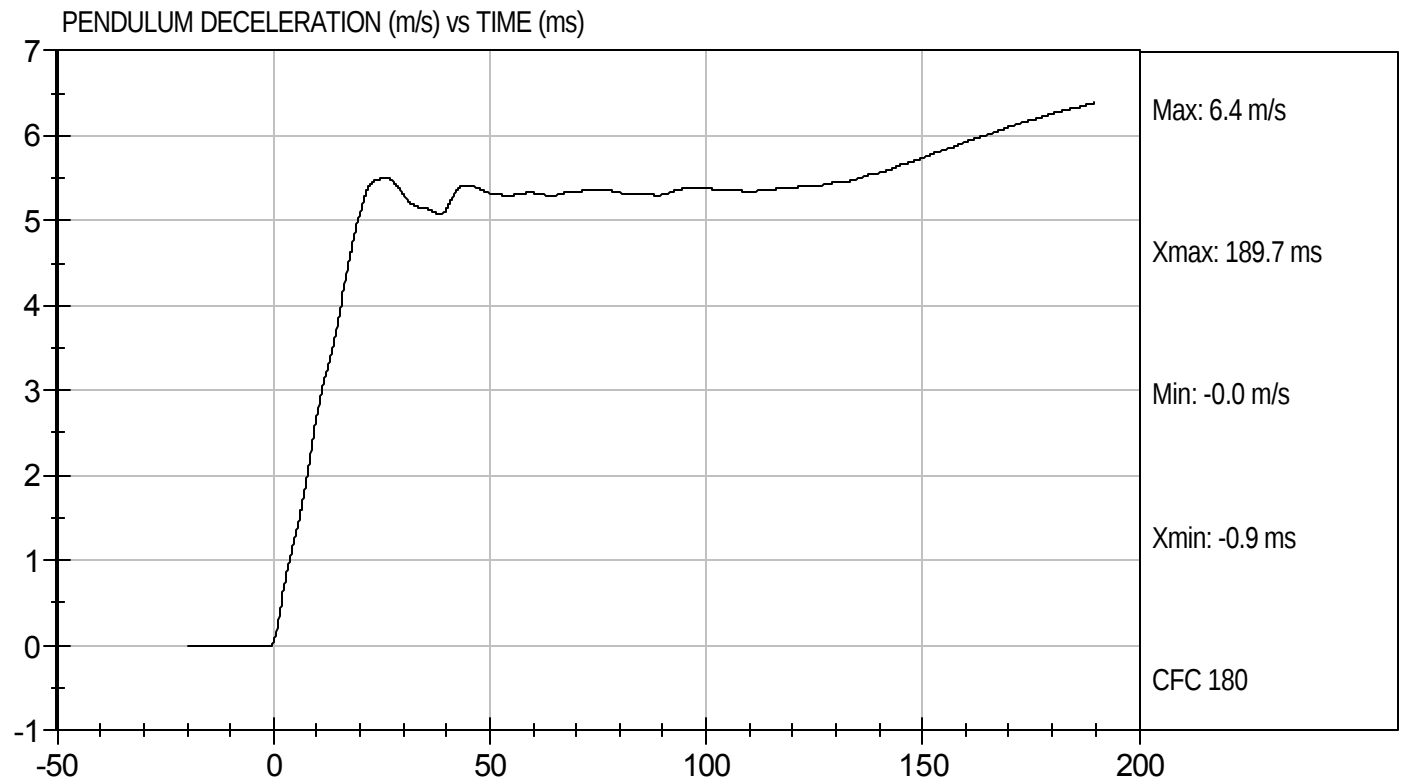
2/14/12
 Test Date


 Approved By



Test Desc: Neck Bending
Component ID: D12472

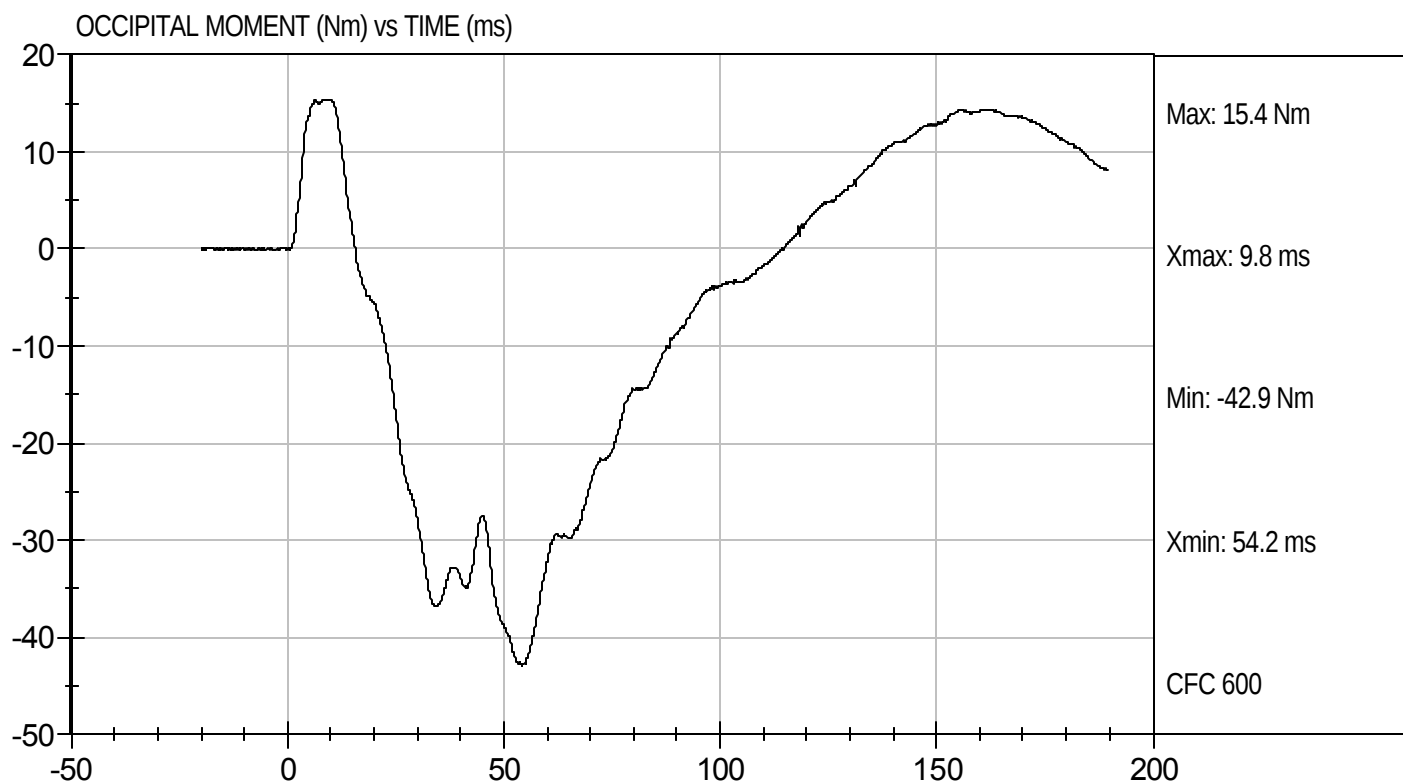
Test Date: 2/14/12
Velocity: 18.32 ft/s, 5.58 m/s





Test Desc: Neck Bending
Component ID: D12472

Test Date: 2/14/12
Velocity: 18.32 ft/s, 5.58 m/s



MGA RESEARCH CORPORATION
SHOULDER IMPACT TEST
SID-11s BUILD LEVEL D DUMMY

ATD Serial No: 306

Test ID: D12473

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	22	Pass
Impact Velocity	m/s	4.20 to 4.40	4.38	Pass
Maximum Probe Acceleration	G's	13 to 18	16	Pass
Shoulder Displacement	mm	28 to 37	29	Pass
Upper Spine (T1) Y Acceleration	G's	17 to 22	19	Pass
Overall Test Results				Pass

Jessica Galt
Laboratory Technician

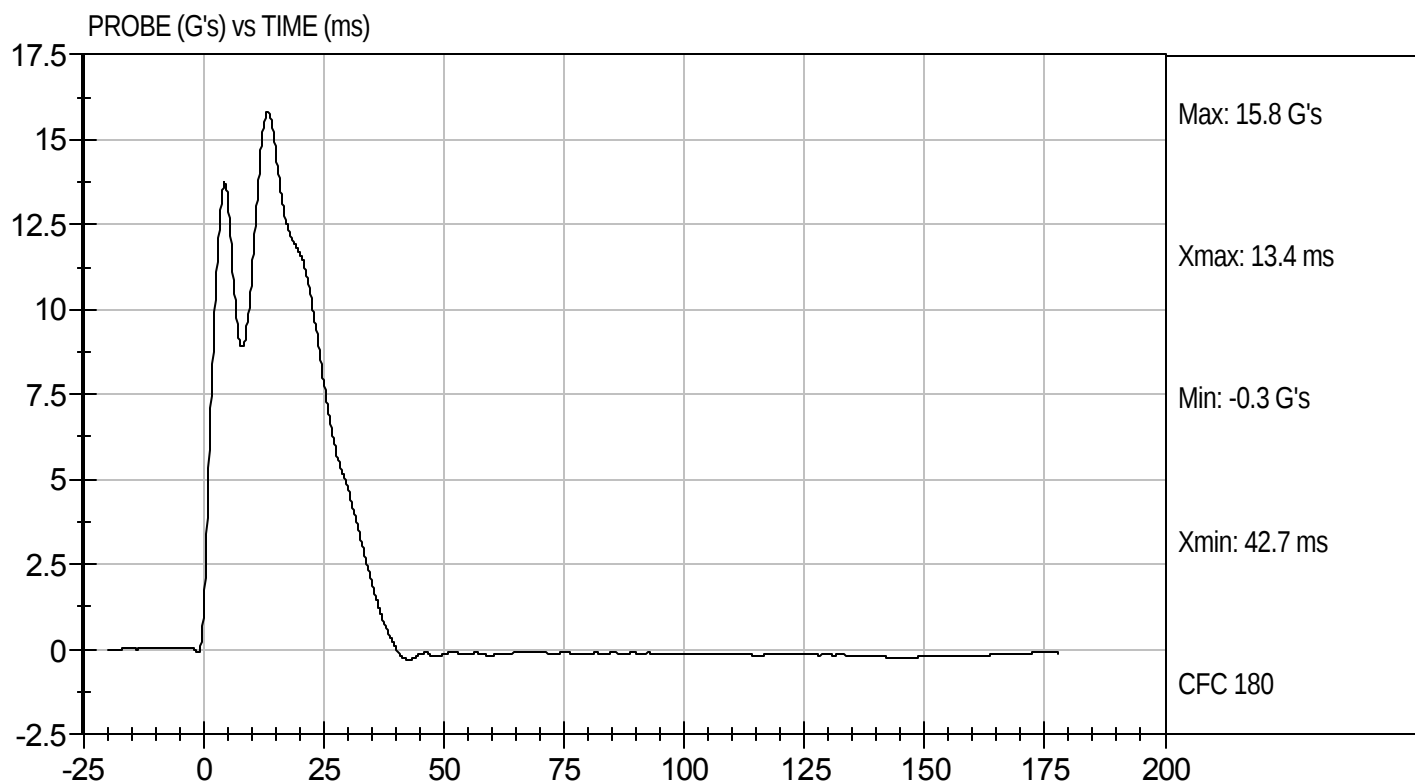
2/14/12
Test Date

David Winkelbauer
Approved By



Test Desc: Shoulder Impact
Component ID: D12473

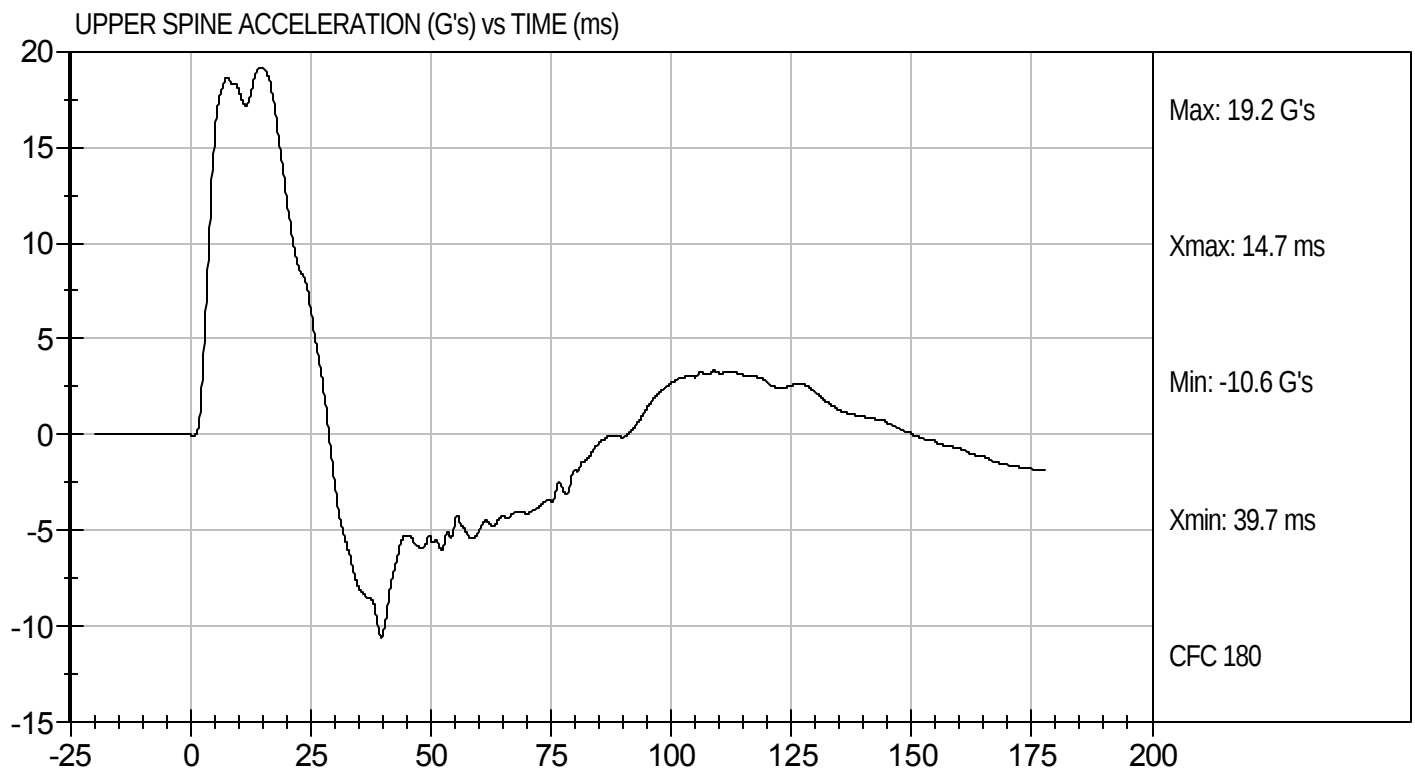
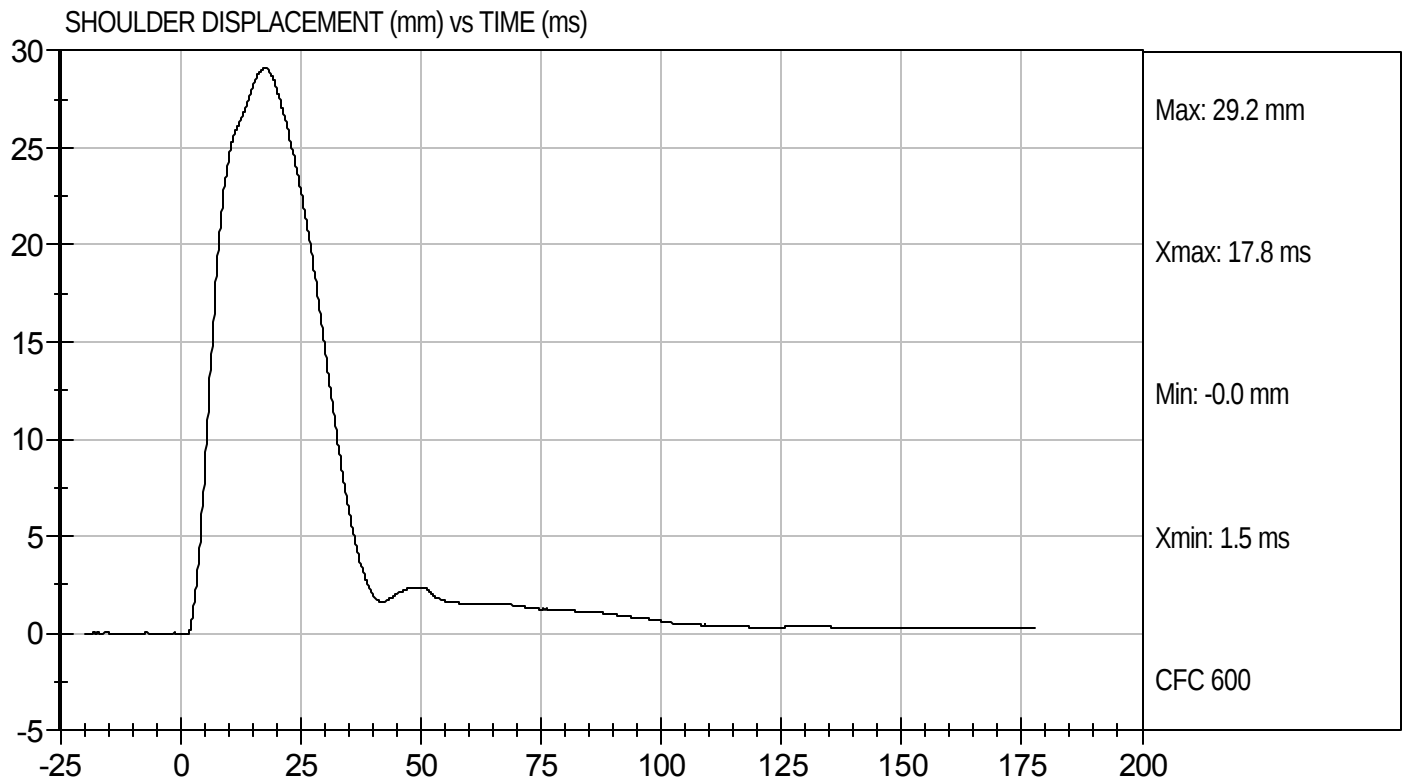
Test Date: 2/14/12
Velocity: 14.37 ft/s, 4.38 m/s





Test Desc: Shoulder Impact
Component ID: D12473

Test Date: 2/14/12
Velocity: 14.37 ft/s, 4.38 m/s



MGA RESEARCH CORPORATION
THORAX (WITH ARM) IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 306

Test I.D: D12474

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	22.0	Pass
Humidity	%	10 to 70	22	Pass
Impact Velocity	m/s	6.60 to 6.80	6.77	Pass
Peak Impactor Acceleration	G's	30 to 36	34	Pass
Shoulder Displacement	mm	31 to 40	33	Pass
Upper Rib Displacement	mm	25 to 32	26	Pass
Middle Rib Displacement	mm	30 to 36	31	Pass
Lower Rib Displacement	mm	32 to 38	34	Pass
Upper Spine (T1) Y Acceleration	G's	34 to 43	41	Pass
Lower Spine (T12) Y Acceleration	G's	29 to 37	33	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

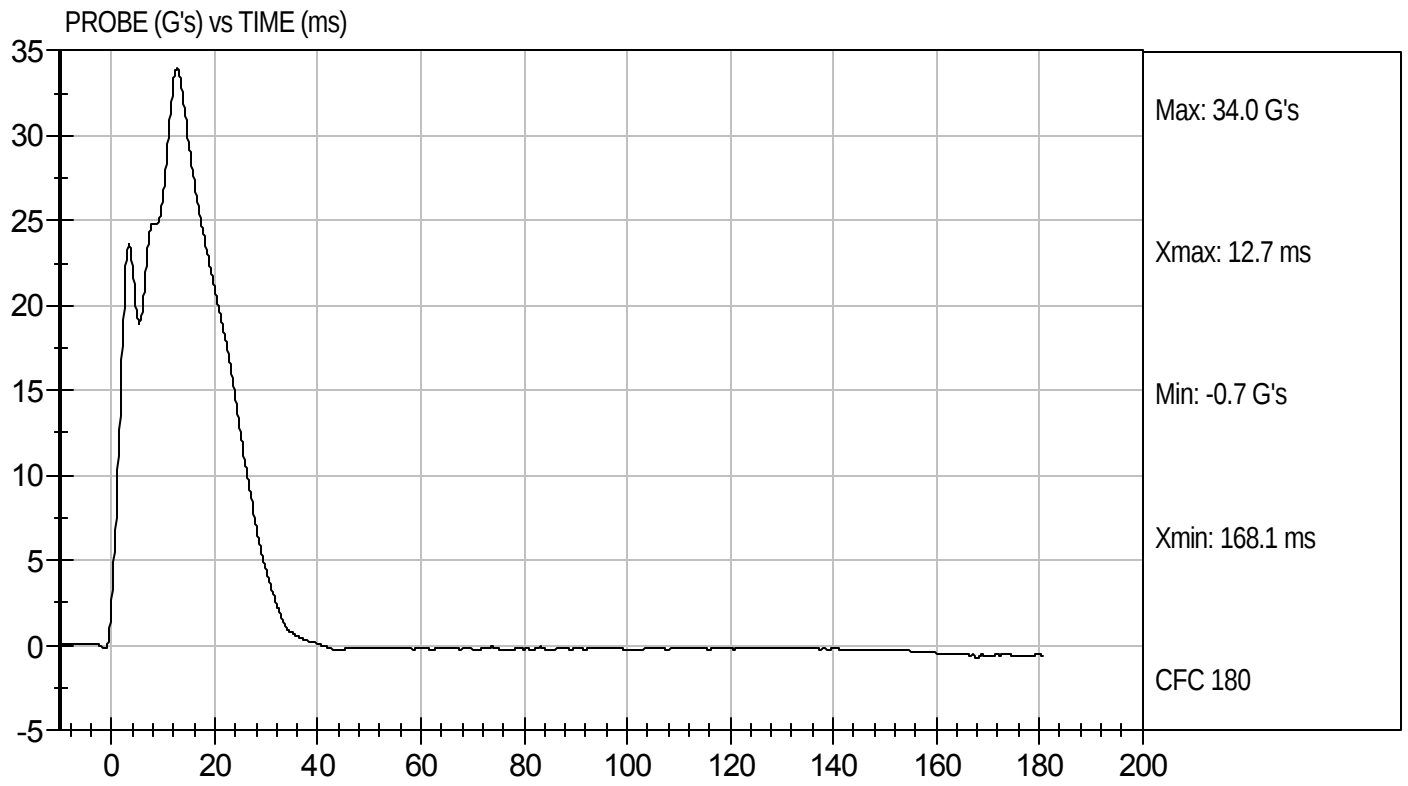
2/14/12
Test Date

David Winkelbauer
Approved By



Test Desc: Thorax With Arm
Component ID: D12474

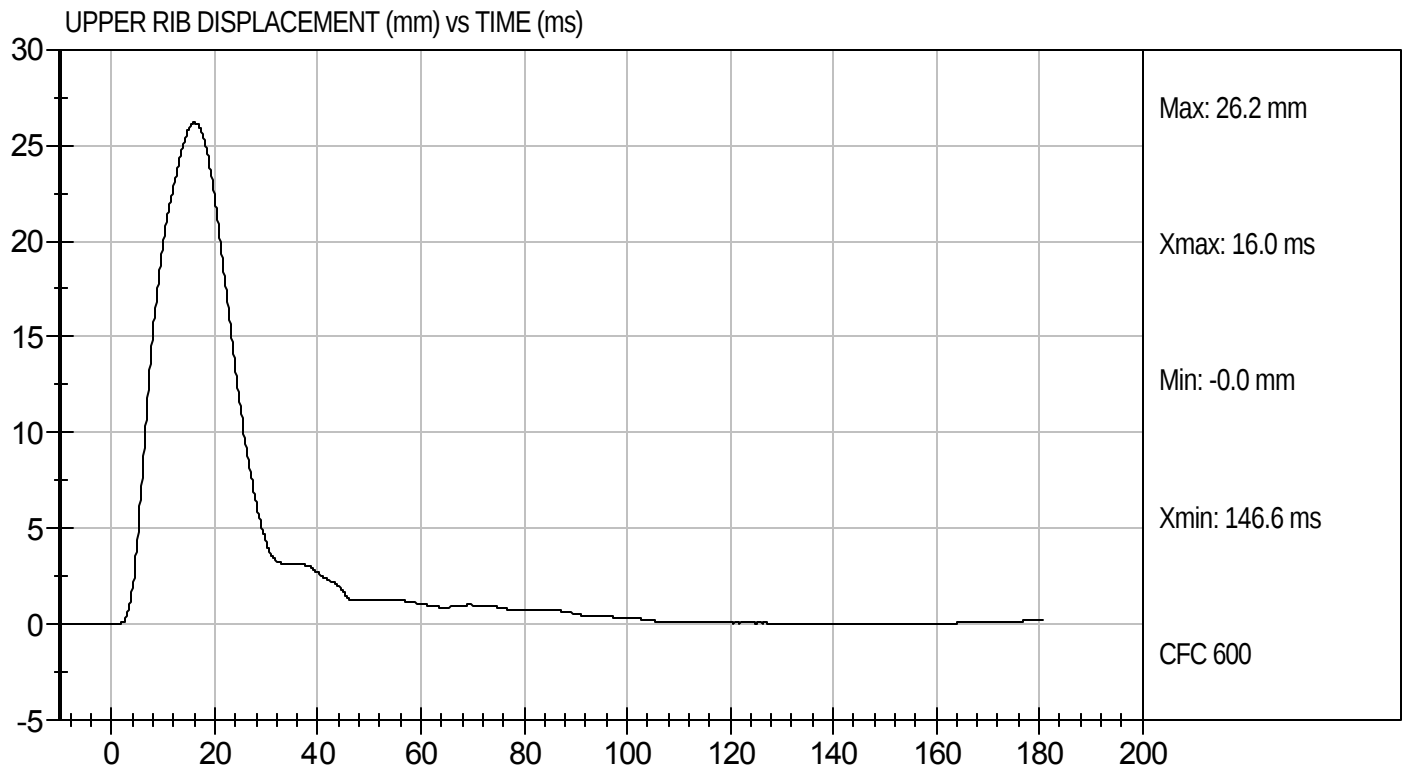
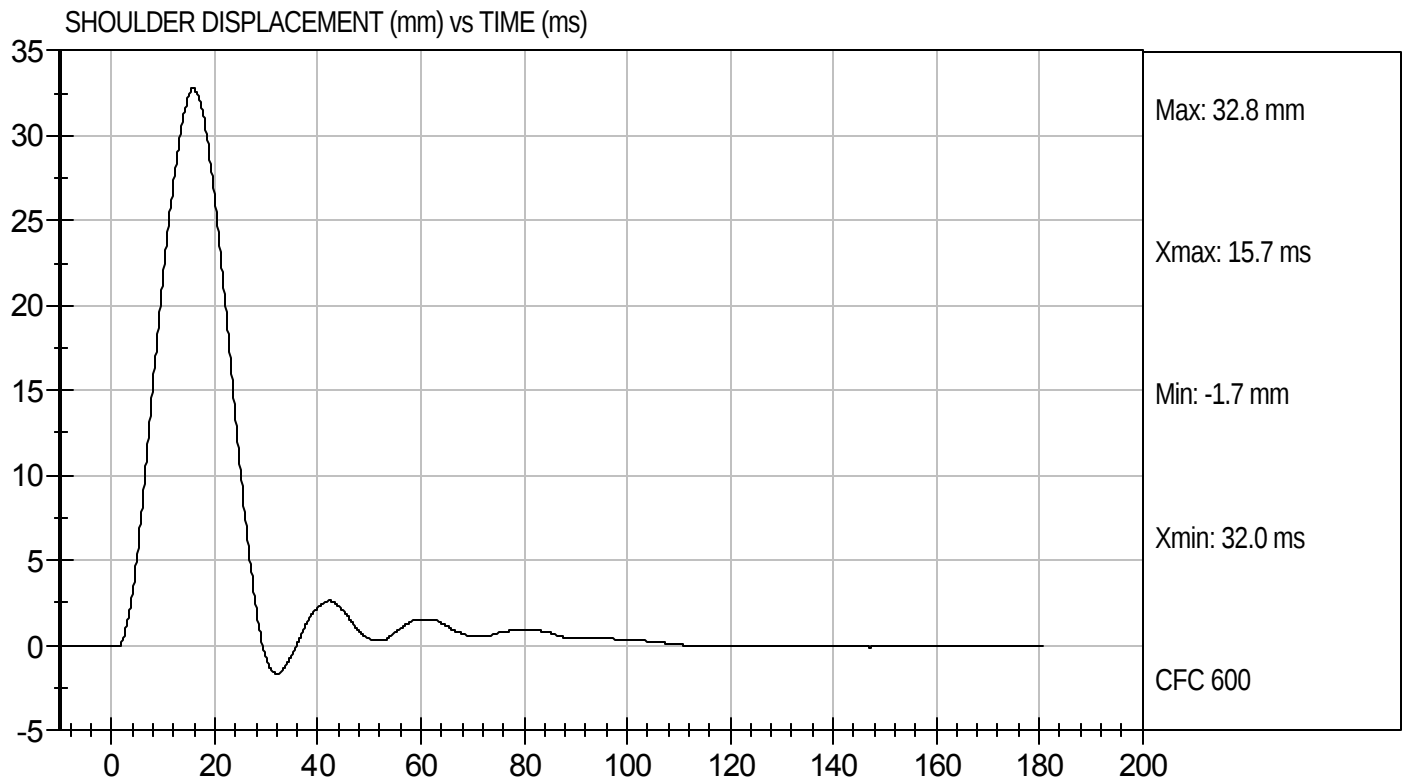
Test Date: 2/14/12
Velocity: 22.22 ft/s, 6.77 m/s





Test Desc: Thorax With Arm
Component ID: D12474

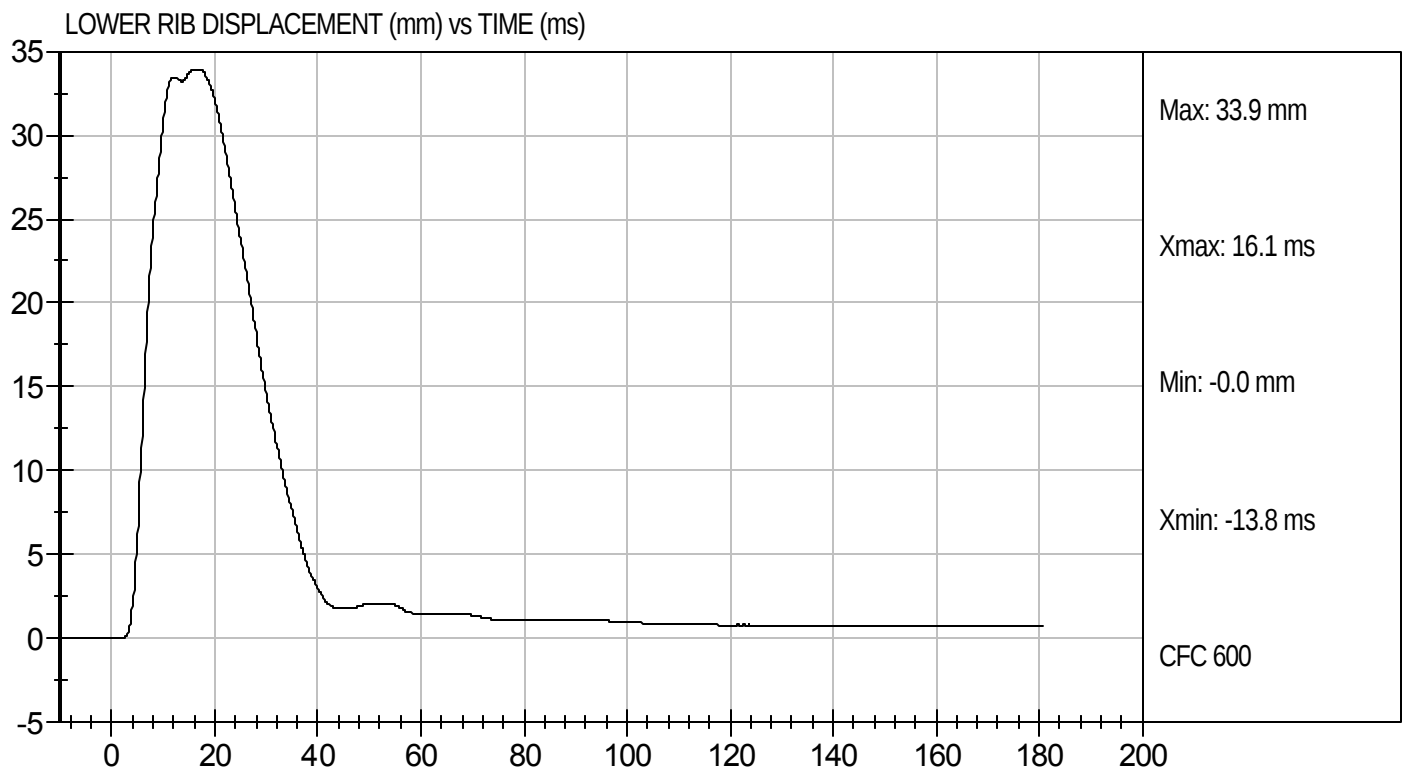
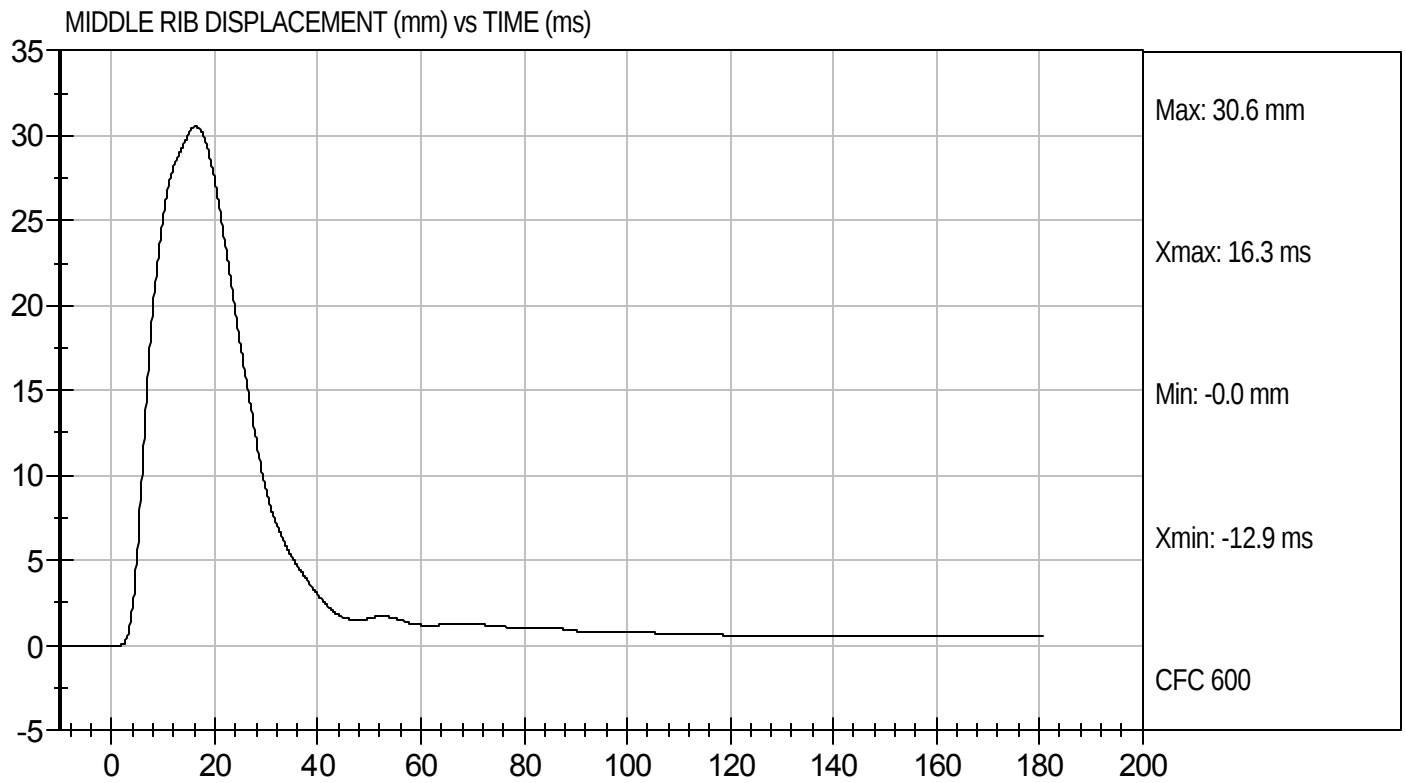
Test Date: 2/14/12
Velocity: 22.22 ft/s, 6.77 m/s





Test Desc: Thorax With Arm
Component ID: D12474

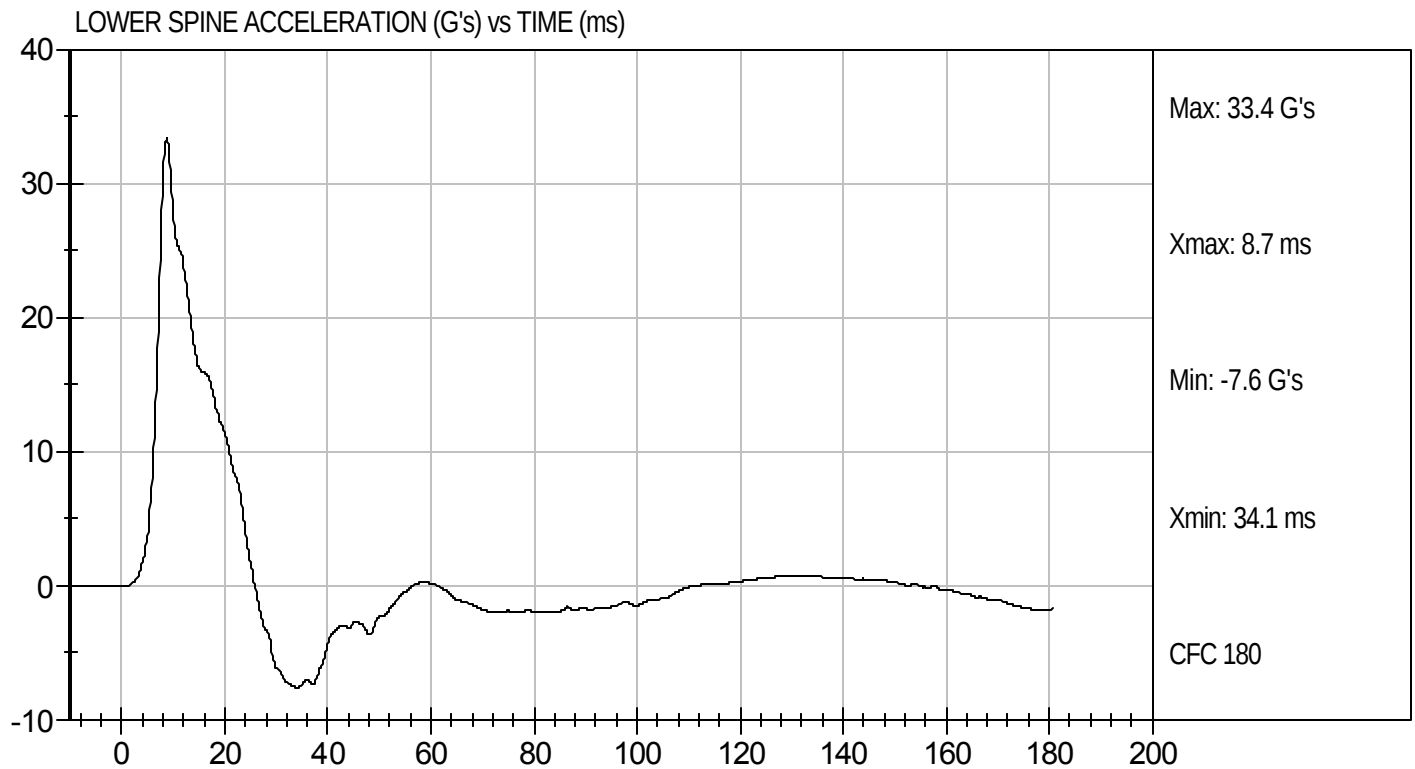
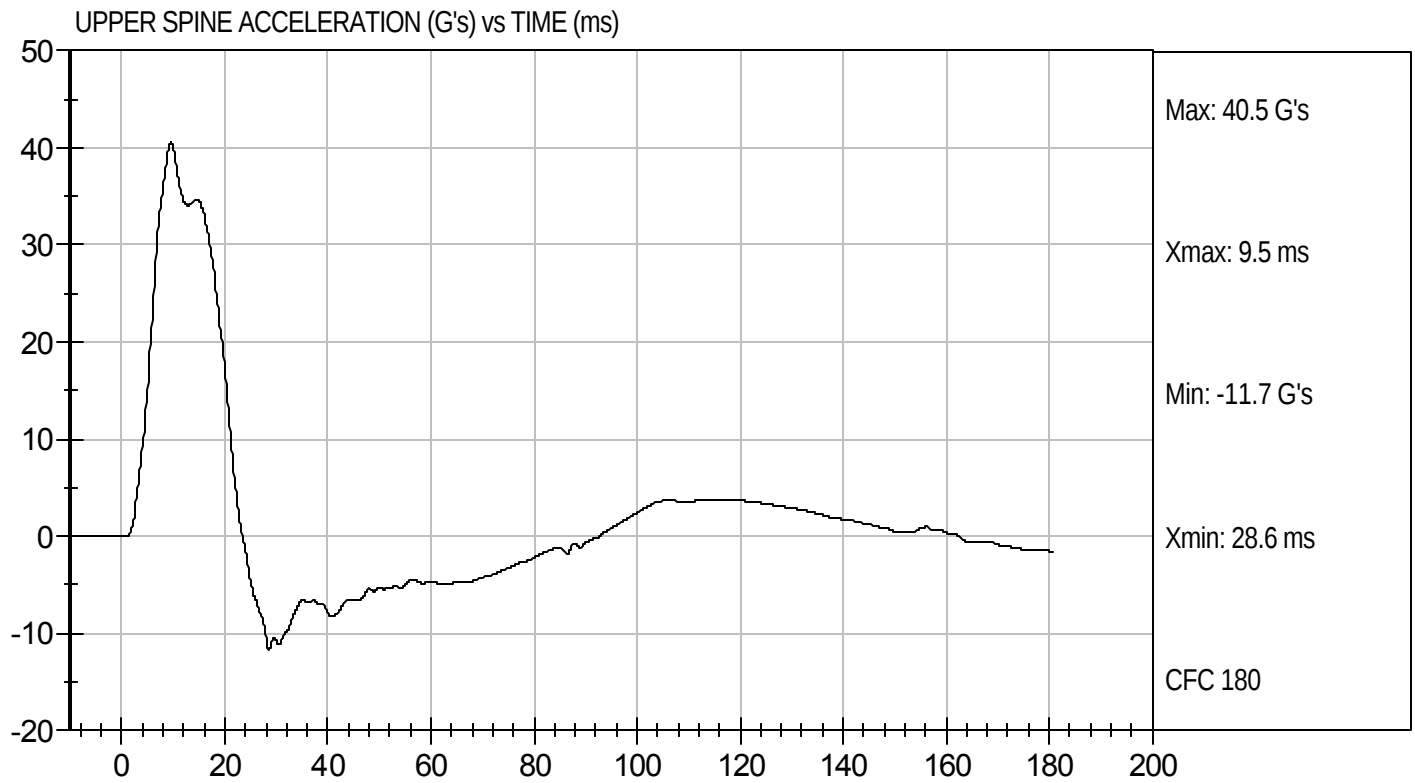
Test Date: 2/14/12
Velocity: 22.22 ft/s, 6.77 m/s





Test Desc: Thorax With Arm
Component ID: D12474

Test Date: 2/14/12
Velocity: 22.22 ft/s, 6.77 m/s



MGA RESEARCH CORPORATION
THORAX (WITHOUT ARM) IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 306

Test I.D: D12475

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	22.0	Pass
Humidity	%	10 to 70	22	Pass
Impact Velocity	m/s	4.20 to 4.40	4.38	Pass
Peak Impactor Force	G's	14 to 18	16	Pass
Upper Rib Displacement	mm	32 to 40	35	Pass
Middle Rib Displacement	mm	39 to 45	41	Pass
Lower Rib Displacement	mm	35 to 43	40	Pass
Upper Spine (T1) Y Acceleration	G's	13 to 17	15	Pass
Lower Spine (T12) Y Acceleration	G's	7 to 11	10	Pass
Overall Test Results			Pass	


Laboratory Technician

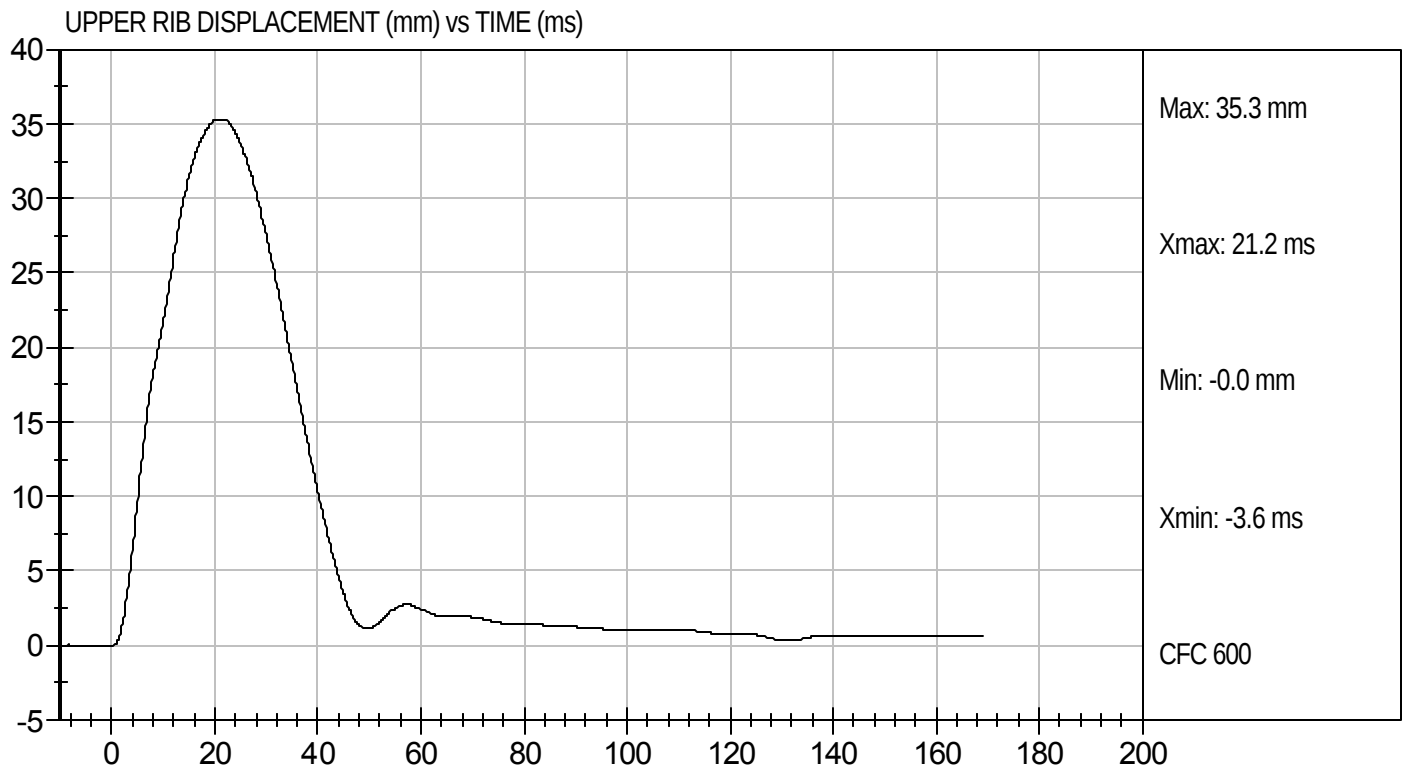
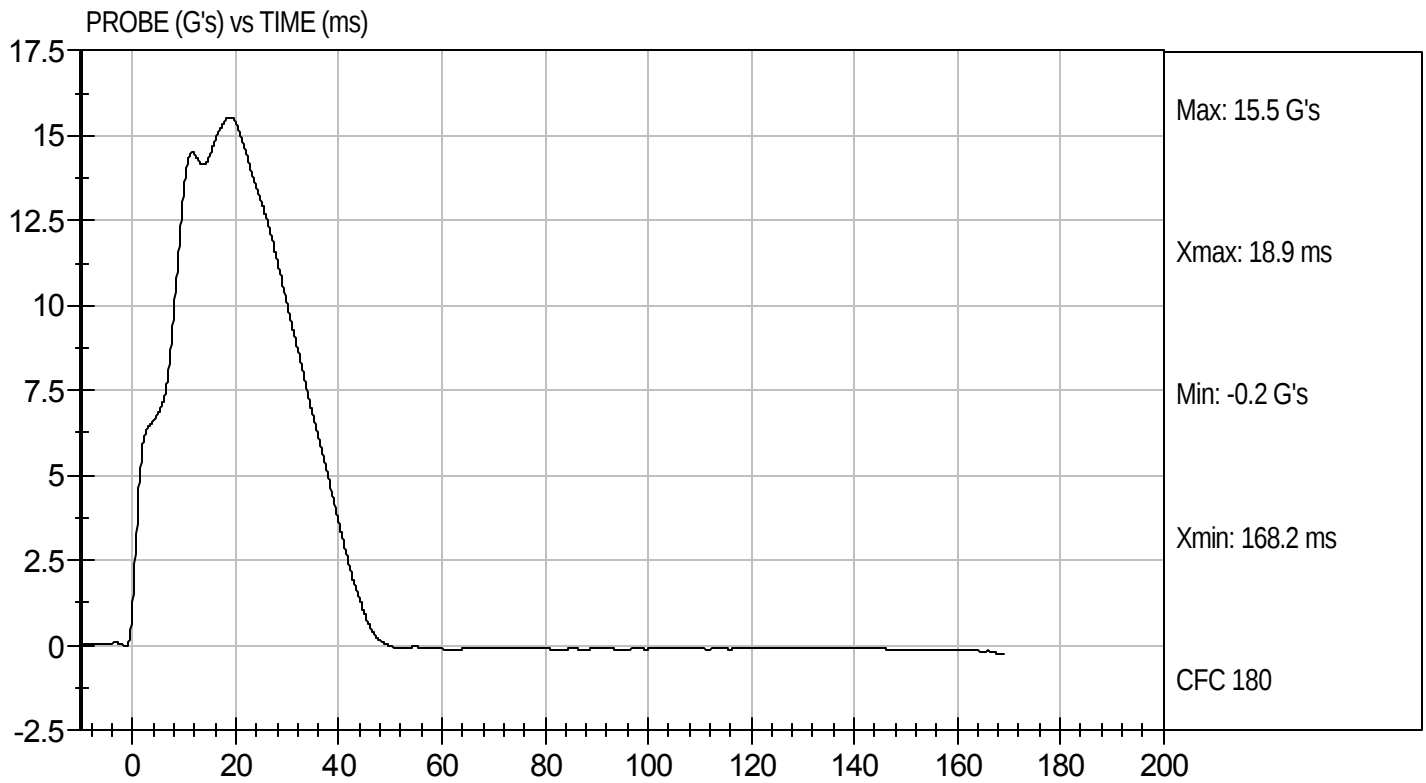
2/14/12
Test Date


Approved By



Test Desc: Thorax Without Arm
Component ID: D12475

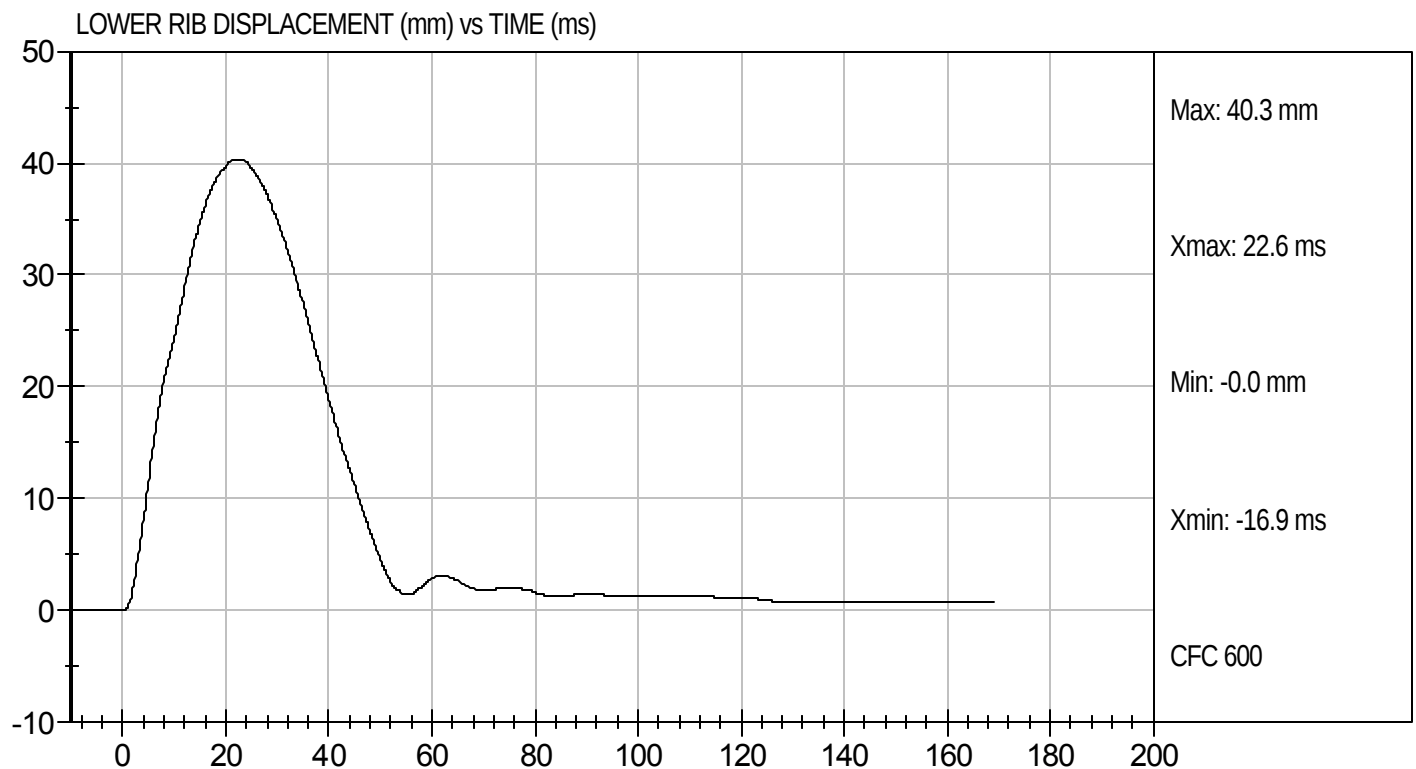
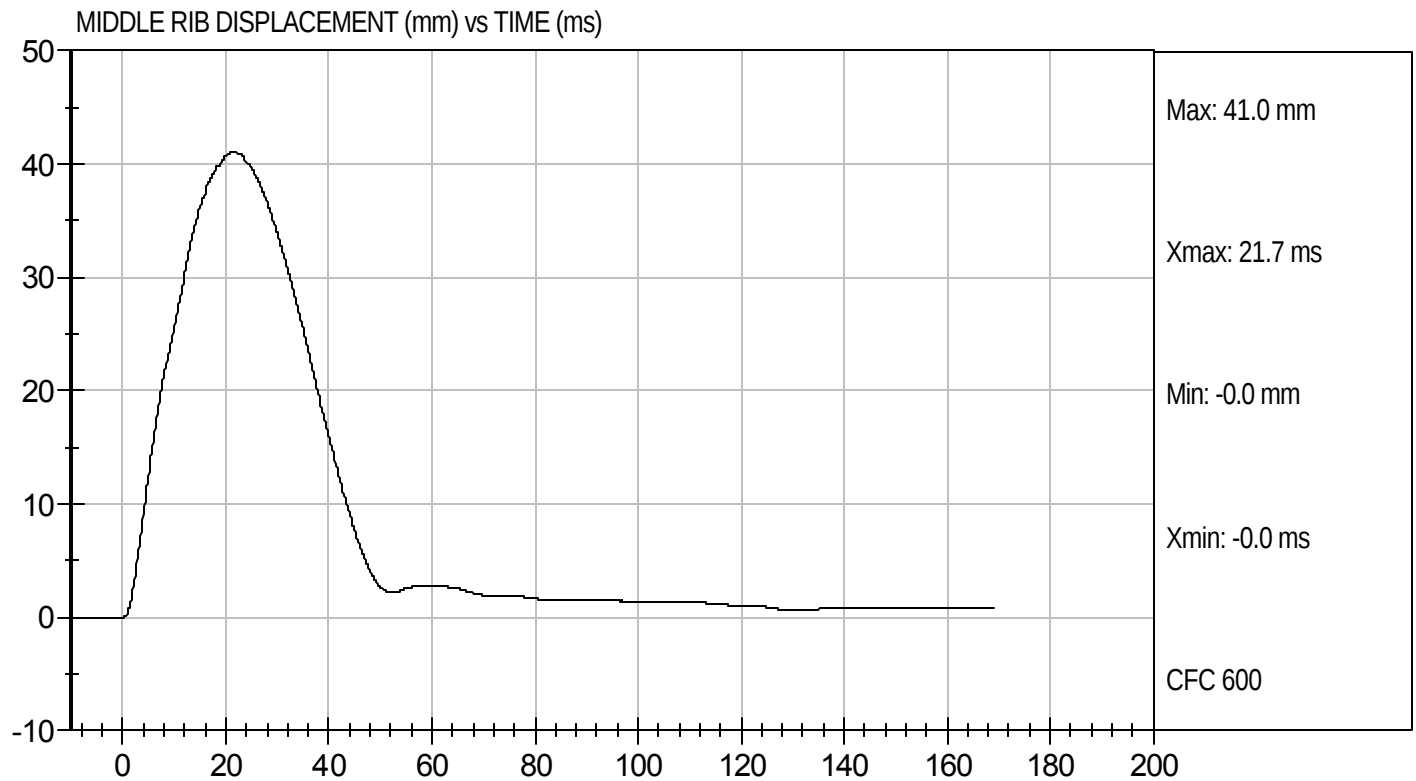
Test Date: 2/14/12
Velocity: 14.37 ft/s, 4.38 m/s





Test Desc: Thorax Without Arm
Component ID: D12475

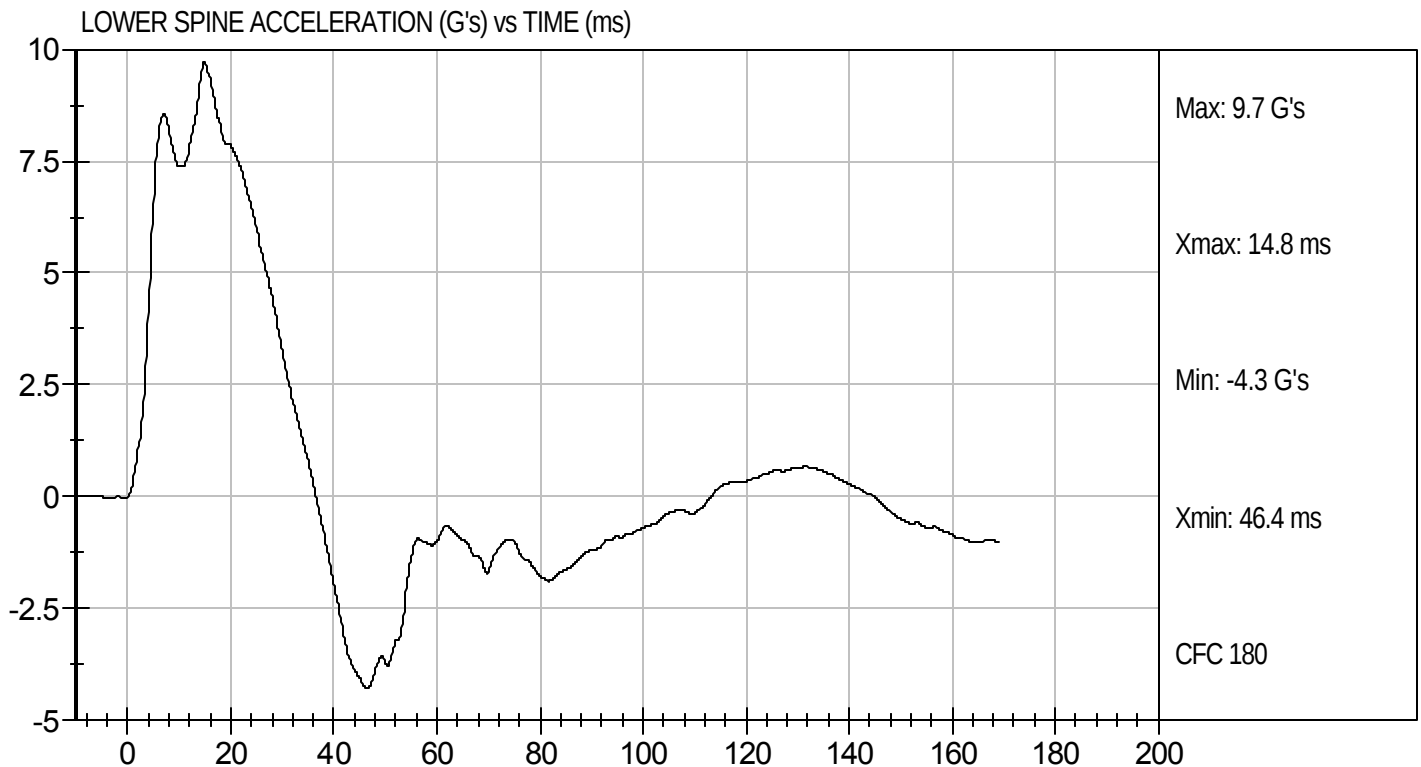
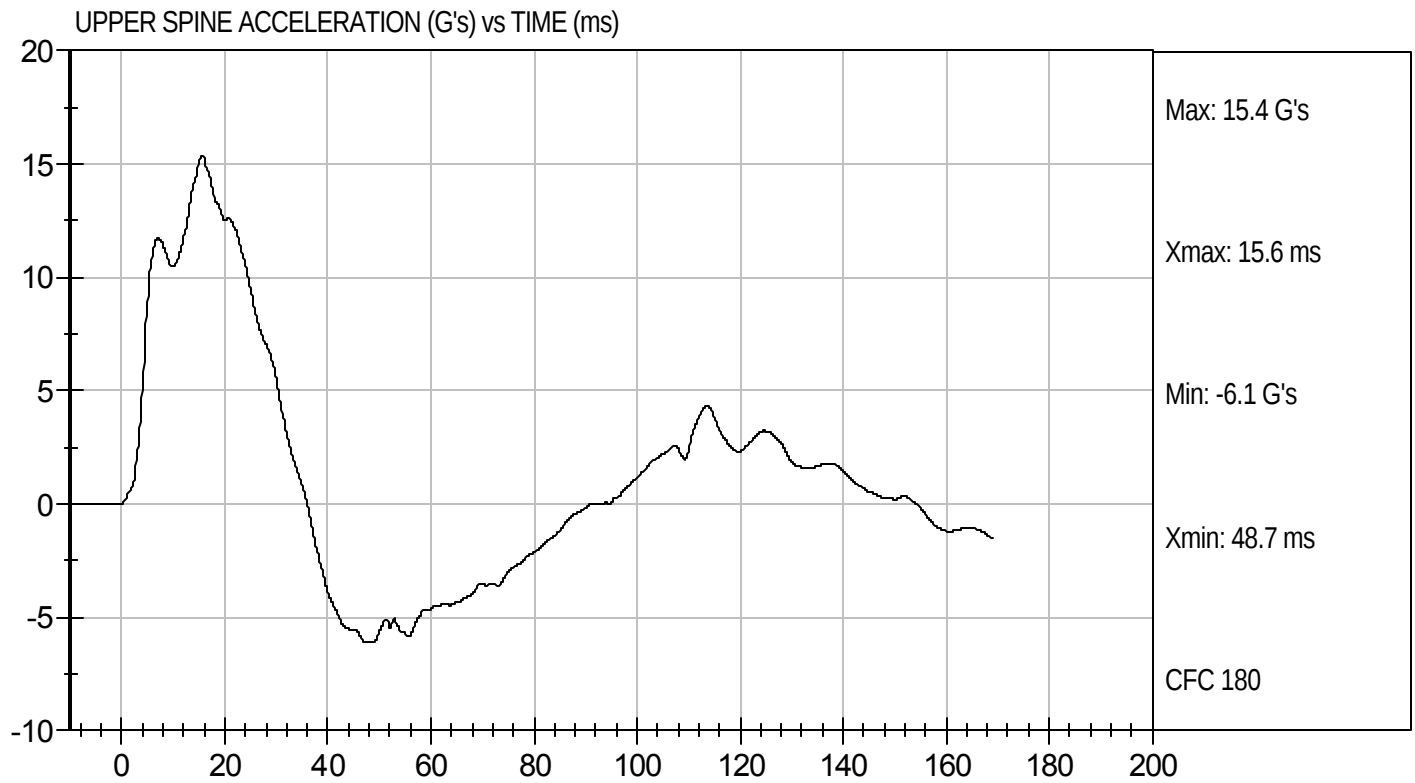
Test Date: 2/14/12
Velocity: 14.37 ft/s, 4.38 m/s





Test Desc: Thorax Without Arm
Component ID: D12475

Test Date: 2/14/12
Velocity: 14.37 ft/s, 4.38 m/s



MGA RESEARCH CORPORATION
ABDOMINAL IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 306

Test I.D: D12476

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	22.1	Pass
Humidity	%	10 to 70	21	Pass
Impact Velocity	m/s	4.20 to 4.40	4.34	Pass
Peak Impactor Acceleration	G's	12 to 16	13	Pass
Upper Rib Displacement	mm	36 to 47	40	Pass
Lower Rib Displacement	mm	33 to 44	41	Pass
Lower Spine (T12) Y Acceleration	G's	9 to 14	10	Pass
Overall Test Results			Pass	


Laboratory Technician

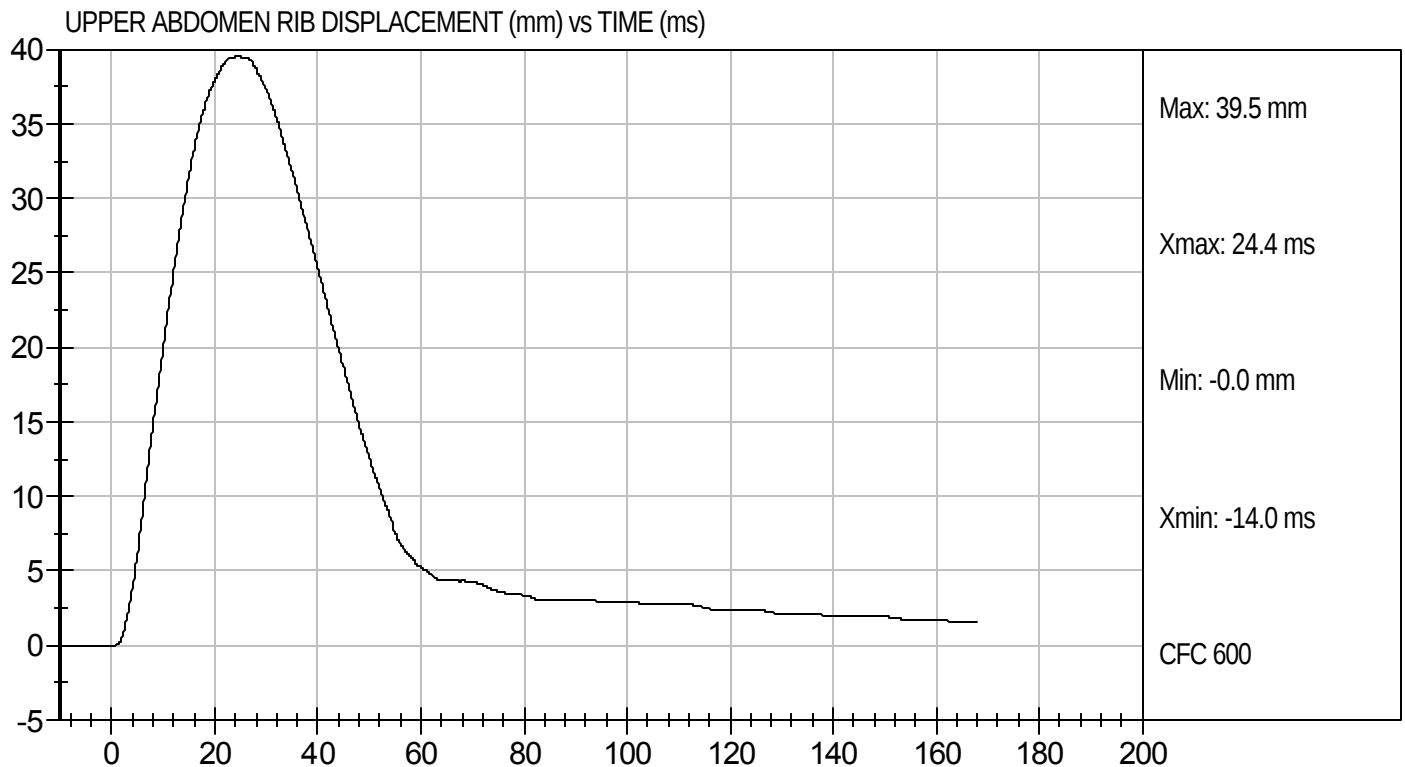
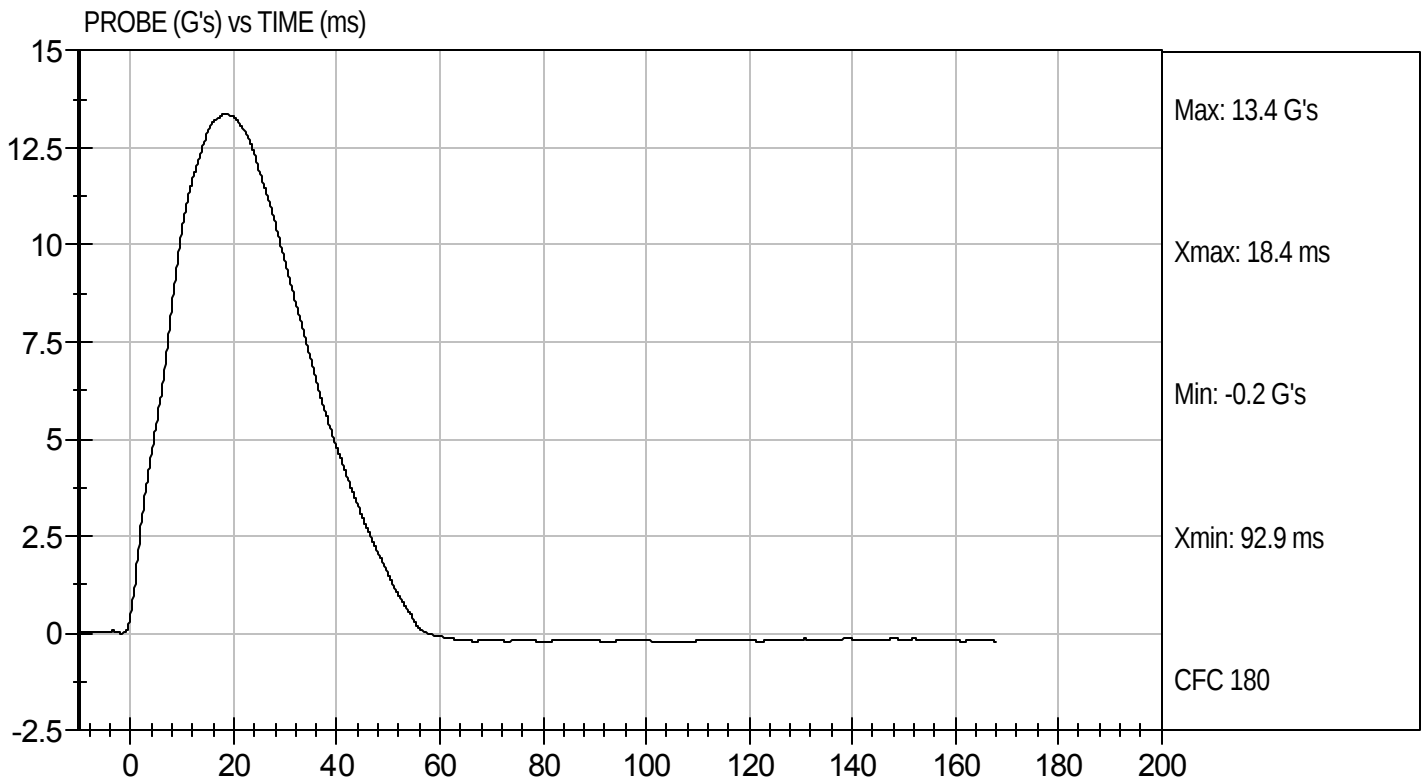
2/14/12
Test Date


Approved By



Test Desc: Abdomen Impact
Component ID: D12476

Test Date: 2/14/12
Velocity: 14.25 ft/s, 4.34 m/s

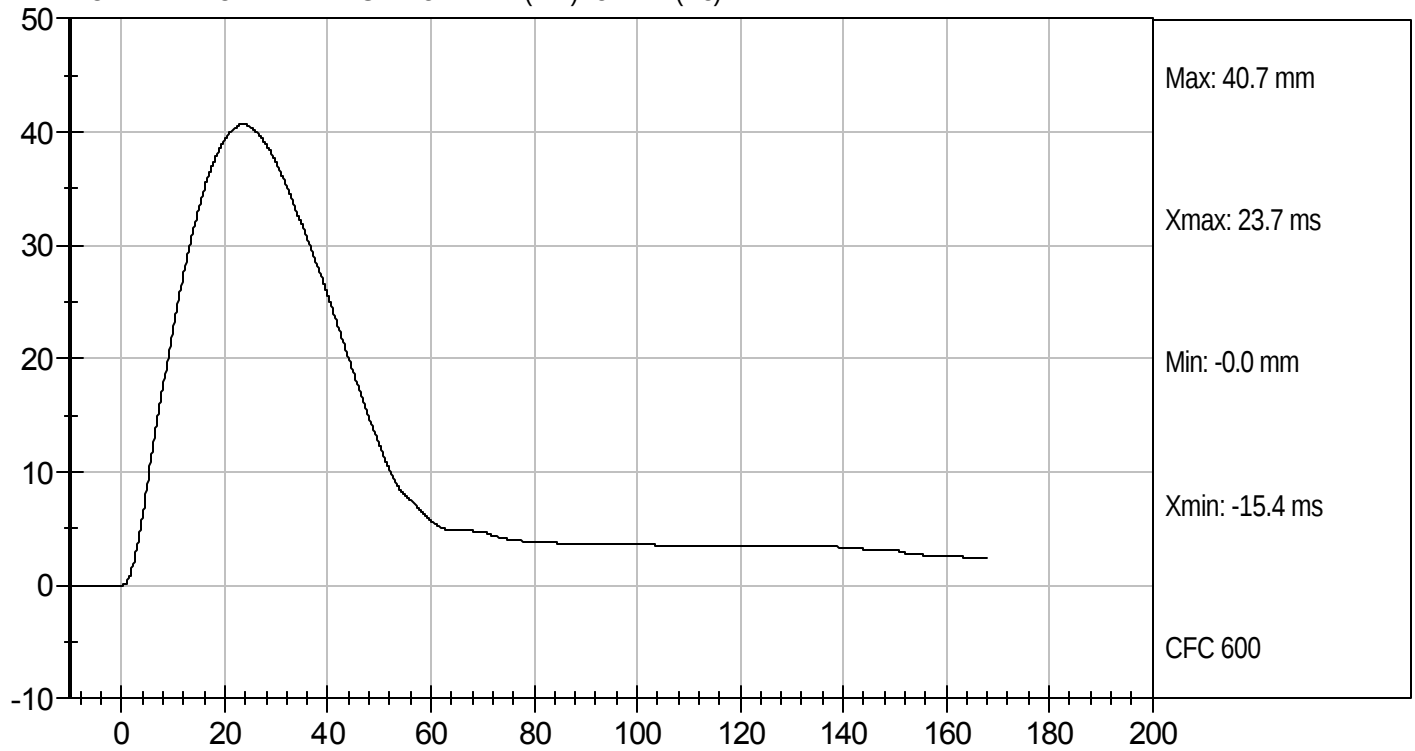




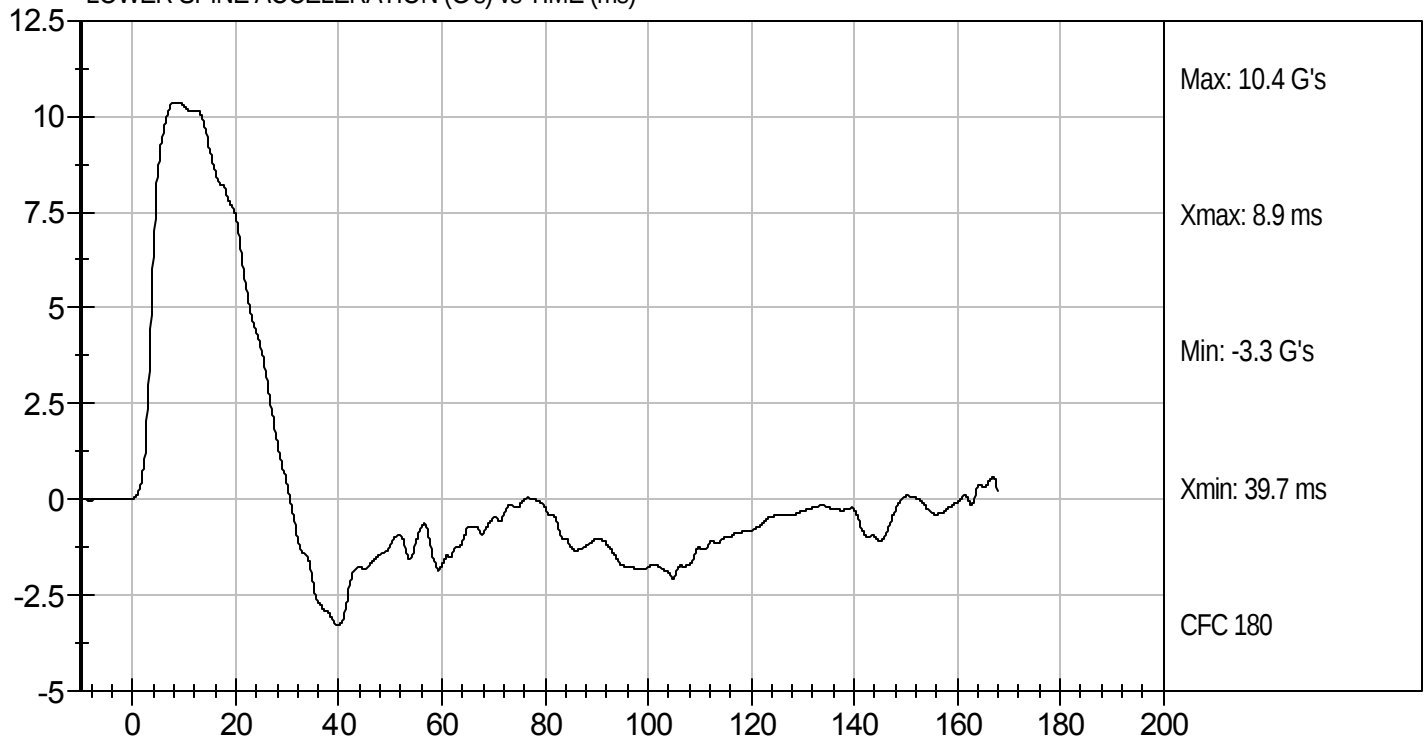
Test Desc: Abdomen Impact
Component ID: D12476

Test Date: 2/14/12
Velocity: 14.25 ft/s, 4.34 m/s

LOWER ABDOMEN RIB DISPLACEMENT (mm) vs TIME (ms)



LOWER SPINE ACCELERATION (G's) vs TIME (ms)



MGA RESEARCH CORPORATION
PELVIS IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 306

Test I.D: D12477

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	22.0	Pass
Humidity	%	10 to 70	21	Pass
Impact Velocity	m/s	6.60 to 6.80	6.71	Pass
Peak Impactor Acceleration	G's	38 to 47	41	Pass
Pelvis Y Acceleration after 6 ms	G's	34 to 42	40	Pass
Peak Acetabulum Force	N	3600 to 4300	3887	Pass
Overall Test Results				Pass


Laboratory Technician

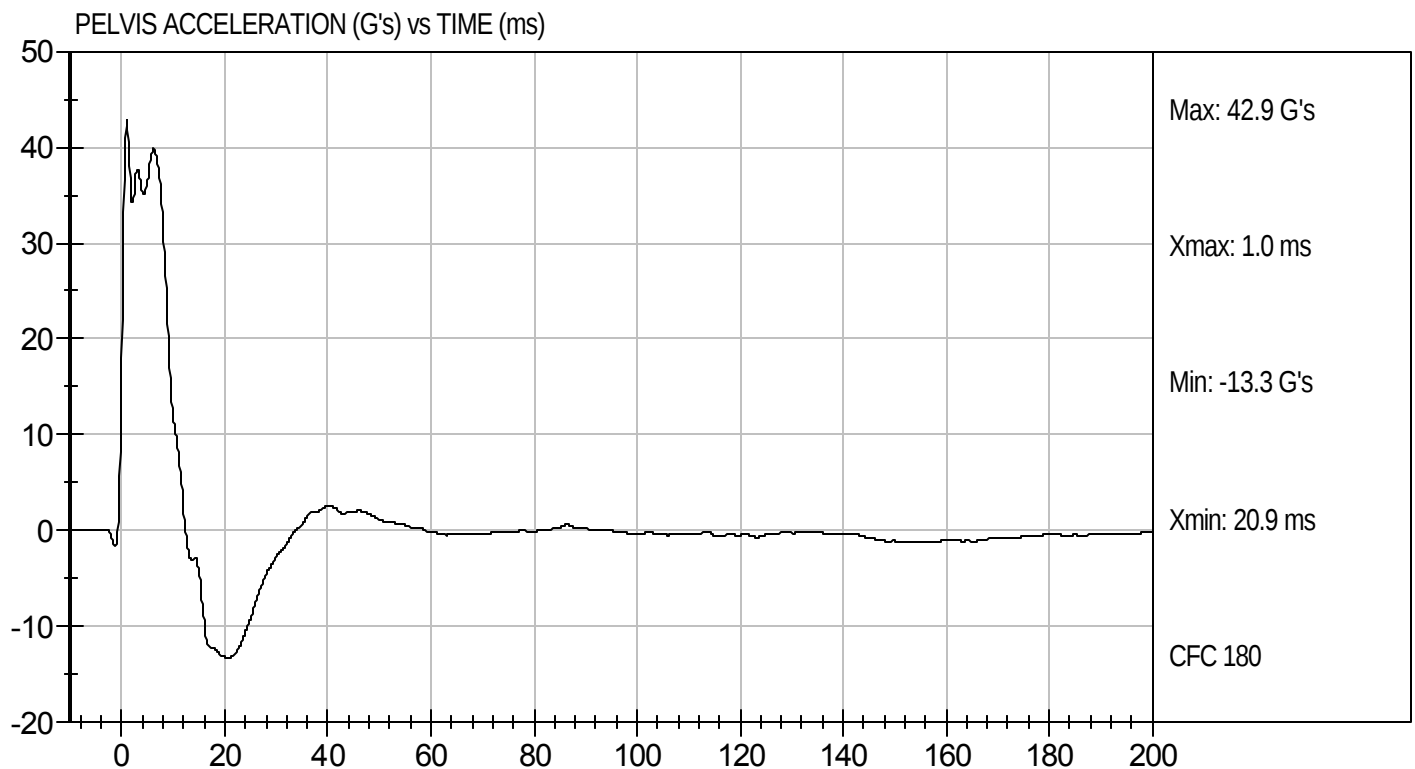
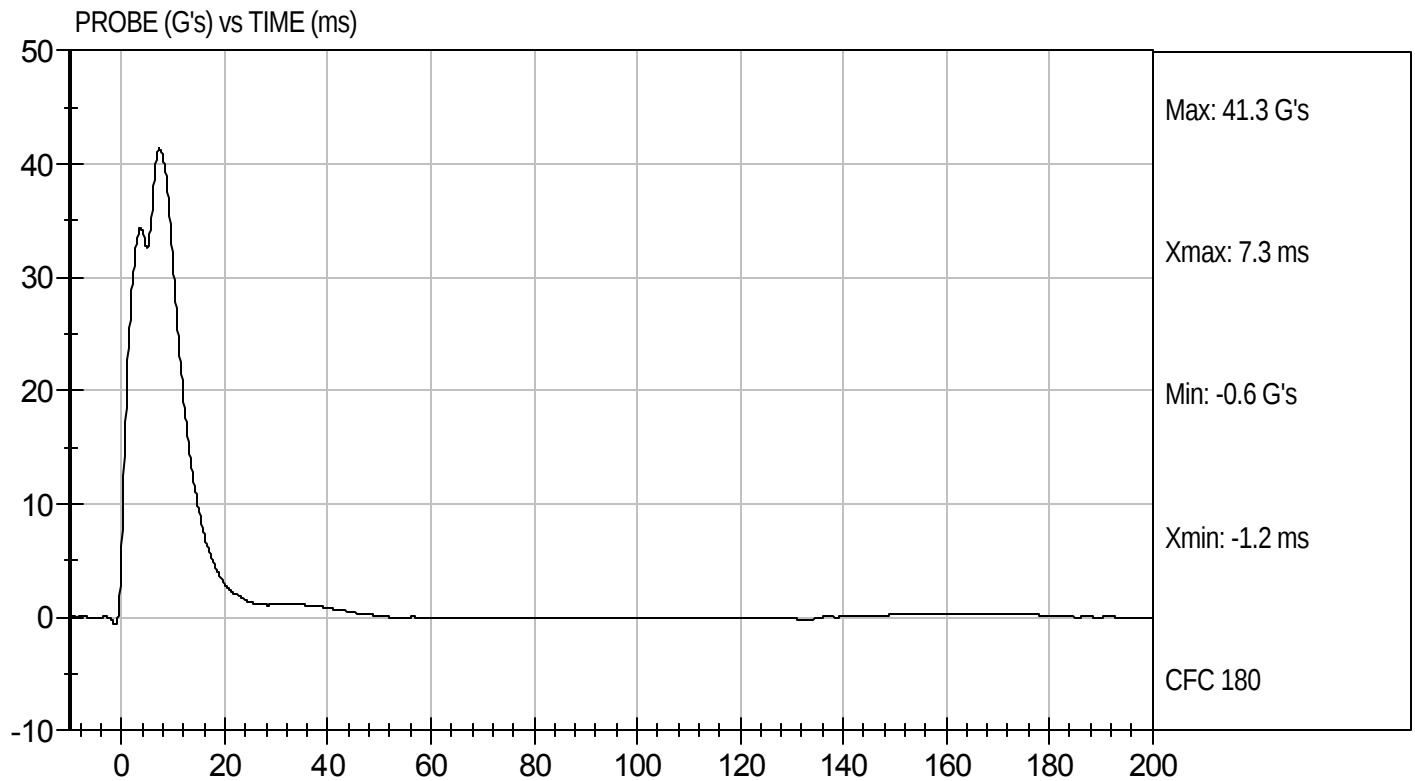
2/14/12
Test Date


Approved By



Test Desc: Pelvis Impact
Component ID: D12477

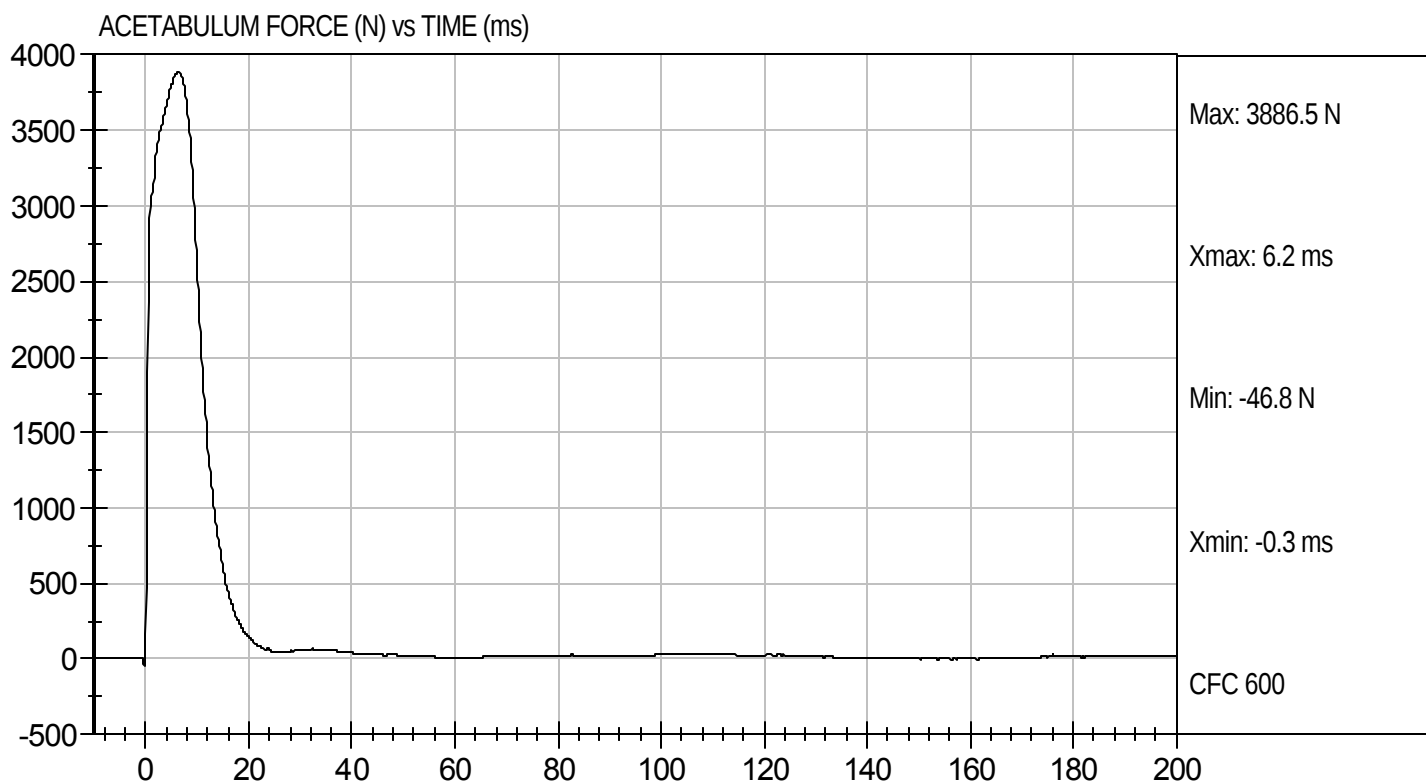
Test Date: 2/14/12
Velocity: 22.0 ft/s, 6.71 m/s





Test Desc: Pelvis Impact
Component ID: D12477

Test Date: 2/14/12
Velocity: 22.0 ft/s, 6.71 m/s



MGA RESEARCH CORPORATION
ILIAC IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 306

Test I.D: D12478

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.9	Pass
Humidity	%	10 to 70	21	Pass
Impact Velocity	m/s	4.20 to 4.40	4.34	Pass
Peak Impactor Acceleration	G's	36 to 45	39	Pass
Pelvis Y Acceleration	G's	28 to 39	32	Pass
Peak Pelvis Iliac Force	N	4100 to 5100	4604	Pass
Overall Test Results			Pass	


Laboratory Technician

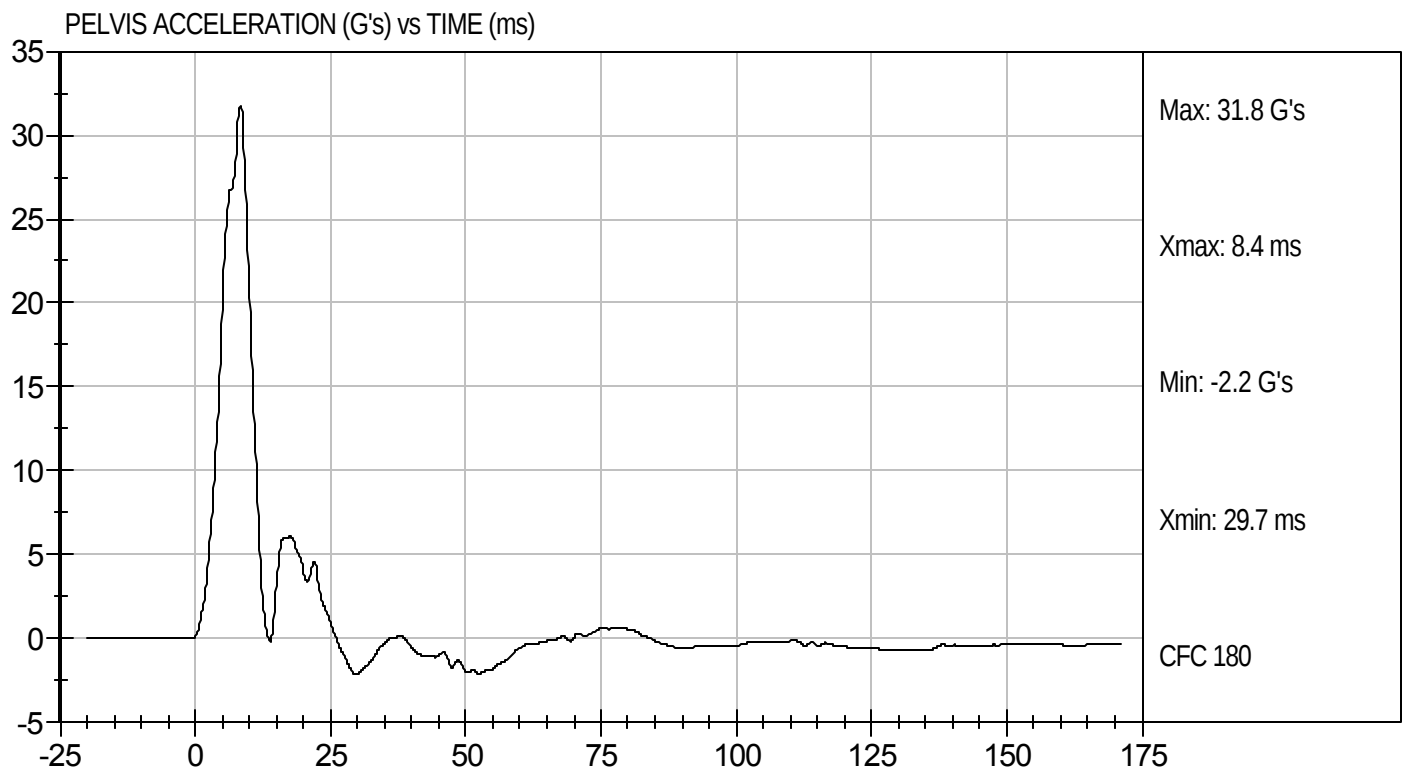
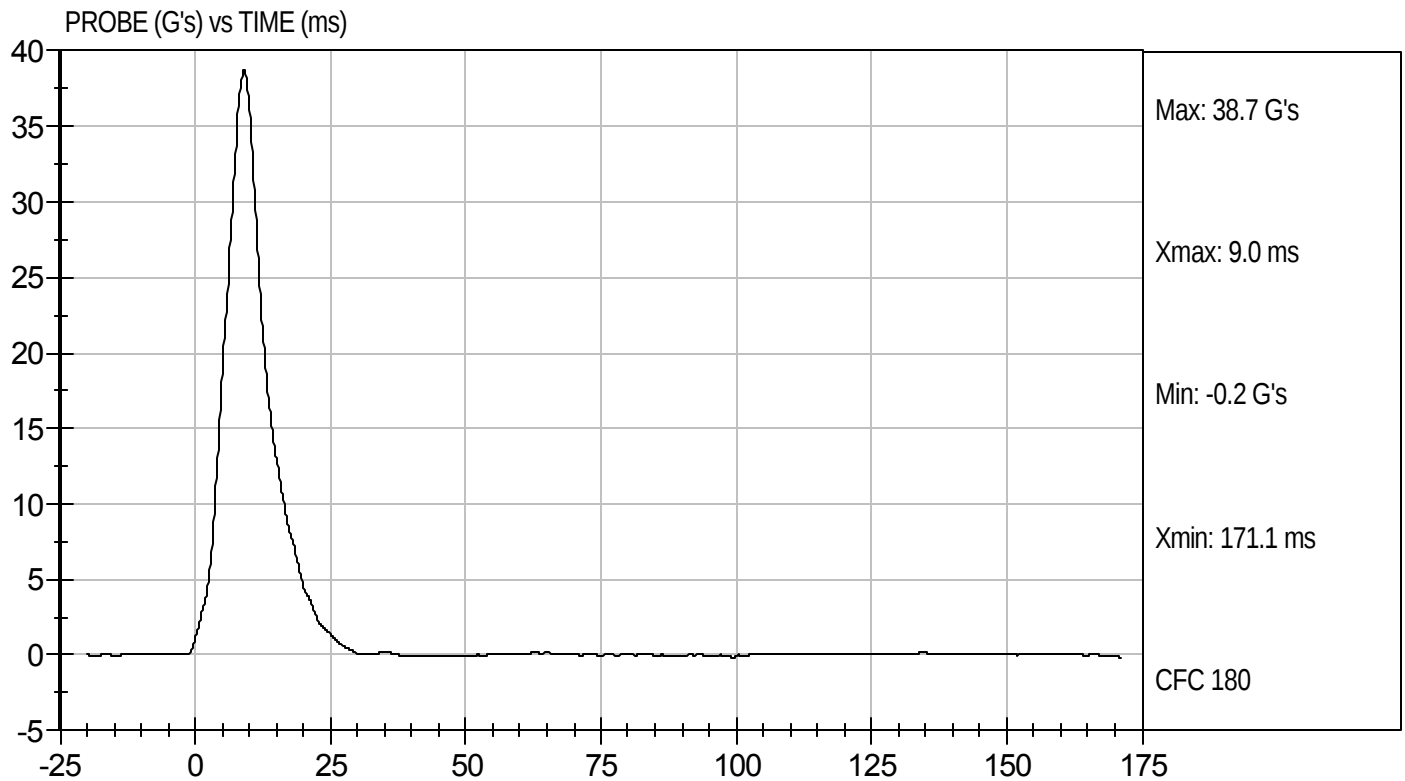
2/14/12
Test Date


Approved By



Test Desc: Iliac Impact
Component ID: D12478

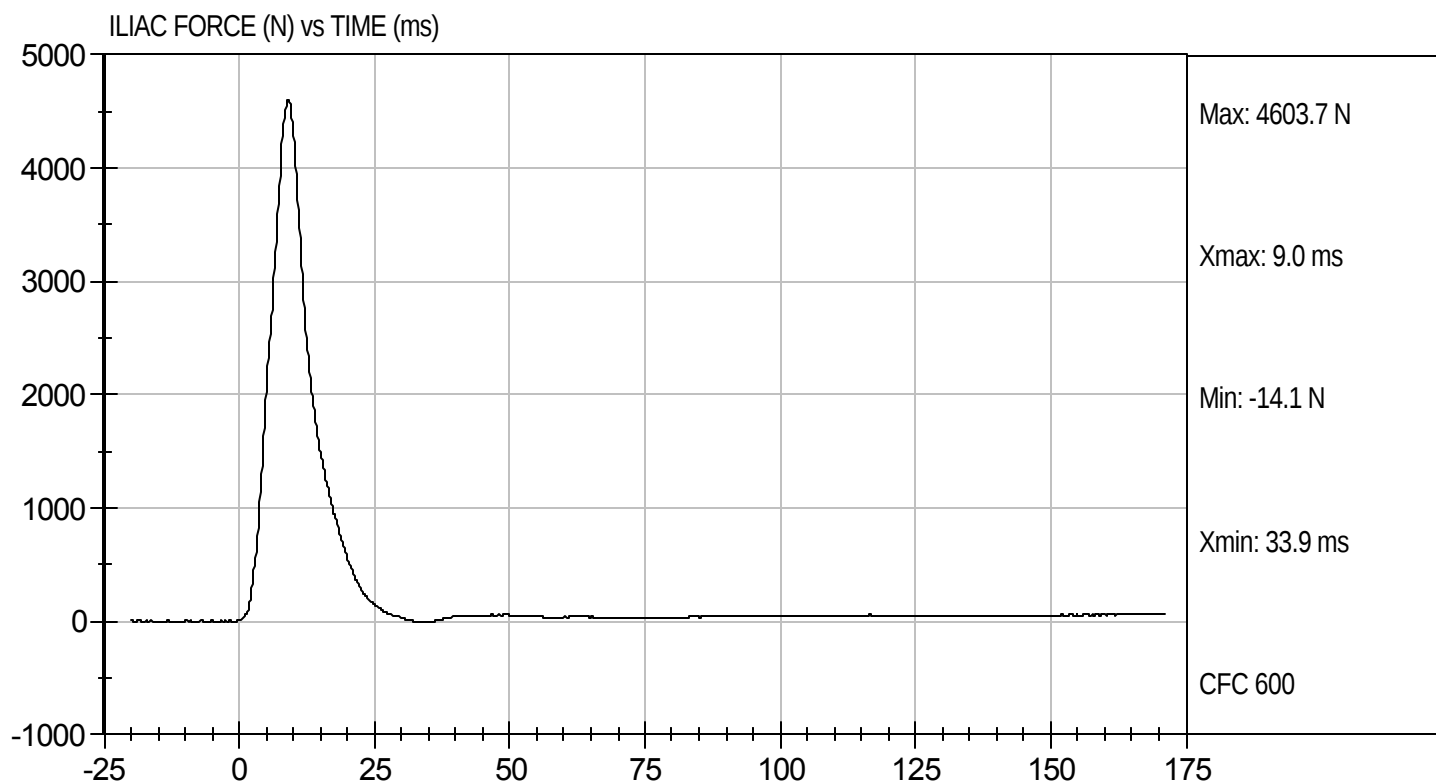
Test Date: 2/14/12
Velocity: 14.25 ft/s, 4.34 m/s





Test Desc: Iliac Impact
Component ID: D12478

Test Date: 2/14/12
Velocity: 14.25 ft/s, 4.34 m/s



APPENDIX D

TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION DATA

Table 1 – Dummy Instrumentation

			SID-IIs S/N 306			
			Serial Number	Manufacturer	Calibration Date	
Head Accelerometers			X	P67884	Endevco	12/06/11
			Y	P67886	Endevco	12/06/11
			Z	P67887	Endevco	12/06/11
Head Accelerometers			Xr	P67888	Endevco	12/06/11
			Yr	P67889	Endevco	120/6/11
			Zr	P67890	Endevco	12/06/11
Displacement Potentiometers	Thoracic Rib	Upper	Y	G1187	FTSS	12/06/11
		Middle	Y	G1261	FTSS	12/06/11
		Lower	Y	G1270	FTSS	12/06/11
	Abdominal Rib	Upper	Y	G1287	FTSS	12/06/11
		Lower	Y	G1304	FTSS	12/06/11
Lower Spine Accelerometers (T12)			X	P67893	Endevco	12/06/11
			Y	P67894	Endevco	12/06/11
			Z	P67895	Endevco	12/06/11
Acetabulum Load Cell			Y	ACG111	FTSS	05/20/11
Iliac Wing Load Cell			Y	IWG226	FTSS	05/20/11
Pelvis Plug (struck side)				47315	FTSS	10/17/11
Pelvis Plug (non-struck side)				46394	FTSS	09/22/11

Table 2 – Vehicle Instrumentation

		Serial Number	Manufacturer	Calibration Date
Vehicle Center of Gravity	X	P59395	Endevco	01/13/12
Vehicle Center of Gravity	Y	P59394	Endevco	01/13/12
Vehicle Center of Gravity	Z	P59396	Endevco	01/13/12
Left Floor Sill	Y	P63226	Endevco	10/20/11
A-Pillar Sill	Y	P50050	Endevco	12/13/11
A-Pillar Low	Y	P59313	Endevco	10/20/11
A-Pillar Mid	Y	P47108	Endevco	01/12/12
B-Pillar Sill	Y	P63512	Endevco	11/04/11
B-Pillar Low	Y	P66755	Endevco	12/28/11
B-Pillar Mid	V	P47111	Endevco	09/12/11
Driver Seat	Y	P59251	Endevco	12/13/11
Engine Top	X	P59652	Endevco	10/20/11
Engine Top	Y	P59653	Endevco	10/20/11
Firewall	Y	P63219	Endevco	10/25/11
Right Roof	Y	P47115	Endevco	09/12/11
Right Floor Sill	Y	P59238	Endevco	12/13/11
Rear Floorpan	X	P59254	Endevco	10/20/11
Rear Floorpan	Y	P59255	Endevco	10/20/11

Table 3 – Pole Instrumentation

	Serial Number	Manufacturer	Calibration Date
Load Cell 1	DG6277	FTSS	09/15/11
Load Cell 2	DG6278	FTSS	09/15/11
Load Cell 3	DG6279	FTSS	09/15/11
Load Cell 4	DG6280	FTSS	09/15/11
Load Cell 5	DG6281	FTSS	09/15/11
Load Cell 6	DG6283	FTSS	09/15/11
Load Cell 7	DG6284	FTSS	09/15/11
Load Cell 8	DG6582	FTSS	09/15/11