

REPORT NUMBER: SPNCAP-KAR-13-048

**NEW CAR ASSESSMENT PROGRAM (NCAP)
SIDE IMPACT POLE TEST**

**HONDA OF CANADA MFG.
2013 HONDA CIVIC LX 2-DOOR COUPE**

NHTSA No: MD5307

**PREPARED BY:
KARCO ENGINEERING, LLC.
9270 HOLLY ROAD
ADELANTO, CA 92301**



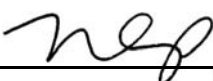
MARCH 15, 2013

FINAL REPORT

**PREPARED FOR:
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, D.C. 20590**

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: 
Mr. Kelsey A. Chiu, Engineering Department Supervisor
KARCO Engineering, LLC.

Reviewed By: 
Mr. Michael L. Dunlap, Director of Operations
KARCO Engineering, LLC.

Approved By: 
Mr. Frank D. Richardson, Program Manager
KARCO Engineering, LLC.

Approval Date: March 15, 2013

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

1. Report No. SPNCAP-KAR-13-048	2. Government Accession No.	3. Recipient's Catalog No.																												
4. Title and Subtitle Final Report of New Car Assessment Program Side Impact Pole Testing of 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307		5. Report Date March 15, 2013																												
		6. Performing Organization Code KAR																												
7. Authors Mr. Kelsey A. Chiu, Engineering Department Supervisor, KARCO Mr. Frank Richardson, Program Manager, KARCO		8. Performing Organization Report No. TR-P33004-01-NC																												
9. Performing Organization Name and Address KARCO Engineering, LLC. 9270 Holly Rd. Adelanto, CA 92301		10. Work Unit No.																												
		11. Contract or Grant No. DTNH22-09-D-00122																												
12. Sponsoring Agency Name and Address U. S. Department of Transportation National Highway Traffic Safety Administration Office of Crashworthiness Standards (NVS-111) 1200 New Jersey Ave., SE, Room W43-410 Washington, D.C. 20590		13. Type of Report and Period Covered Final Test Report, Mar. 1 - 15, 2013																												
		14. Sponsoring Agency Code NVS-111																												
15. Supplementary Notes																														
16. Abstract A 32.2 km/h (20 mph) 75 deg. oblique impact Side NCAP Test was conducted on the subject 2013 Honda Civic LX 2-door coupe in accordance with the specifications of the Office of Crash Worthiness Standards Side NCAP Pole Laboratory Test Procedure for the generation of consumer information on vehicle side pole crash protection. The test was conducted at the KARCO Engineering, LLC. facility in Adelanto, California on March 1, 2013. The impact velocity was 32.6 km/h and the outside ambient temperature at the struck (driver's) side of the vehicle was 18.0 deg. C. The target vehicle's maximum post-test static crush was 352 mm located at level 3. The test vehicle's occupant performance data is as follows: <table border="1"> <thead> <tr> <th rowspan="2">Measurement Description</th> <th colspan="3">Driver ATD (ES-2re)</th> </tr> <tr> <th>Units</th> <th>Threshold</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₃₆)</td> <td></td> <td>1000</td> <td>193.3</td> </tr> <tr> <td>Resultant Lower Spine Acceleration</td> <td>g</td> <td>82</td> <td>44.2</td> </tr> <tr> <td>Total Pelvic Force (Sum of Acetabular and Iliac Forces)</td> <td>N</td> <td>5525</td> <td>3123</td> </tr> <tr> <td>Maximum Thoracic Rib Deflection</td> <td>mm</td> <td>38</td> <td>25</td> </tr> <tr> <td>Maximum Abdominal Rib Deflection</td> <td>mm</td> <td>45</td> <td>19</td> </tr> </tbody> </table> The door on the struck side of the vehicle did not separate from the body at the hinges or latches. The opposite doors did not open during the side impact event.				Measurement Description	Driver ATD (ES-2re)			Units	Threshold	Result	Head Injury Criteria (HIC ₃₆)		1000	193.3	Resultant Lower Spine Acceleration	g	82	44.2	Total Pelvic Force (Sum of Acetabular and Iliac Forces)	N	5525	3123	Maximum Thoracic Rib Deflection	mm	38	25	Maximum Abdominal Rib Deflection	mm	45	19
Measurement Description	Driver ATD (ES-2re)																													
	Units	Threshold	Result																											
Head Injury Criteria (HIC ₃₆)		1000	193.3																											
Resultant Lower Spine Acceleration	g	82	44.2																											
Total Pelvic Force (Sum of Acetabular and Iliac Forces)	N	5525	3123																											
Maximum Thoracic Rib Deflection	mm	38	25																											
Maximum Abdominal Rib Deflection	mm	45	19																											
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 Washington, DC 20590 e-mail: tis@nhtsa.dot.gov FAX: 202-493-2833																												
19. Security Classification of this report UNCLASSIFIED	20. Security Classification of this page UNCLASSIFIED	21. No. of Pages 101	22. Price																											

TABLE OF CONTENTS

<u>Section</u>		<u>Page</u>
1	Test Purpose and Procedure	1
2	Summary of Test Results	2
3	Occupant and Vehicle Information	4
<u>Data Sheet</u>		<u>Page</u>
1	General Test and Vehicle Parameter Data	5
2	Seat, Seat Belt, Steering Wheel Adjustment and Fuel System Data	9
3	Dummy Longitudinal Clearance Dimensions	13
4	Dummy Lateral Clearance Dimensions	14
5	Camera and Instrumentation Data	15
6	Test Vehicle Accelerometer Locations	16
7	Rigid Pole Load Cell Data	17
8	Post-Test Observations	18
9	Test Vehicle Profile Measurements	20
10	Test Vehicle Exterior Crush Measurements	21
11	FMVSS No. 301 Static Rollover Results	24
12	Dummy/Vehicle Temperature and Humidity Stabilization	25
<u>Appendix</u>		<u>Page</u>
A	Photographs	A
B	Vehicle and 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 2013 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under contract number DTNH22-09-D-00122. The purpose of this test is to generate comparative side impact performance in a 2013 Honda Civic LX 2-door coupe. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Laboratory Test Procedure dated September 2012.

SECTION 2

SUMMARY OF TEST RESULTS

A rigid pole side impact test was conducted on a 2013 Honda Civic LX 2-door coupe. The subject vehicle was towed into the rigid pole at an angle of 75.2° and a velocity of 32.6 km/h. The test was conducted by KARCO Engineering, LLC. in Adelanto, California on March 1, 2013. Pre- 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 September 2012. Camera locations and other pertinent camera information are included in this report.

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

- Primary and Redundant Head CG tri-axial accelerometers
- Thorax upper, middle and lower rib displacement potentiometers
- Abdomen upper and lower rib displacement potentiometers
- Lower spine (12) tri-axial accelerometers
- Iliac load cell
- Acetabulum load cell

Appendix B contains the vehicle and 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	Units	Passenger ATD (SID-IIs)	
		IARV	Result
Head Injury Criteria (HIC ₃₆)		1000	193.3
Lower Spine (T12) Resultant Acceleration	g	82	44
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	3123
Maximum Thoracic Rib Deflection	mm	38*	25
Maximum Abdominal Rib Deflection	mm	45*	19

*Proposed IARV

Supplemental restraint information is given below:

Restraint Type	Left Front (Driver) Occupant Location 1		Left Rear (Passenger) Occupant Location 4	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No	No	
Knee Airbag	No		No	
Side Airbag 1 (Curtain)	Yes	Yes	Yes	Yes
Side Airbag 2 (Torso)	Yes	Yes	No	
Seat Belt Pretensioner	Yes	Yes	No	
Seat Belt Load Limiter	Yes	Yes	No	
Other				

GENERAL COMMENTS

The front door on the struck side of the vehicle remained closed and latched. There was no separation at the hinges or latches. The front door on the non-struck side remained closed and latched. There were no ATD values that exceeded limits.

SECTION 3

OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307
Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13

CONVERSION FACTORS

Quantity	Typical Application	Std Units	Metric Unit	Multiply By
Mass	Vehicle Weight	lb	kg	0.4536
Linear Velocity	Impact Velocity	miles/hr	km/hr	1.609344
Length or Distance	Measurements	in	mm	25.4
Volume	Fuel Systems	gal	liter	3.785
Volume	Small Fluids	oz	mL	29.574
Pressure	Tire Pressures	lbf/in ²	kPa	6.895
Temperature	General Use	°F	°C	$=(T_f - 32)/1.8$
Force	Dynamic Forces	lbf	N	4.448
Moment	Torque	lbf-ft	N•m	1.355

DATA SHEET NO. 1

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307
 Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA Number	MD5307
Model Year	2013
Make	Honda
Model	Civic LX
Body Style	2-Door Coupe
VIN	2HGFG3B57DH501244
Body Color	Polished Metal Metallic
Odometer Reading (km / mi)	100 / 62
Engine Displacement (L)	1.8
Type / No. of Cylinders	Inline 4
Engine Placement	Transverse
Transmission Type	Automatic
Transmission Speeds	5
Overdrive	Yes
Final Drive	Front
Roof Rack	No
Sunroof / T-Top	No
Running Boards	No
Tilt Steering Wheel	Yes
Power Seats	No
Anti-Lock Brakes (ABS)	Yes

Traction Control System (TCS)	Yes
Auto-Leveling System	No
Automatic Door Locks	Yes
Power Window Auto-Reverse	Yes
Other Optional Feature	Yes
Driver Front Airbag	Yes
Driver Curtain Airbag	Yes
Driver Head/Torso Airbag	No
Driver Torso Airbag	Yes
Driver Torso/Pelvis Airbag	No
Driver Pelvis Airbag	No
Driver Knee Airbag	No
Rear Pass. Curtain Airbag	Yes
Rear Pass. Head/Torso Airbag	No
Rear Pass. Torso Airbag	No
Rear Pass. Torso/Pelvis Airbag	No
Rear Pass. Pelvis Airbag	No
Driver Seat Belt Pretensioner	Yes
Rear Pass. Seat Belt Pretensioner	No
Driver Load Limiter	Yes
Rear Pass. Load Limiter	Yes
Other Safety Restraint	No

Does Owner's Manual provide instructions to turn off automatic door locks? Yes

DATA FROM CERTIFICATION LABEL

Manufactured By	Honda of Canada Mfg.
Date of Manufacture	Dec-12
Vehicle Type	Passenger Car

GVWR (kg)	1680
GAWR Front (kg)	905
GAWR Rear (kg)	790

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total	
Designated Seating Capacity	2	3		5	
Capacity Weight (VCW) (kg)				385.0	A
DSC x 68.04 (kg)				340.2	B
Cargo Weight (RCLW) (kg)				44.8	A-B

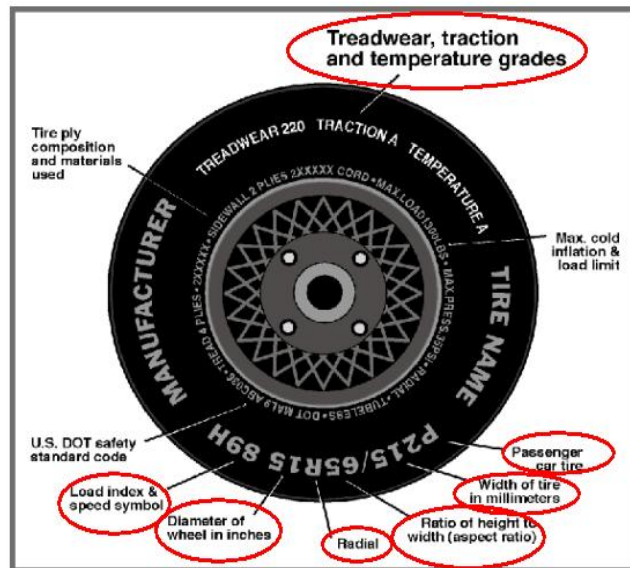
VEHICLE SEAT TYPE

Seating Location	Type of Seat Pan				Type of Seat Back		
	Bucket	Bench	Split Bench	Contoured	Fixed	Adjustable	
						w/ Lever	w/ Knob
Front Seat	Yes					Yes	
Rear or Second Row Seat		Yes			Yes		
Third Row Seat							

DATA SHEET NO. 1 ... (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307
 Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13



VEHICLE TIRE INFORMATION

Measured Parameter	Front	Rear
Max. Tire Pressure (kpa)	300	300
Cold Pressure (kPa)	210	210
Recommended Tire Size	P195/65R15	P195/65R15
Tire Size on Vehicle	P195/65R15	P195/65R15
Tire Manufacturer	Continental	Continental
Tire Model	ContiPro Contact	ContiPro Contact
Treadware	500	500
Traction Grade	AA	AA
Temperature Grade	A	A
Tire Plies Sidewall	1 Polyester	1 Polyester
Tire Plies Body	1 Polyester, 1 Polyamide, 2 Steel	1 Polyester, 1 Polyamide, 2 Steel
Load Index/Speed Symbol	89H	89H
Tire Material	Polyester, Polyamide, Steel	Polyester, Polyamide, Steel
DOT Safety Code Left	P5C6 3W5 4512	P5C6 3W5 4512
DOT Safety Code Right	P5C6 3W5 4512	P5C6 3W5 4512

DATA SHEET NO. 1 ... (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307
 Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13

TIRE PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kPa	210	210	210	210
Tire Placard	kPa	210	210	210	210
Owner's Manual	kPa	210	210	210	210
As Tested	kPa	210	210	210	210

TEST VEHICLE AXLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	400.0	245.5		421.0	275.0		417.0	289.5	
Right	kg	378.5	240.0		390.5	266.5		377.5	274.5	
Ratio	%	61.6%	38.4%	100.0%	60.0%	40.0%	100.0%	58.5%	41.5%	100.0%
Total	kg	778.5	485.5	1264.0	811.5	541.5	1353.0	794.5	564.0	1358.5

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	1264.0	A
Actual Weight of 1 P572 O ATD Used	kg	49.0	B
Rated Cargo/Luggage Wt (RCLW)	kg	44.8	C
Calculated Vehicle Target Wt (TVTW)	kg	1357.8	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 -9.0 kg)? ☒ Yes ☐ No

TEST VEHICLE ATTITUDE AND CG

Measurement Description	Units	As Delivered	As Tested	Fully Loaded	Meets Requirement***
Driver Door Sill Angle (front-to-rear)*	°	-0.5	-0.4	0.0	Yes
Front Passenger Sill Angle (front-to-rear)*	°	-0.6	-0.6	0.1	Yes
Front Bumper-Line Angle (left-to-right)**	°	-0.2	-0.1	-0.1	Yes
Rear Bumper-Line Angle (left-to-right)**	°	-0.3	-0.2	-0.1	Yes
Vehicle CG (Aft of Front Axle)	mm	1007	1049	1089	
Vehicle CG (Left (+)/Right (-) from Longitudinal Centerline)	mm	16	22	30	

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

***The "As Tested" vehicle attitude angle measurements must be within "As Delivered" and the "Fully Loaded" vehicle attitude measurements at each location. Indicate "Yes" or "No" for "Meets Requirement"

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

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307
Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13

WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW

Component Description	Weight (kg)
Outboard Non-Struck Side Mirror	1.0
Non-Struck Side Windows	4.5
Non-Struck Side Door Panel	3.5
Taillights	2.5
Spare Tire	10.5
Spare Tire Tools	2.5
Trunk Trim	2.0
Rear Bumper Face	4.5
Ballast / Equipment Added	60.2

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

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307
 Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13

SEAT POSITIONING

The driver's seat is set to the forward most position where the ATD will not contact any interior panels at the mid-height and mid-angle position. The front center seat (if applicable) and right front passenger's seat should be set in a similar manner as the driver's seat. The struck side rear passenger's seat, rear center seat, and non-struck side rear passenger's seats should be set to the rearmost, lowest, mid-angle position.

SCRL ANGLE RANGE

Seat	SCRL (°)		
	Max	Min	Mid
Driver Seat	1.1	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	As Tested SCRP Height	SCRP Height Position	SCRP Height (mm)		
				Rearmost	Mid Fore/Aft	Forwardmost
Driver Seat	0.6	515	Max	493	503	515
			Mid	493	503	515
			Min	493	503	515
Front Passenger Seat	Fixed	506	Max	480	493	506
			Mid	480	493	506
			Min	480	493	506
Front Center Seat			Max			
			Mid			
			Min			
Struck Side Rear Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed

DATA SHEET NO. 2 ... (CONTINUED)

SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA

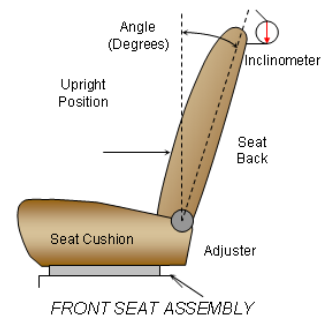
Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307
 Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13

SEAT FORE/AFT POSITION

Seat	Total Fore/Aft Travel		Test Position From Forwardmost Position	
	mm	Detents*	mm	Detent*
Driver Seat	240	25	0	0
Front Passenger Seat	240	25	0	0
Front Center Seat				
Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Fixed	Fixed

SEAT BACK ADJUSTMENT

The driver's seat back is positioned such that the dummy's head is level.
 The right front passenger seat back is set to the same angle as the driver's seat.



Seat	Total Seat Back Angle Range		Test Position from Most Upright	
	Degrees	Detents*	Degree	Detent*
Driver Seat w/Seated Dummy	62.0	32	0.3	0
Front Passenger Seat	61.5	32	0.7	0
Front Center Seat				
Struck Side Rear Seat w/Seated Dummy	Fixed	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Fixed	Fixed

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

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307
Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13

SEAT BELT ANCHORAGE ADJUSTMENT

Seat belt anchorages are adjusted in accordance with the information provided by the manufacturer on Form No. 1. The positions are marked H, M1, ... , L from top to bottom.

	Total No. of Positions	Placed in Position
Driver Seat	Fixed	Fixed

HEAD RESTRAINT ADJUSTMENT

The driver's head restraint is adjusted to the lowest and most full forward in-use position.

	Total No. of Positions	Placed in Position
Driver Seat	5	Full Down

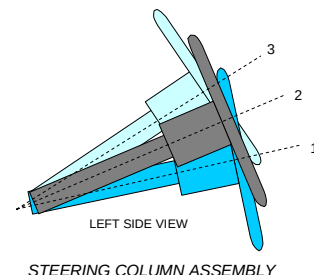
DATA SHEET NO. 2 ... (CONTINUED)

SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307
 Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13

STEERING COLUMN ADJUSTMENT

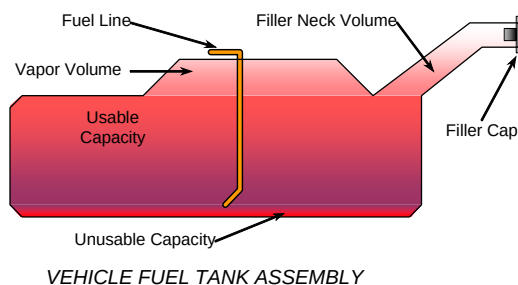
Steering wheel and column adjustments are made so that the steering wheel hub is at the center of the geometric locus it describes when it moves through its full range of motion.



	Degrees	Fore-Aft Position (mm)
Lowermost - Position 1	20.6	170
Geometric Center - Position 2	23.0	149
Uppermost - Position 3	25.4	128
Telescoping Steering Wheel Travel		42
Test Position	23.0	149

FUEL PUMP

The vehicle is equipped with an electric fuel pump. The fuel pump is activated when the ignition is turned from the LOCK to the ON position. The pump will be filled up for two seconds and then pressure is maintained.



FUEL TANK CAPACITY

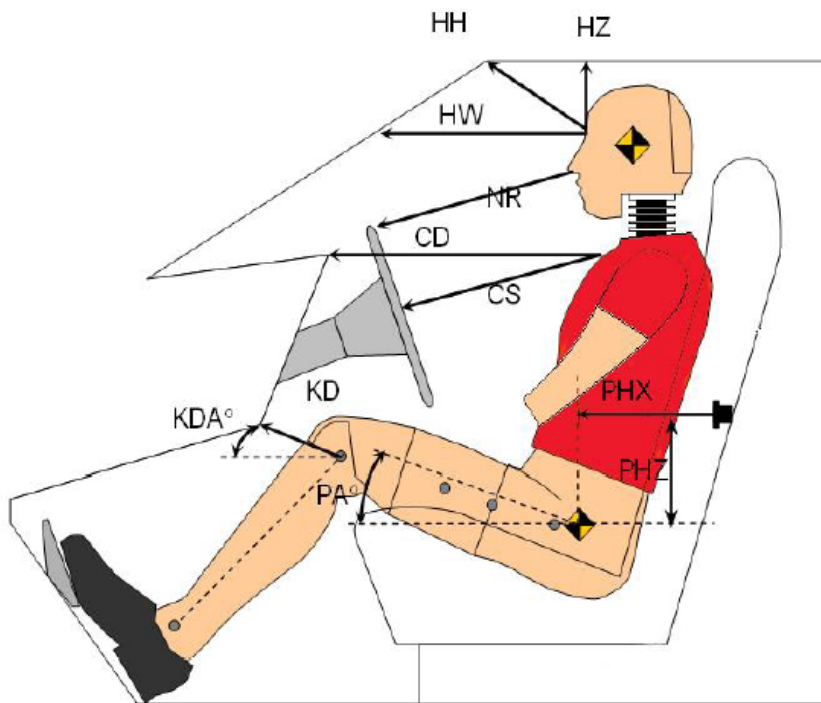
Description	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	49.96
Usable Capacity of "Optional Tank" (see Form No. 1)	
Usable Capacity of "Standard Tank" (see Owner's Manual)	
Usable Capacity of "Optional Tank" (see Owner's Manual)	
93% of Usable Capacity	46.46
Actual amount of Solvent Used in Test	46.46
1/3 of Usable Capacity	16.65

Is the Actual Amount of Solvent Used in the test equal to 93% $\pm$ 1% of the Usable Capacity stated in the Form No. 1? ☒ Yes ☐ No

DATA SHEET NO. 3

DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307
 Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13



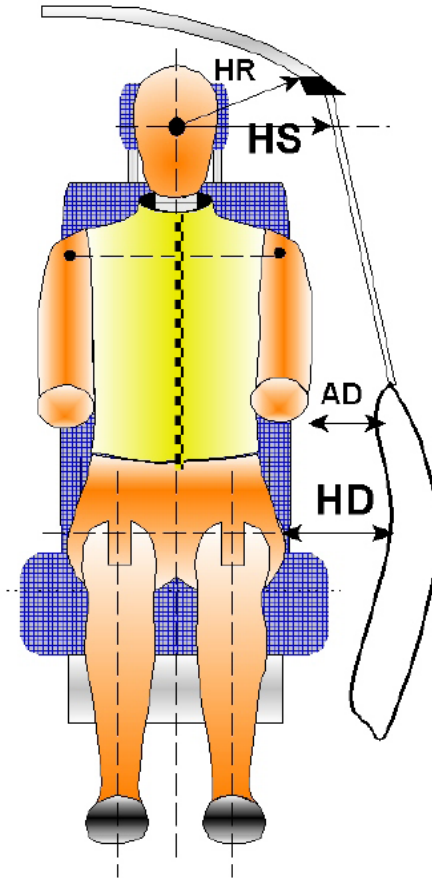
DUMMY LONGITUDINAL CLEARANCE DIMENSION INFORMATION

Driver Code	Description	Driver	
		Length (mm)	Angle (°)
HH	Head to Header	248	
HW	Head to Windshield	628	
HZ	Head to Roof	192	
NR	Nose to Rim	222	
CD	Chest to Dash	412	
CS	Chest to Steering Wheel	170	
KD(L)/KDA(L)°	Left Knee to Dash	104	52.3
KD(R)/KDA(R)°	Right Knee to Dash	94	38.0
PAX°	Pelvic Tilt Angle (x-axis)		21.6
PAY°	Pelvic Tilt Angle (y-axis)		0.4
PHX	Hip Point to Striker (x-axis)	598	
PHZ	Hip Point to Striker (z-axis)	236	

DATA SHEET NO. 4

DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307
Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13



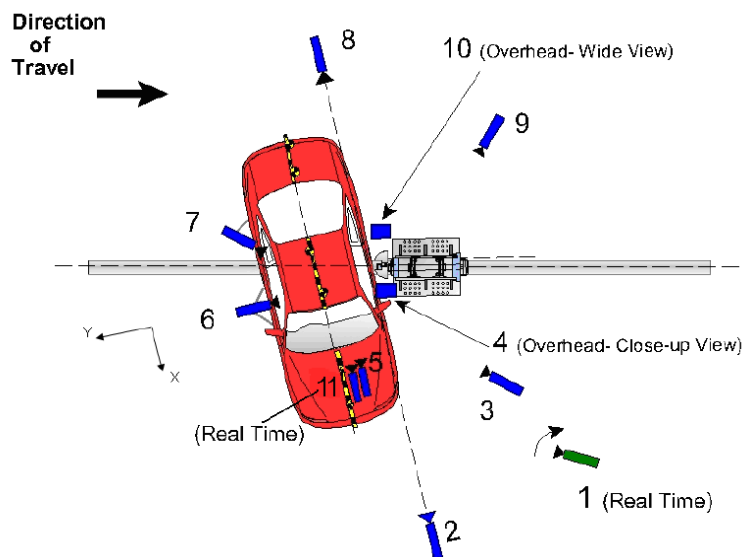
DUMMY LATERAL CLEARANCE DIMENSION INFORMATION

Code	Measurement Description	Units	Driver
HR	Head to Side Header	mm	238
HS	Head to Side Window	mm	364
AD	Arm to Door	mm	163
HD	H-Point to Door	mm	182

DATA SHEET NO. 5

CAMERA AND INSTRUMENTATION DATA

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307
 Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13



CAMERA LOCATIONS AND DATA

Camera No.	View	Coordinates (m)			Lens (mm)	Film Speed (fps)
		X*	Y*	Z*		
1	Real Time Pan View of Impact	8.89	46.57	-3.04		30
2	Front Ground Level - Impact View	8.34	-0.05	-0.93	24	1000
3	Impact Side 45° - Forward Pole View	4.10	-2.15	-1.15	8.5	1000
4	Overhead Close-Up View of Impact	0.00	0.00	-5.79	12.5	1000
5	On-Board - Dummy Front View	1.27	0.52	-1.25	35	1000
6	On-Board - Dummy Side View	-0.13	1.69	-1.05	14	1000
7	On-Board - Dummy Rear Oblique View	-1.09	1.68	-1.14	20	1000
8	Rear Ground Level - Impact View	-6.12	-6.23	-0.96	24	1000
9	Impact Side 45° - Rearward Pole View	-8.02	0.04	-1.01	35	1000
10	Overhead Wide View of Impact	-0.06	0.22	-5.79	14	1000
11	Real Time Dummy Front View	1.44	0.55	-1.26		30

Reference from Point of Impact for X and Y; from Ground for Z):

+X = Forward of Vehicle, +Y = Right of Vehicle, +Z = Down

*All measurements accurate to ± 6 mm

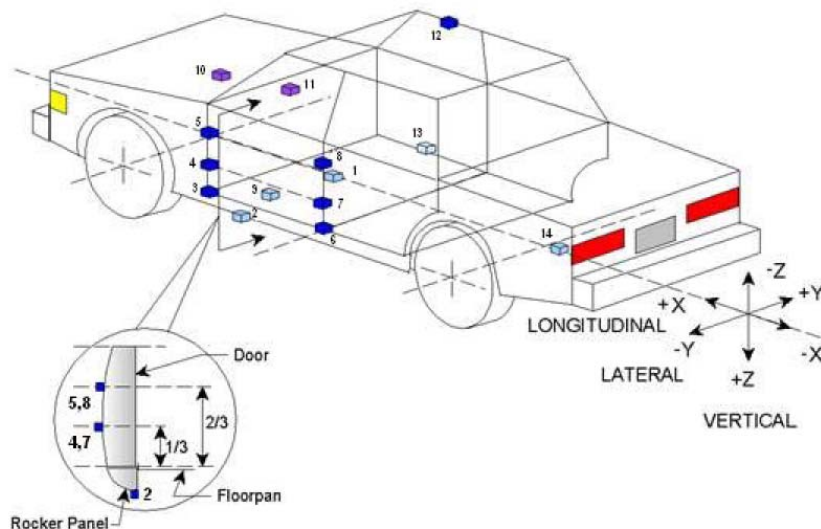
INSTRUMENTATION

Driver Dummy Channels	16
Vehicle Structure Accelerometers	18
Pole Load Cells	8
Total	42

DATA SHEET NO. 6

TEST VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307
 Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13



VEHICLE ACCELEROMETER PRE-TEST LOCATIONS

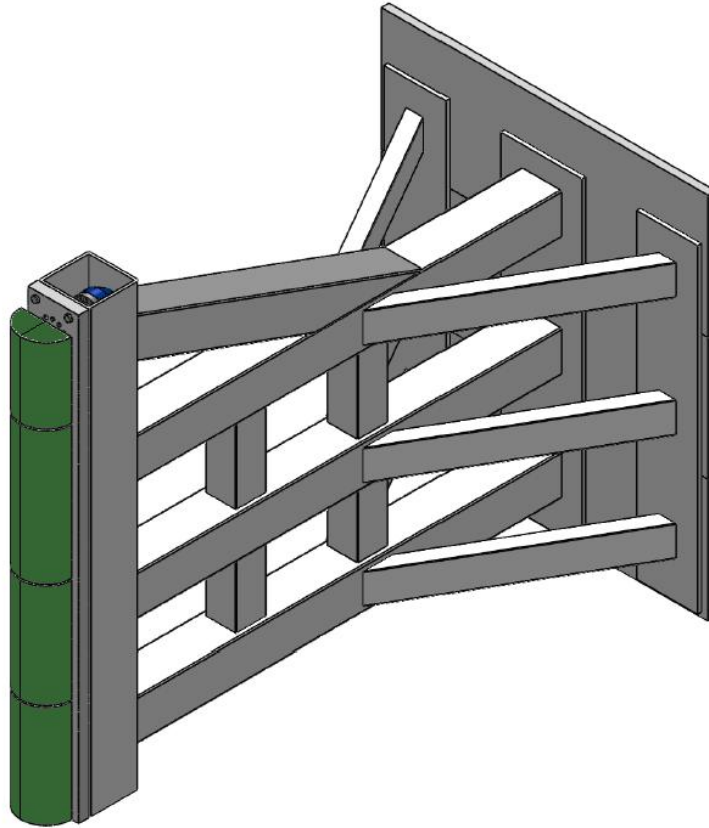
Loc. No.	Sensor Description	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	1986	0	-202
2	Left Floor Sill	2914	-734	-190
3	A-Pillar Sill	3079	-811	-336
4	A-Pillar Low	3079	-811	-528
5	A-Pillar Mid	3079	-811	-747
6	B-Pillar Sill	N/A	N/A	N/A
7	B-Pillar Low	N/A	N/A	N/A
8	B-Pillar Mid	N/A	N/A	N/A
9	Driver Seat Track	2369	-565	-304
10	Engine Top	3820	-43	-795
11	Firewall	3681	0	-889
12	Right Roof	2072	507	-1387
13	Right Floor Sill	2004	734	-365
14	Rear Floorpan	1058	110	-525

Reference: X – Rear surface of vehicle (+ forward)
 Y – Vehicle centerline (+ to right)
 Z – Ground plane (+ down)

DATA SHEET NO. 7

RIGID POLE LOAD CELL DATA

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307
Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13



RIGID POLE LOAD CELL LOCATIONS

ID	Units	Height From Ground
1	mm	87
2	mm	468
3	mm	648
4	mm	978
5	mm	1168
6	mm	1651
7	mm	1816
8	mm	2057

DATA SHEET NO. 8**POST-TEST OBSERVATIONS**Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13**TEST DUMMY INFORMATION AND CONTACT POINTS**

Dummy Body Part	Driver SID-IIs Dummy
Face	Curtain Airbag
Top of Head	Curtain Airbag
Left Side of Head	Curtain Airbag, Head Restraint
Back of Head	Curtain Airbag, Head Restraint, Seat Back
Left Shoulder	Torso Airbag, Seat
Upper Torso	Seat
Lower Torso	Torso Airbag, Seat
Left Hip	Torso Airbag, Seat
Left Knee	None

POST-TEST DOOR PERFORMANCE

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

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	No Separation
Windshield Damage	Broken
Side Window Damage	Left Front Window Broken
Other Notable Effects	None

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

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307
 Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Struck Side Driver		Struck Side Rear Passenger	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No	No	
Knee Airbag	No		No	
Side Airbag 1 (Curtain)	Yes	Yes	Yes	Yes
Side Airbag 2 (Torso)	Yes	Yes	No	
Seat Belt Pretensioner	Yes	Yes	No	
Seat Belt Load Limiter	Yes	Yes	No	
Other				

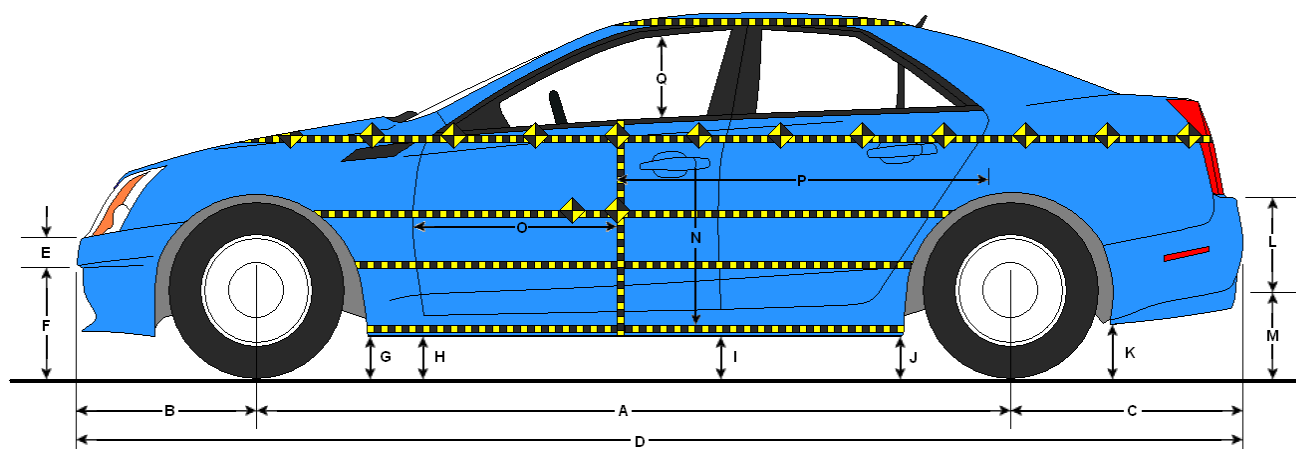
IMPACT POINT LOCATION DATA

Measured Parameter	Units	Tolerance	Value
Vertical Impact Reference Line (Aft of Front Axle)(Intended Impact Point)	mm		1084
Actual Impact Point (Aft of Front Axle)	mm		1052
Horizontal Offset (+ forward / - rearward)	mm	± 38 of Intended Impact Point	32
Angle Between Vehicle's Longitudinal Centerline and Line of Forward Motion	°	75 ± 3	74.6
Trap No. 1 Velocity (Primary)	km/h	31.4 to 33.0	32.6
Trap No. 2 Velocity (Redundant)	km/h	31.4 to 33.0	32.6

DATA SHEET NO. 9

TEST VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307
 Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13



LEFT SIDE VIEW

VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

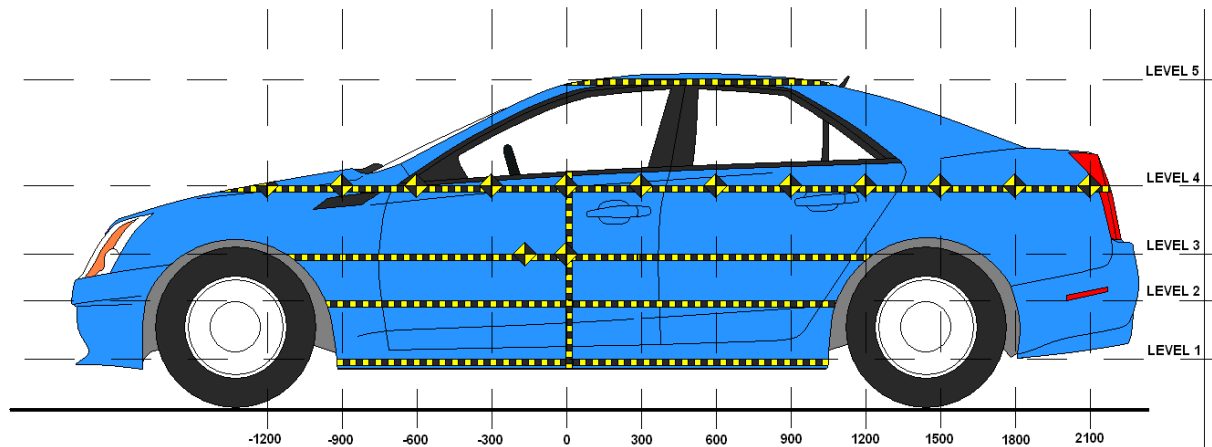
Code	Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2622	2583	-39
B	Front Axle to FSOV	888	892	4
C	Rear Axle to RSOV	926	939	13
D	Total Length at Centerline	4436	4413	-23
E	Front Bumper Thickness	259	259	0
F	Front Bumper Bottom to Ground	279	293	14
G	Sill Height at Front Wheel Well	215	221	6
H	Sill Height at Front Door Leading Edge	217	224	7
I	Sill Height at B-Pillar	231	271	40
J1	Sill Height at Rear Wheel Well	225	271	46
J2	Pinch Weld Height at Rear Wheel Well	201	242	41
K	Sill Height Aft of Rear Wheel Well	463	482	19
L	Rear Bumper Thickness	139	139	0
M	Rear Bumper Bottom to Ground	404	421	17
N	Sill Height to Bottom of Front Window Sill	641	618	-23
O	Front Door Leading Edge to Impact CL	634	560	-74
P	Rear Door Trailing Edge to Impact CL	1967	1474	-493
Q	Front Window Opening	356	378	22
R	Right Side Length	3036	3046	10
S	Left Side Length	3036	2956	-80
T	Vehicle Width at B-Pillar	1744	1708	-36

All measurements in mm with tolerance of ± 3 mm

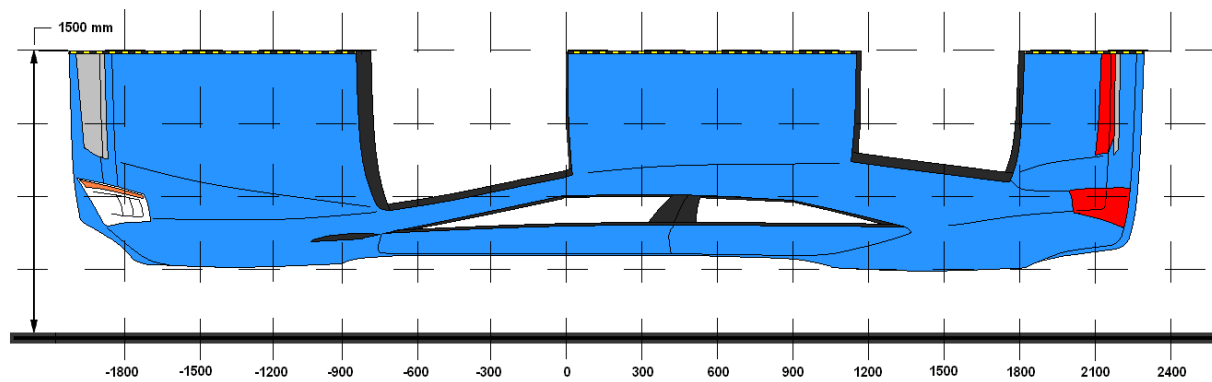
DATA SHEET NO. 10

TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307
 Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13



LEFT SIDE VIEW



OVERHEAD VIEW

MAXIMUM EXTERIOR CRUSH MEASUREMENTS

Level	Description	Height Above Ground (mm)	Maximum Exterior Static Crush	Distance from Impact
1	Sill Top	260	323	0
2	Occupant H-Point	530	345	0
3	Mid-Door	657	352	0
4	Window Sill	892	311	0
5	Window Top	1343	136	150

DATA SHEET NO. 10 ... (CONTINUED)

TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307

Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13

EXTERIOR CRUSH MEASUREMENTS AT EACH LEVEL

	Pre-Test (mm)					Post-Test (mm)					Difference (mm)				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-900			623	709				660	735				37	26	
-750		624	628	705			661	667	730			37	39	25	
-600	653	631	633	694		695	698	696	743		42	67	63	49	
-450	658	634	633	685		781	762	763	785		123	128	130	100	
-300	657	634	633	681		841	829	837	840		184	195	204	159	
-150	655	634	632	680		907	906	910	914		252	272	278	234	
0	653	634	632	678	914	976	979	984	989	1037	323	345	352	311	123
150	651	634	632	677	895	944	939	953	969	1031	293	305	321	292	136
300	649	634	632	674	895	854	870	888	896	1011	205	236	256	222	116
450	648	635	632	669	895	793	806	807	832	990	145	171	175	163	95
600	650	635	631	663	901	754	744	740	766	977	104	109	109	103	76
750	650	636	631	660	916	715	699	697	705	968	65	63	66	45	52
900	650	636	633	659	937	682	691	691	714	970	32	55	58	55	33
1050	649	633	635	660		651	664	691	708		2	31	56	48	
1200		628	630	661			625	686	700			-3	56	39	
1350			628	663				661	696				33	33	
1500				666					691					25	
1650				675					692					17	
1800				687					696					9	
1950				705					705					0	
2100															
2250															
2400															
2550															
2700															
2850															

DATA SHEET NO. 10 ... (CONTINUED)

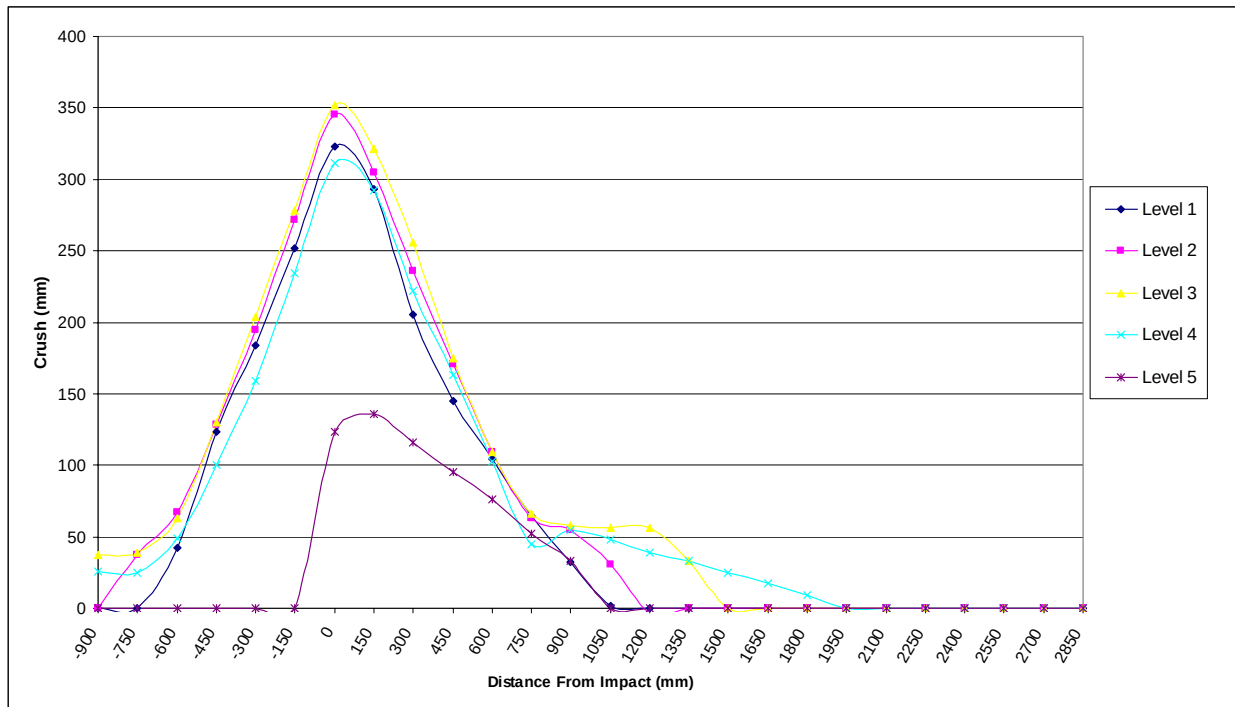
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe

NHTSA No. MD5307

Test Program: NCAP Side Pole Impact Test

Test Date: 3/1/13

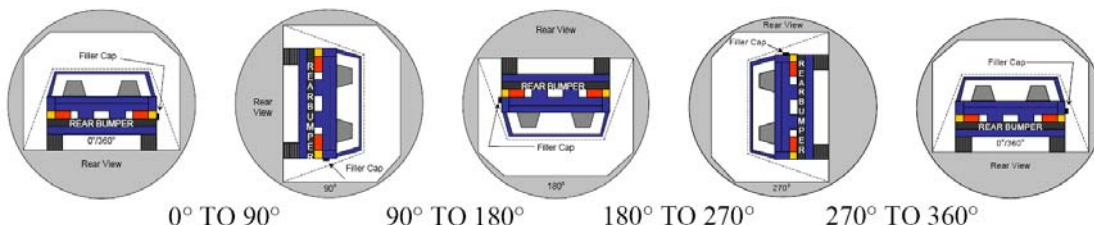


DATA SHEET NO. 11

FMVSS NO. 301 STATIC ROLLOVER RESULTS

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307
 Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13
 Temperature at Time of Impact: 18.0° C Test Time: 11:09 AM

- A. From impact until vehicle motion ceases: 0 oz.
 (Maximum allowable = 1 oz.)
- B. For the 5 minute period after motion ceases: 0 oz.
 (Maximum allowable = 5 oz.)
- C. For the following 25 minutes: 0 oz.
 (Maximum allowable = 1 oz./minute)
- D. Spillage Details: No spillage occurred



SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° To 90°	83	300	383
90° To 180°	83	300	383
180° To 270°	84	300	384
270° To 360°	82	300	382

FMVSS 301 SPILLAGE TABLE

Test Phase	First 5 Minutes	Sixth Minute	Seventh Minute	Eighth Minute
0° To 90°	0			
90° To 180°	0			
180° To 270°	0			
270° To 360°	0			

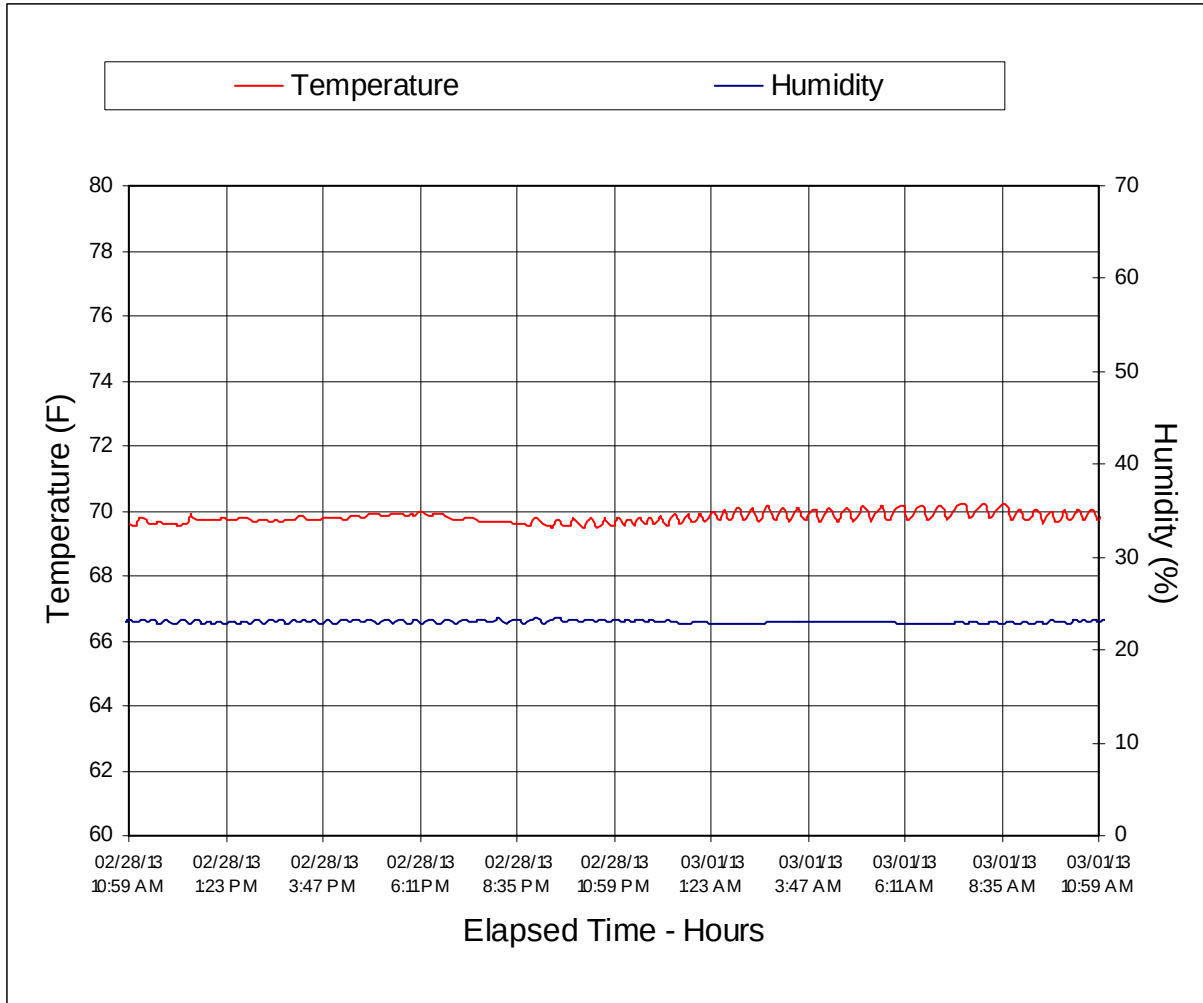
SOLVENT SPILLAGE LOCATION TABLE

Test Phase	Spillage Location
0° To 90°	No Spillage Occurred
90° To 180°	No Spillage Occurred
180° To 270°	No Spillage Occurred
270° To 360°	No Spillage Occurred

DATA SHEET NO. 14

DUMMY/VEHICLE TEMPERATURE AND HUMIDITY STABILIZATION

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe NHTSA No. MD5307
Test Program: NCAP Side Pole Impact Test Test Date: 3/1/13



APPENDIX A
PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

Figure		Page
1	As Delivered Right Front 3-4 View of Test Vehicle	A-1
2	As Delivered Left Rear 3-4 View of Test Vehicle	A-1
3	Pre-Test Frontal View of Test Vehicle	A-2
4	Post-Test Frontal View of Test Vehicle	A-2
5	Pre-Test Left Front 3-4 View of Test Vehicle	A-3
6	Post-Test Left Front 3-4 View of Test Vehicle	A-3
7	Pre-Test Left Side View of Test Vehicle	A-4
8	Post-Test Left Side View of Test Vehicle	A-4
9	Pre-Test Left Rear 3-4 View of Test Vehicle	A-5
10	Post-Test Left Rear 3-4 View of Test Vehicle	A-5
11	Pre-Test Rear View of Test Vehicle	A-6
12	Post-Test Rear View of Test Vehicle	A-6
13	Pre-Test Right Side View of Test Vehicle	A-7
14	Post-Test Right Side View of Test Vehicle	A-7
15	Pre-Test Overhead View of Test Area	A-8
16	Post-Test Overhead View of Test Area	A-8
17	Pre-Test Left Side View of Pole Positioned Against Side of Test Vehicle	A-9
18	Pre-Test Right Side View of Pole Positioned Against Side of Test Vehicle	A-9
19	Pre-Test Close-Up View of Impact Point Target	A-10
20	Post-Test Close-Up View of Impact Point Target Showing Impact Location	A-10
21	Pre-Test Front Close-Up View of Dummy Head and Chest	A-11
22	Post-Test Front Close-Up View of Dummy	A-11
23	Pre-Test Left Side View of Dummy Showing Belt and Chalking	A-12
24	Pre-Test Left Side View of Dummy Shoulder and Door Top View	A-12
25	Post-Test Left Side View of Dummy Shoulder and Door Top View	A-13
26	Pre-Test Frontal View of Seat Back Prior to Dummy Positioning	A-13
27	Pre-Test Frontal View of Dummy Head and Shoulders in Relation to Head Restraint	A-14
28	Pre-Test Overhead View of Seat Pan Prior to Dummy Positioning	A-14
29	Pre-Test Overhead View of Dummy Thighs on Seat Pan	A-15
30	Pre-Test View of Dummy's Neck Showing Position of Adjustable Neck Bracket	A-15
31	Pre-Test View of Dummy's Head Showing Dummy's Head is Level	A-16
32	Pre-Test Placement of Dummy's Feet	A-16
33	Pre-Test View of Belt Anchorage for Dummy	A-17
34	Pre-Test Left Side View of Steering Wheel	A-17
35	Pre-Test View of Disengaged Parking Brake	A-18

TABLE OF PHOTOGRAPHS ... (CONTINUED)

Figure		Page
36	Pre-Test View of Parking Brake	A-18
37	Pre-Test Close-Up Left Side View of Driver Seat Track	A-19
38	Pre-Test Close-Up Left Side View of Driver Seat Back	A-19
39	Pre-Test Close-Up View of Driver Seat Back or Head Restraint	A-20
40	Pre-Test Dummy and Door Clearance View	A-20
41	Post-Test Dummy and Door Clearance View	A-21
42	Pre-Test Right Side View of Dummy and Front Seat of Occupant Compartment	A-21
43	Post-Test Right Side View of Dummy and Front Seat of Occupant Compartment	A-22
44	Pre-Test Inner Door Panel View	A-22
45	Post-Test Inner Door Panel View Showing Dummy Contact Location	A-23
46	Post-Test Dummy Close-Up Head Contact with Vehicle Interior View	A-23
47	Post-Test Dummy Close-Up Head Contact with Side Airbag View	A-24
48	Post-Test Dummy Close-Up Torso Contact with Vehicle Interior View	A-24
49	Post-Test Dummy Close-Up Torso Contact with Side Airbag View	A-25
50	Post-Test Dummy Close-Up Pelvis Contact with Vehicle Interior View	A-25
51	Post-Test Dummy Close-Up Pelvis Contact with Side Airbag View	A-26
52	Post-Test Dummy Close-Up Knee Contact with Vehicle Interior View	A-26
53	Pre-Test View of Fuel Filler Cap or Fuel Filler Neck	A-27
54	Post-Test View of Fuel Filler Cap or Fuel Filler Neck	A-27
55	Close-Up View of Vehicle's Certification Label	A-28
56	Close-Up View of Vehicle's Tire Information Placard or Label	A-28
57	Pre-Test Pole Barrier Front View	A-29
58	Post-Test Pole Barrier Front View	A-29
59	Pre-Test Pole Barrier Side View	A-30
60	Post-Test Pole Barrier Side View	A-30
61	Pre-Test Ballast View	A-31
62	Post-Test Primary and Redundant Speed Trap Read-Out	A-31
63	FMVSS No. 301 Static Rollover 0 Degrees	A-32
64	FMVSS No. 301 Static Rollover 90 Degrees	A-32
65	FMVSS No. 301 Static Rollover 180 Degrees	A-33
66	FMVSS No. 301 Static Rollover 270 Degrees	A-33
67	FMVSS No. 301 Static Rollover 360 Degrees	A-34
68	Impact Event	A-34
69	Monroney Label	A-35
70	Head Restraint Use and Adjustment Information from Vehicle Owner's Manual	A-36



FIGURE 1. As-Delivered Right Front $\frac{3}{4}$ View of Test Vehicle



FIGURE 2. As-Delivered Left Rear $\frac{3}{4}$ View of Test Vehicle

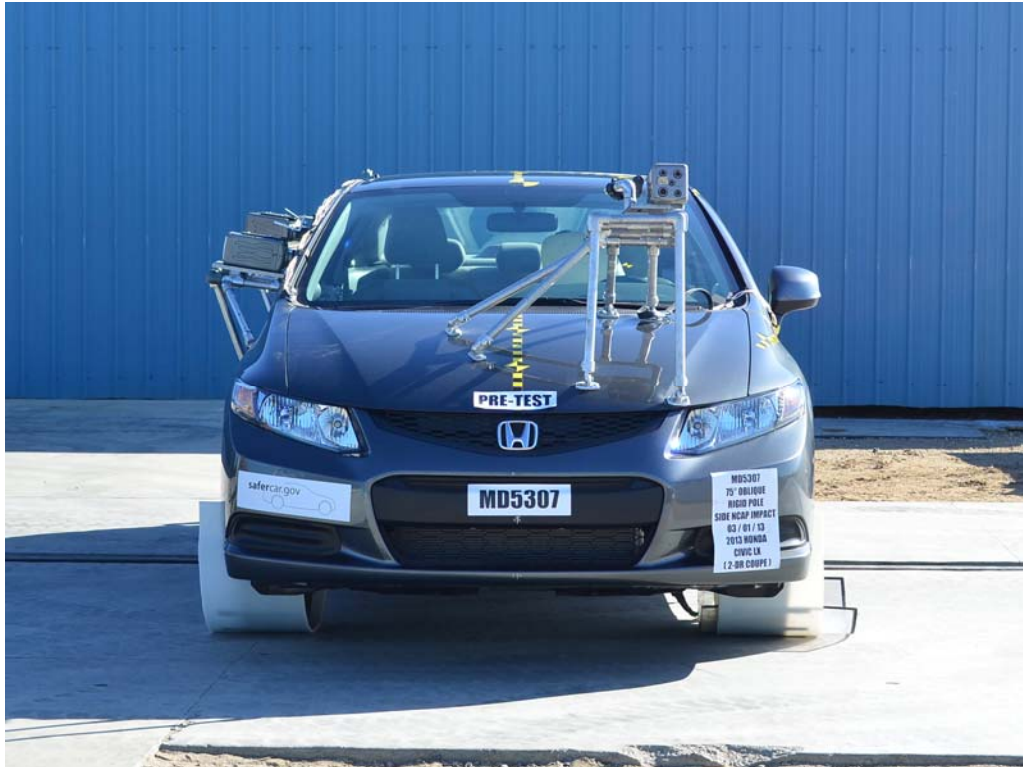


FIGURE 3. Pre-Test Frontal View of Test Vehicle

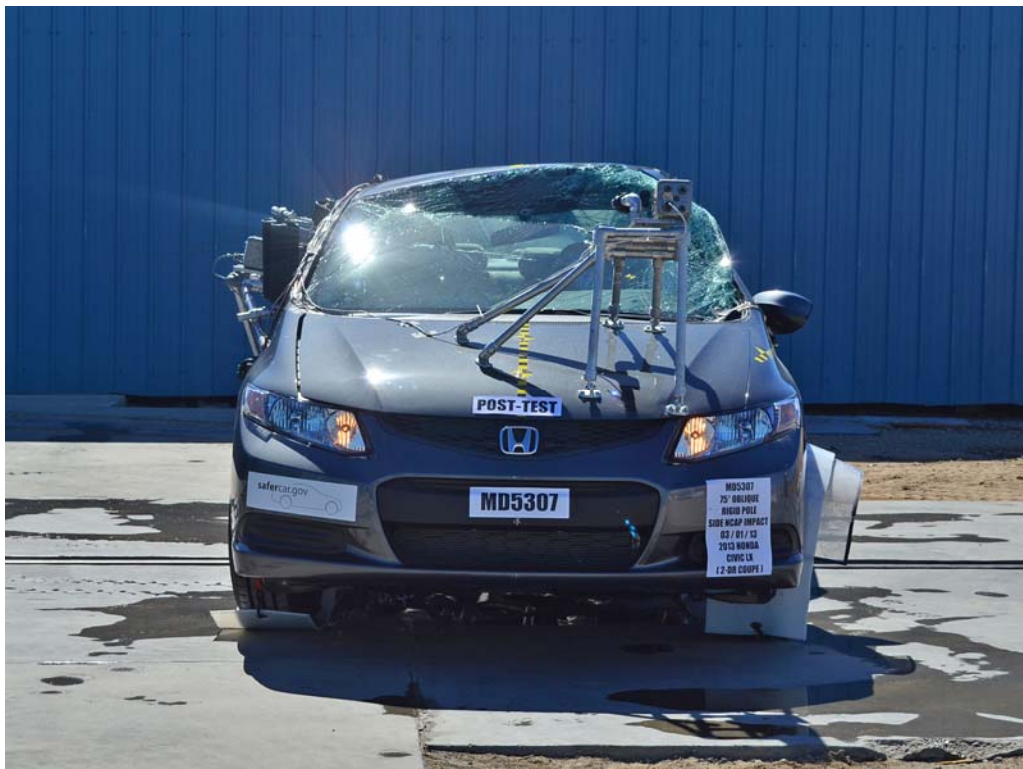


FIGURE 4. Post-Test Frontal View of Test Vehicle



FIGURE 5. Pre-Test Left Front $\frac{3}{4}$ View of Test Vehicle



FIGURE 6. Post-Test Left Front $\frac{3}{4}$ View of Test Vehicle



FIGURE 7. Pre-Test Left Side View of Test Vehicle



FIGURE 8. Post-Test Left Side View of Test Vehicle



FIGURE 9. Pre-Test Left Rear $\frac{3}{4}$ View of Test Vehicle



FIGURE 10. Post-Test Left Rear $\frac{3}{4}$ View of Test Vehicle



FIGURE 11. Pre-Test Rear View of Test Vehicle

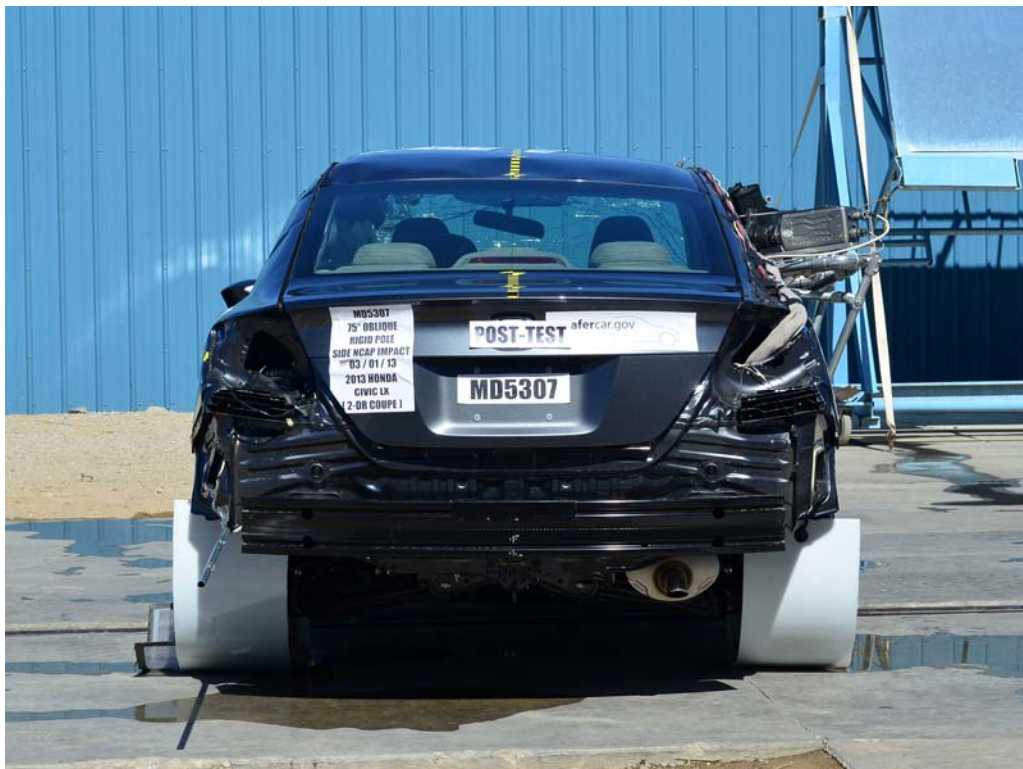


FIGURE 12. Post-Test Rear View of Test Vehicle



FIGURE 13. Pre-Test Right Side View of Test Vehicle



FIGURE 14. Post-Test Right Side View of Test Vehicle



FIGURE 15. Pre-Test Overhead View of Test Area

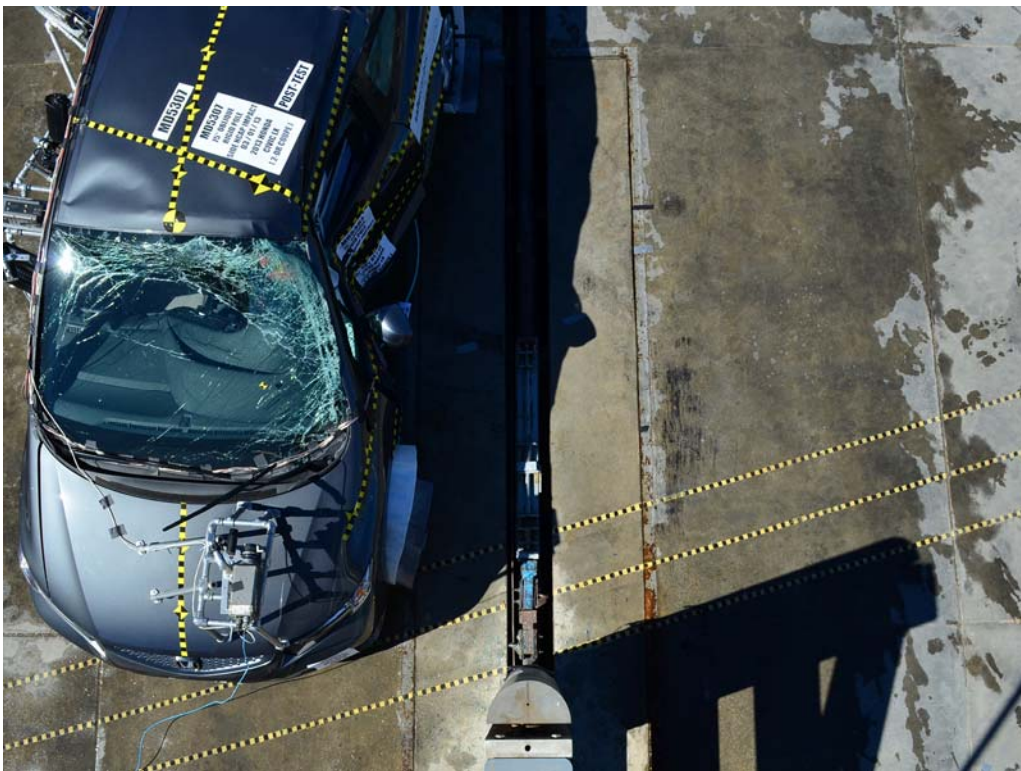


FIGURE 16. Post-Test Overhead View of Test Area



FIGURE 17. Pre-Test Left Side View of Pole
Positioned Against Side of Test Vehicle



FIGURE 18. Pre-Test Right Side View of Pole
Positioned Against Side of Test Vehicle



FIGURE 19. Pre-Test Close-Up View of Impact Point Target



FIGURE 20. Post-Test Close-Up View of Impact Point Target



FIGURE 21. Pre-Test Front Close-Up View of Dummy Head and Chest

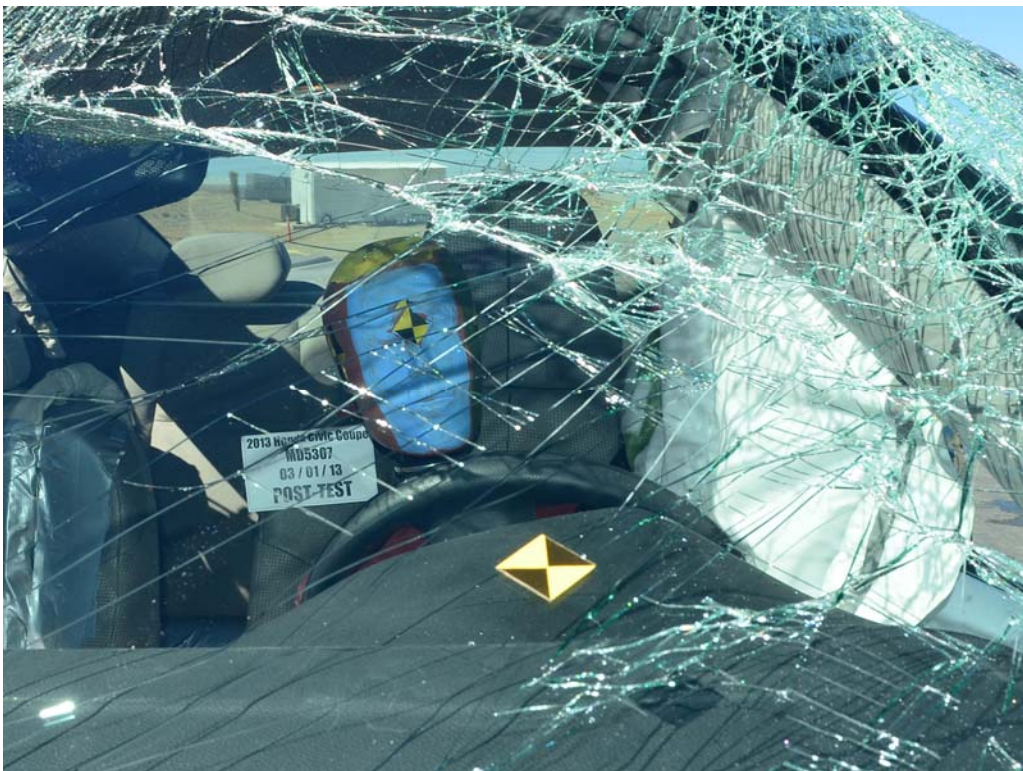


FIGURE 22. Post-Test Front Close-Up View of Dummy



FIGURE 23. Pre-Test Left Side View of Dummy
Showing Belt and Chalking



FIGURE 24. Pre-Test Left Side View of Dummy Shoulder and Door Top View



FIGURE 25. Post-Test Left Side View of Dummy Shoulder and Door Top View



FIGURE 26. Pre-Test Frontal View of Seat Back Prior to Dummy Positioning



FIGURE 27. Pre-Test Frontal Close-Up View of Dummy Head and Shoulders
in Relation to Head Restraint



FIGURE 28. Pre-Test Frontal View of Seat Pan Prior to Dummy Positioning



FIGURE 29. Pre-Test Overhead View of Dummy Thighs on Seat Pan



FIGURE 30. Pre-Test Left Side View of Dummy's Neck
Showing Position of Adjustable Neck Bracket



FIGURE 31. Pre-Test View of Dummy's Head Showing Dummy's Head Is Level

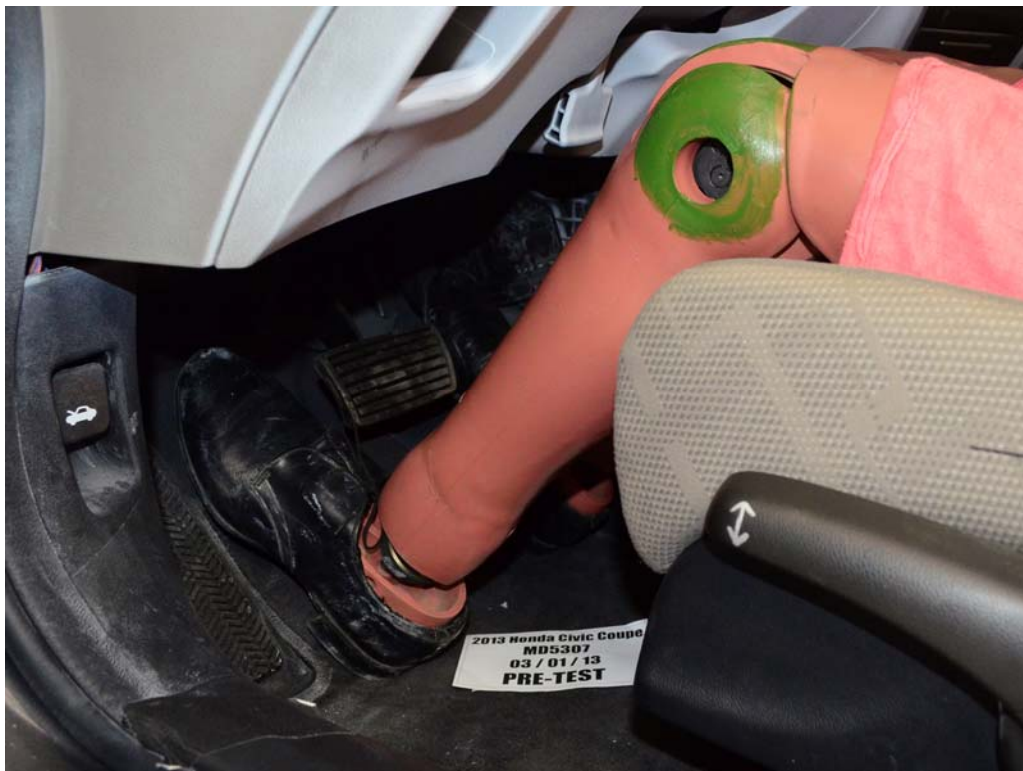


FIGURE 32. Pre-Test Placement of Dummy's Feet



FIGURE 33. Pre-Test View of Belt Anchorage for Dummy



FIGURE 34. Pre-Test Left Side View of Steering Wheel



FIGURE 35. Pre-Test View of Disengaged Parking Brake



FIGURE 36. Pre-Test View of Parking Brake



FIGURE 37. Pre-Test Close-Up Left Side View of Driver Seat Track



FIGURE 38. Pre-Test Close-Up Left Side View of Driver Seat Back



FIGURE 39. Pre-Test Close-Up View of Driver Seat Back or Head Restraint



FIGURE 40. Pre-Test Dummy and Door Clearance



FIGURE 41. Post-Test Dummy and Door Clearance



FIGURE 42. Pre-Test Right Side View of Dummy and Front Seat of Occupant Compartment



FIGURE 43. Post-Test Right Side View of Dummy and Front Seat of Occupant Compartment

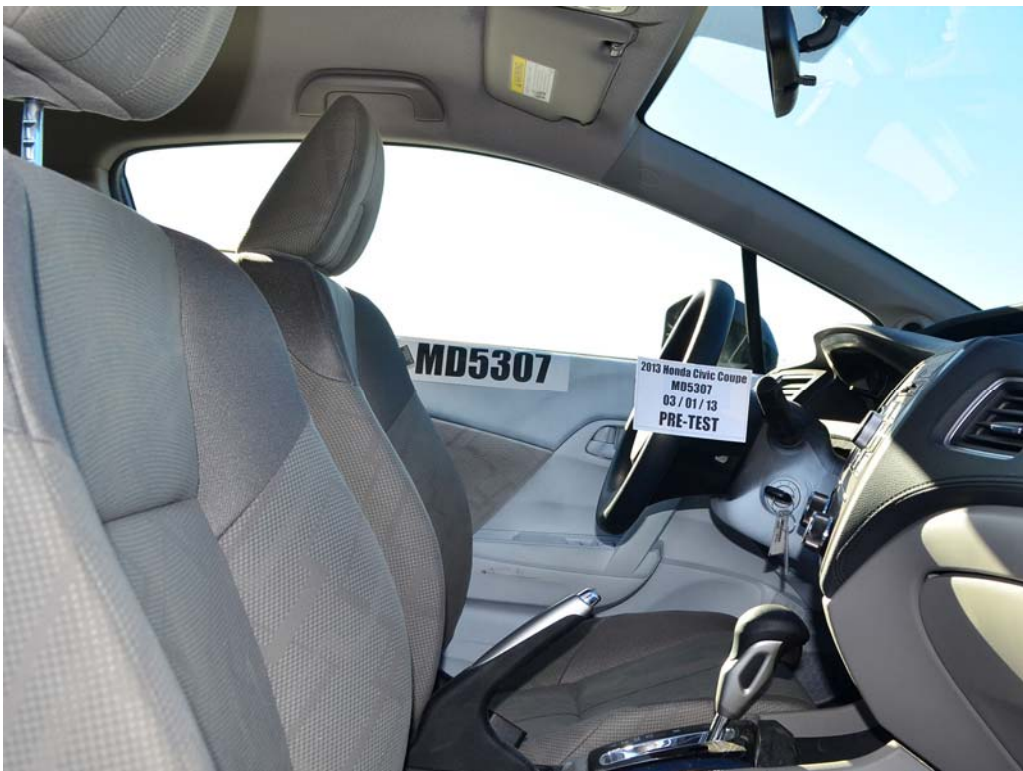


FIGURE 44. Pre-Test Inner Door Panel View



FIGURE 45. Post-Test Inner Door Panel View
Showing Dummy Contact Location

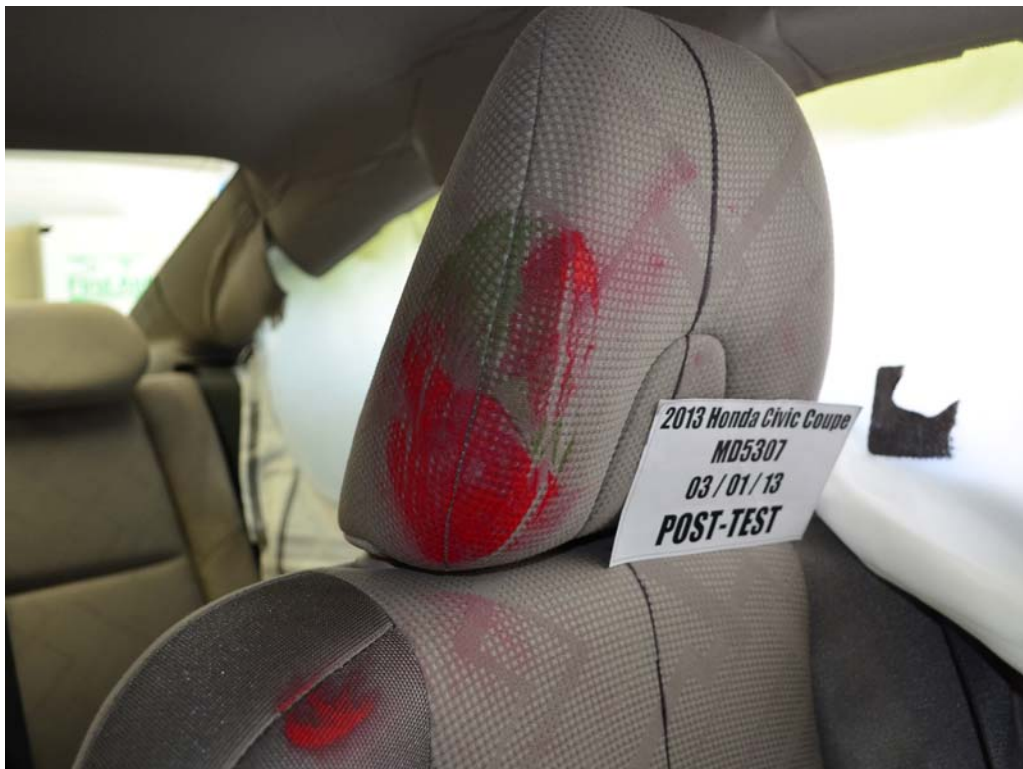


FIGURE 46. Post-Test Dummy Close-Up Head Contact with Vehicle Interior View



FIGURE 47. Post-Test Dummy Close-Up Head Contact with Side Airbag View



FIGURE 48. Post-Test Dummy Close-Up Torso Contact with Vehicle Interior View



FIGURE 49. Post-Test Dummy Close-Up Torso Contact with Side Airbag View



FIGURE 50. Post-Test Dummy Close-Up Pelvis Contact with Vehicle Interior View



FIGURE 51. Post-Test Dummy Close-Up Pelvis Contact with Side Airbag View

Photograph Not Applicable

No Driver Dummy Knee
Contact with Vehicle
Interior

FIGURE 52. Post-Test Dummy Close-Up Knee Contact with Vehicle Interior View



FIGURE 53. Pre-Test View of Fuel Filler Cap or Fuel Filler Neck



FIGURE 54. Post-Test View of Fuel Filler Cap or Fuel Filler Neck



FIGURE 55. Close-Up View of Vehicle's Certification Label



FIGURE 56. Close-Up View of Vehicle's Tire Information Placard or Label



FIGURE 57. Pre-Test Pole Barrier Front View



FIGURE 58. Post-Test Pole Barrier Front View



FIGURE 59. Pre-Test Pole Barrier Side View



FIGURE 60. Post-Test Pole Barrier Side View



FIGURE 61. Pre-Test Ballast View



FIGURE 62. Post-Test Primary and Redundant Speed Trap Read-Out



FIGURE 63. FMVSS No. 301 Static Rollover 0 Degrees



FIGURE 64. FMVSS No. 301 Static Rollover 90 Degrees



FIGURE 65. FMVSS No. 301 Static Rollover 180 Degrees

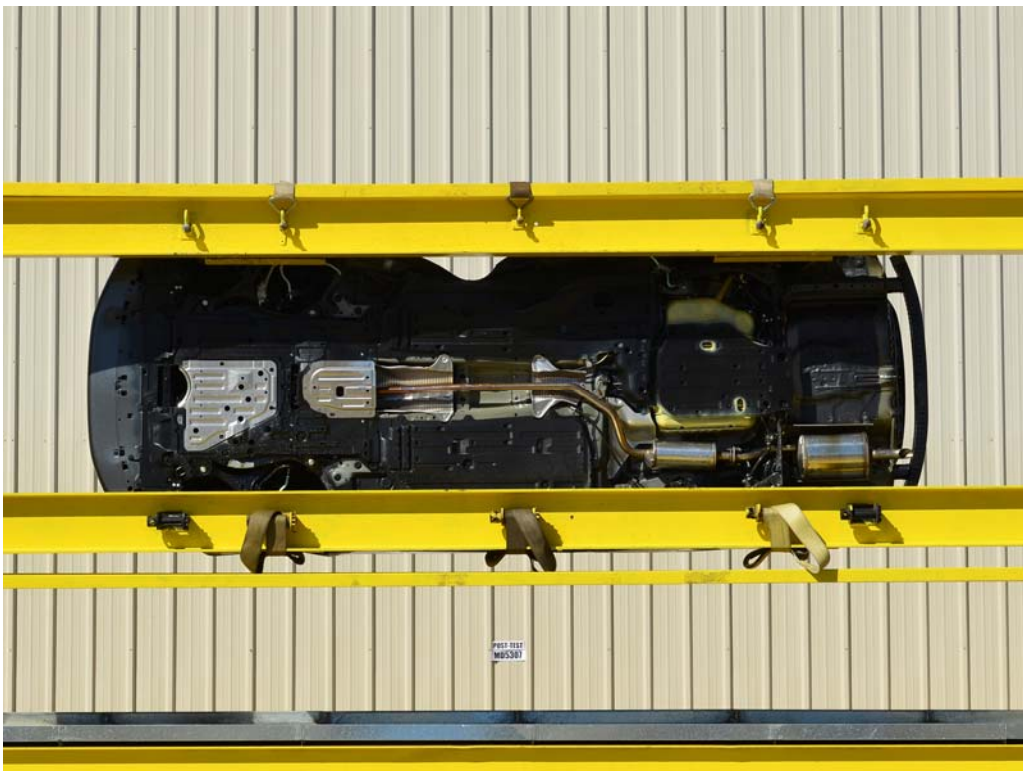


FIGURE 66. FMVSS No. 301 Static Rollover 270 Degrees



FIGURE 67. FMVSS No. 301 Static Rollover 360 Degrees



FIGURE 68. Impact Event

HONDA

2013 CIVIC 2DR LX

PA- POLISHED METAL M. (EXTERIOR NUMBER: R1421-9255147)

NO. GRAY

STANDARD EQUIPMENT AT NO EXTRA COST

*** TECHNICAL FEATURES ***

- 140hp 1.8 Liter i-DSI 16-Valve
- 1.8L i-DSI 16-Valve
- 5-Speed Automatic Transmission with Grade Logic Control
- Front MacPherson Strut Suspension
- Rear Multi-Link Suspension
- Electric Power Assisted
- Power Windows
- Interior Door Trim Retention System
- CARB-Certified PZEV

*** SAFETY FEATURES ***

- Cover's and Front Passenger's Dual-Stage Airbags (SRS)
- Cover's and Front Passenger's Side Airbags w/ SmartVent
- Side Curtain Airbags with Roll-over Sensor
- Anti-Lock Braking System (ABS)
- Electronic Brake Distribution (EBD)
- Vehicle Stability Assist (VSA)
- 3-Point Seat Belts
- Front Seat Belts with Automatic Tensioning System
- The Pressure Monitoring System
- Side Impact Door Beams
- Front and Rear Crumple Zones
- ACE Body Structure
- Optional Running Lights (OHL)
- LATCH System for Child Seats

*** INTERIOR FEATURES ***

- Intelligent Multi Information Display (IMD) w/ Rearview Camera
- 160-Watt AM/FM/CD Audio System with 6 Speakers Inc. MP3/WMA Playback
- Steering Wheel Mounted Controls
- Bluetooth HandsFreeLink
- Bluetooth Audio
- Portable Internet Radio Interface
- Bluetooth Text Messaging Functionality
- USB Audio Interface
- MP3 Auxiliary Input Jack
- Air Conditioning
- Driver's Seat Height Adjustment
- Fold Down Rear Seatback
- Front Center Console with Armrest
- Power Windows and Door Locks
- Driver's Auto Up/Down Window
- TR & Telescopic Steering Column
- Front Map Lights & Cargo Area Light
- 12-Volt Power Outlet
- Cruise Control
- Exterior Temperature Gauge
- Rear Mirrors
- Lock Assist with Econ Button
- Maintenance Minder System

*** EXTERIOR FEATURES ***

- 15" x 6.5" Steel Wheels
- 15" x 6.5" Steel Wheels
- P195/55 R15 All-Season Tires
- Full Frontal End View
- Automatic Windshield Wipers
- Rear Window Defogger
- Power Door Mirrors
- Rear Spoiler
- Remote Entry System
- Security System

Manufacturer's Suggested Retail Price **\$18,765.00**

Full Tank of Fuel **No Charge**

*** KEY STANDARD FEATURES ***

- Rearview Camera
- Bluetooth HandsFreeLink
- USB Audio Interface
- Side Curtain Airbags with Pull-over Sensor

Destination and Handling **790.00**

TOTAL VEHICLE PRICE
(Includes the Delivery Service)

\$19,555.00

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

EPA DOT Fuel Economy and Environment

Gasoline Vehicle

Fuel Economy

32 MPG
(combined city/hwy)

28 city
39 highway

Compact car range from 14 to 185 MPG. The best vehicle rates 112 MPG.

You Save

\$3,350
in fuel costs over 5 years
compared to the average new vehicle.

Annual fuel cost

\$1,650

Fuel Economy & Greenhouse Gas Rating (EPA only) Smog Rating (EPA only)

1 5 10 Best

This vehicle rates 10 (10 green circles per side). The best rates 10 (10 green circles per side). (EPA only). (EPA only).

Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 21 MPG and costs \$1.00 to fuel over 5 years. Fuel estimates are based on 15,000 miles per year at \$3.50 per gallon. MPGs are miles per gallon (city/combined/hwy). Vehicle prices are for a new vehicle. * Excludes change and taxes.

fuel economy.gov
Calculate personalized estimates and compare vehicles.

PARTS CONTENT INFORMATION

FOR VEHICLES IN THIS COUNTRY
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.

FOR THIS VEHICLE
Final Assembly Plant:
ALLISTON, ONTARIO CANADA

Country of Origin: Engine:
JAPAN

Transmission:
JAPAN

GOVERNMENT 5-STAR SAFETY RATINGS

Overall Vehicle Score

Based on the combined ratings of frontal, side and rollover. Should ONLY be compared to other vehicles of similar size and weight.

Not Rated

Frontal Crash

Driver Passenger

Not Rated

Not Rated

Side Crash

Front seat Rear seat

Not Rated

Not Rated

Rollover

Not Rated

Based on the risk of rollover in a side-impact 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 body the vehicle will require repair after a low-speed collision. This rating exceeds the current federal bumper standard of 2.5 miles per hour.

FIGURE 69. Monroney Label

Adjusting the Seat Adjusting the Seat Position

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 top 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 restraint, or from the restraint top.
- Do not place any object between an occupant and the seat back.
- Install each restraint in its proper location.

Changing the Rear Seat Head Restraint Positions

A passenger sitting in a back seating position should adjust the height of their head restraint to an appropriate position before the vehicle begins moving.

To raise the head restraint: Pull it upward.

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

Removing and Reinstalling the Head Restraints

Head restraints can be removed for cleaning or repair.

To remove a head restraint: Pull the restraint up as far as it will go. Then push the release button, and pull the restraint up and out.

To reinstall a head restraint: Insert the legs back in place. Then adjust the head restraint to an appropriate height while pressing the release button. Pull up on the restraint to make sure it is locked in position.

WARNING

Failure to reinstall, or incorrectly reinstall, the head restraints can result in severe injury during a crash.

Always replace the head restraints before driving.

To remove the rear outer head restraints, fold down the seat back first.

Folding Down the Rear Seats P. 126

FIGURE 70. Head Restraint Use and Adjustment
Information from Vehicle Owner's Manual

APPENDIX B
DUMMY RESPONSE DATA

TABLE OF DATA PLOTS

Plot		Page
1	Driver Head Acceleration (X) Primary vs. Time	B-1
2	Driver Head Acceleration (Y) Primary vs. Time	B-1
3	Driver Head Acceleration (Z) Primary vs. Time	B-1
4	Driver Head Resultant Acceleration Primary vs. Time	B-1
5	Driver Lower Spine T12 Acceleration (X) vs. Time	B-2
6	Driver Lower Spine T12 Acceleration (Y) vs. Time	B-2
7	Driver Lower Spine T12 Acceleration (Z) vs. Time	B-2
8	Driver Lower Spine T12 Resultant Acceleration vs. Time	B-2
9	Driver Iliac Wing Force on Impact Side (Y) vs. Time	B-3
10	Driver Acetabulum Force on Impact Side (Y) vs. Time	B-3
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 Redundant (X)
Driver Head Acceleration Redundant (Y)
Driver Head Acceleration Redundant (Z)
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)

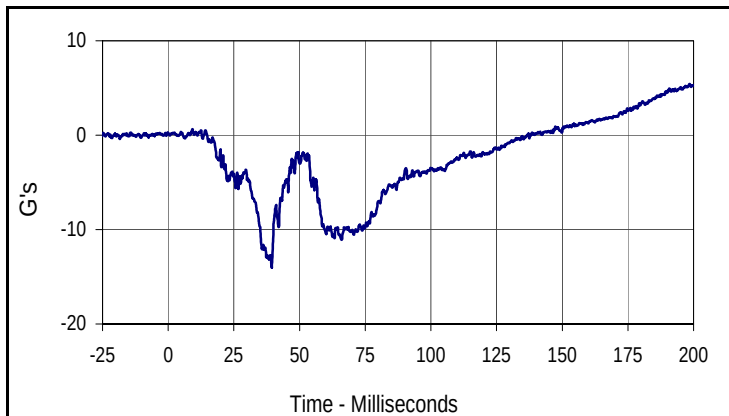
Left B-Pillar Sill Acceleration
Left Lower B-Pillar Acceleration (Y)
Left Mid B-Pillar Acceleration (Y)
Driver Seat Track at Dummy Hip Point Acceleration (Y)
Engine Top Acceleration (X)
Engine Top Acceleration (Y)
Firewall Center Acceleration (Y)
Right Roof at Vertical Impact Reference Line Acceleration (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

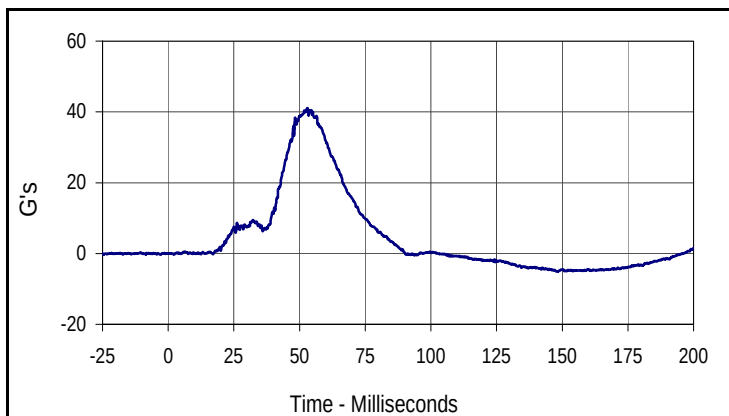
Load Cell Pole Barrier #1 Force (Y)
Load Cell Pole Barrier #2 Force (Y)
Load Cell Pole Barrier #3 Force (Y)
Load Cell Pole Barrier #4 Force (Y)
Load Cell Pole Barrier #5 Force (Y)
Load Cell Pole Barrier #6 Force (Y)
Load Cell Pole Barrier #7 Force (Y)
Load Cell Pole Barrier #8 Force (Y)

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe
 Test Program: 32 km/h (20 mph) Side Impact NCAP 75° Rigid Pole Test

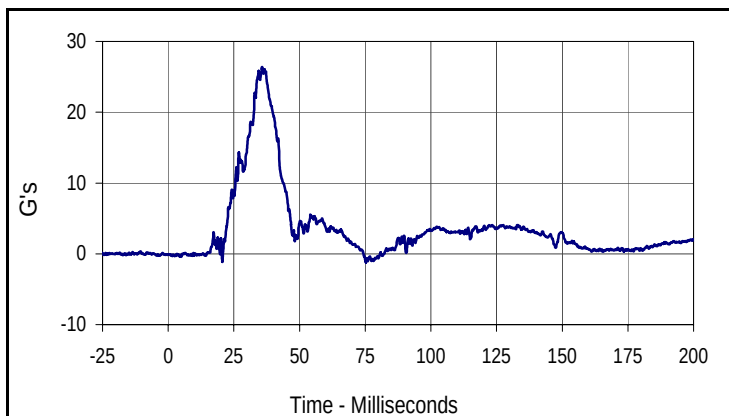
Test Date: 3/1/13
 NHTSA No.: MD5307



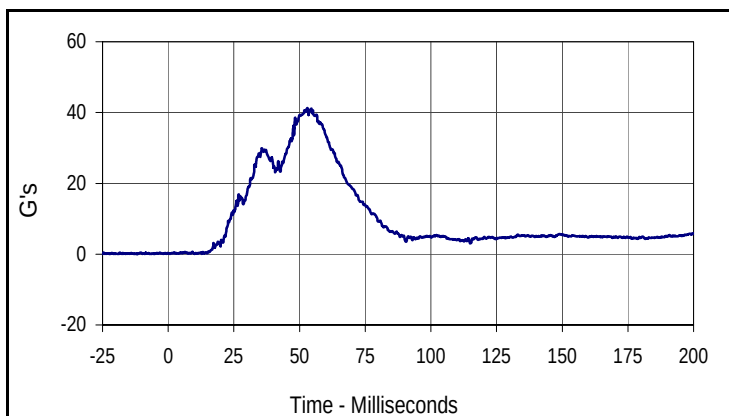
Curve Description			
Driver Head Acceleration X Primary			
Plot No.	Type	SAE Class	Units
001	FIL	1000	G's
Max	Time	Min	Time
5.4	198.4	-14.0	39.4



Curve Description			
Driver Head Acceleration Y Primary			
Plot No.	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
41.1	53.0	-5.1	148.3



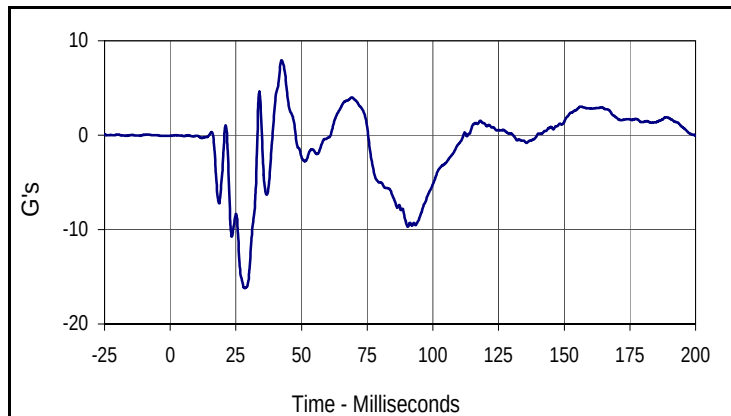
Curve Description			
Driver Head Acceleration Z Primary			
Plot No.	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
26.4	35.8	-1.2	75.2



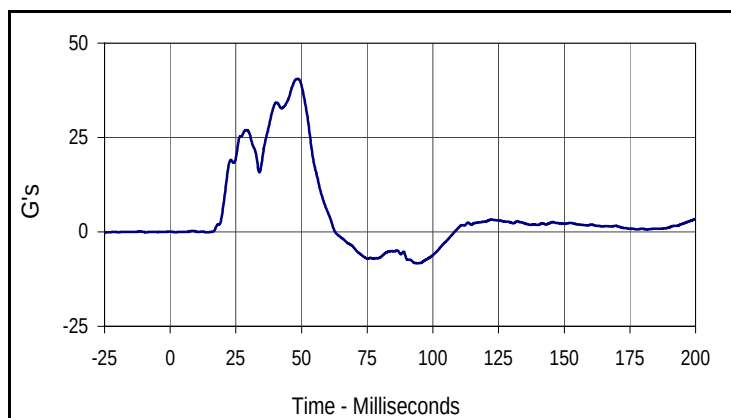
Curve Description			
Driver Head Acceleration Primary Res.			
Plot No.	Type	SAE Class	Units
004	RES	1000	G's
Max	Time	Min	Time
41.3	53.0	0.1	0.6

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe
 Test Program: 32 km/h (20 mph) Side Impact NCAP 75° Rigid Pole Test

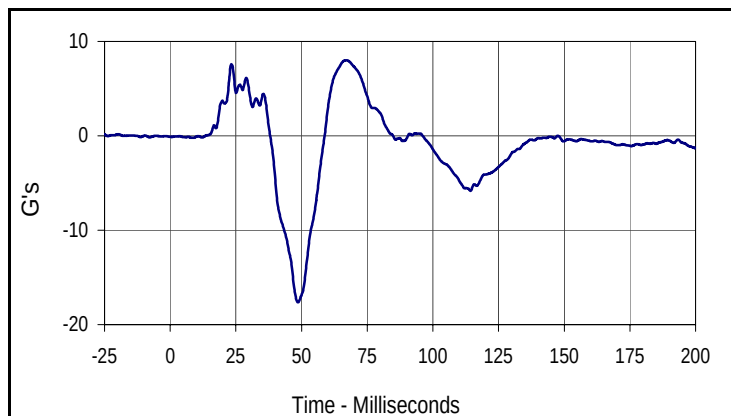
Test Date: 3/1/13
 NHTSA No.: MD5307



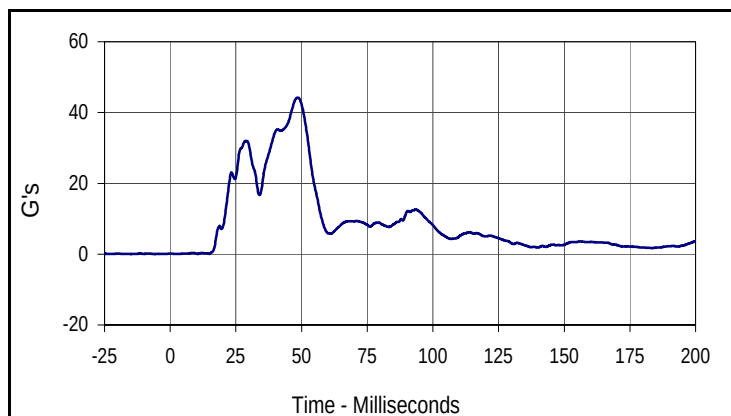
Curve Description			
Driver Lower Spine T12 Acceleration X			
Plot No.	Type	SAE Class	Units
005	FIL	180	G's
Max	Time	Min	Time
7.9	42.4	-16.2	28.4



Curve Description			
Driver Lower Spine T12 Acceleration Y			
Plot No.	Type	SAE Class	Units
006	FIL	180	G's
Max	Time	Min	Time
40.5	48.6	-8.3	94.1



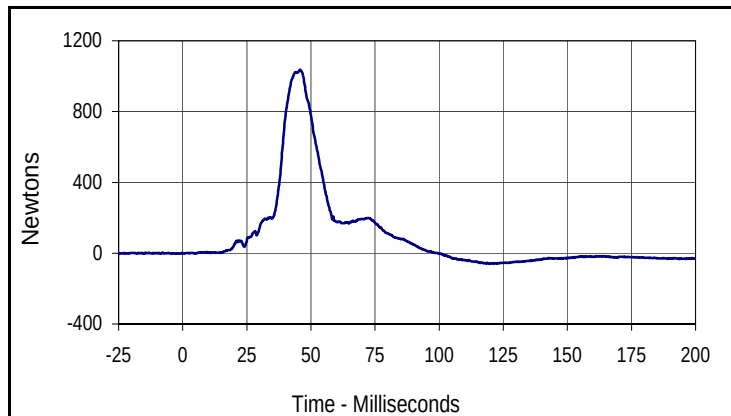
Curve Description			
Driver Lower Spine T12 Acceleration Z			
Plot No.	Type	SAE Class	Units
007	FIL	180	G's
Max	Time	Min	Time
8.0	67.1	-17.6	48.6



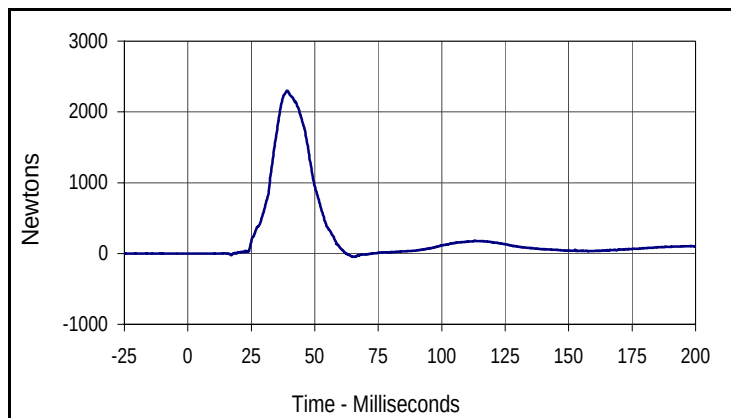
Curve Description			
Driver Lower Spine T12 Acceleration Res.			
Plot No.	Type	SAE Class	Units
008	RES	180	G's
Max	Time	Min	Time
44.2	48.6	0.0	3.6

Test Vehicle: 2013 Honda Civic LX 2-Door Coupe
 Test Program: 32 km/h (20 mph) Side Impact NCAP 75° Rigid Pole Test

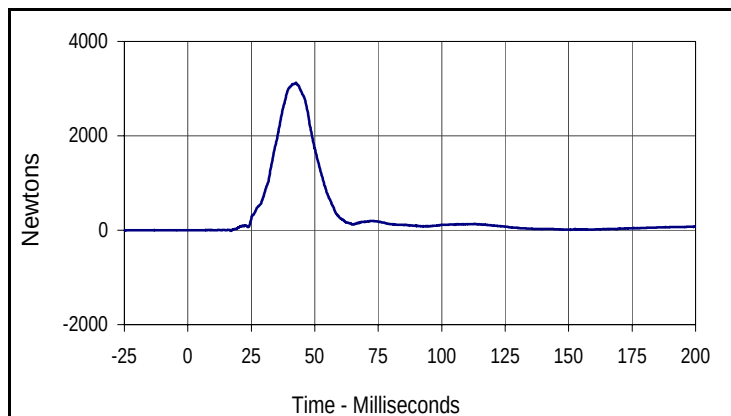
Test Date: 3/1/13
 NHTSA No.: MD5307



Curve Description			
Driver Iliac Wing Force on Impact Side Y			
Plot No.	Type	SAE Class	Units
009	FIL	600	Newtons
Max	Time	Min	Time
1037.2	45.7	-59.7	119.6



Curve Description			
Driver Acetabulum Force on Impact Side Y			
Plot No.	Type	SAE Class	Units
010	FIL	600	Newtons
Max	Time	Min	Time
2299.9	39.1	-47.8	65.1



Curve Description			
Driver Total Pelvic Force on Impact Side Y			
Plot No.	Type	SAE Class	Units
011	SUM	600	Newtons
Max	Time	Min	Time
3122.7	42.5	-10.7	17.0

APPENDIX C
DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

APPENDIX C
PRE-TEST / ATD CONFIGURATION AND PERFORMANCE VERIFICATION DATA

Test Program: SID IIs External Measurements
 ATD Serial No.: 299

Test Date: 2/20/13
 Test I.D.: N/A



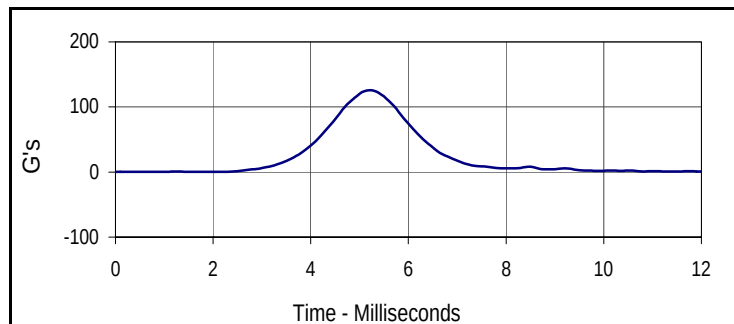
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.2	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
A	Sitting Height	mm	772 - 788	780	Pass
B	Shoulder Pivot Height	mm	437 - 453	445	Pass
C	H-Point Height	mm	79 - 89	85	Pass
D	H-Point from Seatback	mm	141 - 151	145	Pass
E	Shoulder Pivot from Backline	mm	97 - 107	102	Pass
F	Thigh Clearance	mm	119 - 135	125	Pass
G	Head Breadth	mm	140 - 148	145	Pass
H	Head Back from Backline	mm	40 - 46	44	Pass
I	Head Depth	mm	178 - 188	184	Pass
J	Head Circumference	mm	541 - 551	545	Pass
K	Buttock to Knee Length	mm	514 - 540	527	Pass
L	Popliteal Height	mm	343 - 369	352	Pass
M	Knee Pivot to Floor Height	mm	392 - 409	401	Pass
N	Buttock Popliteal Length	mm	416 - 442	432	Pass
O	Chest Depth w/o Jacket	mm	195 - 211	202	Pass
P	Foot Length	mm	216 - 232	221	Pass
Q	Hip Breadth with Pelvic Plug	mm	313 - 323	315	Pass
R	Arm Length	mm	249 - 259	252	Pass
S	Knee Joint to Seatback	mm	477 - 493	481	Pass
V	Shoulder Width	mm	341 - 357	352	Pass
W	Foot Width	mm	78 - 94	86	Pass
Y	Chest Circumference with Jacket	mm	851 - 881	872	Pass
Z	Waist Circumference	mm	760 - 791	774	Pass
Overall Test Results					Pass

Test Program: SID IIs Head Drop Test
 ATD Serial No.: 299

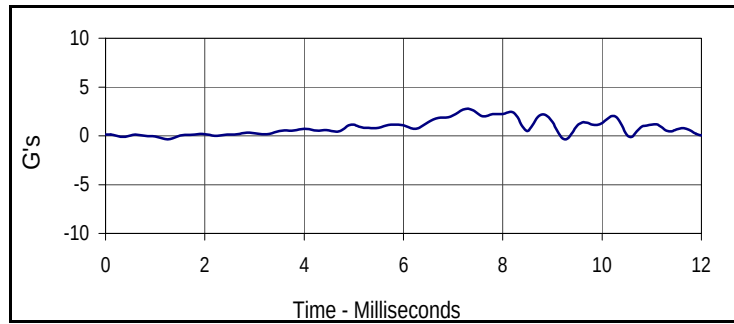
Test Date: 2/20/13
 Test I.D.: 299HD057



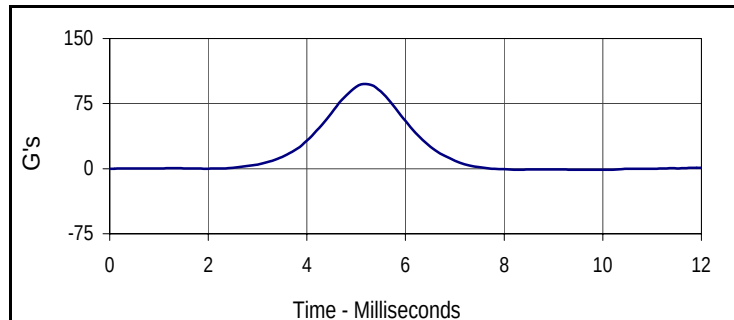
Tested Parameter	Units	Specification	Result	Pass/Fail
Head Assembly Soak Time	Minutes	≥240	325	Pass
Temperature During Soak	Max	18.9 to 25.6	21.8	Pass
	Min		20.8	Pass
Humidity During Soak	Max	10.0 to 70.0	30.2	Pass
	Min		25.6	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.2	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	29.7	Pass
Peak Head Resultant Acceleration	G's	115 to 137	125.7	Pass
Peak Head X Acceleration	G's	<15	2.8	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<15	4.6	Pass
Overall Test Results				Pass



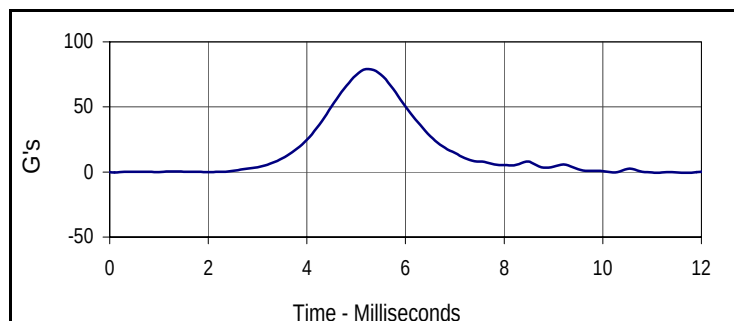
Curve Description			
Head Resultant			
Plot No.	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
125.7	5.2	0.2	0.9



Curve Description			
Head X			
Plot No.	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
2.8	7.3	-0.3	1.3



Curve Description			
Head Y			
Plot No.	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
97.8	5.2	-1.4	9.8



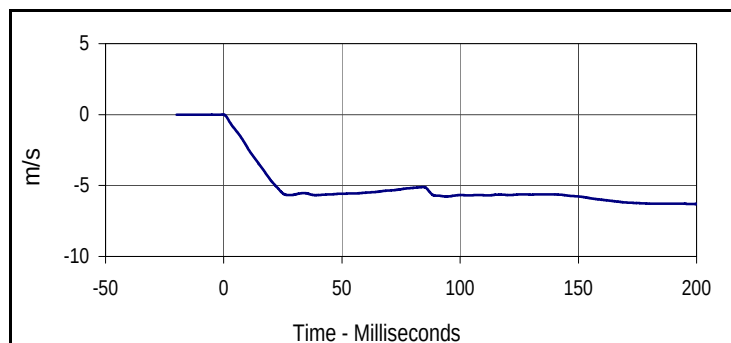
Curve Description			
Head Z			
Plot No.	Type	SAE Class	Units
004	FIL	1000	G's
Max	Time	Min	Time
79.0	5.2	-0.6	11.7

Test Program: SID IIs Neck Flexion Test
 ATD Serial No.: 299

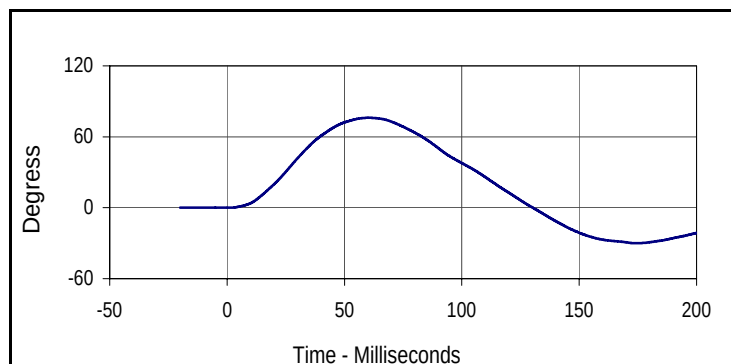
Test Date: 2/20/13
 Test I.D.: 299NB057



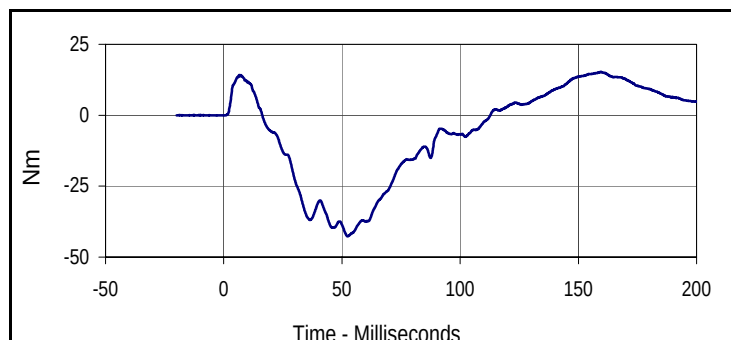
Tested Parameter	Units	Specification	Result	Pass/Fail
Neck Assembly Soak Time	Minutes	≥240	370	Pass
Temperature During Soak	Max	20.6 to 22.2	21.8	Pass
	Min		20.8	Pass
Humidity During Soak	Max	10.0 to 70.0	30.2	Pass
	Min		25.6	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.2	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	29.7	Pass
Pendulum Velocity	m/s	5.51 to 5.63	5.62	Pass
Pendulum Deceleration	10 msec	-2.20 to -2.80	-2.32	Pass
	15 msec	-3.30 to -4.10	-3.50	Pass
	20 msec	-4.40 to -5.40	-4.65	Pass
	25 msec	-5.40 to -6.10	-5.56	Pass
	25-100 msec	-5.50 to -6.20	-5.77	Pass
D-Plane Rotation	Max	71 to 81	76.1	Pass
	Time	50 to 70	60.2	Pass
Peak Occipital Condyle Moment	Nm	-36 to -44	-42.7	Pass
Decaying Moment Time to Cross 0 Nm	msec	102 to 126	112.8	Pass
Overall Test Results			Pass	



Curve Description			
Pendulum Velocity			
Plot No.	Type	SAE Class	Units
001	FIL	180	m/s
Max	Time	Min	Time
0.0	-0.5	-6.3	200.0



Curve Description			
Maximum Translation Rotation			
Plot No.	Type	SAE Class	Units
002	FIL	60	Degress
Max	Time	Min	Time
76.1	60.2	-30.0	174.0



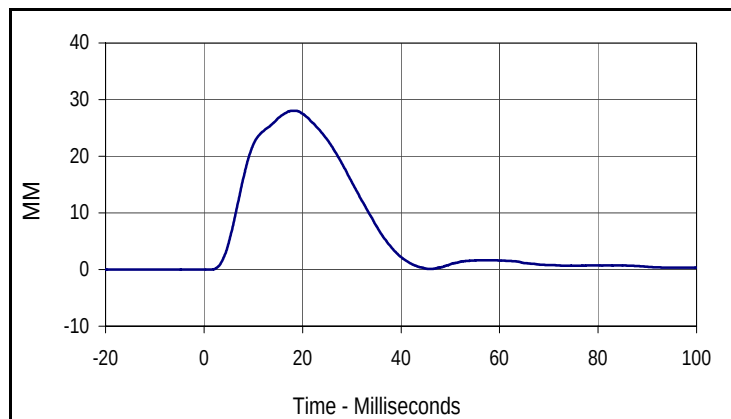
Curve Description			
Moment About Occipital Condyle			
Plot No.	Type	SAE Class	Units
003	FIL	600	Nm
Max	Time	Min	Time
15.3	159.6	-42.7	52.3

Test Program: SID IIs Shoulder Impact Test
 ATD Serial No.: 299

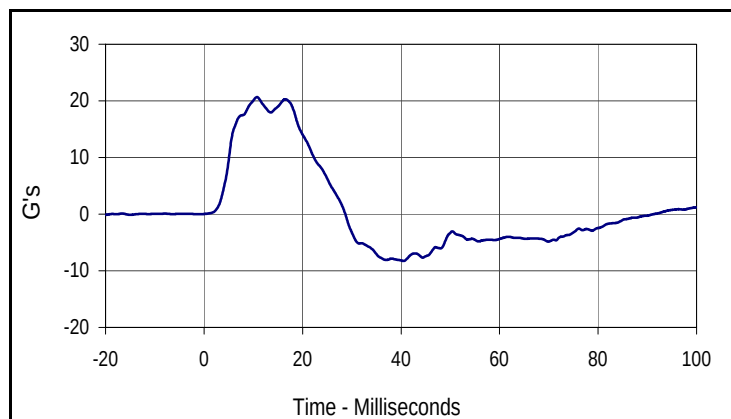
Test Date: 2/20/13
 Test I.D.: 299SH057



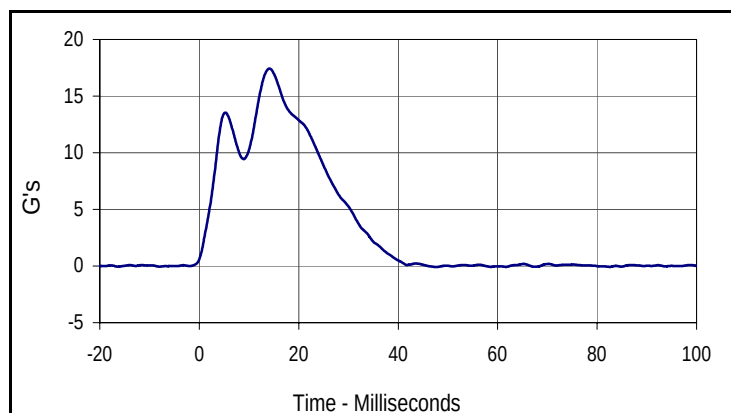
Tested Parameter		Units	Specification	Result	Pass/Fail
Dummy Soak Time		Minutes	≥180	425	Pass
Temperature During Soak	Max	°C	20.6 to 22.2	21.8	Pass
	Min	°C		20.8	Pass
Humidity During Soak	Max	%	10.0 to 70.0	30.2	Pass
	Min	%		25.6	Pass
Laboratory Temperature During Test		°C	20.6 to 22.2	21.2	Pass
Laboratory Humidity During Test		%	10.0 to 70.0	29.7	Pass
Impactor Velocity		m/s	4.20 to 4.40	4.30	Pass
Peak Shoulder Deflection		mm	28 to 37	28.0	Pass
Peak Lateral Spine Acceleration Y		G's	17 to 22	20.7	Pass
Peak Impactor Acceleration		G's	13 to 18	17.4	Pass
Overall Test Results				Pass	



Curve Description			
Shoulder Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
28.0	18.1	0.0	-5.4



Curve Description			
Upper Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
002	FIL	180	G's
Max	Time	Min	Time
20.7	10.7	-8.3	40.5



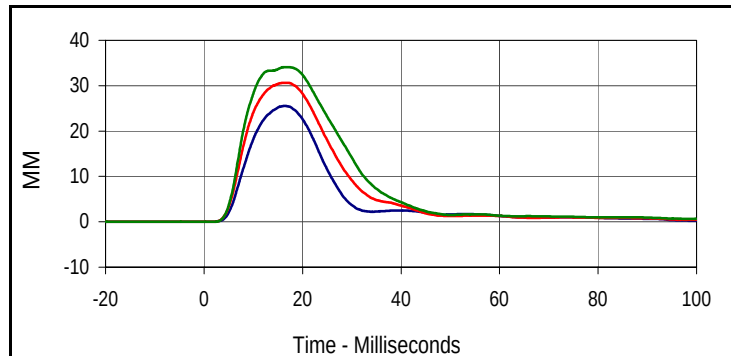
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
17.4	14.1	-0.1	47.7

Test Program: SID IIs Thorax with Arm Impact Test
 ATD Serial No.: 299

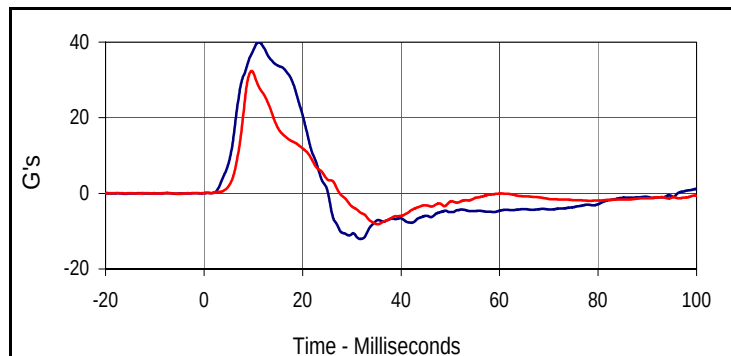
Test Date: 2/20/13
 Test I.D.: 299TWA057



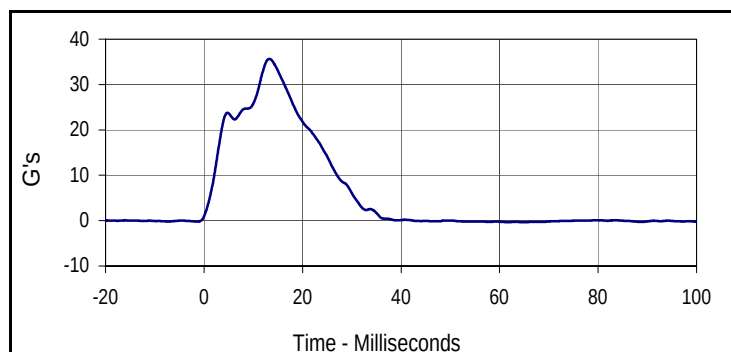
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	450	Pass
Temperature During Soak	Max	20.6 to 22.2	21.8	Pass
	Min		20.8	Pass
Humidity During Soak	Max	10.0 to 70.0	30.2	Pass
	Min		25.6	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.2	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	29.7	Pass
Impactor Velocity	m/s	6.6 to 6.8	6.66	Pass
Peak Shoulder Deflection	mm	31 to 40	32.3	Pass
Peak Upper Thorax Rib Deflection	mm	25 to 32	25.5	Pass
Peak Middle Thorax Rib Deflection	mm	30 to 36	30.7	Pass
Peak Lower Thorax Rib Deflection	mm	32 to 38	34.1	Pass
Peak Upper Spine Y Acceleration	G's	34 to 43	40.0	Pass
Peak Lower Spine Y Acceleration	G's	29 to 37	32.4	Pass
Peak Impactor Acceleration	G's	30 to 36	35.7	Pass
Overall Test Results			Pass	



Curve Description			
Upper Thorax Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
25.5	16.4	0.0	0.8
Middle Thorax Deflection			
Max	Time	Min	Time
30.7	16.7	0.0	0.3
Lower Thorax Deflection			
Max	Time	Min	Time
34.1	16.4	0.0	-11.6



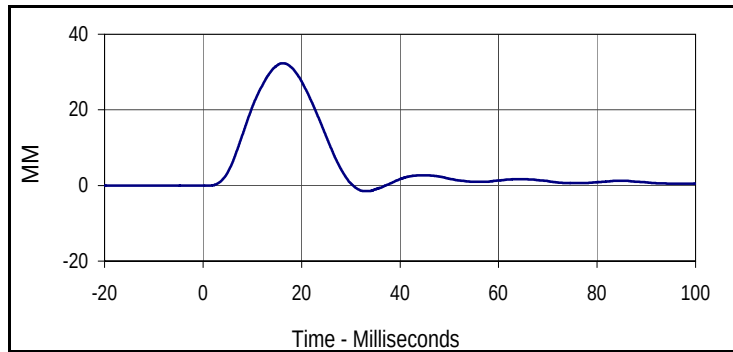
Curve Description			
Upper Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
40.0	11.0	-12.1	31.7
Lower Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
005	FIL	180	G's
Max	Time	Min	Time
32.4	9.6	-8.2	35.3



Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
006	FIL	180	G's
Max	Time	Min	Time
35.7	13.3	-0.4	65.1

Test Program: SID IIs Thorax with Arm Impact Test
 ATD Serial No.: 299

Test Date: 2/20/13
 Test I.D.: 299TWA057



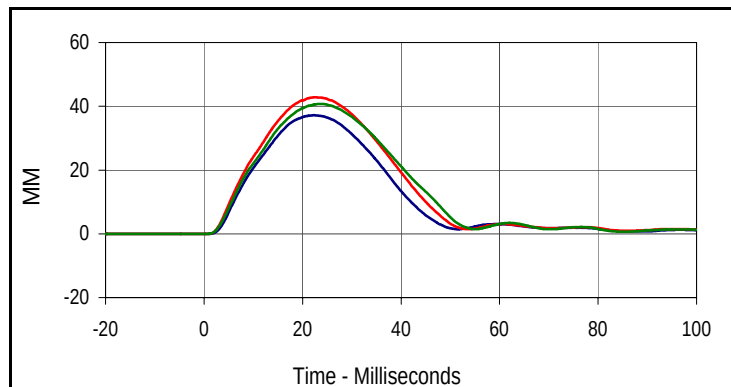
Curve Description			
Shoulder Deflection			
Plot No.	Type	SAE Class	Units
007	FIL	600	MM
Max	Time	Min	Time
32.3	16.2	-1.5	33.1

Test Program: SID IIs Thorax without Arm Impact Test
 ATD Serial No.: 299

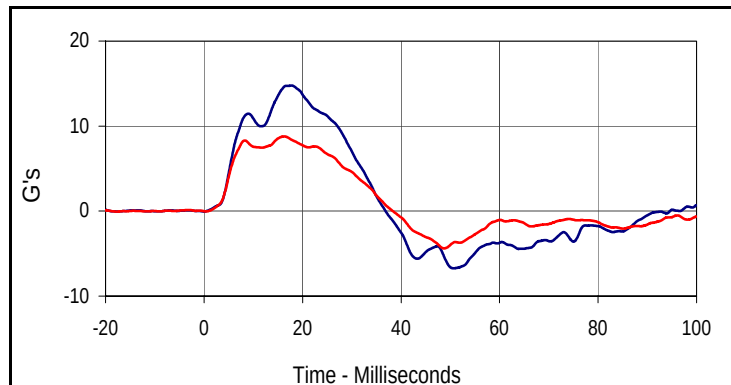
Test Date: 2/20/13
 Test I.D.: 299TWOA057



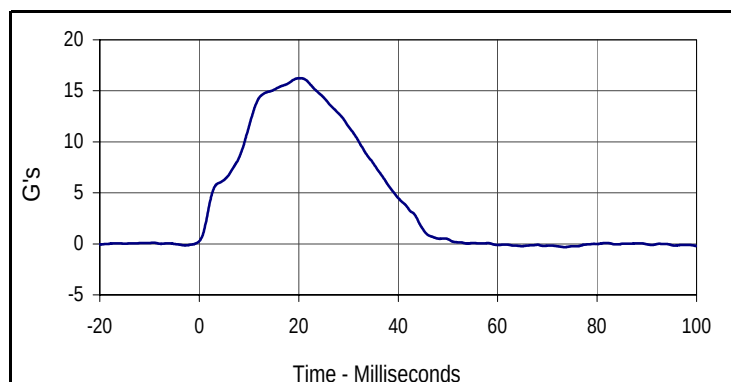
Tested Parameter		Units	Specification	Result	Pass/Fail
Dummy Soak Time		Minutes	≥180	475	Pass
Temperature During Soak	Max	°C	18.9 to 25.6	21.8	Pass
	Min	°C		20.8	Pass
Humidity During Soak	Max	%	10.0 to 70.0	30.2	Pass
	Min	%		25.6	Pass
Laboratory Temperature During Test		°C	18.9 to 25.6	21.2	Pass
Laboratory Humidity During Test		%	10.0 to 70.0	29.6	Pass
Impactor Velocity		m/s	4.2 to 4.4	4.29	Pass
Peak Upper Thorax Rib Deflection		mm	32 to 40	37.2	Pass
Peak Middle Thorax Rib Deflection		mm	39 to 45	42.8	Pass
Peak Lower Thorax Rib Deflection		mm	35 to 43	40.7	Pass
Peak Upper Spine Y Acceleration		G's	13 to 17	14.8	Pass
Peak Lower Spine Y Acceleration		G's	7 to 11	8.8	Pass
Peak Impactor Acceleration		G's	14 to 18	16.2	Pass
Overall Test Results				Pass	



Curve Description			
Upper Thorax Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
37.2	22.3	0.0	0.6
Middle Thorax Deflection			
Max	Time	Min	Time
42.8	22.6	0.0	-0.6
Lower Thorax Deflection			
Max	Time	Min	Time
40.7	23.7	0.0	-20.0



Curve Description			
Upper Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
14.8	17.8	-6.7	50.6
Lower Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
005	FIL	180	G's
Max	Time	Min	Time
8.8	16.3	-4.4	48.7



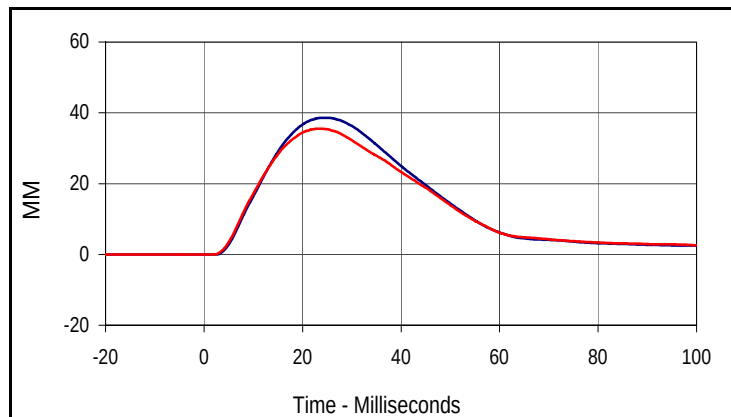
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
006	FIL	180	G's
Max	Time	Min	Time
16.2	20.2	-0.3	73.5

Test Program: SID IIs Abdomen Impact Test
 ATD Serial No.: 299

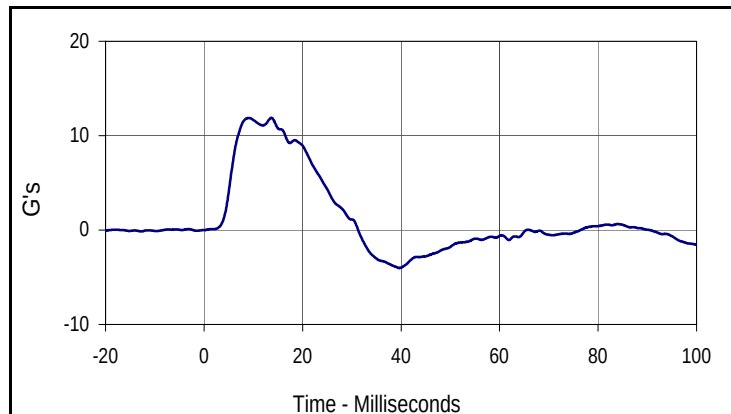
Test Date: 2/20/13
 Test I.D.: 299ABD057



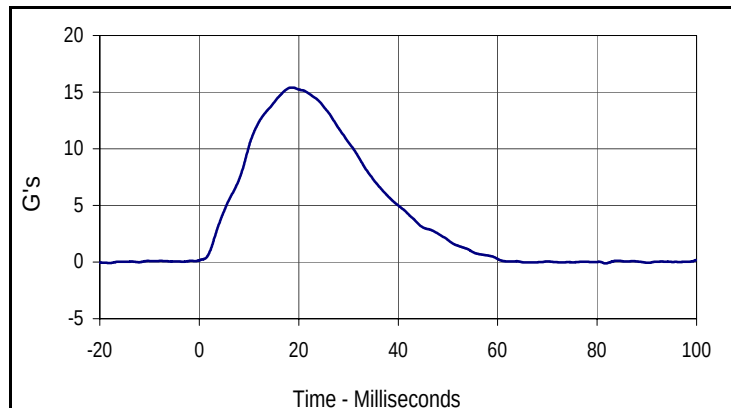
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	500	Pass
Temperature During Soak	Max	20.6 to 22.2	21.8	Pass
	Min		20.8	Pass
Humidity During Soak	Max	10.0 to 70.0	30.2	Pass
	Min		25.6	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.2	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	29.7	Pass
Impactor Velocity	m/s	4.2 to 4.4	4.38	Pass
Peak Upper Abdominal Rib Deflection	mm	36 to 47	38.6	Pass
Peak Lower Abdominal Rib Deflection	mm	33 to 44	35.5	Pass
Peak Lower Spine Y Acceleration	G's	9 to 14	11.9	Pass
Peak Impactor Acceleration	G's	12 to 16	15.4	Pass
Overall Test Results			Pass	



Curve Description			
Upper Abdominal Rib Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
38.6	24.4	0.0	-19.0
Curve Description			
Lower Abdominal Rib Deflection			
Plot No.	Type	SAE Class	Units
002	FIL	600	MM
Max	Time	Min	Time
35.5	23.5	0.0	0.6

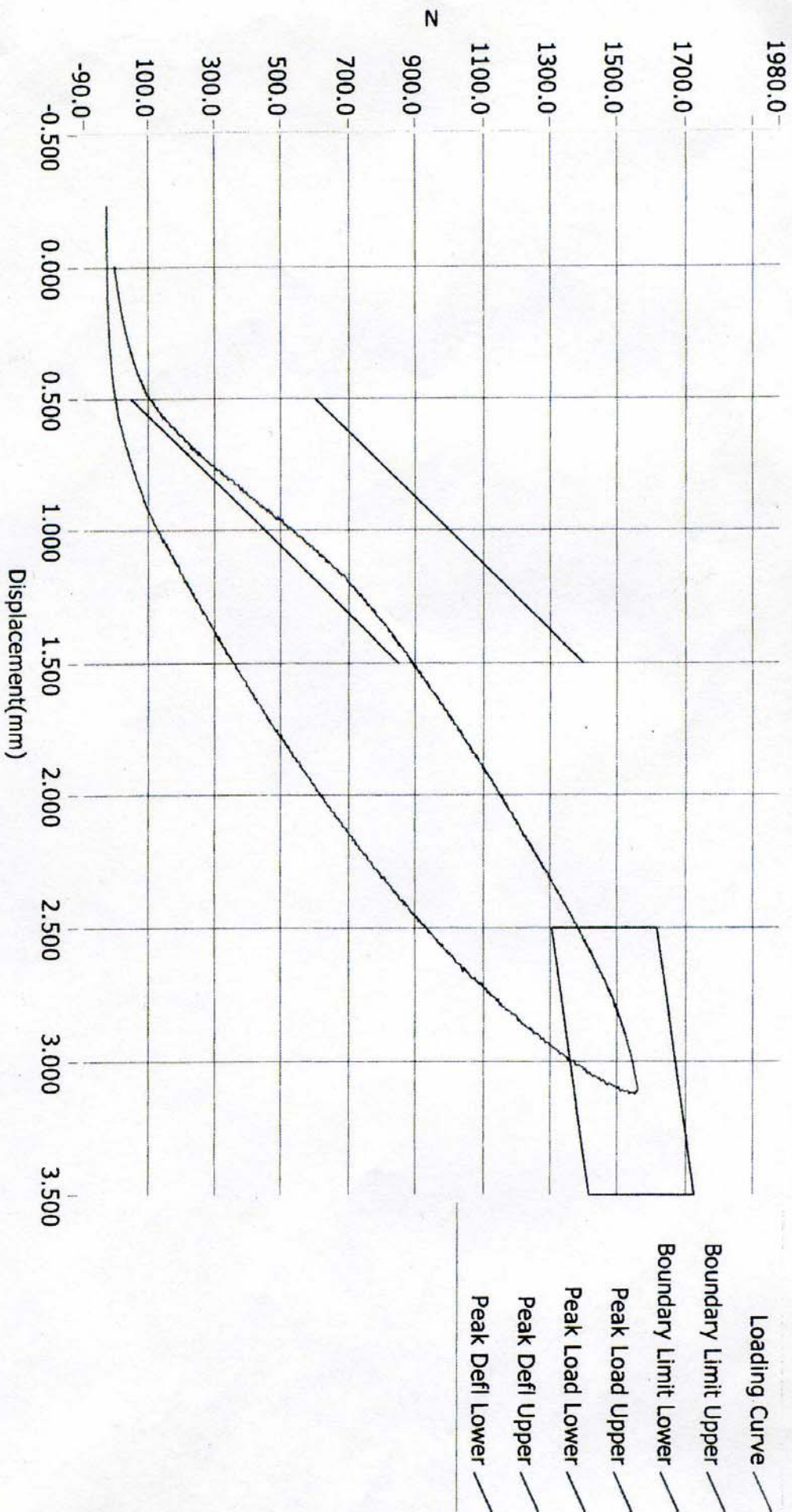


Curve Description			
Lower Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
11.9	13.7	-4.0	39.7



Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
15.4	18.6	-0.1	81.7

Resultant Data - SIDIIs Plug Compression



ATD Calibration Lab

Test ID

Part Serial Number

Test Date

Test Time

49078

12/7/2011

9:15 PM

Cert ID

ATD Serial Number

ATD Type

N/A

SIDIIs

Current Date : 12/7/2011

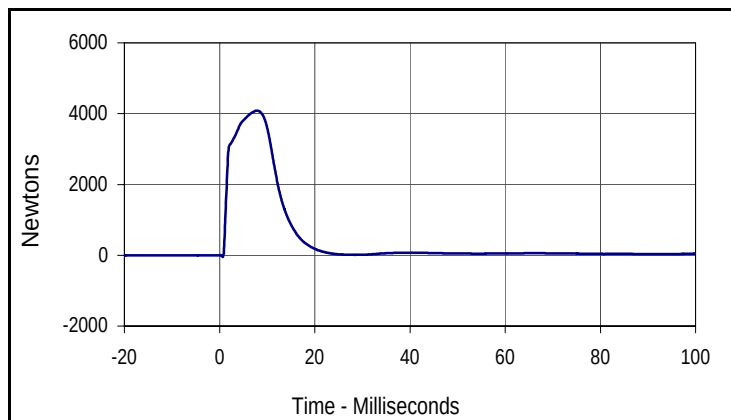
Current Time : 21:16:12

Test Program: SID IIs Pelvis Acetabulum Impact Test
 ATD Serial No.: 299

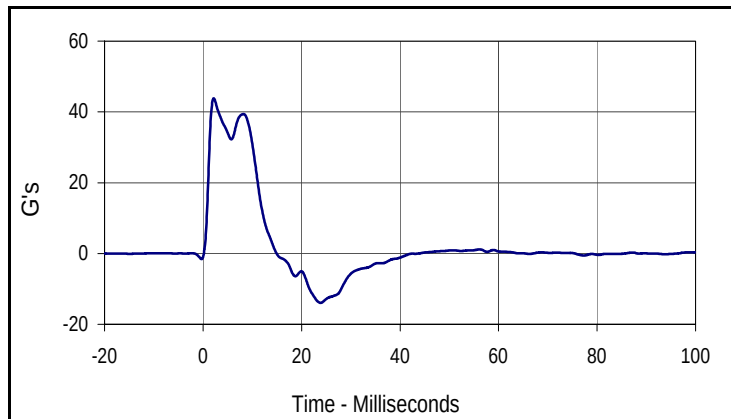
Test Date: 2/20/13
 Test I.D.: 299ACET057



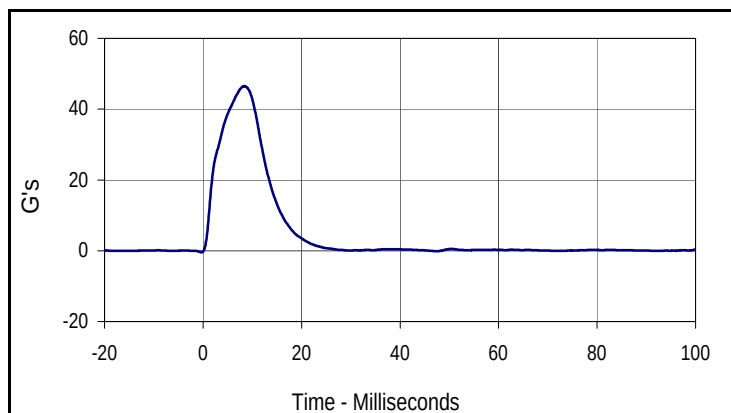
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	525	Pass
Temperature During Soak	Max	20.6 to 22.2	21.8	Pass
	Min		20.8	Pass
Humidity During Soak	Max	10.0 to 70.0	30.2	Pass
	Min		25.6	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.2	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	29.7	Pass
Impactor Velocity	m/s	6.6 to 6.8	6.70	Pass
Peak Acetabulum Force Y	Newtons	3600 to 4300	4086.8	Pass
Peak Pelvis Y Acceleration After 6 msec.	G's	34 to 42	39.4	Pass
Peak Impactor Acceleration	G's	38 to 47	46.5	Pass
Overall Test Results			Pass	



Curve Description			
Pelvis Acetabulum Force			
Plot No.	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
4086.8	7.9	-45.8	0.7



Curve Description			
Pelvis Y Acceleration			
Plot No.	Type	SAE Class	Units
002	FIL	180	G's
Max	Time	Min	Time
43.9	2.2	-14.0	23.9



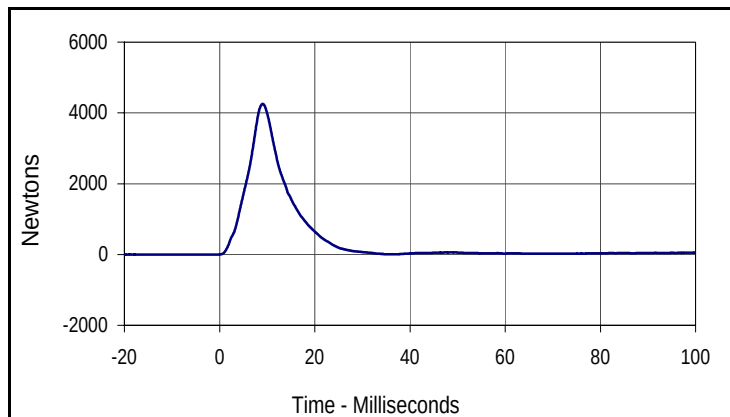
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
46.5	8.4	-0.5	-0.3

Test Program: SID IIs Pelvis Iliac Calibration
 ATD Serial No.: 299

Test Date: 2/20/13
 Test I.D.: 299PL057



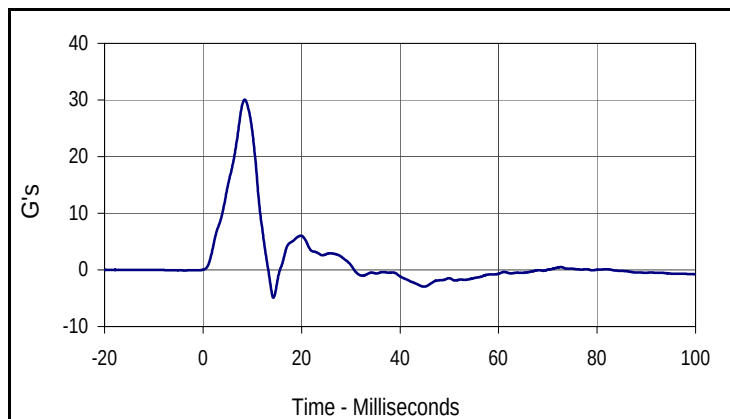
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	580	Pass
Temperature During Soak	Max	20.6 to 22.2	21.8	Pass
	Min		20.8	Pass
Humidity During Soak	Max	10.0 to 70.0	30.2	Pass
	Min		25.6	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.2	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	29.6	Pass
Impactor Velocity	m/s	4.2 to 4.4	4.23	Pass
Peak Iliac Force	Newtons	4100 to 5100	4254.7	Pass
Peak Pelvis Y Acceleration	G's	28 to 39	30.0	Pass
Peak Impactor Acceleration	G's	36 to 45	40.3	Pass
Overall Test Results			Pass	



Curve Description

Pelvis Iliac Force

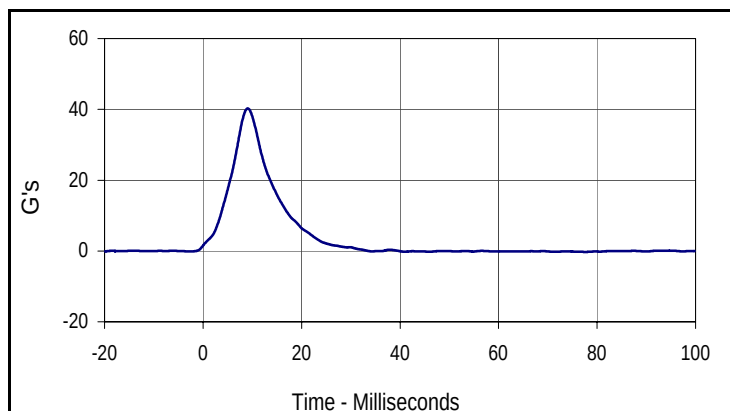
Plot No.	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
4254.7	9.1	-2.8	-9.5



Curve Description

Pelvis Y Acceleration

Plot No.	Type	SAE Class	Units
002	FIL	180	G's
Max	Time	Min	Time
30.0	8.5	-4.9	14.3



Curve Description

Impactor Acceleration

Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
40.3	9.1	-0.3	77.6

APPENDIX C
POST-TEST / ATD CONFIGURATION AND PERFORMANCE VERIFICATION DATA

Test Program: SID IIs External Measurements
 ATD Serial No.: 299

Test Date: 3/4/13
 Test I.D.: N/A



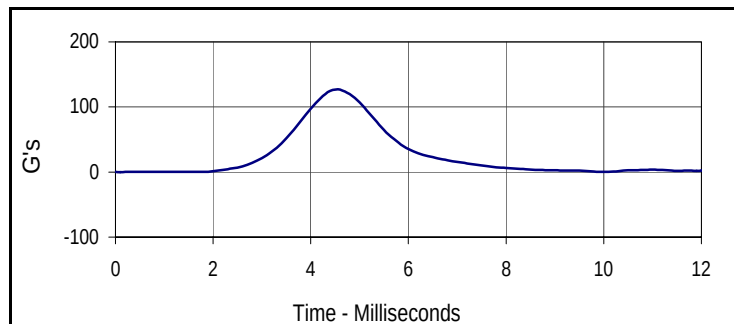
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.2	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
A	Sitting Height	mm	772 - 788	780	Pass
B	Shoulder Pivot Height	mm	437 - 453	445	Pass
C	H-Point Height	mm	79 - 89	85	Pass
D	H-Point from Seatback	mm	141 - 151	145	Pass
E	Shoulder Pivot from Backline	mm	97 - 107	102	Pass
F	Thigh Clearance	mm	119 - 135	125	Pass
G	Head Breadth	mm	140 - 148	145	Pass
H	Head Back from Backline	mm	40 - 46	44	Pass
I	Head Depth	mm	178 - 188	184	Pass
J	Head Circumference	mm	541 - 551	545	Pass
K	Buttock to Knee Length	mm	514 - 540	527	Pass
L	Popliteal Height	mm	343 - 369	352	Pass
M	Knee Pivot to Floor Height	mm	392 - 409	401	Pass
N	Buttock Popliteal Length	mm	416 - 442	432	Pass
O	Chest Depth w/o Jacket	mm	195 - 211	202	Pass
P	Foot Length	mm	216 - 232	221	Pass
Q	Hip Breadth with Pelvic Plug	mm	313 - 323	315	Pass
R	Arm Length	mm	249 - 259	252	Pass
S	Knee Joint to Seatback	mm	477 - 493	481	Pass
V	Shoulder Width	mm	341 - 357	352	Pass
W	Foot Width	mm	78 - 94	86	Pass
Y	Chest Circumference with Jacket	mm	851 - 881	872	Pass
Z	Waist Circumference	mm	760 - 791	774	Pass
Overall Test Results					Pass

Test Program: SID IIs Head Drop Test
 ATD Serial No.: 299

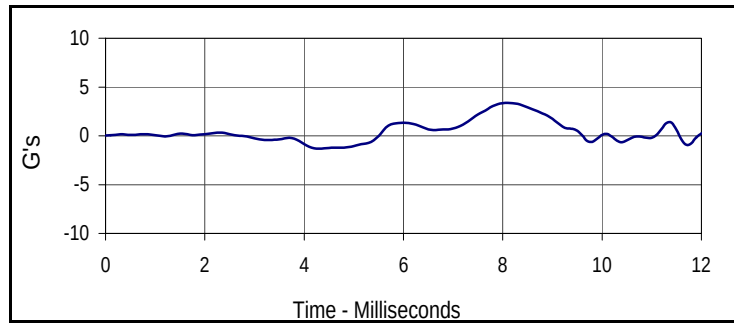
Test Date: 3/4/13
 Test I.D.: 299HD058



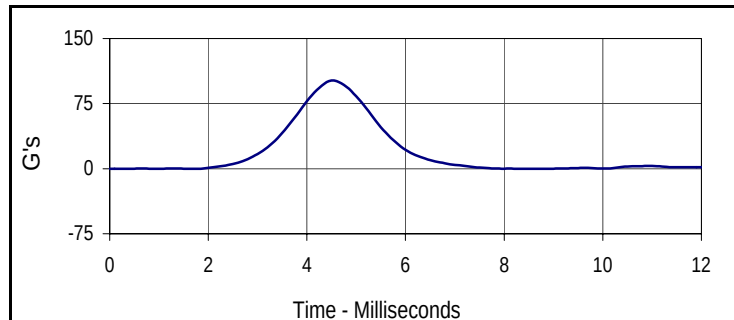
Tested Parameter	Units	Specification	Result	Pass/Fail
Head Assembly Soak Time	Minutes	≥240	415	Pass
Temperature During Soak	Max	18.9 to 25.6	22.2	Pass
	Min		20.9	Pass
Humidity During Soak	Max	10.0 to 70.0	33.2	Pass
	Min		25.6	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	30.2	Pass
Peak Head Resultant Acceleration	G's	115 to 137	126.9	Pass
Peak Head X Acceleration	G's	<15	3.3	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<15	2.9	Pass
Overall Test Results				Pass



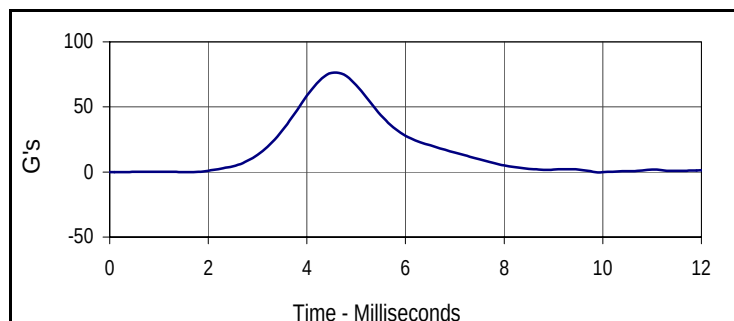
Curve Description			
Head Resultant			
Plot No.	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
126.9	4.5	0.1	0.1



Curve Description			
Head X			
Plot No.	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
3.3	8.0	-1.3	4.3



Curve Description			
Head Y			
Plot No.	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
101.6	4.5	-0.2	8.7



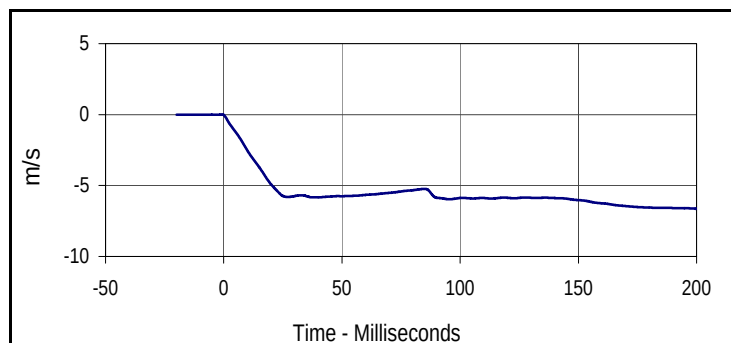
Curve Description			
Head Z			
Plot No.	Type	SAE Class	Units
004	FIL	1000	G's
Max	Time	Min	Time
76.4	4.6	-0.3	9.9

Test Program: SID IIs Neck Flexion Test
 ATD Serial No.: 299

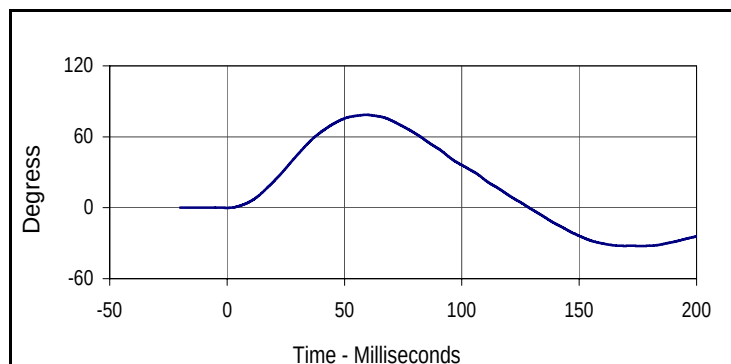
Test Date: 3/4/13
 Test I.D.: 299NB058



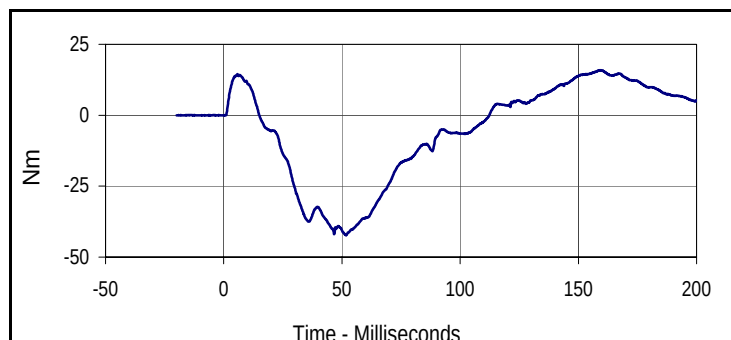
Tested Parameter		Units	Specification	Result	Pass/Fail
Neck Assembly Soak Time		Minutes	≥240	445	Pass
Temperature During Soak	Max	°C	20.6 to 22.2	22.1	Pass
	Min	°C		20.9	Pass
Humidity During Soak	Max	%	10.0 to 70.0	33.2	Pass
	Min	%		25.6	Pass
Laboratory Temperature During Test		°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test		%	10.0 to 70.0	30.2	Pass
Pendulum Velocity		m/s	5.51 to 5.63	5.57	Pass
Pendulum Deceleration	10 msec	m/s	-2.20 to -2.80	-2.53	Pass
	15 msec	m/s	-3.30 to -4.10	-3.70	Pass
	20 msec	m/s	-4.40 to -5.40	-4.91	Pass
	25 msec	m/s	-5.40 to -6.10	-5.74	Pass
	25-100 msec	m/s	-5.50 to -6.20	-5.96	Pass
D-Plane Rotation	Max	Degrees	71 to 81	78.6	Pass
	Time	msec	50 to 70	59.2	Pass
Peak Occipital Condyle Moment		Nm	-36 to -44	-42.3	Pass
Decaying Moment Time to Cross 0 Nm		msec	102 to 126	112.4	Pass
			Overall Test Results		Pass



Curve Description			
Pendulum Velocity			
Plot No.	Type	SAE Class	Units
001	FIL	180	m/s
Max	Time	Min	Time
0.0	-0.8	-6.6	200.0



Curve Description			
Maximum Translation Rotation			
Plot No.	Type	SAE Class	Units
002	FIL	60	Degress
Max	Time	Min	Time
78.6	59.2	-32.3	176.7



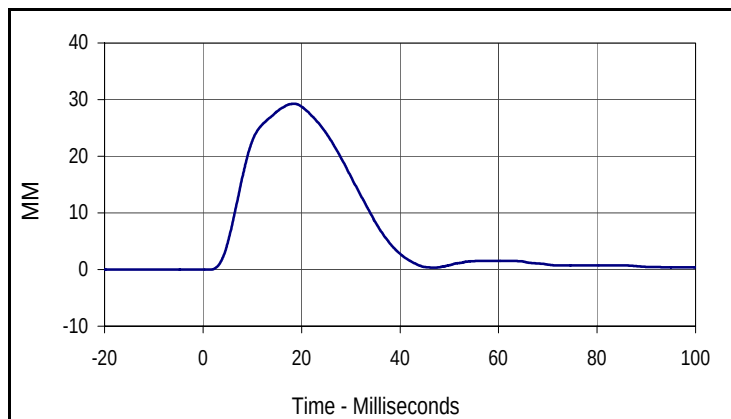
Curve Description			
Moment About Occipital Condyle			
Plot No.	Type	SAE Class	Units
003	FIL	600	Nm
Max	Time	Min	Time
15.8	159.5	-42.3	51.7

Test Program: SID IIs Shoulder Impact Test
 ATD Serial No.: 299

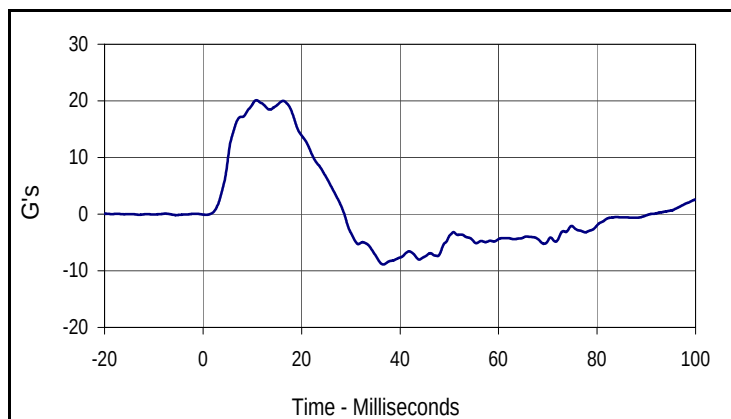
Test Date: 3/4/13
 Test I.D.: 299SH058



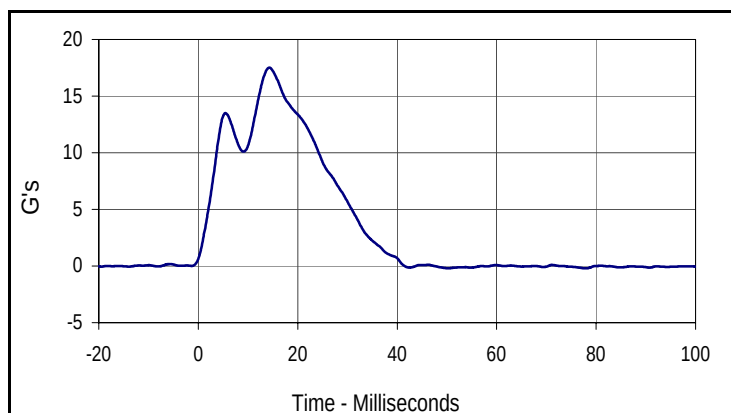
Tested Parameter		Units	Specification	Result	Pass/Fail
Dummy Soak Time		Minutes	≥180	505	Pass
Temperature During Soak	Max	°C	20.6 to 22.2	22.1	Pass
	Min	°C		20.9	Pass
Humidity During Soak	Max	%	10.0 to 70.0	33.2	Pass
	Min	%		25.6	Pass
Laboratory Temperature During Test		°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test		%	10.0 to 70.0	30.3	Pass
Impactor Velocity		m/s	4.20 to 4.40	4.33	Pass
Peak Shoulder Deflection		mm	28 to 37	29.2	Pass
Peak Lateral Spine Acceleration Y		G's	17 to 22	20.1	Pass
Peak Impactor Acceleration		G's	13 to 18	17.5	Pass
Overall Test Results				Pass	



Curve Description			
Shoulder Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
29.2	18.7	0.0	-20.0



Curve Description			
Upper Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
002	FIL	180	G's
Max	Time	Min	Time
20.1	10.8	-8.9	36.6



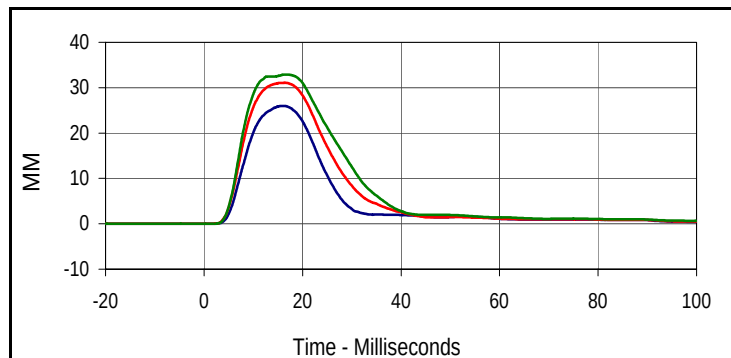
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
17.5	14.3	-0.2	78.0

Test Program: SID IIs Thorax with Arm Impact Test
 ATD Serial No.: 299

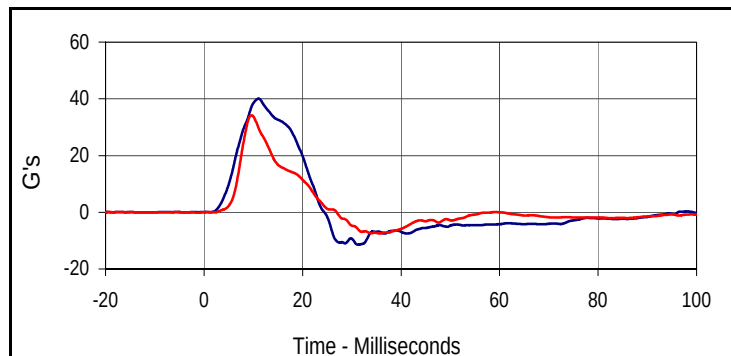
Test Date: 3/4/13
 Test I.D.: 299TWA058



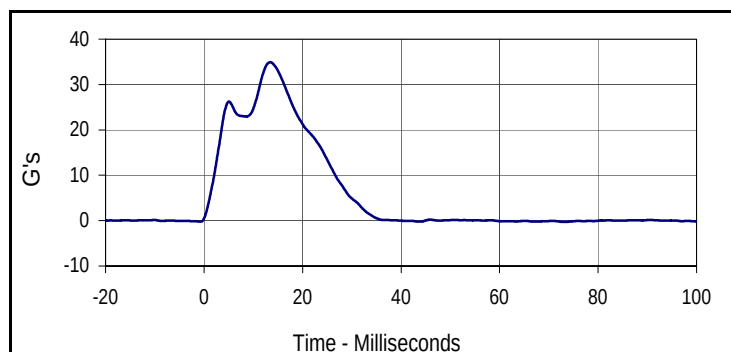
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	550	Pass
Temperature During Soak	Max	20.6 to 22.2	22.1	Pass
	Min		20.9	Pass
Humidity During Soak	Max	10.0 to 70.0	33.2	Pass
	Min		25.6	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.2	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	30.2	Pass
Impactor Velocity	m/s	6.6 to 6.8	6.62	Pass
Peak Shoulder Deflection	mm	31 to 40	33.5	Pass
Peak Upper Thorax Rib Deflection	mm	25 to 32	26.0	Pass
Peak Middle Thorax Rib Deflection	mm	30 to 36	31.1	Pass
Peak Lower Thorax Rib Deflection	mm	32 to 38	32.9	Pass
Peak Upper Spine Y Acceleration	G's	34 to 43	40.1	Pass
Peak Lower Spine Y Acceleration	G's	29 to 37	34.2	Pass
Peak Impactor Acceleration	G's	30 to 36	34.9	Pass
Overall Test Results			Pass	



Curve Description			
Upper Thorax Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
26.0	16.0	0.0	0.3
Middle Thorax Deflection			
Max	Time	Min	Time
31.1	16.5	0.0	-3.3
Lower Thorax Deflection			
Max	Time	Min	Time
32.9	16.2	0.0	-20.0



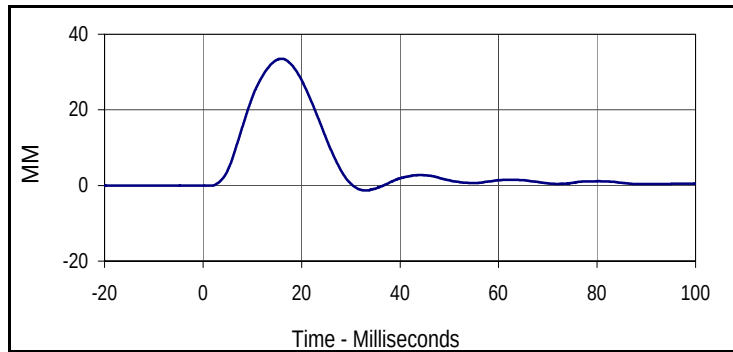
Curve Description			
Upper Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
40.1	11.1	-11.5	31.2
Lower Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
005	FIL	180	G's
Max	Time	Min	Time
34.2	9.6	-7.5	35.6



Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
006	FIL	180	G's
Max	Time	Min	Time
34.9	13.4	-0.3	73.1

Test Program: SID IIs Thorax with Arm Impact Test
 ATD Serial No.: 299

Test Date: 3/4/13
 Test I.D.: 299TWA058



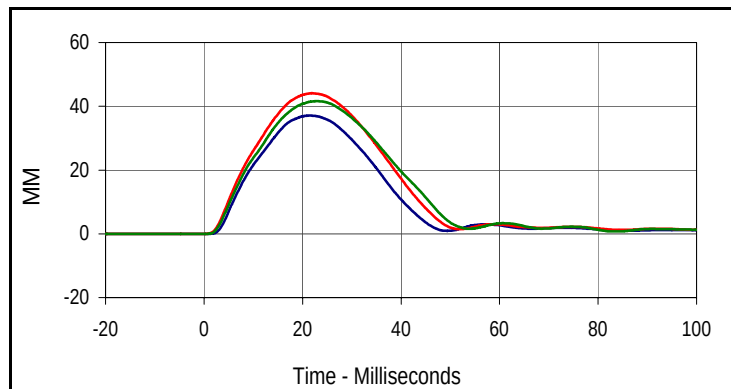
Curve Description			
Shoulder Deflection			
Plot No.	Type	SAE Class	Units
007	FIL	600	MM
Max	Time	Min	Time
33.5	15.9	-1.3	33.1

Test Program: SID IIs Thorax without Arm Impact Test
 ATD Serial No.: 299

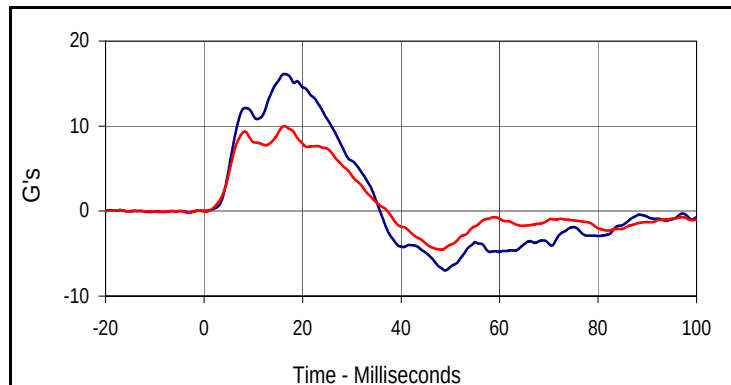
Test Date: 3/4/13
 Test I.D.: 299TWOA058



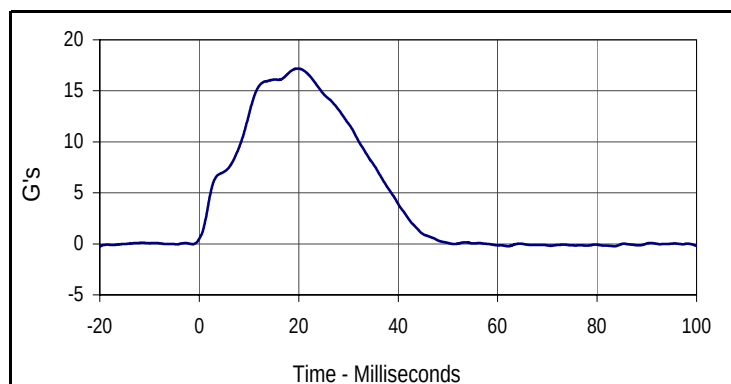
Tested Parameter		Units	Specification	Result	Pass/Fail
Dummy Soak Time		Minutes	≥180	595	Pass
Temperature During Soak	Max	°C	18.9 to 25.6	22.1	Pass
	Min	°C		20.9	Pass
Humidity During Soak	Max	%	10.0 to 70.0	33.2	Pass
	Min	%		25.6	Pass
Laboratory Temperature During Test		°C	18.9 to 25.6	21.3	Pass
Laboratory Humidity During Test		%	10.0 to 70.0	30.3	Pass
Impactor Velocity		m/s	4.2 to 4.4	4.26	Pass
Peak Upper Thorax Rib Deflection		mm	32 to 40	37.1	Pass
Peak Middle Thorax Rib Deflection		mm	39 to 45	44.1	Pass
Peak Lower Thorax Rib Deflection		mm	35 to 43	41.6	Pass
Peak Upper Spine Y Acceleration		G's	13 to 17	16.1	Pass
Peak Lower Spine Y Acceleration		G's	7 to 11	10.0	Pass
Peak Impactor Acceleration		G's	14 to 18	17.2	Pass
Overall Test Results				Pass	



Curve Description			
Upper Thorax Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
37.1	21.5	0.0	-20.0
Middle Thorax Deflection			
Max	Time	Min	Time
44.1	21.9	0.0	-16.2
Lower Thorax Deflection			
Max	Time	Min	Time
41.6	22.9	0.0	-19.0



Curve Description			
Upper Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
16.1	16.3	-7.0	49.0
Lower Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
005	FIL	180	G's
Max	Time	Min	Time
10.0	16.3	-4.5	48.2



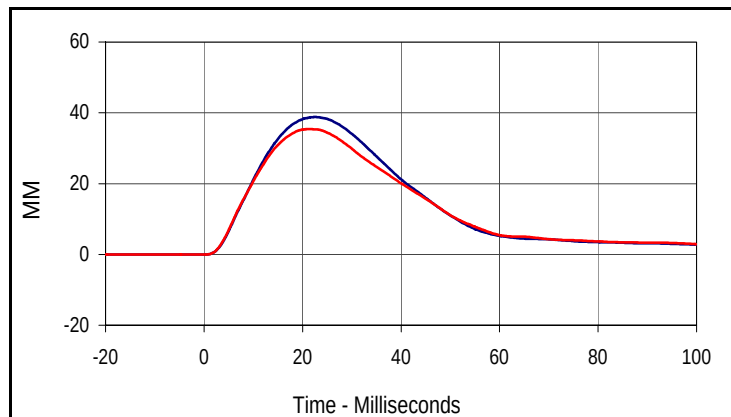
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
006	FIL	180	G's
Max	Time	Min	Time
17.2	19.8	-0.2	-20.0

Test Program: SID IIs Abdomen Impact Test
 ATD Serial No.: 299

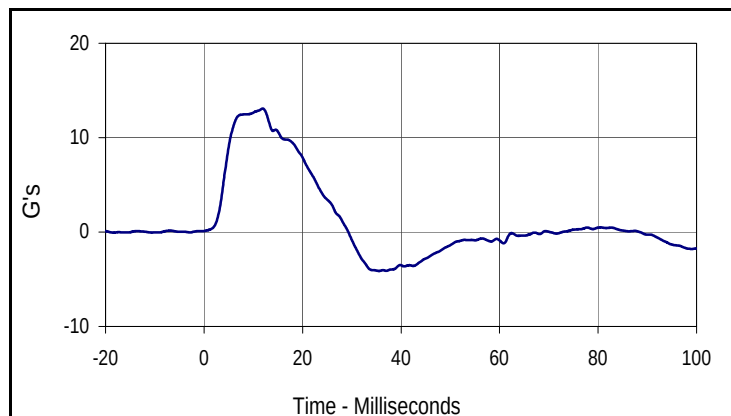
Test Date: 3/4/13
 Test I.D.: 299ABD058



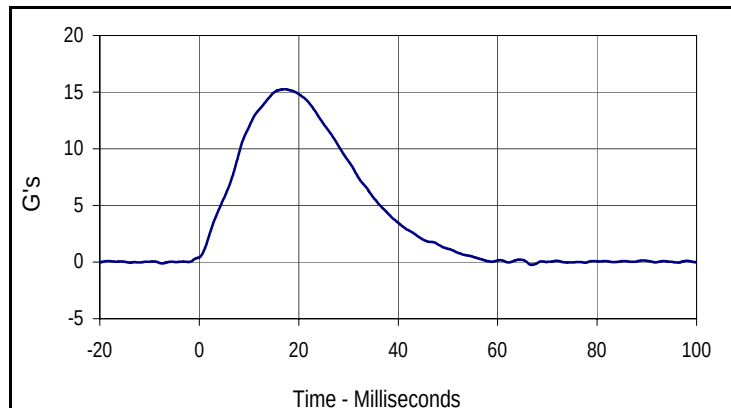
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	640	Pass
Temperature During Soak	Max °C	20.6 to 22.2	22.1	Pass
	Min °C		20.9	Pass
Humidity During Soak	Max %	10.0 to 70.0	33.2	Pass
	Min %		25.6	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	30.3	Pass
Impactor Velocity	m/s	4.2 to 4.4	4.34	Pass
Peak Upper Abdominal Rib Deflection	mm	36 to 47	38.8	Pass
Peak Lower Abdominal Rib Deflection	mm	33 to 44	35.4	Pass
Peak Lower Spine Y Acceleration	G's	9 to 14	13.1	Pass
Peak Impactor Acceleration	G's	12 to 16	15.3	Pass
Overall Test Results			Pass	



Curve Description			
Upper Abdominal Rib Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
38.8	22.6	0.0	-3.5
Curve Description			
Lower Abdominal Rib Deflection			
Plot No.	Type	SAE Class	Units
002	FIL	600	MM
Max	Time	Min	Time
35.4	21.1	0.0	-3.5



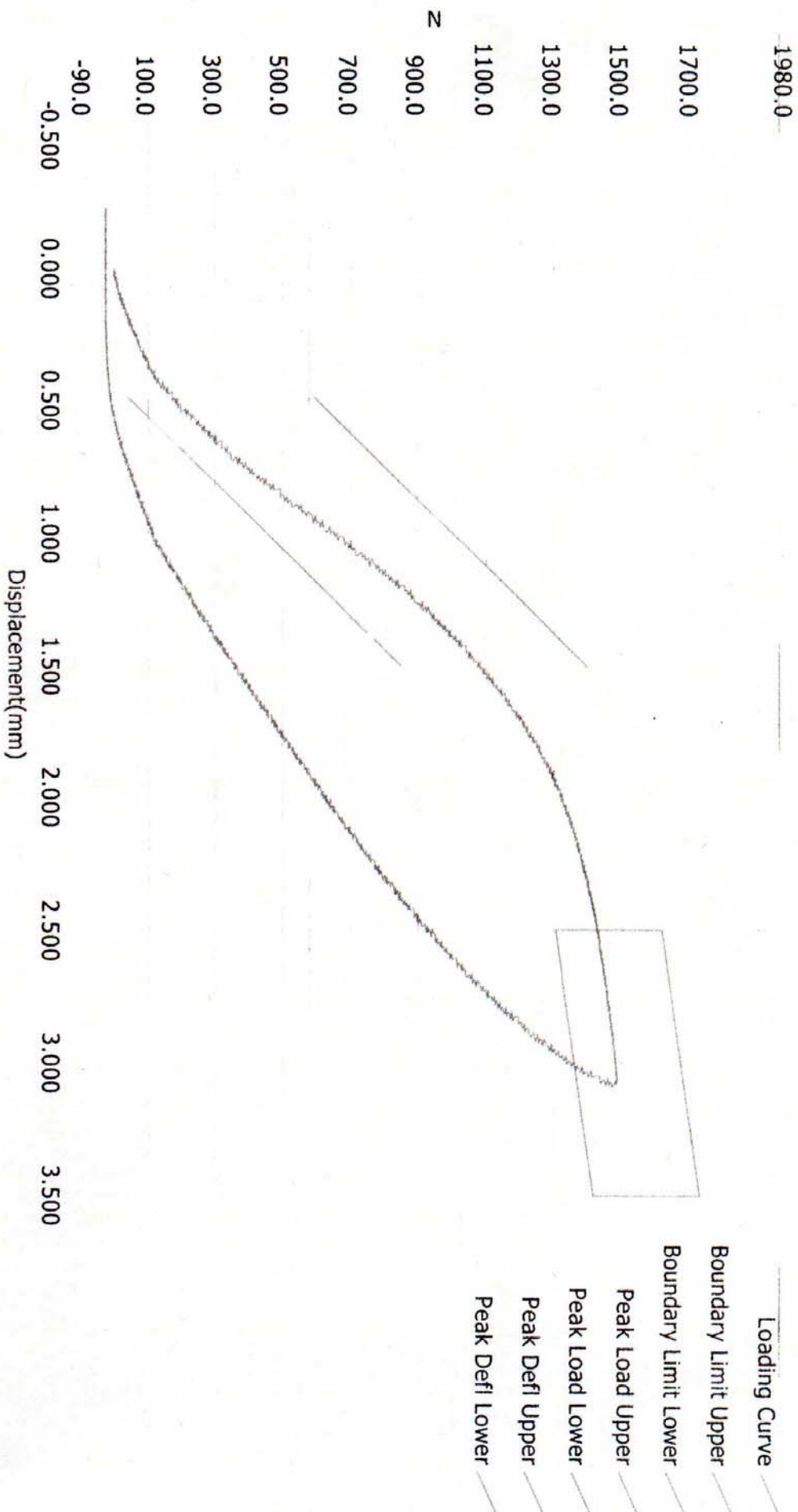
Curve Description			
Lower Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
13.1	11.9	-4.1	35.6



Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
15.3	17.2	-0.2	66.8

MD5307 POST TEST

Resultant Data - SIDIIs Plug Compression



ATD Calibration Lab

Test ID

Part Serial Number

Test Date

Test Time

47063

10/15/2011

12:30 PM

Cert ID

ATD Serial Number

ATD Type

N/A

SIDIIs

Current Date : 10/15/2011

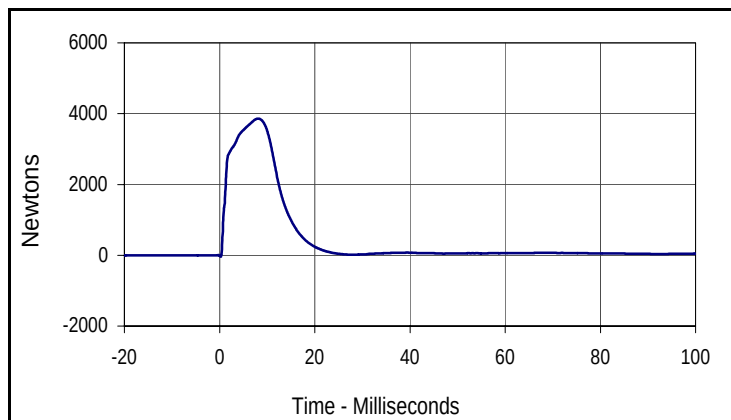
Current Time : 12:31:22

Test Program: SID IIs Pelvis Acetabulum Impact Test
 ATD Serial No.: 299

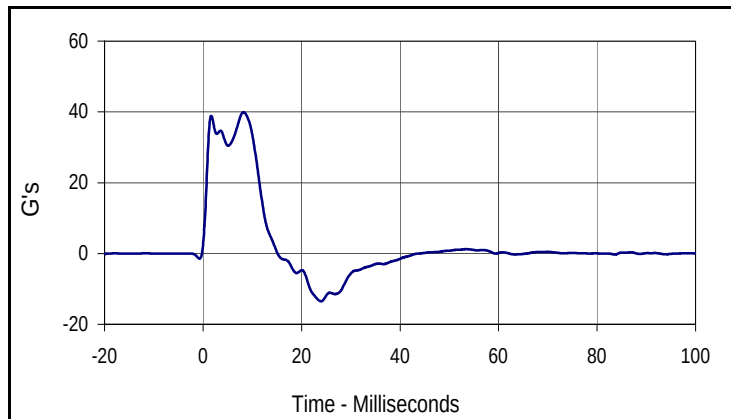
Test Date: 3/4/13
 Test I.D.: 299ACET058



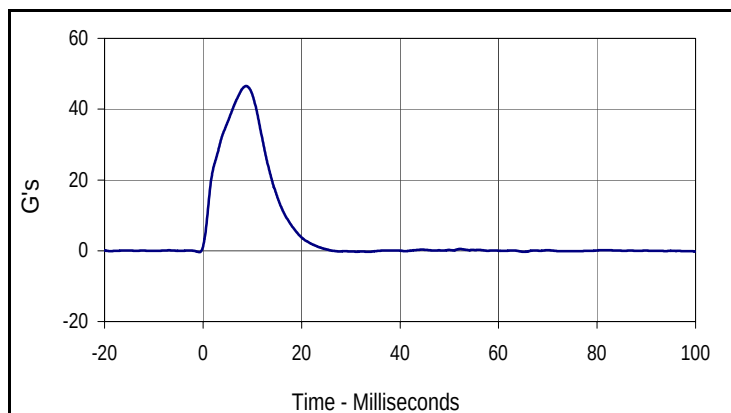
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	685	Pass
Temperature During Soak	Max	20.6 to 22.2	22.1	Pass
	Min		20.9	Pass
Humidity During Soak	Max	10.0 to 70.0	33.2	Pass
	Min		25.6	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	30.3	Pass
Impactor Velocity	m/s	6.6 to 6.8	6.67	Pass
Peak Acetabulum Force Y	Newtons	3600 to 4300	3862.0	Pass
Peak Pelvis Y Acceleration After 6 msec.	G's	34 to 42	39.9	Pass
Peak Impactor Acceleration	G's	38 to 47	46.5	Pass
Overall Test Results			Pass	



Curve Description			
Pelvis Acetabulum Force			
Plot No.	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
3862.0	8.1	-40.8	0.2



Curve Description			
Pelvis Y Acceleration			
Plot No.	Type	SAE Class	Units
002	FIL	180	G's
Max	Time	Min	Time
39.9	8.2	-13.5	23.9



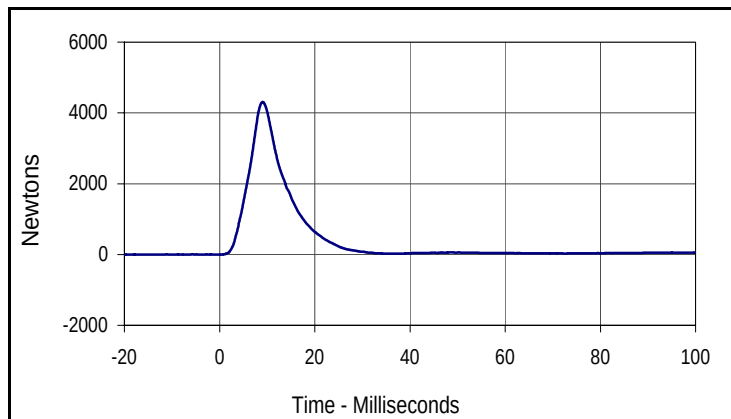
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
46.5	8.7	-0.4	-0.8

Test Program: SID IIs Pelvis Iliac Calibration
 ATD Serial No.: 299

Test Date: 3/4/13
 Test I.D.: 299PL058



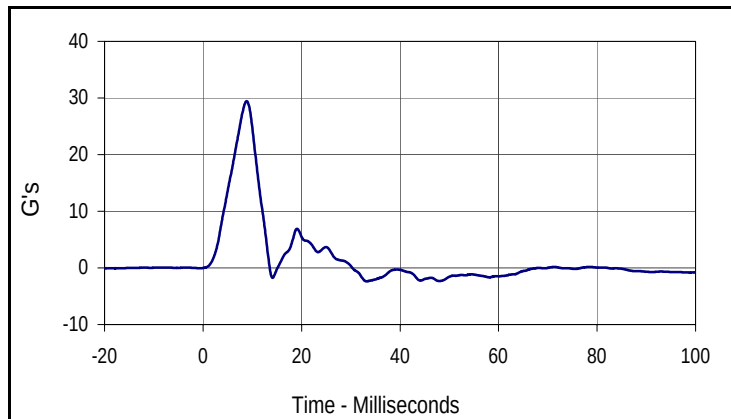
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	750	Pass
Temperature During Soak	Max	20.6 to 22.2	22.1	Pass
	Min		20.9	Pass
Humidity During Soak	Max	10.0 to 70.0	33.2	Pass
	Min		25.6	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	30.2	Pass
Impactor Velocity	m/s	4.2 to 4.4	4.32	Pass
Peak Iliac Force	Newtons	4100 to 5100	4306.8	Pass
Peak Pelvis Y Acceleration	G's	28 to 39	29.4	Pass
Peak Impactor Acceleration	G's	36 to 45	40.7	Pass
Overall Test Results			Pass	



Curve Description

Pelvis Iliac Force

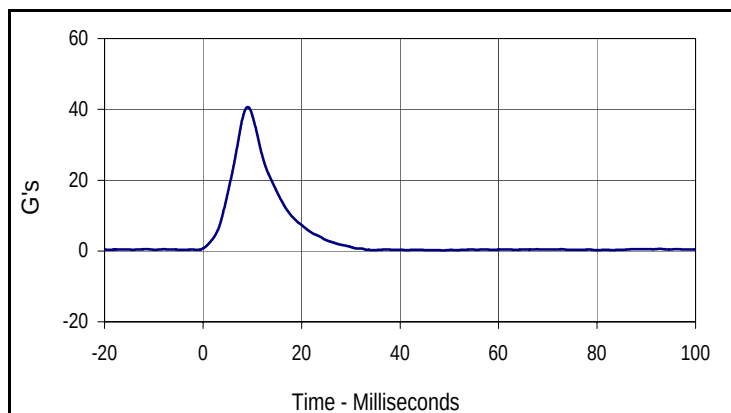
Plot No.	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
4306.8	9.1	-2.0	-18.6



Curve Description

Pelvis Y Acceleration

Plot No.	Type	SAE Class	Units
002	FIL	180	G's
Max	Time	Min	Time
29.4	8.9	-2.4	33.2



Curve Description

Impactor Acceleration

Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
40.7	9.1	0.0	0.0

APPENDIX D
TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION DATA

TABLE 1 – Dummy Instrumentation (SID-IIs)

			SID-IIs S/N 299			
			Serial Number	Manufacturer	Calibration	
Head Accelerometers			X	P51926	Endevco	6/25/12
			Y	P51929	Endevco	6/25/12
			Z	P51934	Endevco	6/25/12
Displacement Potentiometers	Shoulder		Y	1074	FTSS	6/26/12
	Thoracic Rib	Upper	Y	1143	FTSS	6/26/12
		Middle	Y	1160	FTSS	6/26/12
		Lower	Y	1213	FTSS	6/26/12
	Abdominal Rib	Upper	Y	1218	FTSS	6/26/12
		Lower	Y	1234	FTSS	6/26/12
Lower Spine Accelerometers (T12)			X	P63999	Endevco	6/25/12
			Y	P58872	Endevco	6/25/12
			Z	P58795	Endevco	6/25/12
Acetabulum Load Cell			Y	272	Denton	5/24/12
Iliac Wing Load Cell			Y	284	Denton	5/24/12
Pelvis Plug (Struck Side)				49028	FTSS	12/7/11
Pelvis Plug (Non-Struck Side)				49091	FTSS	12/7/11

TABLE 2 – Vehicle Instrumentation

Left Floor Sill	Y	13722	Endevco	10/22/12
A-Pillar Sill	Y	13473	Endevco	8/17/12
A-Pillar Low	Y	13480	Endevco	8/17/12
A-Pillar Mid	Y	13478	Endevco	8/17/12
B-Pillar Sill	Y	N/A	N/A	N/A
B-Pillar Low	Y	N/A	N/A	N/A
B-Pillar Mid	Y	N/A	N/A	N/A
Driver Seat	Y	13708	Endevco	10/22/12
Engine Top	X	12489	Endevco	2/14/12
Engine Top	Y	13322	Endevco	6/18/12
Firewall	Y	13501	Endevco	9/4/12
Right Roof	Y	13316	Endevco	6/18/12
Right Floor Sill	Y	13325	Endevco	6/18/12
Rear Floorpan	X	13375	Endevco	7/9/12
Rear Floorpan	Y	13358	Endevco	6/18/12

TABLE 3 – Pole Instrumentation

	Serial Number	Manufacturer	Calibration Date
Load Cell 1	131822A	Interface	9/17/12
Load Cell 2	132304A	Interface	9/17/12
Load Cell 3	19477	Interface	9/18/12
Load Cell 4	19325	Interface	9/18/12
Load Cell 5	131827A	Interface	9/18/12
Load Cell 6	132302A	Interface	9/18/12
Load Cell 7	19267	Interface	9/19/12
Load Cell 8	19321	Interface	9/19/12