

REPORT NUMBER: NCAP-KAR-13-021

**NEW CAR ASSESSMENT PROGRAM (NCAP)
FRONTAL BARRIER IMPACT TEST**

**HONDA OF AMERICA MFG., INC
2013 HONDA ACCORD EX-L 4-DOOR SEDAN**

NHTSA NUMBER: MD5303

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



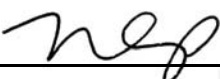
NOVEMBER 7, 2012


FINAL REPORT

**U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
SAFETY PERFORMANCE STANDARDS
OFFICE OF CRASHWORTHINESS STANDARDS
1200 NEW JERSEY AVE, SE
ROOM W43-410
WASHINGTON, DC 20590**

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Approval Date: November 7, 2012

FINAL REPORT ACCEPTANCE BY OCWS:

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

COTR, New Car Assessment Program
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16. Abstract A 56.3 km/h NCAP Frontal Impact Test was conducted on a 2013 Honda Accord EX-L 4-door sedan in accordance with the specifications of the Office of Crashworthiness Standards Frontal NCAP Laboratory Test Procedure. This test was conducted to obtain data indicant of FMVSS 208, 212, 219 (partial), 301, and footwell intrusion performance. The test was conducted at the KARCO Engineering, LLC. facility in Adelanto, California on October 24, 2012. The impact velocity of the vehicle was 56.26 km/h and the ambient temperature at the barrier face at the time of impact was 18.5 deg. C. The target vehicle's post-test maximum crush was 485 mm at DPD 4 to the right of the vehicle's centerline. The test vehicle's performance is as follows:																																																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Measurement Description</th> <th rowspan="2">Units</th> <th colspan="2">Driver ATD</th> <th colspan="2">Passenger ATD</th> </tr> <tr> <th>Threshold</th> <th>Result</th> <th>Threshold</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₁₅)</td> <td>N/A</td> <td>700.0</td> <td>131.7</td> <td>700.0</td> <td>210.8</td> </tr> <tr> <td>Maximum Chest Compression</td> <td>mm</td> <td>63</td> <td>-27</td> <td>52</td> <td>-17</td> </tr> <tr> <td>Nij</td> <td>N/A</td> <td>1</td> <td>0.29</td> <td>1</td> <td>0.35</td> </tr> <tr> <td>Neck Tension</td> <td>N</td> <td>4170</td> <td>931.5</td> <td>2620</td> <td>769.1</td> </tr> <tr> <td>Neck Compression</td> <td>N</td> <td>4000</td> <td>-227.0</td> <td>2520</td> <td>-234.1</td> </tr> <tr> <td>Left Femur Force</td> <td>N</td> <td>10008</td> <td>-2830.9</td> <td>6805</td> <td>-1819.1</td> </tr> <tr> <td>Right Femur Force</td> <td>N</td> <td>10008</td> <td>-961.2</td> <td>6805</td> <td>-1943.9</td> </tr> </tbody> </table>				Measurement Description	Units	Driver ATD		Passenger ATD		Threshold	Result	Threshold	Result	Head Injury Criteria (HIC ₁₅)	N/A	700.0	131.7	700.0	210.8	Maximum Chest Compression	mm	63	-27	52	-17	Nij	N/A	1	0.29	1	0.35	Neck Tension	N	4170	931.5	2620	769.1	Neck Compression	N	4000	-227.0	2520	-234.1	Left Femur Force	N	10008	-2830.9	6805	-1819.1	Right Femur Force	N	10008	-961.2	6805	-1943.9
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SECTION 1

PURPOSE AND SUMMARY OF TEST

PURPOSE

This 56.3 km/h frontal barrier impact test is part of the Vehicle Barrier Impact Testing Program, sponsored by the National Highway Traffic Safety Administration (NHTSA) under contract number DTNH22-12-D-00259. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for consumer information purposes.

The 56.3 km/h frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards Frontal NCAP Laboratory Test Procedure, dated September 2012.

SUMMARY

A load cell barrier consisting of 36 load cells was impacted by a 2013 Honda Accord EX-L 4-door sedan at a velocity of 56.26 km/h. The test was performed at KARCO Engineering, LLC. on October 24, 2012. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A of this report.

Three (3) real-time cameras and sixteen (16) high-speed cameras were used to document the frontal barrier impact event. Camera locations and other pertinent camera information can be found in Data Sheet 6 of this report.

One Part 572E 50th percentile male anthropomorphic test device (ATD) was placed in the driver seating position and one Part 572O 5th percentile female ATD was placed in the right-front passenger seating position according to dummy placement instructions specified in the Frontal NCAP Laboratory Test Procedure.

Both ATDs were fully instrumented with head, chest and pelvis tri-axial accelerometers, chest displacement potentiometers, upper neck force transducers, right / left femur load cells, and lower leg instrumentation. The driver (position 1) ATD (Serial No. 035) and the right-front passenger (position 2) ATD (Serial No. 635) were calibrated prior to this test. Certification details, along with instrumentation calibration data, are found in Appendix C of this report.

The 144 channels of data were recorded on an on-board data acquisition system. Appendix B contains the dummy response data traces.

There was 100% windshield retention and no intrusion into the protected zone of the windshield during the event. There was no Stoddard solvent leakage after the event or during any phase of the static rollover.

The maximum static crush of the test vehicle was 484 mm located at DPD 4 to the right of the vehicle's centerline. Both the driver and passenger side doors remained closed during the impact event and were operable after the impact.

The driver's visible contact points were as follows: The driver ATD's head contacted the airbag and the headrest. The upper torso contacted the airbag. Both the left and right knees contacted the knee bolster and steering column.

The passenger's visible contact points were as follows: The passenger ATD's head contacted the airbag and the headrest. The upper torso contacted the airbag. Both the left and right knees contacted the glove box.

The occupant data is summarized below:

ATD Position	HIC ₁₅	T ¹	T ²	Chest Disp. (mm)	Nij	Neck Tension (N)	Neck Comp. (N)	Left Femur (N)	Right Femur (N)
Driver (50th)	131.7	54.0	69.0	-27	0.29	931.5	-227.0	-2830.9	-961.2
Passenger (5th)	210.8	66.8	81.8	-17	0.35	769.1	-234.1	-1819.1	-1943.9

SECTION 2
DATA SHEETS

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303
 Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12

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 Accord EX-L 4-Door Sedan NHTSA No.: MD5303
 Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA Number	MD5303
Model Year	2013
Make	Honda
Model	Accord EX-L
Body Style	4-Door Sedan
VIN	1HGCR2F8XDA005557
Body Color	Alabaster Silver Metallic
Odometer Reading (km / mi)	8 / 5
Engine Displacement (L)	2.4
Type / No. of Cylinders	Inline 4
Engine Placement	Transverse
Transmission Type	Automatic
Transmission Speeds	CVT
Overdrive	Yes
Final Drive	Front
Roof Rack	No
Sunroof / T-Top	Yes
Running Boards	No
Tilt Steering Wheel	Yes
Power Seats	Yes
Anti-Lock Brakes (ABS)	Yes
Automatic Door Locks	Yes

Traction Control System	Yes
Power Steering	Yes
Power Window Auto-Reverse	Yes
Driver Frontal Airbag	Yes
Driver Curtain Airbag	Yes
Driver Head/Torso Airbag	No
Driver Torso Airbag	No
Driver Torso/Pelvis Airbag	Yes
Driver Pelvis Airbag	No
Driver Knee Airbag	No
Front Pass. Frontal Airbag	Yes
Front Pass. Curtain Airbag	Yes
Front Pass. Head/Torso Airbag	No
Front Pass. Torso Airbag	No
Front Pass. Torso/Pelvis Airbag	Yes
Front Pass. Pelvis Airbag	No
Front Pass. Knee Airbag	No
Driver Pretensioner	Yes
Driver Load Limiter	Yes
Front Pass. Pretensioner	Yes
Front Pass. Load Limiter	Yes
Other Safety Restraint	Yes

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

DATA FROM CERTIFICATION LABEL

Manufactured By	Honda of America MFG., Inc
Date of Manufacture	Aug-12

GVWR (kg)	1960
GAWR Front (kg)	1050
GAWR Rear (kg)	930

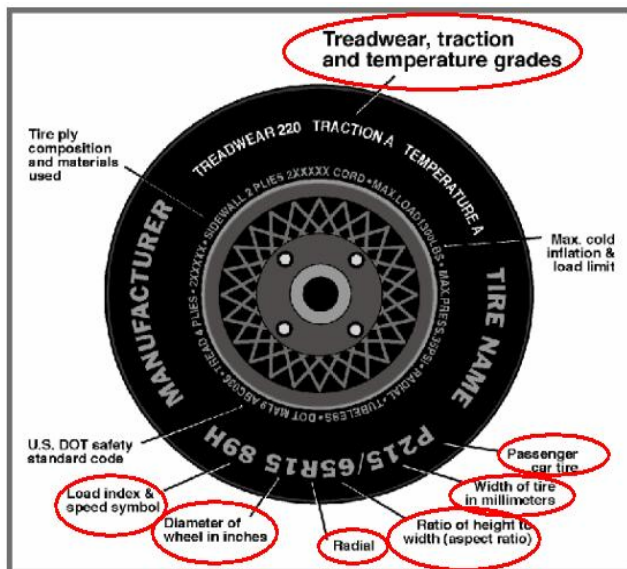
VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total	
Type of Seats	Bucket	Bench			
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

DATA SHEET NO. 1 ... (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303
 Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12



VEHICLE TIRE INFORMATION

Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	300	300
Cold Pressure (kPa)	225	225
Recommended Tire Size	215/55R17	215/55R17
Tire Size on Vehicle	215/55R17	215/55R17
Tire Manufacturer	Michelin	Michelin
Tire Model	Primacy	Primacy
Treadwear	500	500
Traction	A	A
Temperature Grades	A	A
Tire Plies Sidewall	2 Polyester	2 Polyester
Tire Plies Body	2 Polyester, 1 Polyamide, 2 Steel	2 Polyester, 1 Polyamide, 2 Steel
Load Index / Speed Symbol	94V	94V
Tire Material	Polyester, Polyamide, Steel	Polyester, Polyamide, Steel
DOT Safety Code Left	B93F O1UX 2812	B93F O1UX 2812
DOT Safety Code Right	B93F O1UX 2812	B93F O1UX 2812

DATA SHEET NO. 1 ... (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303
 Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12

TEST VEHICLE WEIGHTS

	Units	As Delivered Weights (UVW)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	472.5	313.5		503.0	380.5	
Right	kg	452.0	300.5		473.0	361.5	
Ratio	%	60.1%	39.9%	100.0%	56.8%	43.2%	100.0%
Total	kg	924.5	614.0	1538.5	976.0	742.0	1718.0

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	1538.5	A
Weight of 1 P572E ATD & 1 P572O ATD	kg	141.0	B
Rated Cargo/Luggage Weight (RCLW)	kg	44.8	C
Calculated Vehicle Target Weight (TVTW)	kg	1724.3	A+B+C

TEST VEHICLE ATTITUDES

Condition	Units	LF	RF	LR	RR	CG Aft of Front Axle
As Delivered	mm	701	709	698	700	1109
As Tested	mm	691	695	677	682	1201
Post-Test	mm	742	766	684	681	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Total Vehicle Wheel Base	mm	2780
Total Vehicle Length at Left Side	mm	4173
Total Vehicle Length at Centerline	mm	4863
Total Vehicle Length at Right Side	mm	4180
Weight of Ballast in Cargo Area	kg	77.0
Weight of Vehicle Components Removed	kg	18.0
Amount of Stoddard Solvent in Fuel Tank	L	60.54

VEHICLE COMPONENTS REMOVED TO MEET TEST WEIGHT:

Rear Deck Lid (12.0 kg), Outboard Mirrors (3.0 kg), Tail Lights (3.0 kg)

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

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303
Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12

TARGET VEHICLE STRUCTURAL MEASUREMENTS

No.	Description	Pre-Test	Post-Test	Difference
1	Total Length	4863	4494	-369
2	Total Width	1840	2017	177
3	Bumper Top Height	575	615	40
4	Bumper Bottom Height	430	470	40
5	Longitudinal Member Top Height	580	580	0
6	Distance Between Longitudinal Members	950	1050	100
7	Longitudinal Member Width	100	145	45
8	Engine Top Height	820	836	16
9	Engine Bottom Height	161	100	-61
10	Engine and Gearbox Width	700	700	0
11	Front Bumper to Engine Distance	680	924	244
12	Front Shock Absorber Fixing Height	872	920	48
13	Bonnet Leading Edge Height	695	789	94
14	Front Shock Absorber Fixing Width	1190	1180	-10
15	Front Bumper to Front Axle Distance	965	560	-405
16	Front Axle to A-Pillar Distance	485	393	-92
17	A-Pillar to B-Pillar Distance	1065	1066	1
18	B-Pillar to Rear Axle Distance	1143	1135	-8
19	B-Pillar to C-Pillar Distance	873	873	0
20	Roof Sill Bottom Height	1309	1350	41
21	Roof Sill Top Height	1414	1452	38
22	Floor Sill Bottom Height	230	280	50
23	Floor Sill Top Height	320	365	45

All measurements in millimeters.

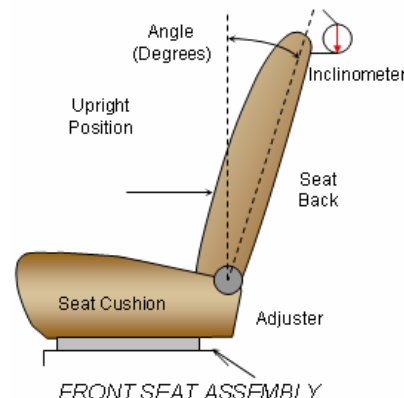
DATA SHEET NO. 2

SEAT ADJUSTMENT, FUEL SYSTEMS, AND STEERING WHEEL DATA

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303
 Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12

NOMINAL DESIGN RIDING POSITION

The procedure for the driver is as follows: the seat back is set to the manufacturer's designated angle. The procedure for the passenger is as follows: the seat back is set to position the transverse instrumentation platform of the dummy's head at $0^\circ \pm 0.5^\circ$. Seat back angle is measured at the headrest post using a digital inclinometer.

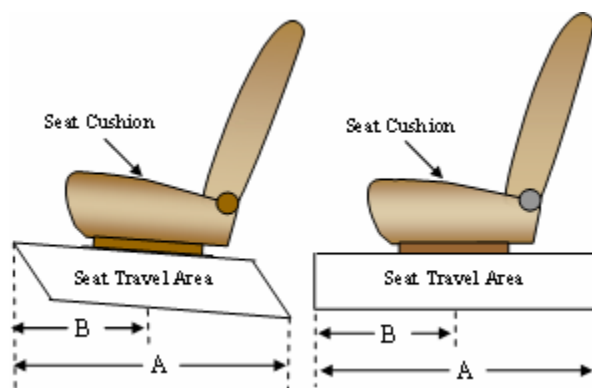


SEAT BACK ANGLE

Seating Position	Degrees
Driver Seat Back Angle	3.0
Passenger Seat Back Angle	5.1

SEAT FORE / AFT POSITIONING

The total seat travel is measured from the forward most possible position to the rear most possible position. The driver's seat is set to the middle of the fore-aft travel. The passenger's seat is set to the forward most position where the ATD will not contact any interior panels.



SEAT FORE/AFT POSITIONS

Seating Position	Total Fore-Aft Travel	Placed in Position
Driver Seat	286 mm	143 mm
Passenger Seat	238 mm	0 mm

SEAT BELT UPPER ANCHORAGE

The seat belt upper anchorage is positioned to the manufacturer's design position for a 50th percentile adult male ATD for the driver, and a 5th percentile adult female ATD for the passenger. Position "H" is the uppermost position, followed by position "M1". Position "L" is the lowermost position.

SEAT BELT UPPER ANCHORAGES

Seating Position	Total No. of Positions	Placed in Position
Driver Seat	4	H
Passenger Seat	4	H

DATA SHEET NO. 2 ... (CONTINUED)

SEAT ADJUSTMENT, FUEL SYSTEMS, AND STEERING WHEEL DATA

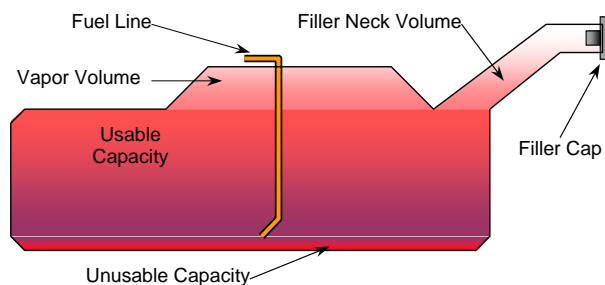
Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303
 Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12

FUEL TANK CAPACITY

Description	Liters
Usable Capacity of "Standard Tank"	65.10
Usable Capacity of "Optional Tank"	
92 - 94% of Usable Capacity	59.89 to 61.2
Actual Amount of Stoddard Solvent Used	60.54
1/3 of Usable Capacity	21.70

FUEL PUMP

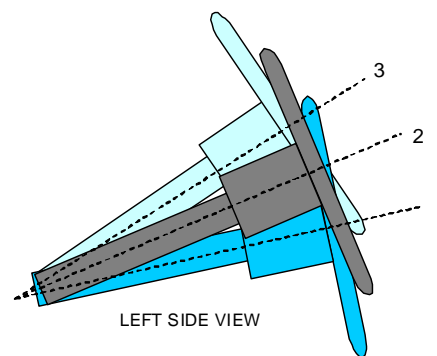
The vehicle is equipped with an electric fuel pump. The fuel pump is activated when the ignition key is turned from LOCK (O) to ON (II). The pump will operate for two seconds, and then the pressure is maintained.



VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when moved through its full range of motion. A digital inclinometer is used to measure a plate which is placed across the rim of the steering wheel for angular measurements. A tape measure is used to measure telescoping steering wheel travel.



STEERING COLUMN ASSEMBLY

STEERING COLUMN POSITIONING

	Degrees	Fore-Aft Position (mm)
Lowermost Position, No. 1	18.0	125
Geometric Center Position, No. 2	21.2	145
Uppermost Position, No. 3	24.3	166
Telescoping Steering Wheel Travel		41
Test Position	21.1	145

DATA SHEET NO. 3

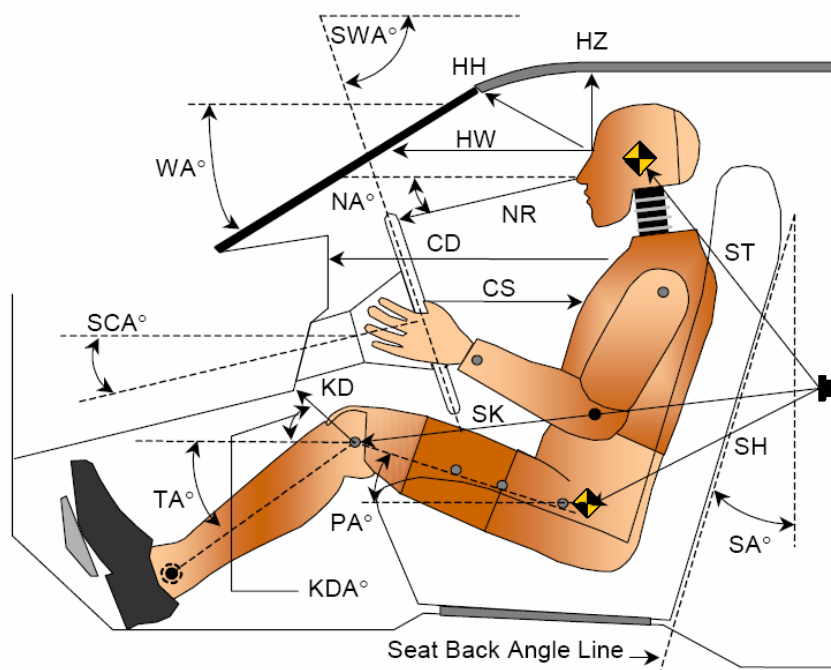
DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan

NHTSA No.: MD5303

Test Program: 56 km/h Frontal Impact NCAP Test

Test Date: 10/24/12



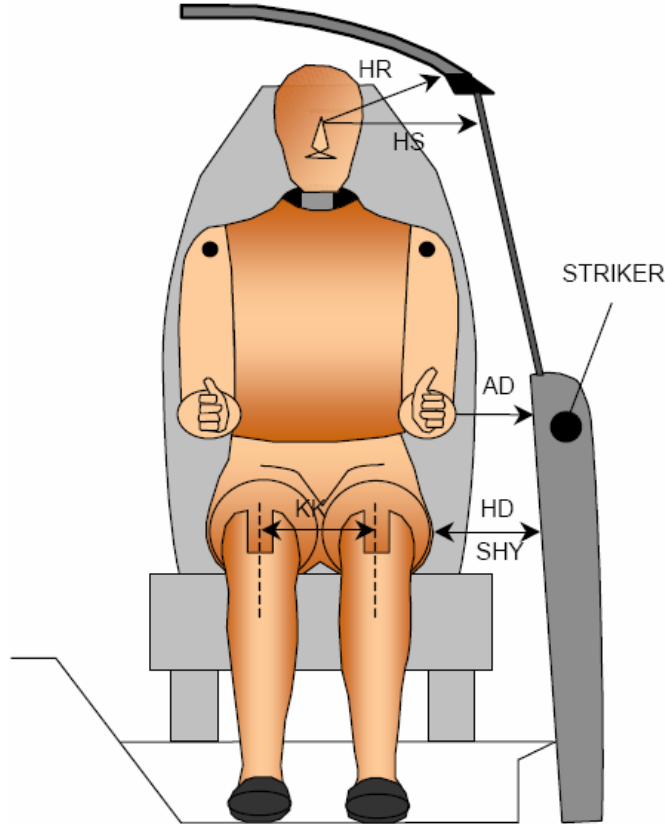
LEFT SIDE VIEW

Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA°	Windshield Angle		25.2		
SWA°	Steering Wheel Angle		68.6		
SCA°	Steering Column Angle		21.4		
SA°	Seat Back Angle (On Headrest Post)		3.0		5.1
HZ	Head to Roof	165	90.0	234	90.0
HH	Head to Header	307	24.6	312	51.0
HW	Head to Windshield	590	0.0	685	0.0
NR	Nose to Rim	359	7.2	463	28.4
CD	Chest to Dash	544		412	2.4
CS	Chest to Steering Hub	308	3.8		
RA	Rim to Abdomen	194	0.0		
KDL	Left Knee to Dash	174	29.4	115	32.2
KDR	Right Knee to Dash	134	32.2	102	39.9
PA°	Pelvic Angle		20.6		22.1
TA°	Tibia Angle		43.0		4.0
SK	Striker to Knee	613	13.8	710	13.5
ST	Striker to Head	414	71.2	356	55.9
SH	Striker to H-Point	355	50.3	462	34.0

DATA SHEET NO. 4

DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303
 Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12



Code	Description	Driver (mm)	Passenger (mm)
AD	Arm to Door	140	98
HD	H-Point to Door	140	187
HR	Head to Side Header	204	256
HS	Head to Side Window	320	343
KK	Knee to Knee	360	218
SHY	Striker to H-Point (Y-Direction)	265	295
AA	Ankle to Ankle	380	160

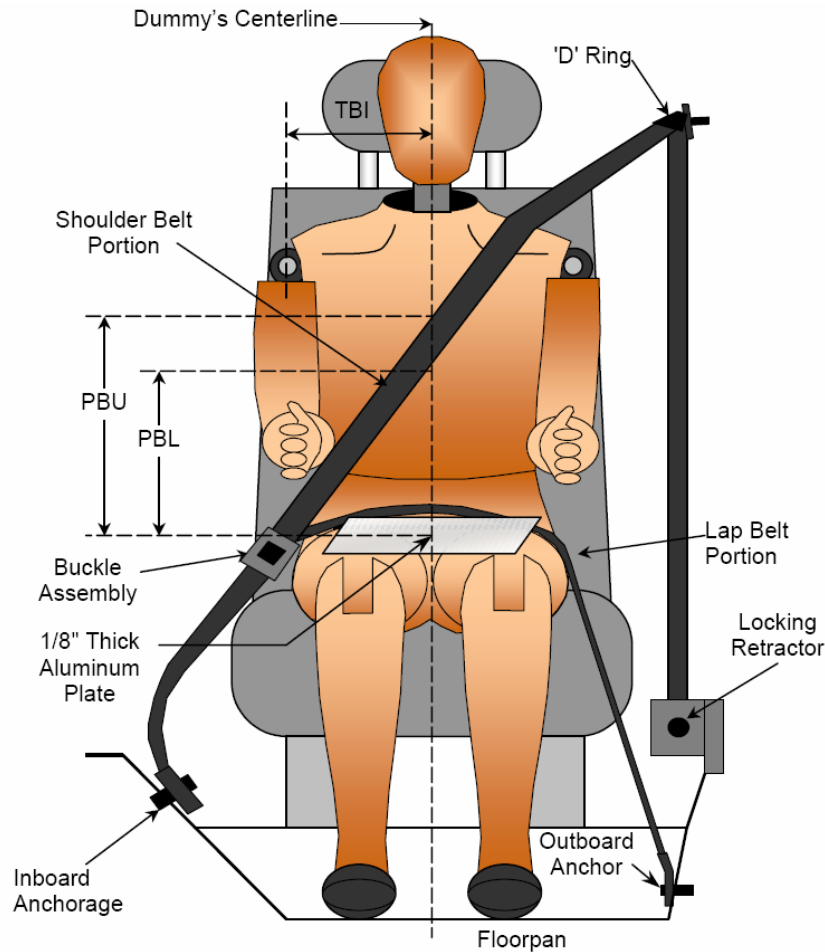
DATA SHEET NO. 5
SEAT BELT POSITIONING DATA

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan

NHTSA No.: MD5303

Test Program: 56 km/h Frontal Impact NCAP Test

Test Date: 10/24/12



FRONT VIEW OF DUMMY

SEAT BELT POSITIONING MEASUREMENTS

Code	Measurement Description	Units	Driver	Passenger
PBU	Top Surface of Aluminum Plate to Belt Upper Edge	mm	340	305
PBL	Top Surface of Aluminum Plate to Belt Lower Edge	mm	255	215

BELT LENGTH DATA

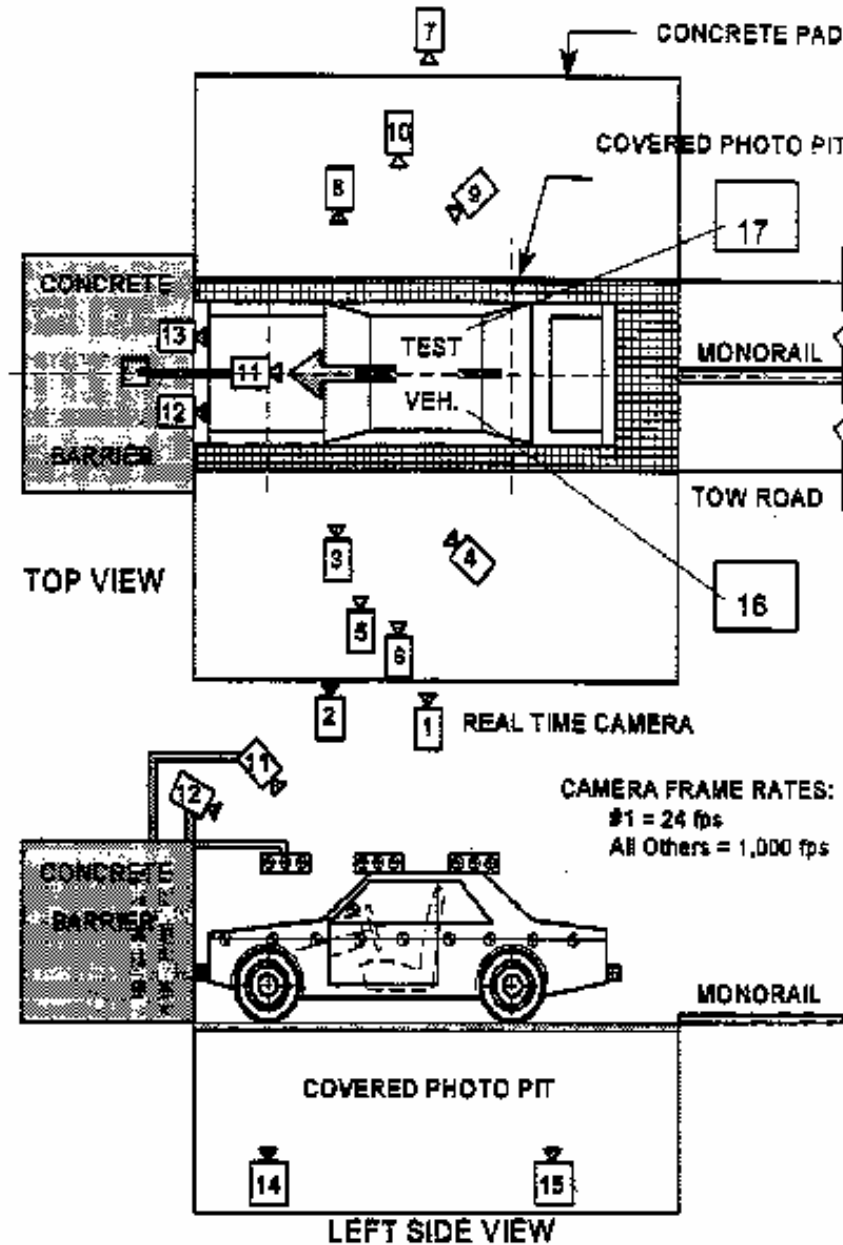
Measurement Description	Units	Driver	Passenger
Shoulder Belt Length as Measured on ATD	mm	910	920
Lap Belt Length as Measured on ATD	mm	604	570
Remainder of Belt on Reel	mm	1074	1070
Total Belt Length for Continuous Webbing Systems	mm	2588	2560

DATA SHEET NO. 6

HIGH-SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303
Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12

CAMERA POSITIONS FOR FRONTAL IMPACTS



DATA SHEET NO. 6 ... (CONTINUED)

HIGH-SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303
 Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12

CAMERA LOCATIONS

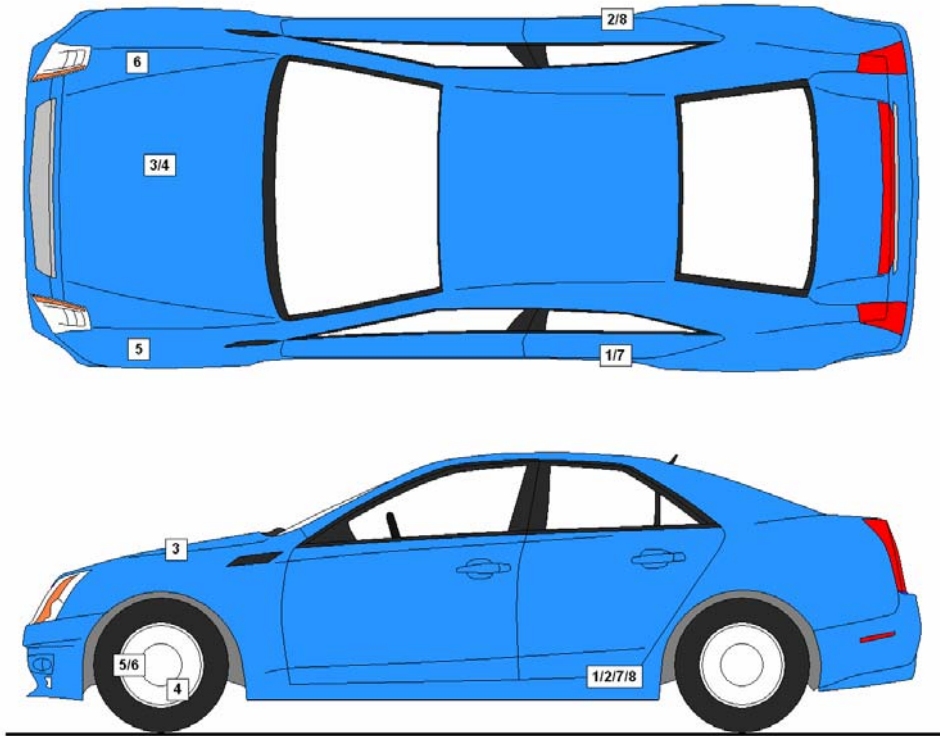
No.	Description	Location (mm)			Lens (mm)	Speed (fps)
		X	Y	Z		
1	Real-Time Left Overall	-11412	-8150	-1484		30
2	Driver Close-Up	-2590	-7950	-1371	24	1000
3	Left Front Half	-1701	-6197	-1701	50	1000
4	Left Angle	-6696	-10308	-3211	ZOOM	1000
5	Steering Column - Top	-1966	-10412	-3688	50	1000
6	Steering Column - Bottom	-1972	-10412	-3379	50	1000
7	Right Overall	-2336	7569	-1012	24	1000
8	Passenger Close-Up	-1733	7581	-1408	50	1000
9	Right Front Half	-1600	8214	-1811	ZOOM	1000
10	Right Angle	-6217	9516	-4830	ZOOM	1000
11	Windshield	-354	0	-5749	12	1000
12	Driver Windshield	297	-366	-2460	12	1000
13	Passenger Windshield	297	366	-2460	24	1000
14	Pit Front	-756	0	1495	12	1000
15	Pit Rear	-3398	0	1495	8	1000
16	Onboard Driver Airbag (Optional)	-3290	275	-1290	12	1000
17	Onboard Passenger Airbag (Optional)	-3290	-275	-1290	12	1000
18	Real-Time Left View of Impact					
19	Real-Time Right View of Impact					

Coordinates: +X = forward impact plane
 +Y = right of monorail center
 +Z = into ground

DATA SHEET NO. 7

VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303
 Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12



VEHICLE ACCELEROMETER PRE-TEST LOCATIONS

No.	Description	Location		
		X	Y	Z
1	Left Rear Accelerometer X-Direction	1830	-760	-320
2	Right Rear Accelerometer X-Direction	1830	760	-320
3	Engine Top X	4040	180	-820
4	Engine Bottom X	4110	180	-170
5	Left Rear Accelerometer Redundant X	1830	-760	-320
6	Right Rear Accelerometer Redundant X	1830	760	-320

Reference Points: X – Rear Surface of Vehicle (+ forward)
 Y – Vehicle Centerline (+ to right)
 Z – Ground Plane (+ down)

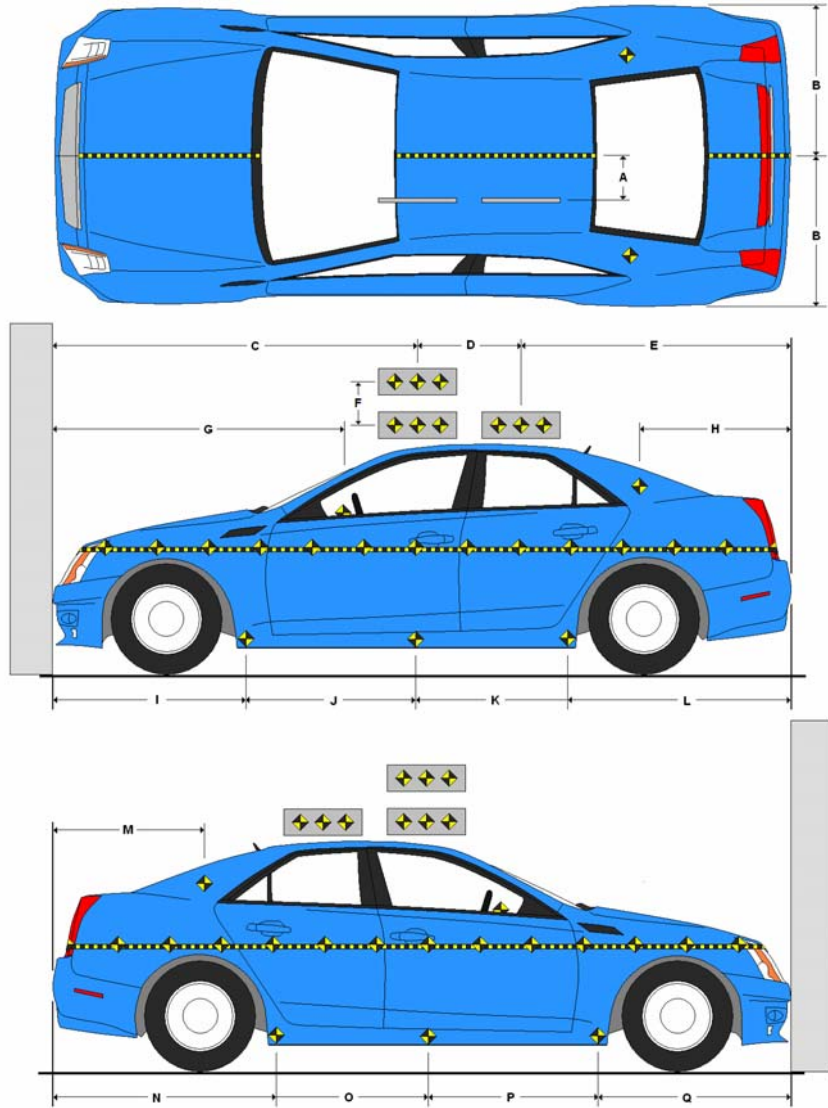
DATA SHEET NO. 8

PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303

Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12

Item	Value
A	
B	920
C	
D	
E	
F	305
G	1810
H	946
I	1410
J	941
K	941
L	1565
M	990
N	1570
O	941
P	941
Q	1396



All measurements in millimeters.

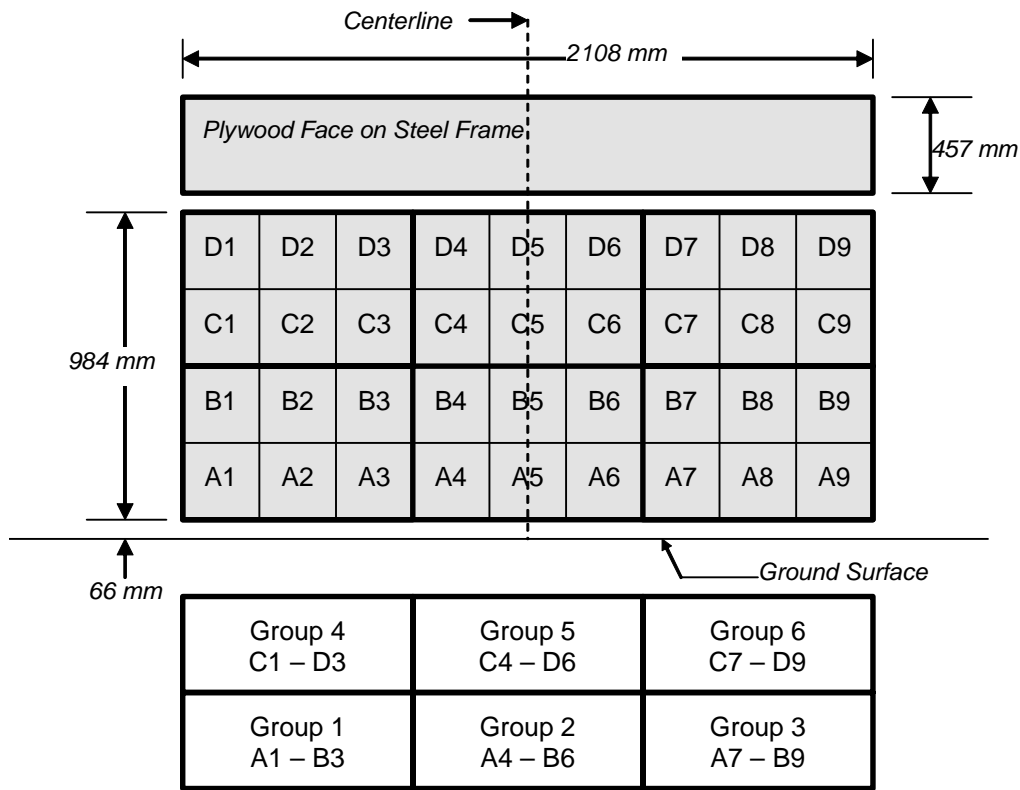
DATA SHEET NO. 9

LOAD CELL LOCATIONS ON FIXED BARRIER

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303

Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12

**36 Load Cell Rigid Barrier (NHTSA Standard)
Load Cell Locations on Fixed Barrier**



6 Groups of 6 Load Cells Each

DATA SHEET NO. 10

TEST VEHICLE CAMERA AND INSTRUMENTATION SUMMARY

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303
Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12

INSTRUMENTATION

Driver Dummy Accelerometers	50
Passenger Dummy Accelerometers	50
Vehicle Structure Accelerometers	8
Seat Belt Load Cells	0
Load Cell Barrier	36
Total	144

CAMERA COVERAGE

High-Speed Vehicle On Board	2
High-Speed Off board	14
Real Time	3
Total	19

DATA SHEET NO. 11
POST-TEST OBSERVATIONS

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303
 Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12

TEST DUMMY INFORMATION AND CONTACT

Description	Driver	Passenger
Dummy Type/Serial No.	P572E 50th Percentile Male ATD / 035	P572O 5th Percentile Female ATD / 635
Head Contact	Airbag, Headrest	Airbag, Headrest
Upper Torso Contact	Airbag	Airbag
Lower Torso Contact	None	None
Left Knee Contact	Knee Bolster, Steering Column	Glove Box
Right Knee Contact	Knee Bolster, Steering Column	Glove Box

DOOR OPENING AND SEAT TRACK INFORMATION

Description	Driver	Passenger
Locked / Unlocked Doors	Unlocked	Unlocked
Front Door Opening	Remained closed and latched, operational	Remained closed and latched, operational
Rear Door Opening	Remained closed and latched, operational	Remained closed and latched, operational
Seat Track Shift (mm)	16	7
Seat Back Failure	None	None
Glazing Damage	None	None

POST TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Windshield Damage	Broken
Window Damage	None
Other Notable Effects	None

VEHICLE REBOUND FROM BARRIER

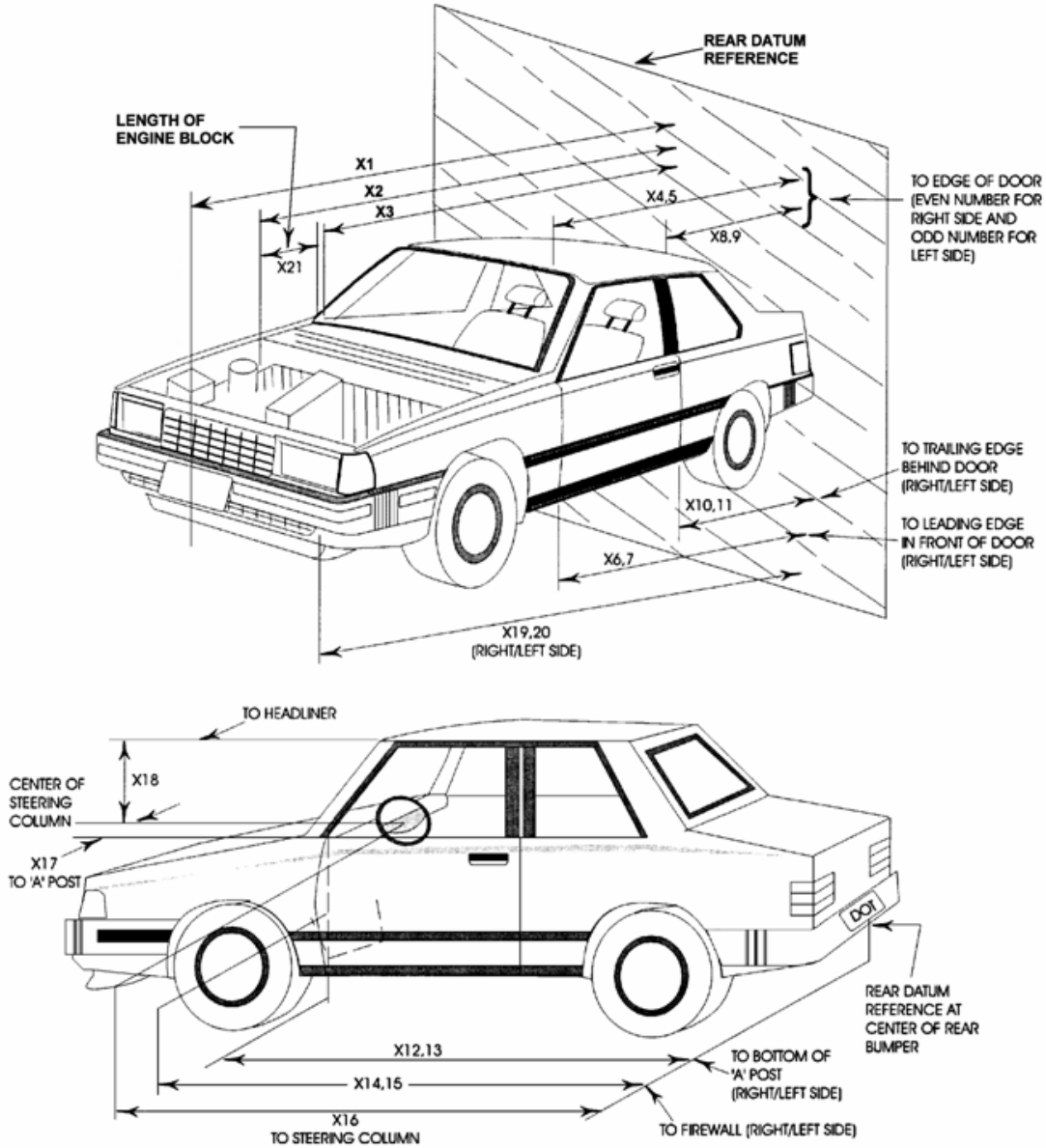
Measured Parameter	Units	Value
Left Side	mm	1190
Center	mm	1170
Right Side	mm	1120
Average	mm	1160

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Driver		Passenger	
	Installed	Operated	Installed	Operated
Front Airbag	Yes	Yes	Yes	Yes
Side Airbag 1 (Curtain)	Yes	No	Yes	No
Side Airbag 2 (Torso/Pelvis)	Yes	No	Yes	No
Knee Airbag	No		No	
Seat Belt Pretensioner	Yes	Yes	Yes	Yes
Seat Belt Load Limiter	Yes	Yes	Yes	Yes
Other				

DATA SHEET NO. 12
VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303
 Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12



DATA SHEET NO. 12 ... (CONTINUED)

VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303
 Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12

No.	Description	Pre-Test	Post-Test	Difference
1	Total Length of Vehicle at Centerline	4863	4494	-369
2	Rear Surface of Vehicle to Front of Engine	4183	3564	-619
3	RSOV to Firewall	3618	3598	-20
4	RSOV to Upper Leading Edge of Right Door	3425	3432	7
5	RSOV to Upper Leading Edge of Left Door	3410	3416	6
6	RSOV to Lower Leading Edge of Right Door	3400	3404	4
7	RSOV to Lower Leading Edge of Left Door	3400	3397	-3
8	RSOV to Upper Trailing Edge of Right Door	2262	2265	3
9	RSOV to Upper Trailing Edge of Left Door	2245	2250	5
10	RSOV to Lower Trailing Edge of Right Door	2270	2270	0
11	RSOV to Lower Trailing Edge of Left Door	2264	2263	-1
12	RSOV to Bottom of A-Pillar, Right Side	3383	3378	-5
13	RSOV to Bottom of A-Pillar, Left Side	3364	3364	0
14	RSOV to Firewall, Right Side	3751	3739	-12
15	RSOV to Firewall, Left Side	3614	3593	-21
16	RSOV to Steering Column	2900	2950	50
17	Center of Steering Column to A-Pillar	395	401	6
18	Center of Steering Column to Headliner	400	420	20
19	RSOV to Right Side of Front Bumper	4180	4070	-110
20	RSOV to Left Side of Front Bumper	4173	3935	-238
21	Length of Engine Block	250	250	0
RD	RSOV to Right Side of Dash Panel	3060	3050	-10
CD	RSOV to Center of Dash Panel	2970	3005	35
LD	RSOV to Left Side of Dash Panel	3040	3062	22

All measurements in millimeters.

DATA SHEET NO. 13
ACCIDENT INVESTIGATION DATA

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303
 Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12

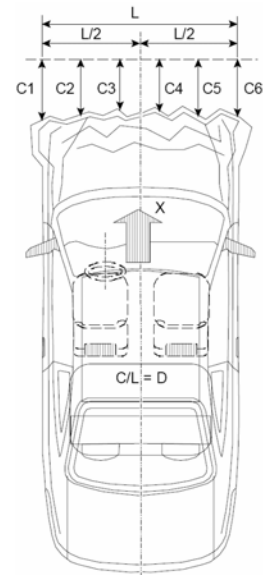
VEHICLE INFORMATION

VIN: 1HGCR2F8XDA005557 Wheelbase (mm): 2780
 Vehicle Size Category: 4-Door Sedan Test Weight (kg): 1718.0

ACCELEROMETER DATA

Accelerometer Locations: Left Rear Crossmember
 Cal. Procedure/Interval: Drop Test / 6 months
 Integration Algorithm: NHTSA Standard
 Impact Velocity (km/h): 56.26
 Velocity Change (km/h): 68.7
 Time of Separation (msec): 75.4

Linearity: Good



CRUSH PROFILE

Collision Deformation Classification: 12FDEW2
 Midpoint of Damage: Vehicle Centerline
 Damage Region Length (mm): 1424
 Impact Mode: Full Frontal

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush Zone 1 at Left Side	mm	229	580	351
C2	Crush Zone 2 at Left Side	mm	75	501	426
C3	Crush Zone 3 at Left Side	mm	15	490	475
C4	Crush Zone 4 at Right Side	mm	15	500	485
C5	Crush Zone 5 at Right Side	mm	75	545	470
C6	Crush Zone 6 at Right Side	mm	229	556	327
L	C1 to C6	mm	1424		

DATA SHEET NO. 14

VEHICLE INTRUSION MEASUREMENTS

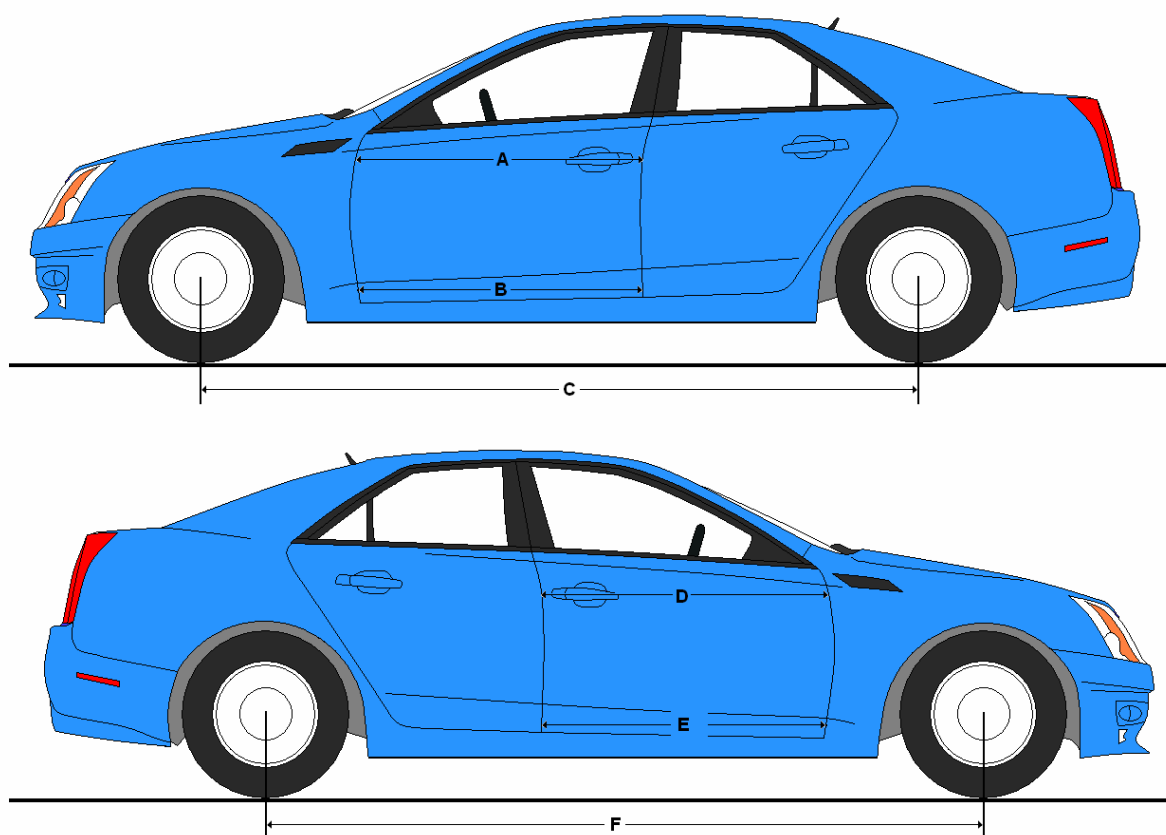
Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303
 Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12

DOOR OPENING WIDTH

Item	Description	Units	Pre-Test	Post-Test	Difference
A	Left Side Upper	mm	1060	1068	-8
B	Left Side Lower	mm	964	963	1
D	Right Side Upper	mm	1070	1067	3
E	Right Side Lower	mm	973	970	3

WHEELBASE MEASUREMENTS

Item	Description	Units	Pre-Test	Post-Test	Difference
C	Left Side Wheelbase	mm	2780	2678	102
F	Right Side Wheelbase	mm	2780	2676	104



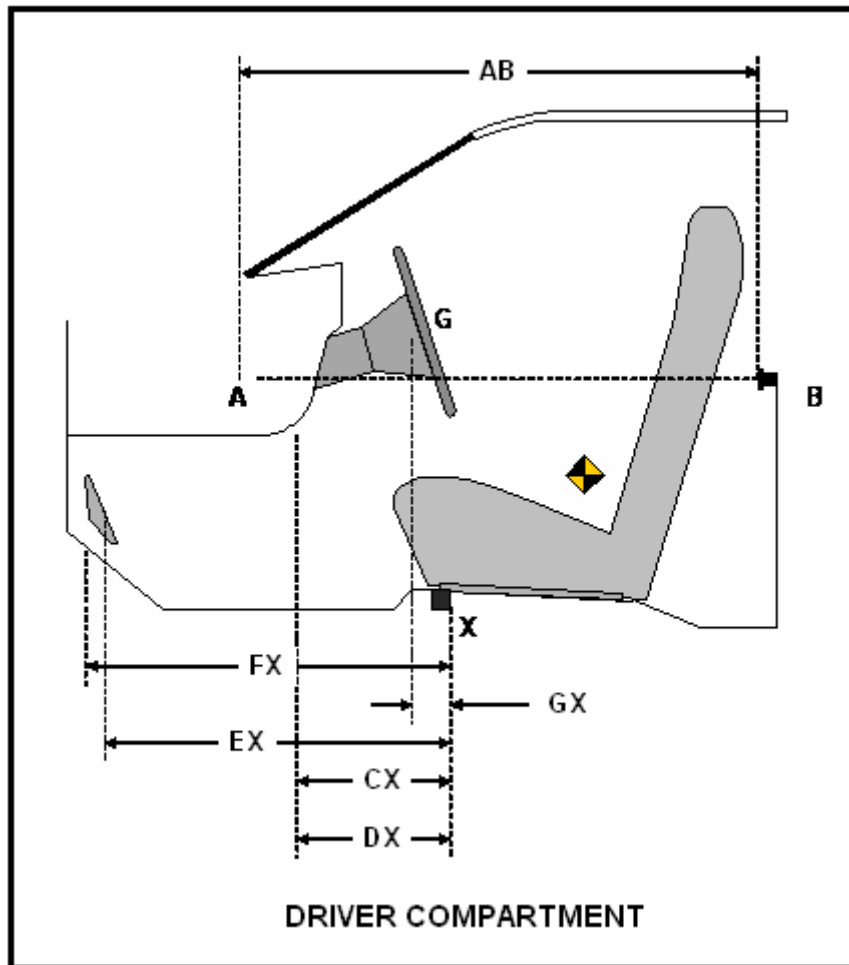
DATA SHEET NO. 14 ... (CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303
 Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12

DRIVER COMPARTMENT INTRUSION

Item	Description	Units	Pre-Test	Post-Test	Difference
AB	Door Opening (Inside Window Jam)	mm	923	938	-15
CX	Left Knee Bolster to X	mm	315	330	-15
DX	Right Knee Bolster to X	mm	330	340	-10
EX	Brake Pedal to X	mm	580	545	35
FX	Foot Rest to X	mm	590	630	-40
GX	Center of Steering Wheel Hub to X	mm	120	180	-60

X = Front of Seat Track (Stationary)



DATA SHEET NO. 15

SUMMARY OF FMVSS 212 AND 219 (PARTIAL) DATA

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303

Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12

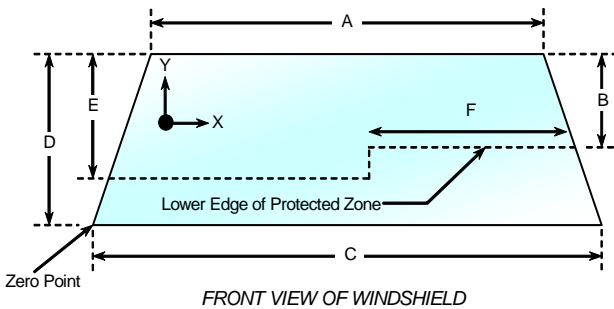
Windshield Mounting Details: Windshield glass is secured to the vehicle frame with rubber cement.

The standard requires that the post-test retention measurement be a minimum of 75% of the pre-test total periphery measurement for vehicles not equipped with occupant passive restraints and 50% for each side of the windshield for vehicles which are equipped with occupant passive restraints.

Temperature of windshield molding during test: 20.7 ° C

WINDSHIELD PERIPHERY MEASUREMENTS

Measurement	Pre-Test (mm)	Post-Test (mm)	% Retention
Left Side	2071	2071	100.0%
Right Side	2071	2071	100.0%
Total	4142	4142	100.0%



Item	Units	Value
A	mm	1168
B	mm	407
C	mm	1430
D	mm	772
E	mm	555
F	mm	365

AREAS OF PROTECTED ZONE FAILURES

A. Provide Coordinates of the area that the protected zone was penetrated more than 0.25 inches by a vehicle component other than one that is normally in contact with the windshield.

X	Y

B. Provide coordinates of the area beneath the protected zone that the inner surface of the windshield was penetrated by a vehicle component.

X	Y

DATA SHEET NO. 15 ... (CONTINUED)

SUMMARY OF FMVSS 212 AND 219 (PARTIAL) DATA

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303
Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12

FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Temperature at Time of Impact: 18.5° C Test Time: 12:55 PM

Stoddard Solvent Spillage Measurements

- 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: There was no Stoddard solvent spillage.

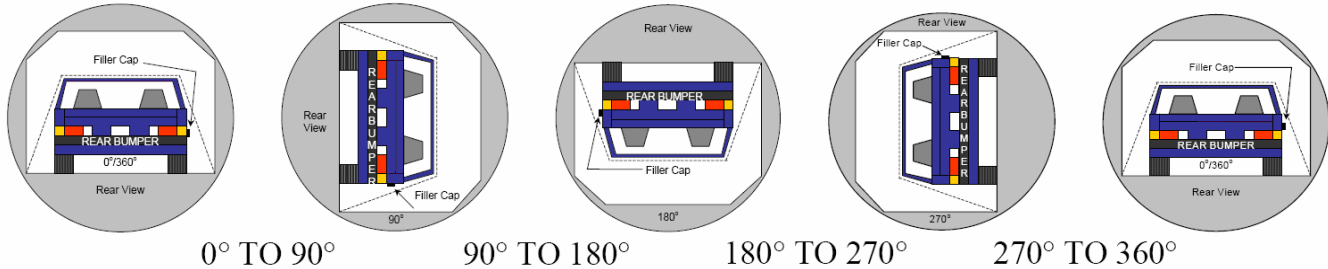
DATA SHEET NO. 16
FMVSS 301 STATIC ROLLOVER

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan

NHTSA No.: MD5303

Test Program: 56 km/h Frontal Impact NCAP Test

Test Date: 10/24/12



1. The specified fixture rollover rate for each 90° of rotation is 60 to 180 seconds.
2. The position hold time at each position is 300 seconds (minimum).
3. Details of Stoddard solvent spillage: There was no Stoddard solvent spillage.

SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° To 90°	82	300	382
90° To 180°	80	300	380
180° To 270°	78	300	378
270° To 360°	83	300	383

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

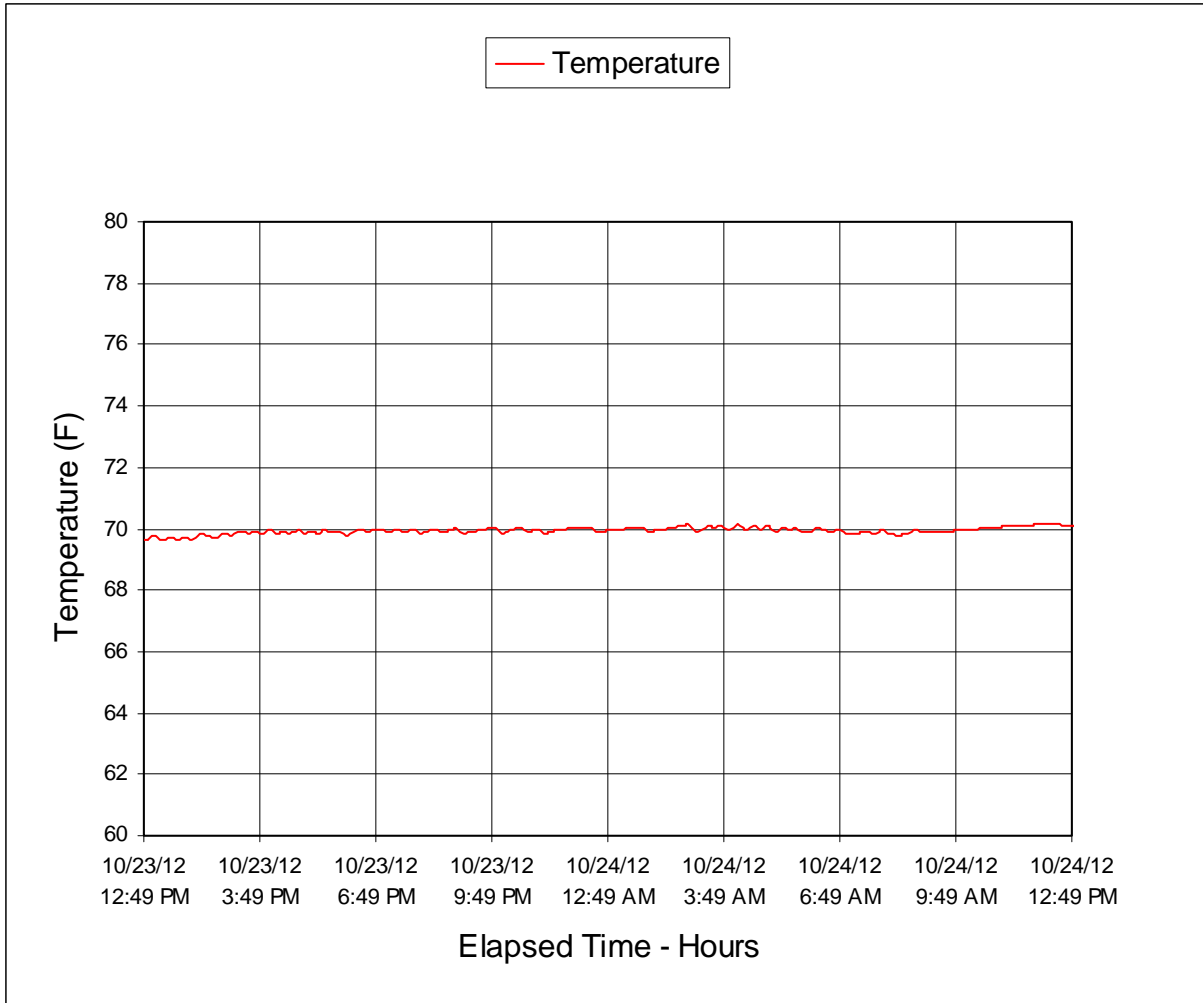
Test Phase	Spillage Location
0° To 90°	
90° To 180°	
180° To 270°	
270° To 360°	

DATA SHEET NO. 17

DUMMY / VEHICLE TEMPERATURE STABILIZATION CHART

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan NHTSA No.: MD5303

Test Program: 56 km/h Frontal Impact NCAP Test Test Date: 10/24/12



**APPENDIX A
PHOTOGRAPHS**

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FIGURE 1. Load Cell Location



FIGURE 2. Load Cell Wall



FIGURE 3. Manufacturer's Label



FIGURE 4. Tire Placard



FIGURE 5. 2013 Honda Accord EX-L Frontal, As Delivered



FIGURE 6. Left Rear $\frac{3}{4}$ View, As Received



FIGURE 7. Pre-Test Front View of Test Vehicle

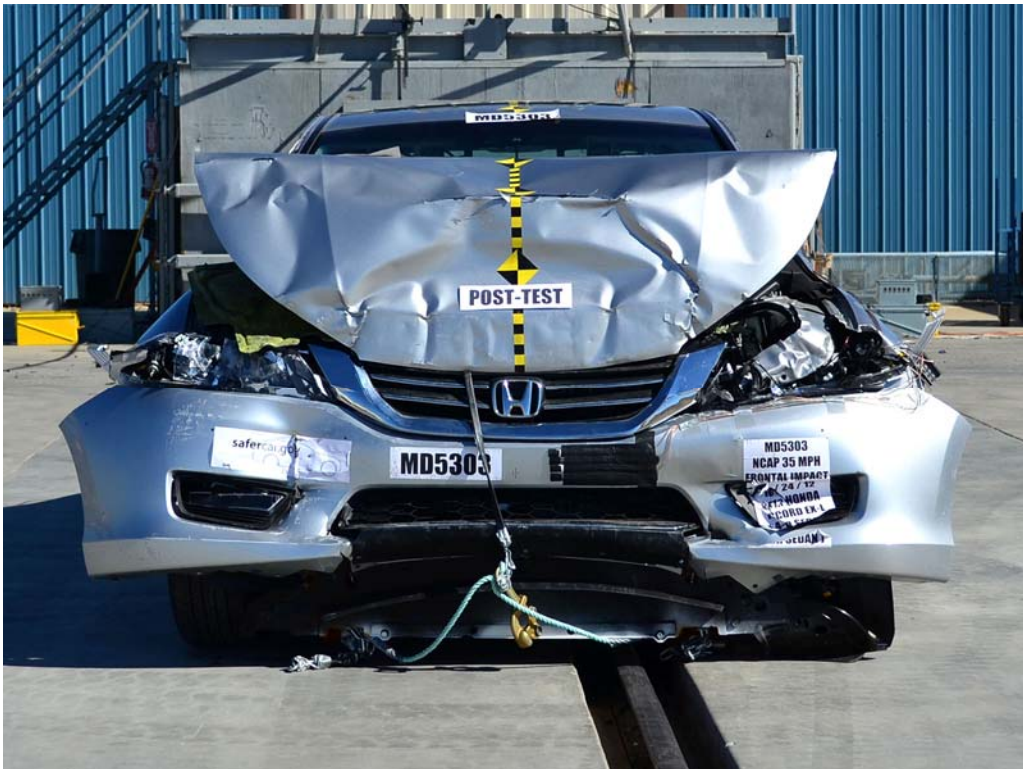


FIGURE 8. Post-Test Front View of Test Vehicle



FIGURE 9. Pre-Test Left View of Test Vehicle



FIGURE 10. Post-Test Left View of Test Vehicle



FIGURE 11. Pre-Test Right View of Test Vehicle



FIGURE 12. Post-Test Right View of Test Vehicle



FIGURE 13. Pre-Test Right Front $\frac{3}{4}$ View



FIGURE 14. Post-Test Right Front $\frac{3}{4}$ View



FIGURE 15. Pre-Test Left Rear $\frac{3}{4}$ View



FIGURE 16. Post-Test Left Rear $\frac{3}{4}$ View

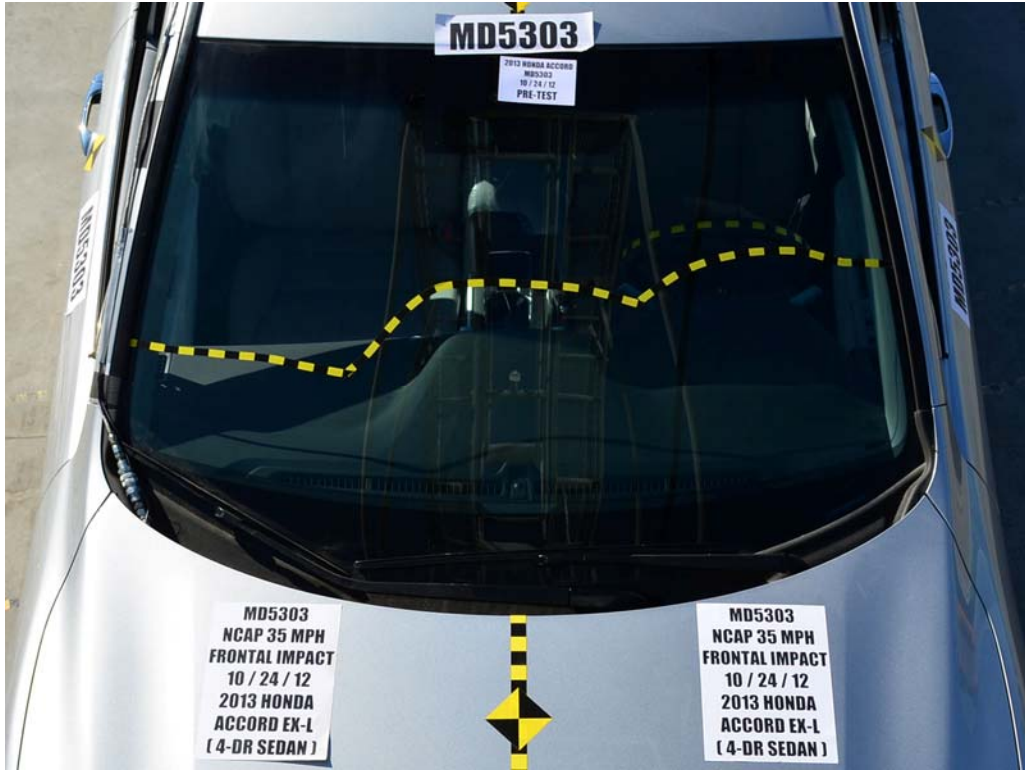


FIGURE 17. Pre-Test Windshield View



FIGURE 18. Post-Test Windshield View



FIGURE 19. Pre-Test Engine Compartment View

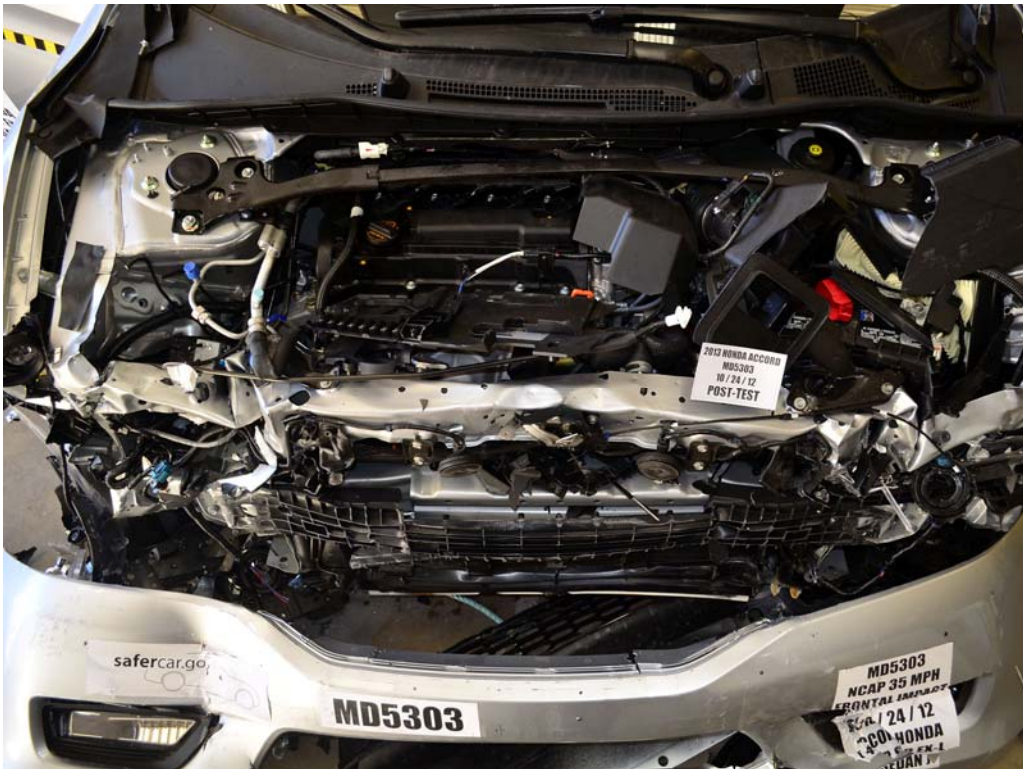


FIGURE 20. Post-Test Engine Compartment View



FIGURE 21. Pre-Test Fuel Filler Cap View



FIGURE 22. Post-Test Fuel Filler Cap View

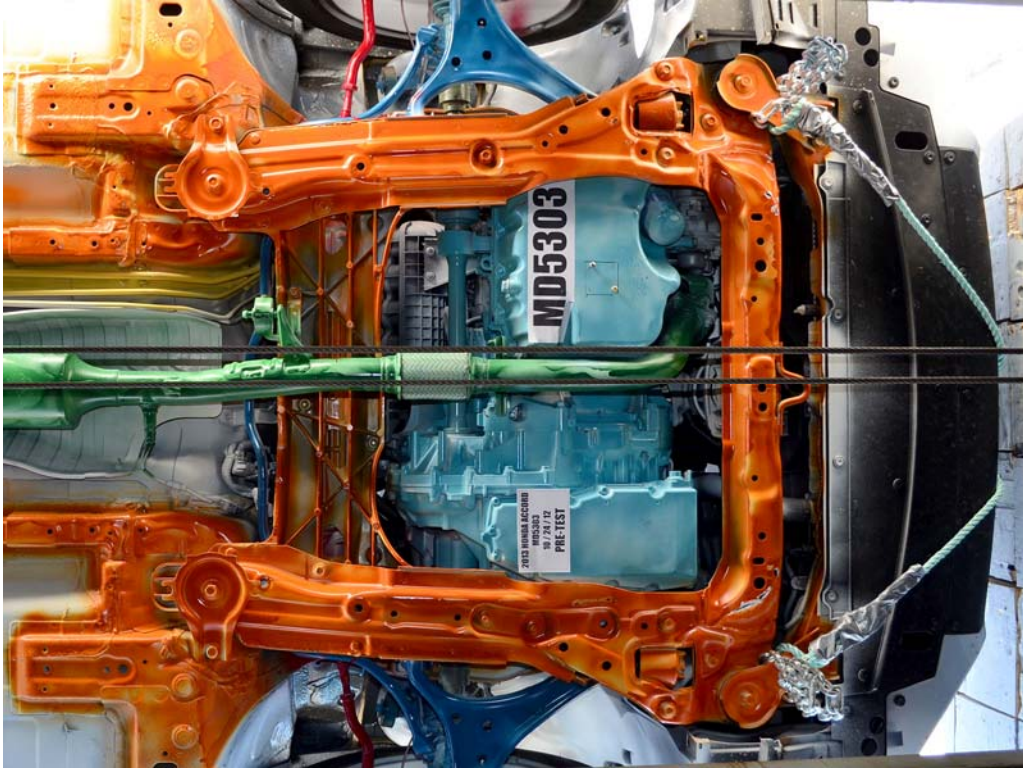


FIGURE 23. Pre-Test Front Underbody View

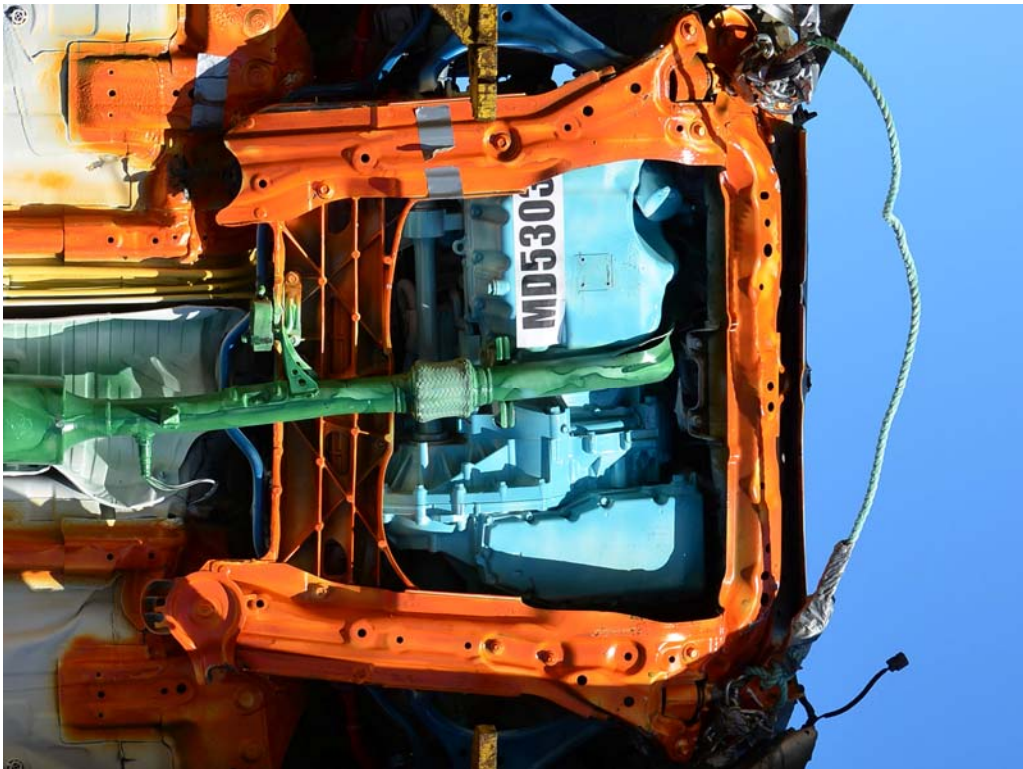


FIGURE 24. Post-Test Front Underbody View

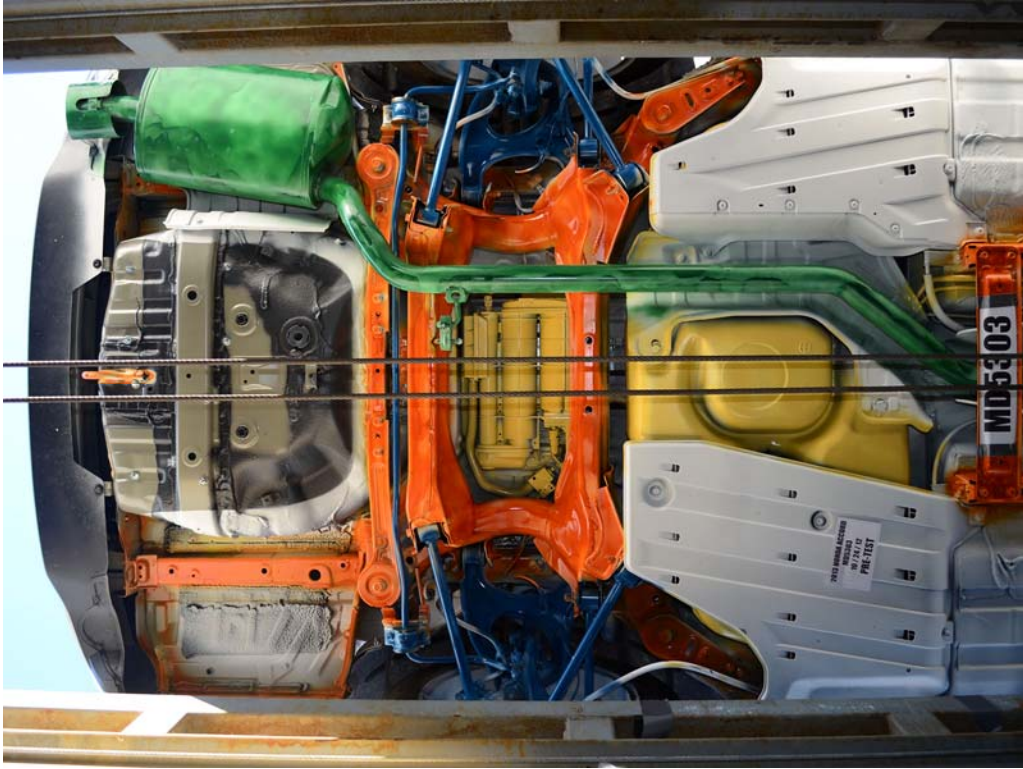


FIGURE 25. Pre-Test Rear Underbody View

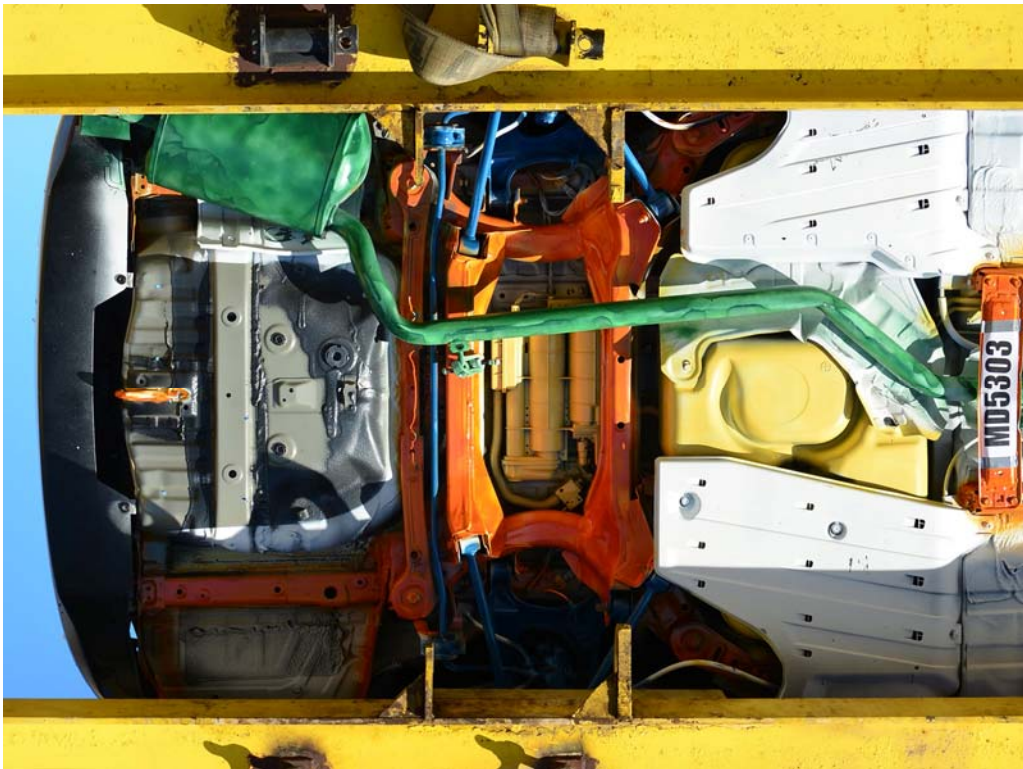


FIGURE 26. Post-Test Rear Underbody View



FIGURE 27. Pre-Test Dummy Cable Routing



FIGURE 28. Post-Test Dummy Cable Routing



FIGURE 29. Pre-Test Driver Dummy Front View



FIGURE 30. Post-Test Driver Dummy Front View



FIGURE 31. Pre-Test Driver Dummy Window View



FIGURE 32. Post-Test Driver Dummy Window View



FIGURE 33. Pre-Test Driver Dummy and Vehicle Interior View



FIGURE 34. Post-Test Driver Dummy and Vehicle Interior View



FIGURE 35. Pre-Test Driver's Seat Fore-Aft Markings



FIGURE 36. Post-Test Driver's Seat Fore-Aft Markings



FIGURE 37. Pre-Test View of Belt Anchorage for Driver Dummy



FIGURE 38. Post-Test View of Belt Anchorage for Driver Dummy

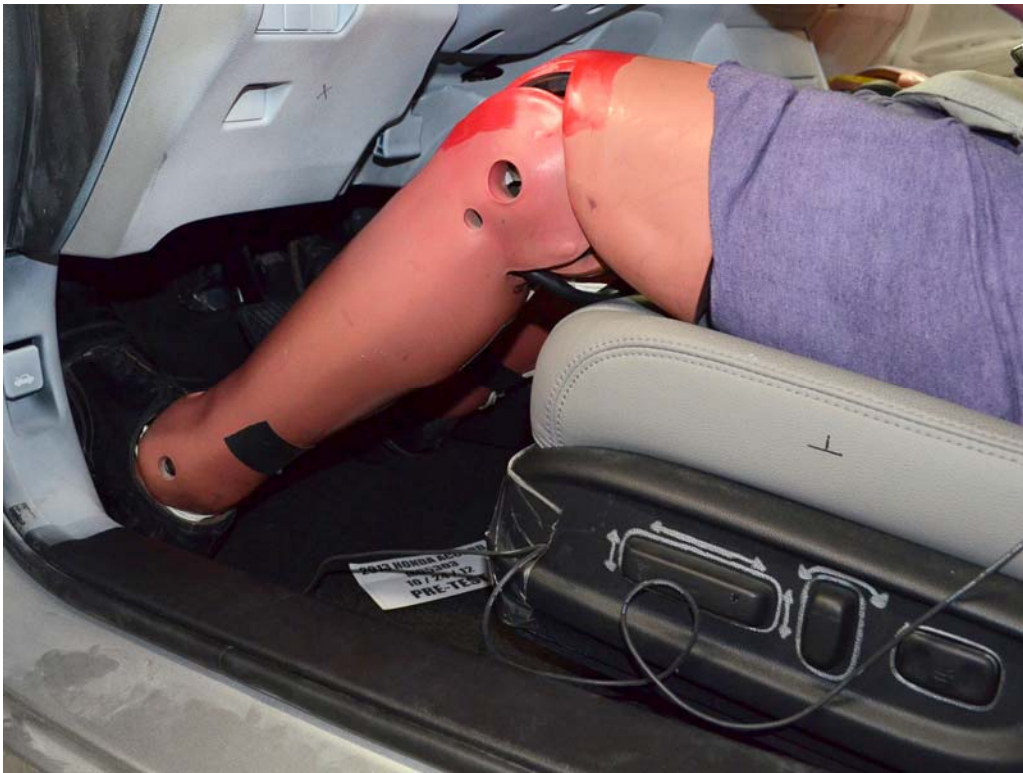


FIGURE 39. Pre-Test Driver Dummy Feet



FIGURE 40. Post-Test Driver Dummy Feet



FIGURE 41. Pre-Test Driver's Side Knee Bolster



FIGURE 42. Post-Test Driver's Side Knee Bolster



FIGURE 43. Pre-Test Driver's Side Floorpan

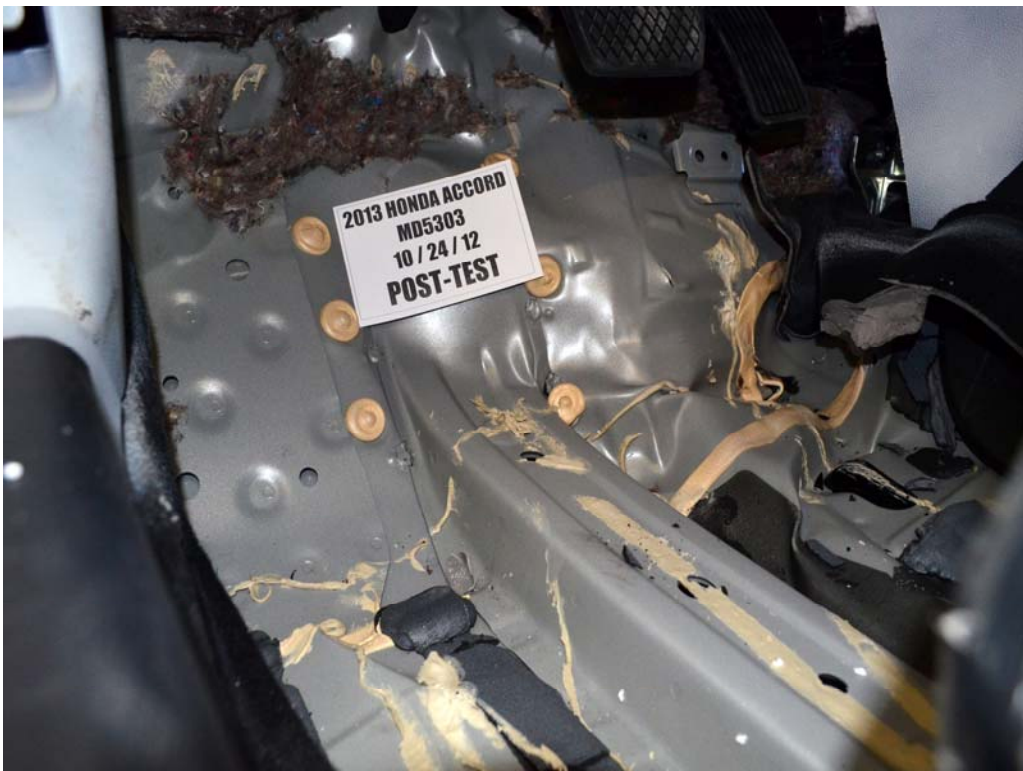


FIGURE 44. Post-Test Driver's Side Floorpan



FIGURE 45. Post-Test Driver Dummy Face

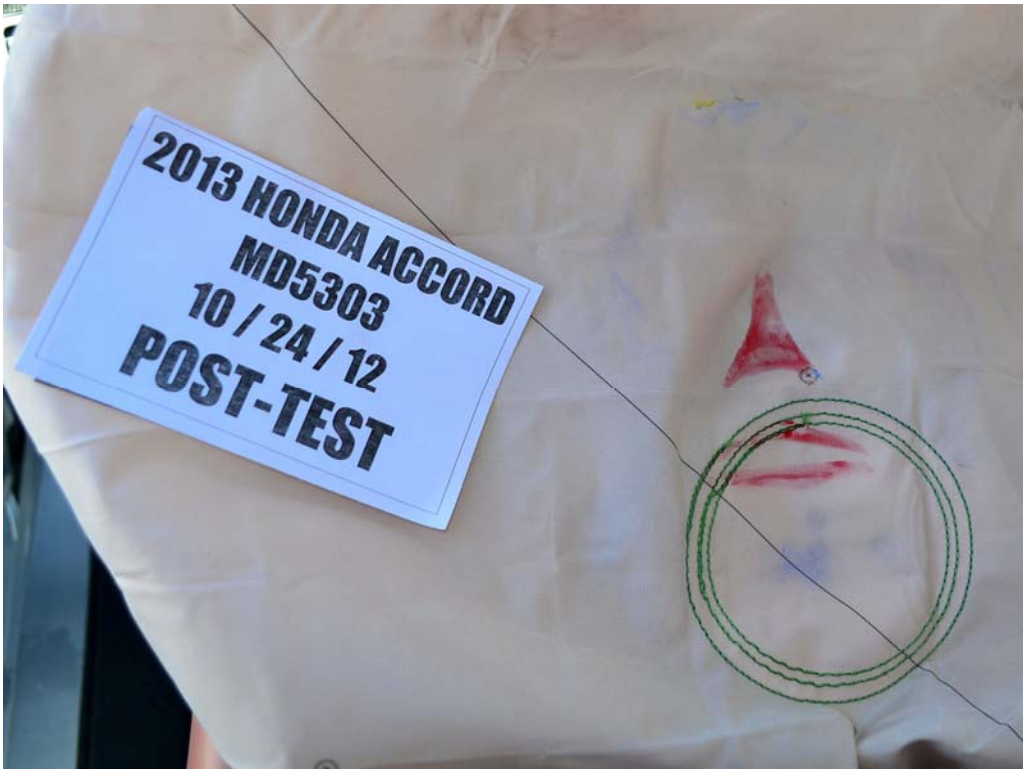


FIGURE 46. Post-Test Driver Dummy Contact With Airbag



FIGURE 47. Post-Test Driver Dummy Contact With Headrest



FIGURE 47a. Post-Test Driver Dummy Contact With Knee Bolster



FIGURE 47b. Post-Test Driver Dummy Contact With Shear Capsule



FIGURE 48. Pre-Test View of the Steering Wheel



FIGURE 49. Post-Test View of the Steering Wheel



FIGURE 50. Pre-Test Passenger Dummy Front View



FIGURE 51. Post-Test Passenger Dummy Front View



FIGURE 52. Pre-Test Passenger Dummy Window View

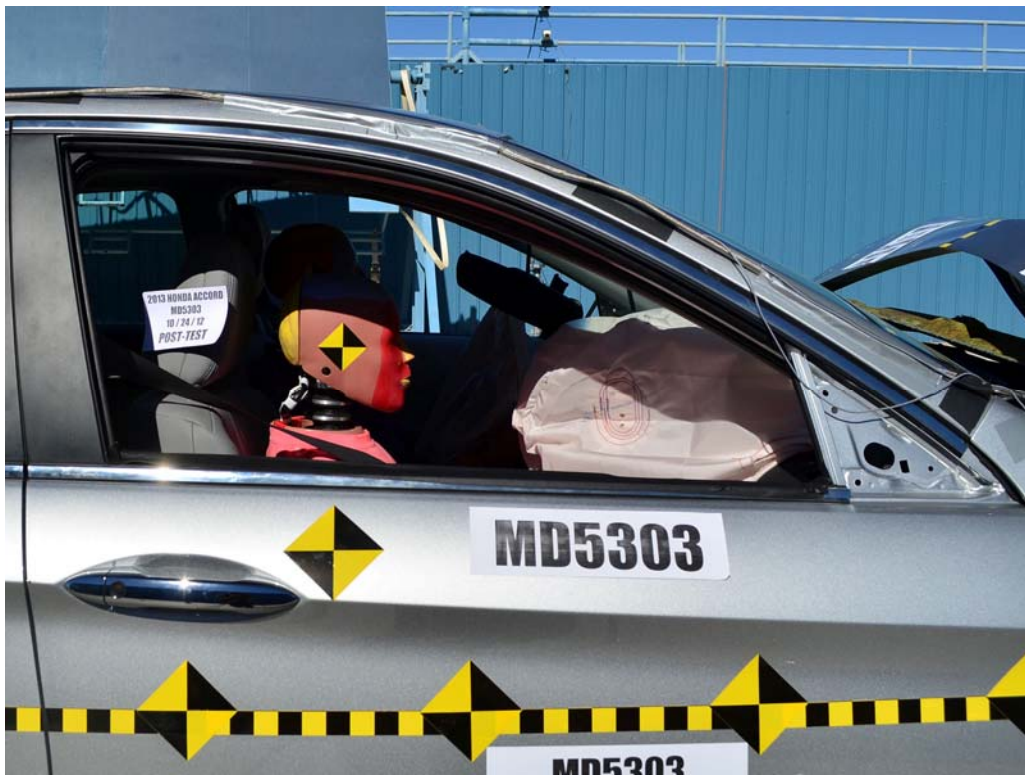


FIGURE 53. Post-Test Passenger Dummy Window View



FIGURE 54. Pre-Test Passenger Dummy and Vehicle Interior View



FIGURE 55. Post-Test Passenger Dummy and Vehicle Interior View



FIGURE 56. Pre-Test Passenger's Seat Fore-Aft Markings

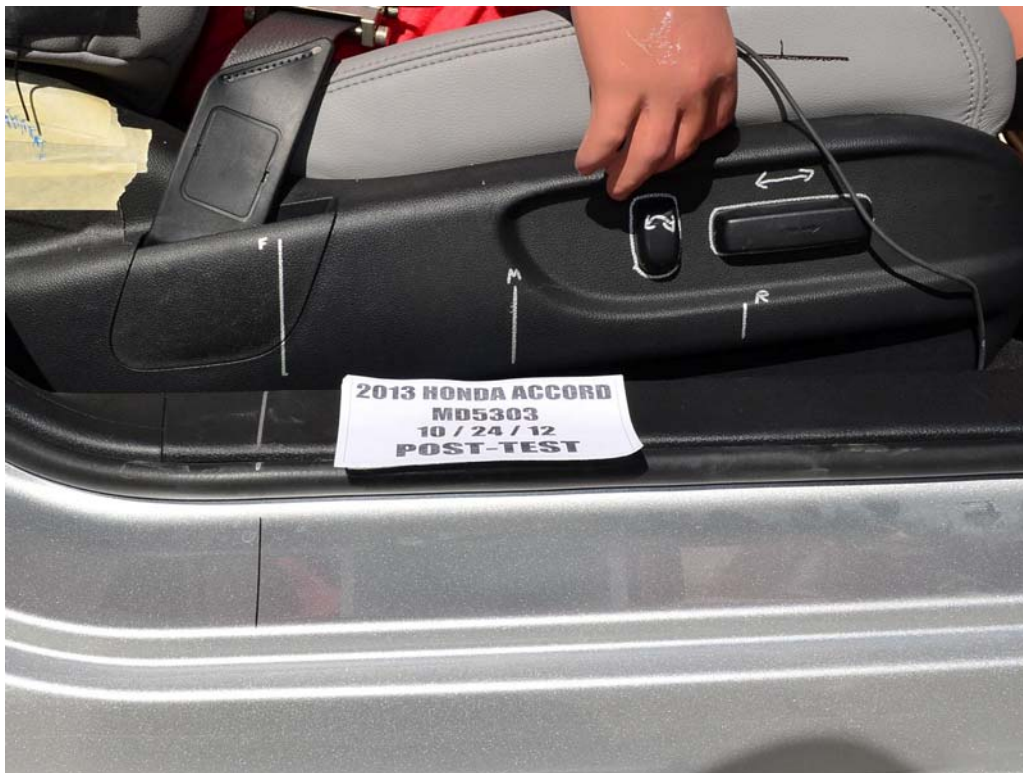


FIGURE 57. Post-Test Passenger's Seat Fore-Aft Markings



FIGURE 58. Pre-Test View of Belt Anchorage for Passenger Dummy



FIGURE 59. Post-Test View of Belt Anchorage for Passenger Dummy



FIGURE 60. Pre-Test Passenger Dummy Feet



FIGURE 61. Post-Test Passenger Dummy Feet



FIGURE 62. Pre-Test Passenger's Side Knee Bolster



FIGURE 63. Post-Test Passenger's Side Knee Bolster



FIGURE 64. Pre-Test Passenger's Side Floorpan



FIGURE 65. Post-Test Passenger's Side Floorpan

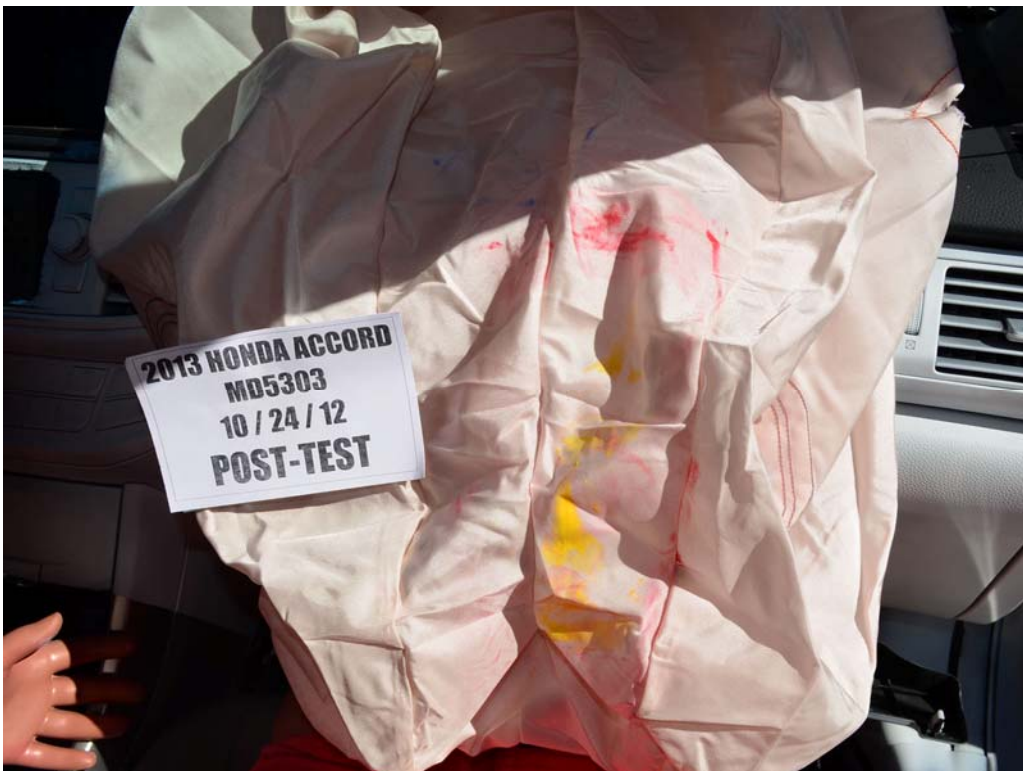


FIGURE 66. Post-Test Passenger Dummy Contact With Airbag



FIGURE 66a. Post-Test Passenger Dummy Contact With Headrest

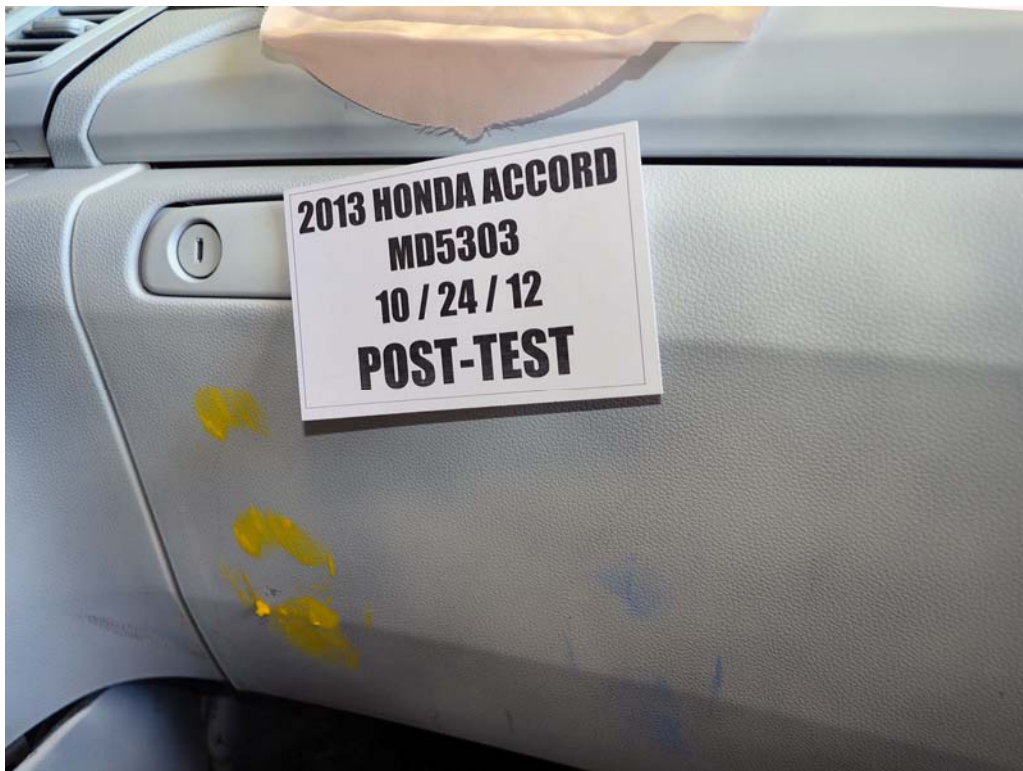


FIGURE 66b. Post-Test Passenger Dummy Contact With Glovebox

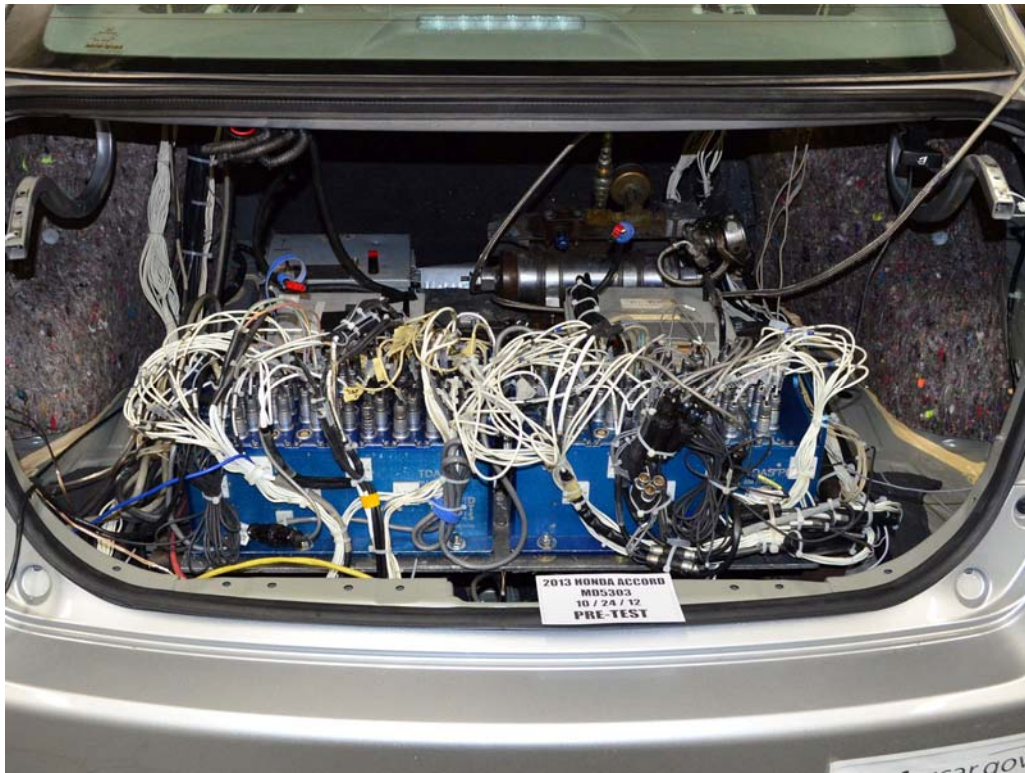


FIGURE 67. Photograph of Ballast Installed In vehicle

**Photograph Not Applicable
No Stoddard
Solvent Spillage**

FIGURE 68. Post-Test Stoddard Solvent Spillage Location



FIGURE 69. Post-Test Speed Trap Read Out

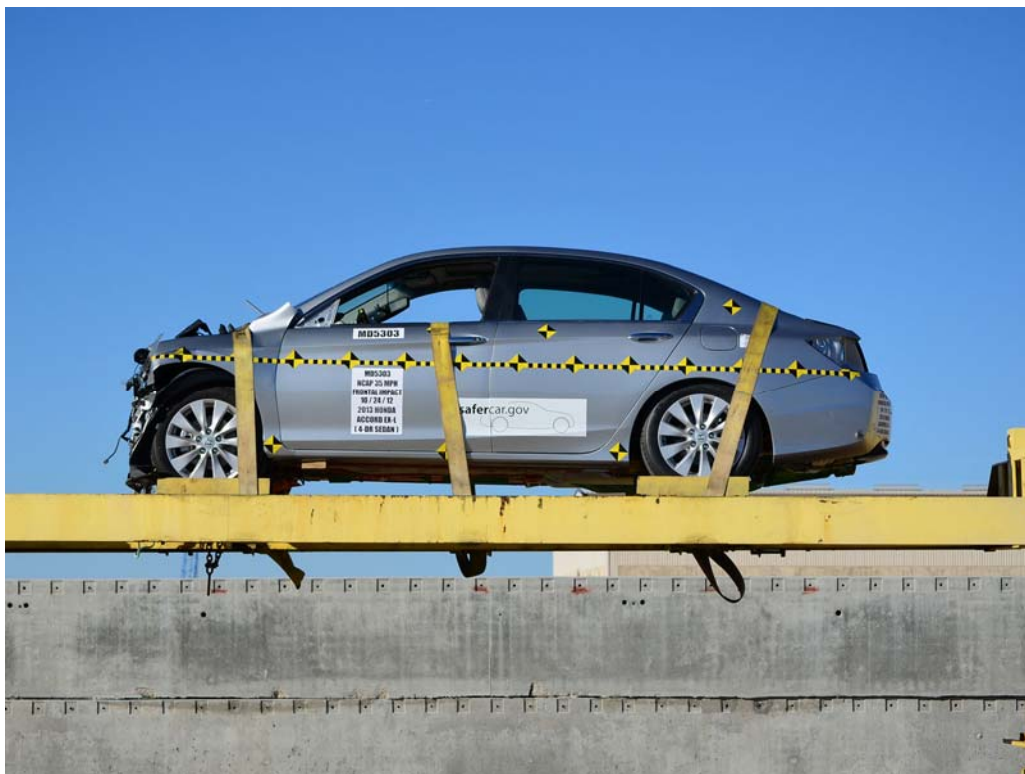


FIGURE 70. Vehicle at 0° on Static Rollover Device



FIGURE 71. Vehicle at 90° on Static Rollover Device

-

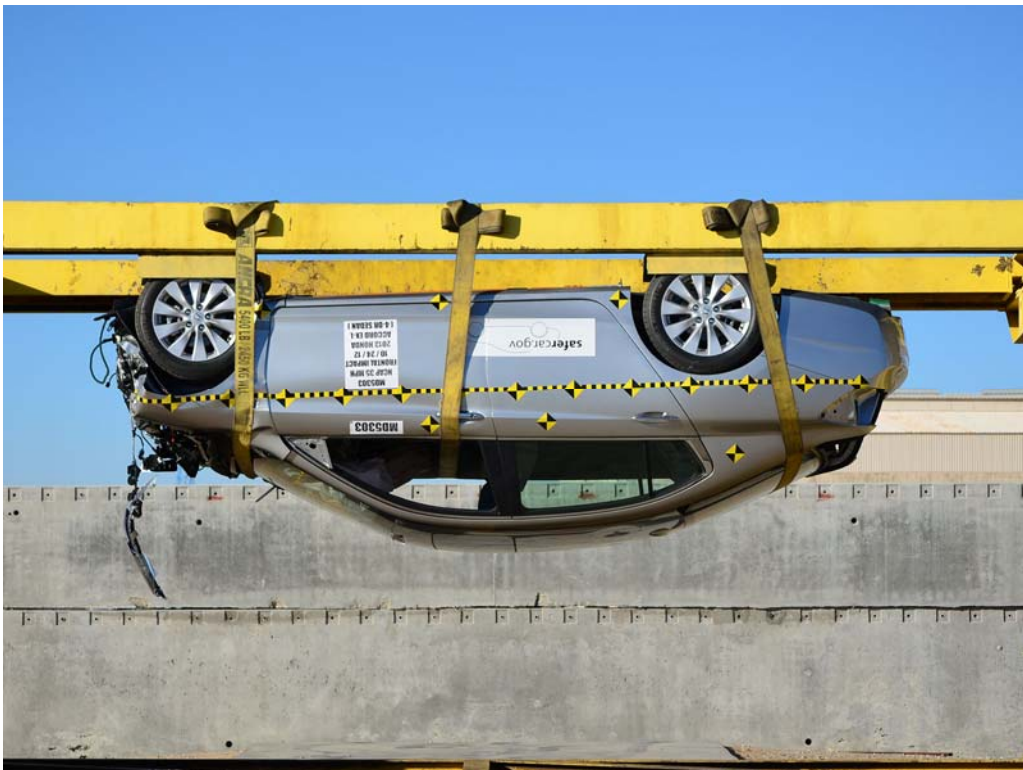


FIGURE 72. Vehicle at 180° on Static Rollover Device

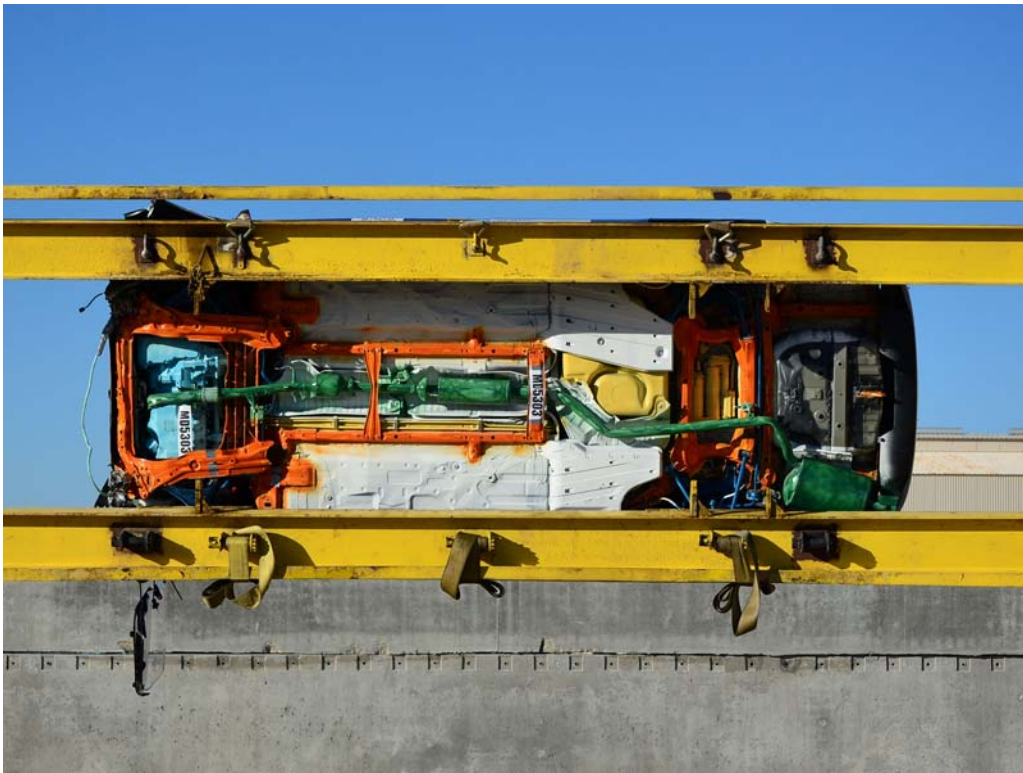


FIGURE 73. 2013 Vehicle at 270° on Static Rollover Device

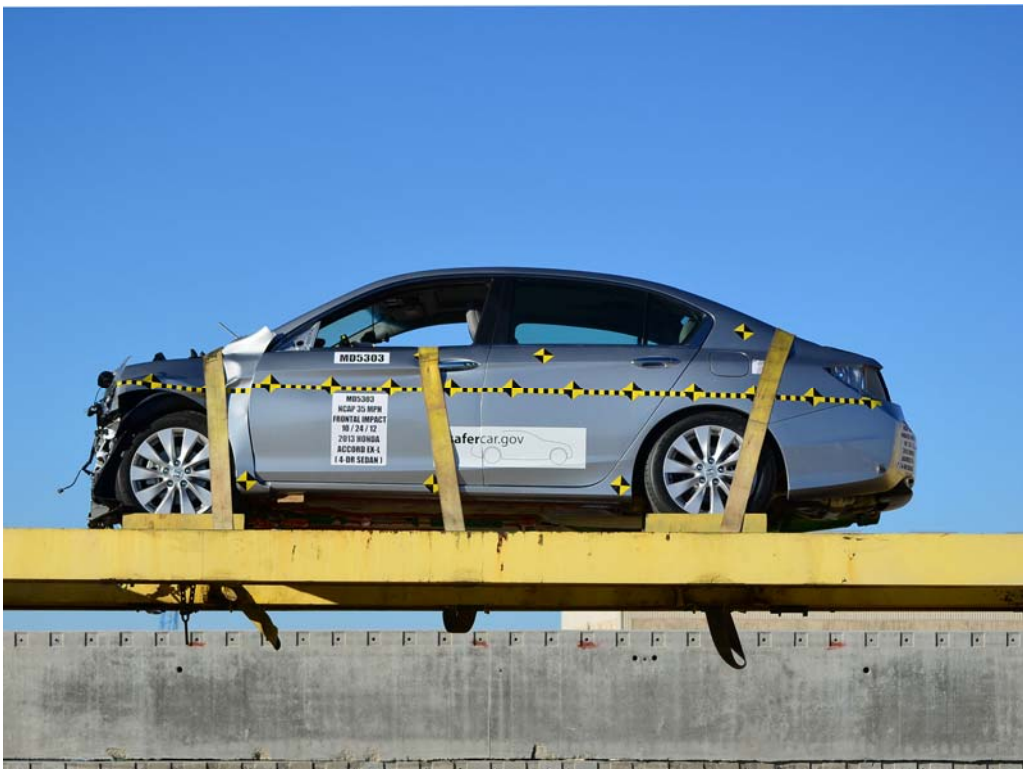


FIGURE 74. Vehicle at 360° on Static Rollover Device



FIGURE 75. 2013 Honda Accord EX-L Impact Event

HONDA		2013 ACCORD 4DR EX-L <small>EX-L ALABASTER SILVER M ENGINE 3.5L I-4 VTEC 180HP 1402131</small> <small>MSR: GRAY</small>		EPA DOT Fuel Economy and Environment Gasoline Vehicle Fuel Economy MPG <small>Midsize Car average from 13 to 49 MPG. The best vehicle from 11 to 24 MPG.</small> 30 27 36 <small>combined city/hwy</small>		You Save \$2,850 <small>in fuel costs over 5 years compared to the average new vehicle.</small>													
STANDARD EQUIPMENT AT NO EXTRA COST <ul style="list-style-type: none"> 150hp 2.4 Liter i-VTEC 18 Valve Engine w/ Earth Dreams Technology Continuously Variable Transmission (CVT) with Sport Mode 4 Wheel Disc Brakes Front MacPherson Strut Suspension Rear Multi-Link Suspension Electric Power-Assisted Rack and Pinion Steering Front and Rear Stabilizer Bars ECO Assist System Immobilizer Theft Deterrent System SAFETY FEATURES <ul style="list-style-type: none"> Driver's and Front Passenger's Dual Stage Airbags (SAB) Driver's and Front Passenger's Side Airbags w/ SmartVent Side Curtain Airbags with Rollover Sensor Forward Collision Warning Lane Departure Warning Vehicle Stability Assist (VSA) Anti-Lock Braking System (ABS) Brake Assist Electronic Brake Distribution (EBD) ACE II Body Structure The Pressure Monitoring System Door Impact Door Beams Daytime Running Lights (DRL) LATCH System for Child Seats INTERIOR FEATURES <ul style="list-style-type: none"> Leather-Trimmed Seats Leather Wrapped Steering Wheel 8-Speaker Multi Information Display (MID) w/ Rear Multi View Camera 		MANUFACTURER'S SUGGESTED RETAIL PRICE \$27,995.00 <small>Includes Dealer Prep</small> Full Tank of Fuel No Charge KEY STANDARD FEATURES <ul style="list-style-type: none"> Bluetooth Hands-FreeLink™/USB Audio Interface Side Curtain Airbags with Rollover Sensor LowWatch Dual-Zone Automatic Climate Control with Air Filtration System Rear Console Vents Driver's 10-Way Power Seat with 9-Position Memory Front Passenger's 4-Way Power Seat with 9-Position Memory Heated Front Seats Power Windows and Door Locks Power Awn Up/Down Windows Auto Dimming Rearview Mirror Tilt & Telescopic Steering Column Illuminated Visor Vanity Mirrors Cruise Control Exterior Temperature Gauge Door Ajar Maintenance Minder System 17" x 7.5" Alloy Wheels P215/55 R17 All-Season Tires Auto On/Off Headlights LED Taillights Pog Light Heated Power Door Mirrors with Turn Indicators Expanded View Driver's Mirror Smart Entry System with Security System 		Annual fuel cost \$1,750 <small>based on 15,000 miles per year at \$3.50 per gallon. MPG is miles per gallon; gallon equivalent, methane, methanol are a significant source of climate change and smog.</small>		Fuel Economy & Greenhouse Gas Rating <small>output only</small> Smog Rating <small>output only</small> 1 8 10 1 3 <small>This vehicle emits 202 grams CO₂ per mile. The best emits 0 grams per mile (plug-in only). Production and distribution fuel also create emissions. See EPA at www.epa.gov.</small>													
SALES AND SERVICE AUTOWEST HONDA FREMONT <small>5750 CUSHING PARKWAY FREMONT, CA 94538</small> PORT OF ENTRY: MARYSVILLE <small>DELIVERY POINT: RICHMOND</small> <small>SALES: 337-818</small> <small>SALES METHOD: 009 RICHMOND</small> <small>VIN: 1HCCRF8XDM000557</small>		DESTINATION AND HANDLING 790.00 TOTAL VEHICLE PRICE <small>(includes Pre-Delivery Service)</small> \$28,785.00 <small>License and title fees, state and local taxes and dealer options and expenses are not included in the manufacturer's suggested retail price.</small>		PARTS CONTENT INFORMATION FOR VEHICLES IN THIS CARLINE JAPAN 25 % <small>Major Sources of Foreign Parts Content:</small> U.S.A. <small>NOTE: Parts content does not include final assembly, distribution or other non-parts costs.</small>		GOVERNMENT 5-STAR SAFETY RATINGS Overall Vehicle Score <small>Not Rated</small> <small>Based on the combined ratings of frontal, side and rollover. Overall OVI is compared to other vehicles of similar size and weight.</small> <table border="1"> <tr> <td>Frontal</td> <td>Driver</td> <td>Not Rated</td> </tr> <tr> <td>Crash</td> <td>Passenger</td> <td>Not Rated</td> </tr> </table> <small>Based on the risk of injury in a frontal impact. Overall OVI is compared to other vehicles of similar size and weight.</small> <table border="1"> <tr> <td>Side</td> <td>Front seat</td> <td>Not Rated</td> </tr> <tr> <td>Crash</td> <td>Rear seat</td> <td>Not Rated</td> </tr> </table> <small>Based on the risk of injury in a side impact.</small> Rollover <small>Not Rated</small> <small>Based on the risk of rollover in a single vehicle crash.</small> Star Ratings range from 1 to 5 stars (*****), with 5 being the highest. <small>Source: National Highway Traffic Safety Administration (NHTSA) www.safercar.gov or 1-888-327-4236</small>		Frontal	Driver	Not Rated	Crash	Passenger	Not Rated	Side	Front seat	Not Rated	Crash	Rear seat	Not Rated
Frontal	Driver	Not Rated																	
Crash	Passenger	Not Rated																	
Side	Front seat	Not Rated																	
Crash	Rear seat	Not Rated																	
FOR THIS VEHICLE Fuel Assembly Point: MARYSVILLE, OHIO USA <small>Country of Origin: Engine: U.S.A.</small> <small>Transmission: JAPAN</small>		SALES AND SERVICE <small>DRIVE: 29697</small> <small>REF. NO.: 40417</small> <small>MS. CODE: 198-6940</small> <small>EMISSION: CALIFORNIA</small> <small>CONTROL NO. 047045</small> <small>DEALER: 29698</small>		<small>This vehicle is equipped with a front bumper of a type that has been tested at an impact speed of 8 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. The vehicle exceeds the current federal bumper standard of 2.5 miles per hour.</small>															

FIGURE 76. Monroney Label Photograph

APPENDIX B
DUMMY RESPONSE DATA TRACES

TABLE OF DATA PLOTS

<u>Plot</u>		<u>Page</u>
1	Driver Head X Acceleration vs. Time Primary	B-1
2	Driver Head Y Acceleration vs. Time Primary	B-1
3	Driver Head Z Acceleration vs. Time Primary	B-1
4	Driver Head Resultant Acceleration vs. Time Primary	B-1
5	Driver Chest X Deflection vs. Time	B-2
6	Driver Chest X Acceleration vs. Time Primary	B-3
7	Driver Chest Y Acceleration vs. Time Primary	B-3
8	Driver Chest Z Acceleration vs. Time Primary	B-3
9	Driver Chest Resultant Acceleration vs. Time Primary	B-3
10	Driver Upper Neck Force X vs. Time Primary	B-4
11	Driver Upper Neck Force Z vs. Time Primary	B-4
12	Driver Upper Neck Moment Y vs. Time Primary	B-4
13	Driver Nij vs. Time Primary	B-4
14	Driver Left Femur Force vs. Time	B-5
15	Driver Right Femur Force vs. Time	B-5
16	Passenger Head X Acceleration vs. Time Primary	B-6
17	Passenger Head Y Acceleration vs. Time Primary	B-6
18	Passenger Head Z Acceleration vs. Time Primary	B-6
19	Passenger Head Resultant Acceleration vs. Time Primary	B-6
20	Passenger Chest X Deflection vs. Time	B-7
21	Passenger Chest X Acceleration vs. Time Primary	B-8
22	Passenger Chest Y Acceleration vs. Time Primary	B-8
23	Passenger Chest Z Acceleration vs. Time Primary	B-8
24	Passenger Chest Resultant Acceleration vs. Time Primary	B-8
25	Passenger Upper Neck Force X vs. Time Primary	B-9
26	Passenger Upper Neck Force Z vs. Time Primary	B-9
27	Passenger Upper Neck Moment Y vs. Time Primary	B-9
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29	Passenger Left Femur Force vs. Time	B-10
30	Passenger Right Femur Force vs. Time	B-10

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

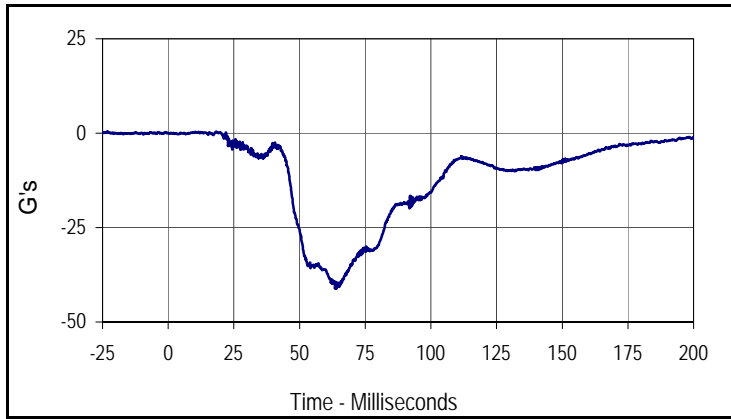
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Driver Head Y Acceleration Redundant
Driver Head Z Acceleration Redundant
Driver Head Front Y Acceleration
Driver Head Front Z Acceleration
Driver Head Top X Acceleration
Driver Head Top Y Acceleration
Driver Head Left X Acceleration
Driver Head Left Z Acceleration
Driver Upper Neck Force Y
Driver Upper Neck Moment X
Driver Upper Neck Moment Z
Driver Chest X Acceleration Redundant
Driver Chest Y Acceleration Redundant
Driver Chest Z Acceleration Redundant
Driver Pelvis X
Driver Pelvis Y
Driver Pelvis Z
Driver Left Femur Force Z Redundant
Driver Right Femur Force Z Redundant
Driver Shoulder Belt Force
Driver Lap Belt Force
Driver Left Upper Tibia Moment X
Driver Left Upper Tibia Moment Y
Driver Left Upper Tibia Force Z
Driver Left Lower Tibia Moment X
Driver Left Lower Tibia Moment Y
Driver Left Lower Tibia Force Z
Driver Right Upper Tibia Moment X
Driver Right Upper Tibia Moment Y
Driver Right Upper Tibia Force Z
Driver Right Lower Tibia Moment X
Driver Right Lower Tibia Moment Y

Driver Right Lower Tibia Force Z
Driver Left Foot Fore Z
Driver Left Foot Aft X
Driver Left Foot Aft Z
Driver Right Foot Fore Z
Driver Right Foot Aft X
Driver Right Foot Aft Z
Passenger Head X Acceleration Redundant
Passenger Head Y Acceleration Redundant
Passenger Head Z Acceleration Redundant
Passenger Head Front Y Acceleration
Passenger Head Front Z Acceleration
Passenger Head Top X Acceleration
Passenger Head Top Y Acceleration
Passenger Head Left X Acceleration
Passenger Head Left Z Acceleration
Passenger Upper Neck Force X
Passenger Upper Neck Force Z
Passenger Upper Neck Moment Y
Passenger Chest X Acceleration Redundant
Passenger Chest Y Acceleration Redundant
Passenger Chest Z Acceleration Redundant
Passenger Pelvis X
Passenger Pelvis Y
Passenger Pelvis Z
Passenger Left Femur Force Z Redundant
Passenger Right Femur Force Z Redundant
Passenger Shoulder Belt Force
Passenger Lap Belt Force
Passenger Left Upper Tibia Moment X
Passenger Left Upper Tibia Moment Y
Passenger Left Upper Tibia Force Z
Passenger Left Lower Tibia Moment X
Passenger Left Lower Tibia Moment Y
Passenger Left Lower Tibia Force Z
Passenger Right Upper Tibia Moment X

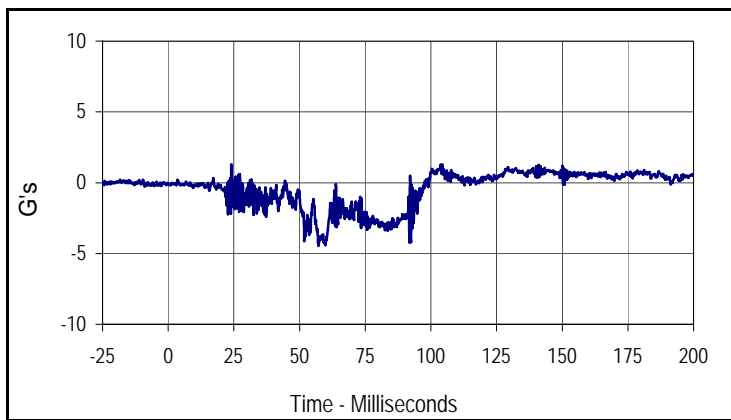
Passenger Right Upper Tibia Moment Y
Passenger Right Upper Tibia Force Z
Passenger Right Lower Tibia Moment X
Passenger Right Lower Tibia Moment Y
Passenger Right Lower Tibia Force Z
Passenger Left Foot Fore Z
Passenger Left Foot Aft X
Passenger Left Foot Aft Z
Passenger Right Foot Fore Z
Passenger Right Foot Aft X
Passenger Right Foot Aft Z
Left Rear Seat Crossmember X
Left Rear Seat Crossmember Z
Right Rear Seat Crossmember X
Right Rear Seat Crossmember Z
Vehicle Engine Top X
Vehicle Engine Bottom X
Vehicle Left Rear Z
Vehicle Right Rear Z
Load Cell Barrier A1-A9
Load Cell Barrier B1-B9
Load Cell Barrier C1-C9
Load Cell Barrier D1-D9

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan
 Test Program: 56 km/h Frontal Impact NCAP Test

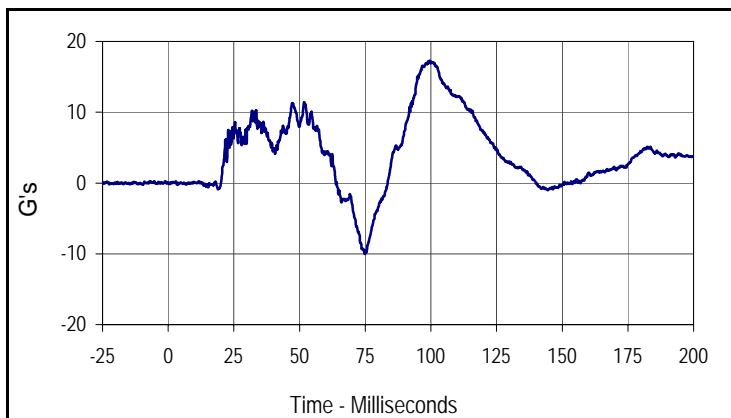
NHTSA No.: MD5303
 Test Date: 10/24/12



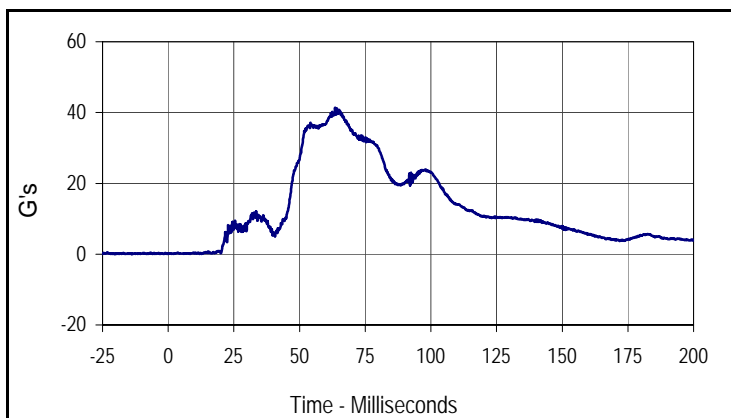
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001	FIL	1000	G's
Max	Time	Min	Time
0.4	18.3	-41.2	63.6



Curve Description			
Driver Head Acceleration Y Primary			
Plot No.	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
1.3	24.1	-4.5	57.2



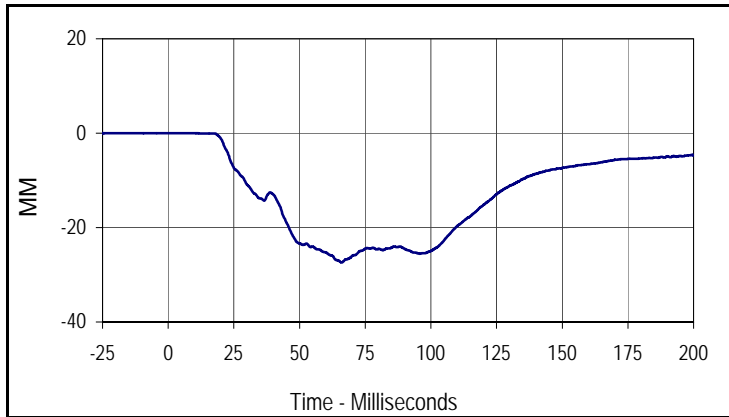
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Driver Head Acceleration Z Primary			
Plot No.	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
17.3	99.5	-10.0	74.9



Curve Description			
Driver Head Resultant Acceleration Primary			
Plot No.	Type	SAE Class	Units
004	RES	1000	G's
Max	Time	Min	Time
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Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan
 Test Program: 56 km/h Frontal Impact NCAP Test

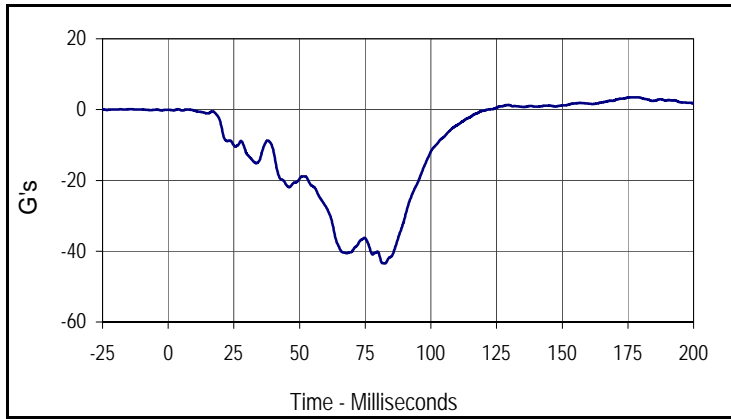
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 Test Date: 10/24/12



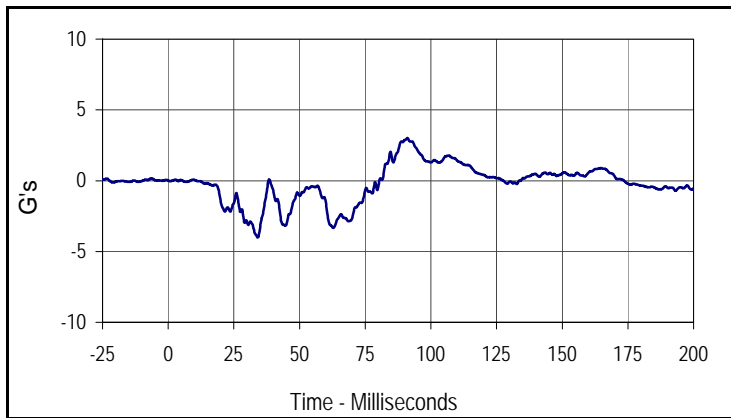
Curve Description			
Driver Chest Deflection			
Plot No.	Type	SAE Class	Units
005	FIL	600	MM
Max	Time	Min	Time
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Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan
 Test Program: 56 km/h Frontal Impact NCAP Test

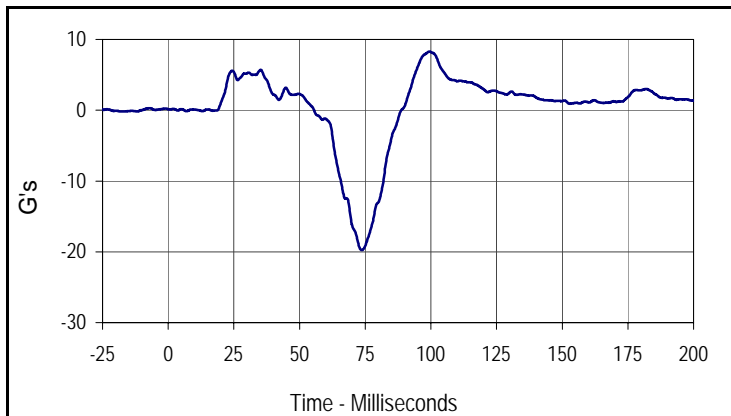
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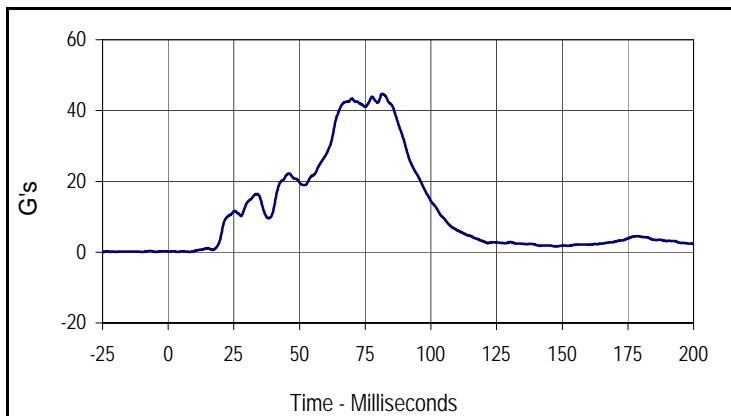
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Driver Chest Acceleration X Primary			
Plot No.	Type	SAE Class	Units
006	FIL	180	G's
Max	Time	Min	Time
3.5	176.2	-43.5	82.5



Curve Description			
Driver Chest Acceleration Y Primary			
Plot No.	Type	SAE Class	Units
007	FIL	180	G's
Max	Time	Min	Time
3.0	91.1	-4.0	34.1



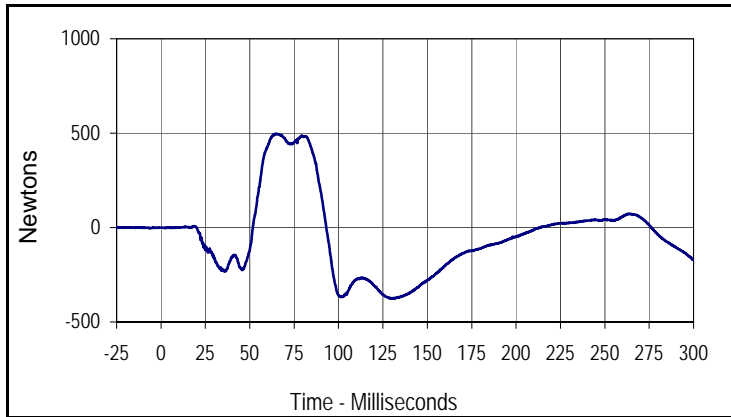
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Driver Chest Acceleration Z Primary			
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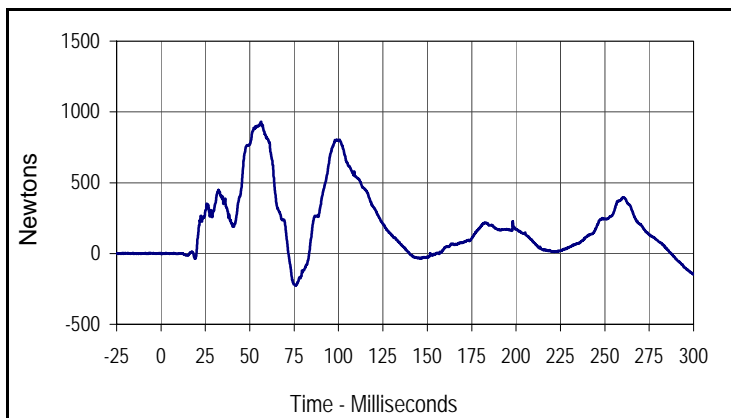
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Driver Chest Resultant Acceleration Primary			
Plot No.	Type	SAE Class	Units
009	RES	180	G's
Max	Time	Min	Time
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Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan
 Test Program: 56 km/h Frontal Impact NCAP Test

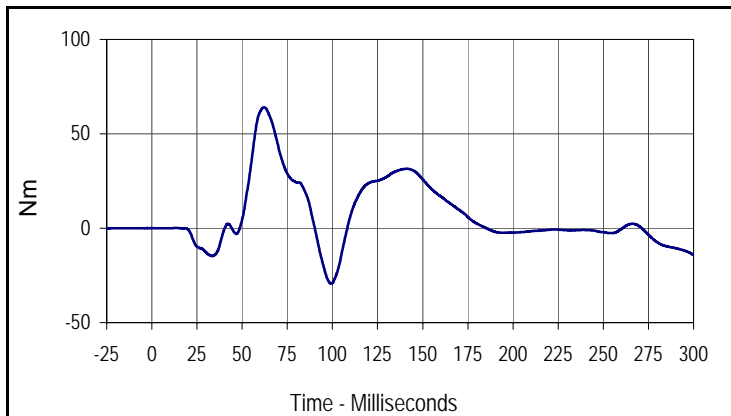
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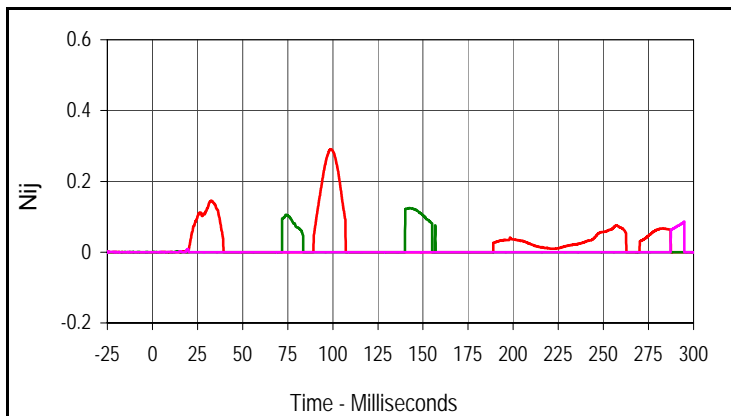
Curve Description			
Driver Upper Neck Force X			
Plot No.	Type	SAE Class	Units
010	FIL	1000	Newtons
Max	Time	Min	Time
497.0	65.0	-375.8	130.0



Curve Description			
Driver Upper Neck Force Z			
Plot No.	Type	SAE Class	Units
011	FIL	1000	Newtons
Max	Time	Min	Time
931.5	56.3	-226.9	75.8



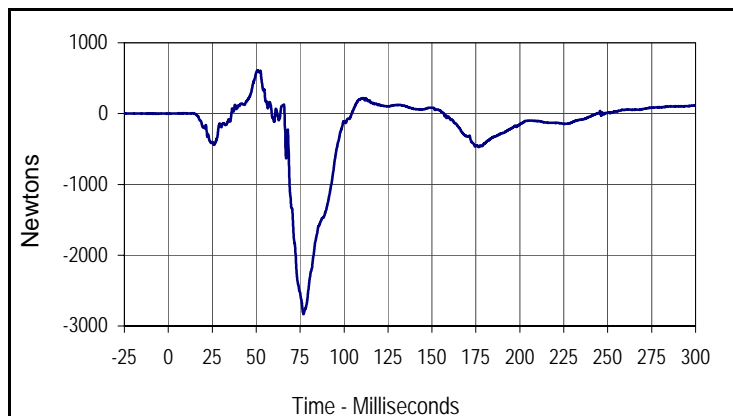
Curve Description			
Driver Upper Neck Moment Y			
Plot No.	Type	SAE Class	Units
012	FIL	600	Nm
Max	Time	Min	Time
64.0	62.1	-29.4	99.2



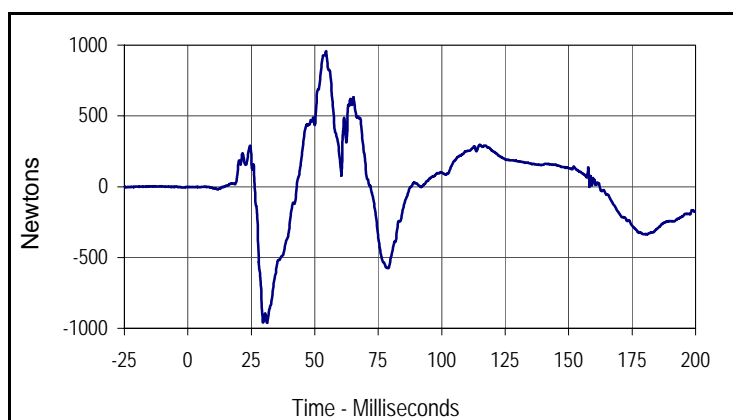
Curve Description			
Driver Nij			
Units	Type	Max	Time
Ntf	FIL	0.29	60.4
Units	Type	Max	Time
Nte	FIL	0.29	99.1
Units	Type	Max	Time
Ncf	FIL	0.12	142.6
Units	Type	Max	Time
Nce	FIL	0.09	294.8

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan
 Test Program: 56 km/h Frontal Impact NCAP Test

NHTSA No.: MD5303
 Test Date: 10/24/12



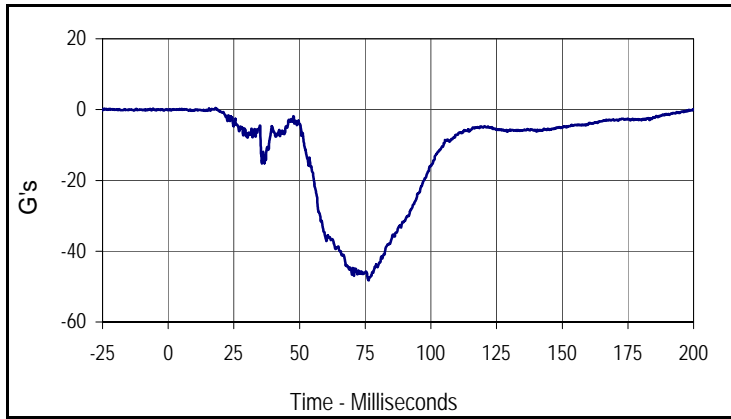
Curve Description			
Driver Left Femur Force Z			
Plot No.	Type	SAE Class	Units
013	FIL	600	Newtons
Max	Time	Min	Time
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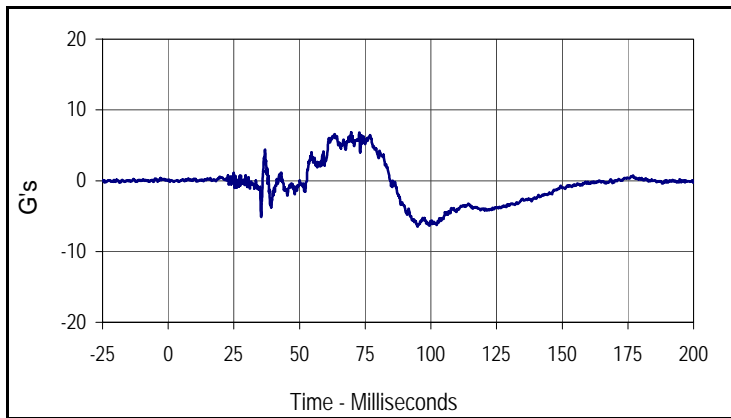
Curve Description			
Driver Right Femur Force Z			
Plot No.	Type	SAE Class	Units
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Max	Time	Min	Time
957.6	54.4	-961.2	31.2

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan
 Test Program: 56 km/h Frontal Impact NCAP Test

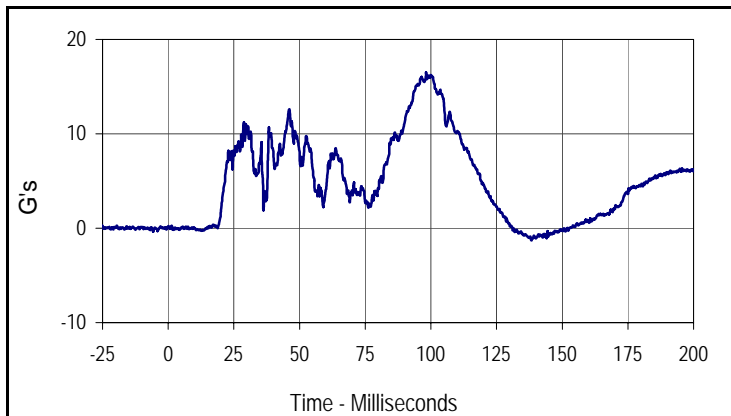
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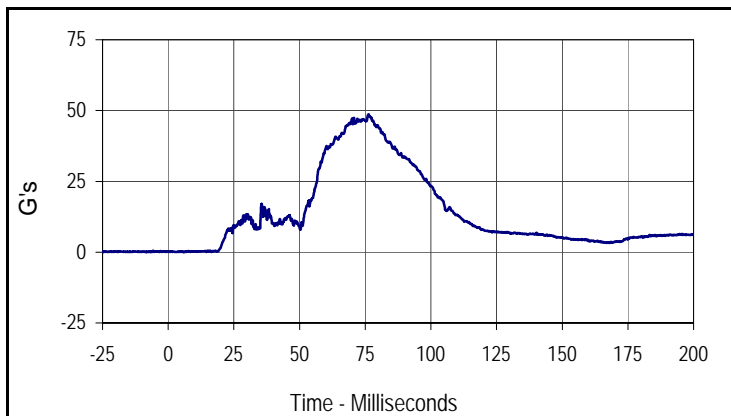
Curve Description			
Passenger Head Acceleration X Primary			
Plot No.	Type	SAE Class	Units
015	FIL	1000	G's
Max	Time	Min	Time
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Curve Description			
Passenger Head Acceleration Y Primary			
Plot No.	Type	SAE Class	Units
016	FIL	1000	G's
Max	Time	Min	Time
6.9	69.6	-6.5	95.0



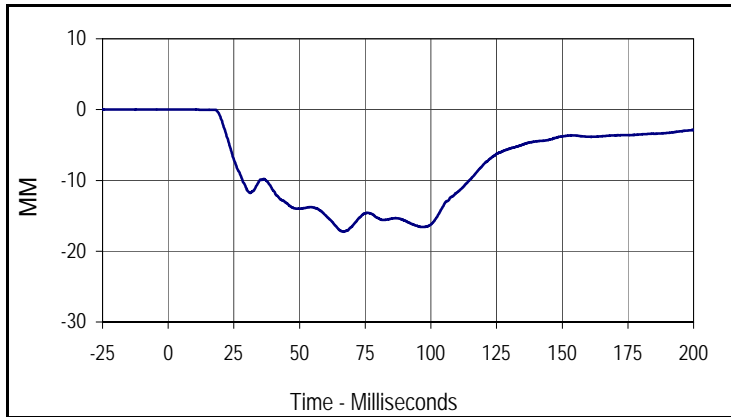
Curve Description			
Passenger Head Acceleration Z Primary			
Plot No.	Type	SAE Class	Units
017	FIL	1000	G's
Max	Time	Min	Time
16.5	98.2	-1.3	138.3



Curve Description			
Passenger Head Resultant Acceleration Primary			
Plot No.	Type	SAE Class	Units
018	RES	1000	G's
Max	Time	Min	Time
48.7	76.3	0.0	5.8

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan
 Test Program: 56 km/h Frontal Impact NCAP Test

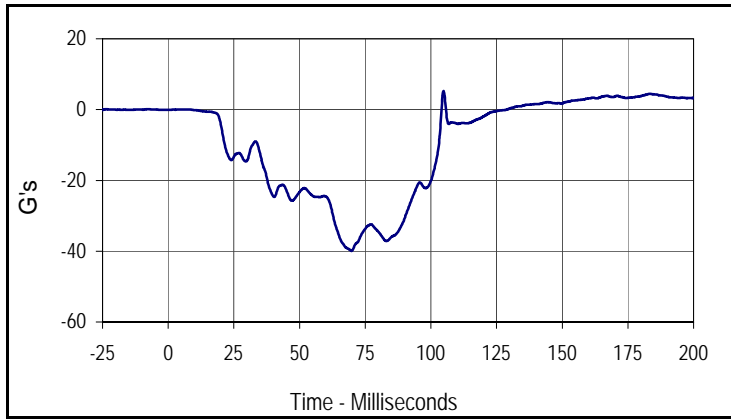
NHTSA No.: MD5303
 Test Date: 10/24/12



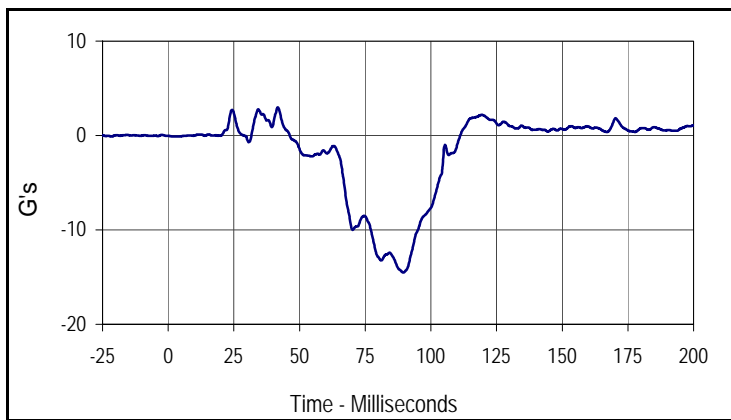
Curve Description			
Passenger Chest Deflection			
Plot No.	Type	SAE Class	Units
019	FIL	600	MM
Max	Time	Min	Time
0.0	9.0	-17.2	66.7

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan
 Test Program: 56 km/h Frontal Impact NCAP Test

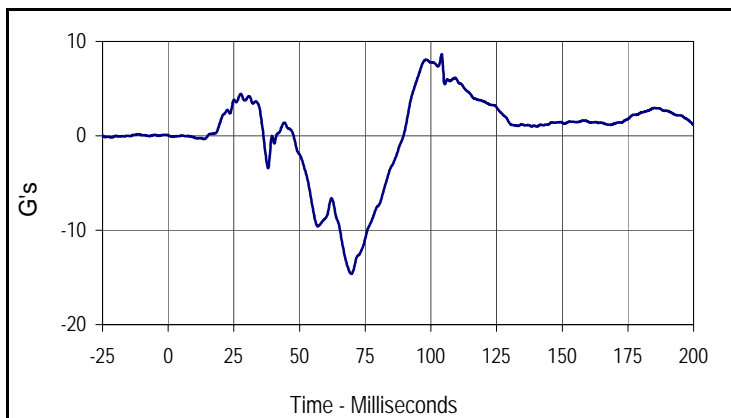
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 Test Date: 10/24/12



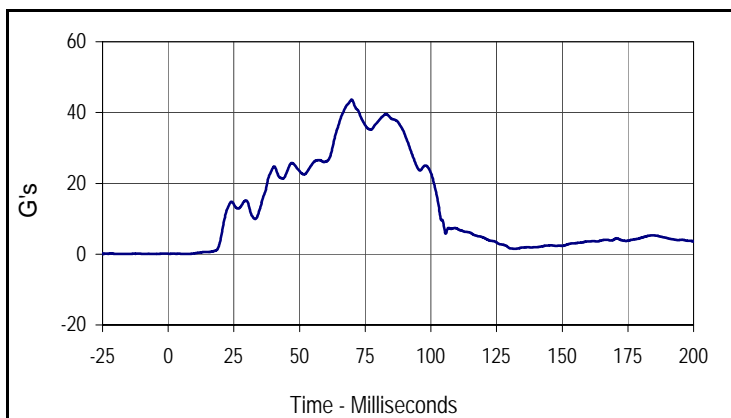
Curve Description			
Passenger Chest Acceleration X Primary			
Plot No.	Type	SAE Class	Units
020	FIL	180	G's
Max	Time	Min	Time
5.3	104.8	-39.9	69.8



Curve Description			
Passenger Chest Acceleration Y Primary			
Plot No.	Type	SAE Class	Units
021	FIL	180	G's
Max	Time	Min	Time
3.0	41.7	-14.5	89.6



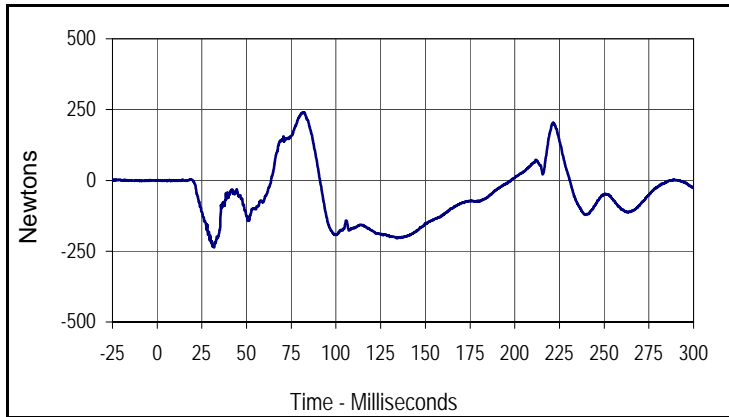
Curve Description			
Passenger Chest Acceleration Z Primary			
Plot No.	Type	SAE Class	Units
022	FIL	180	G's
Max	Time	Min	Time
8.6	104.1	-14.6	69.8



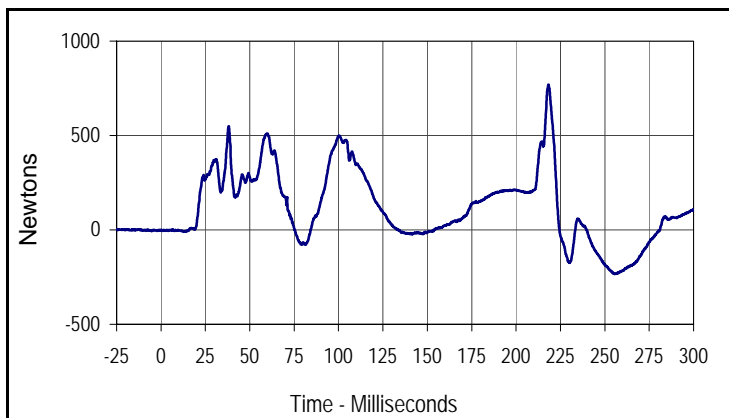
Curve Description			
Passenger Chest Resultant Acceleration Primary			
Plot No.	Type	SAE Class	Units
023	RES	180	G's
Max	Time	Min	Time
43.6	69.8	0.0	7.5

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan
 Test Program: 56 km/h Frontal Impact NCAP Test

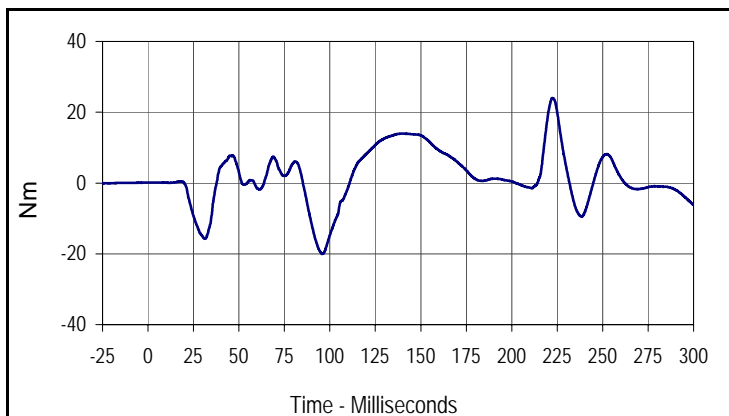
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 Test Date: 10/24/12



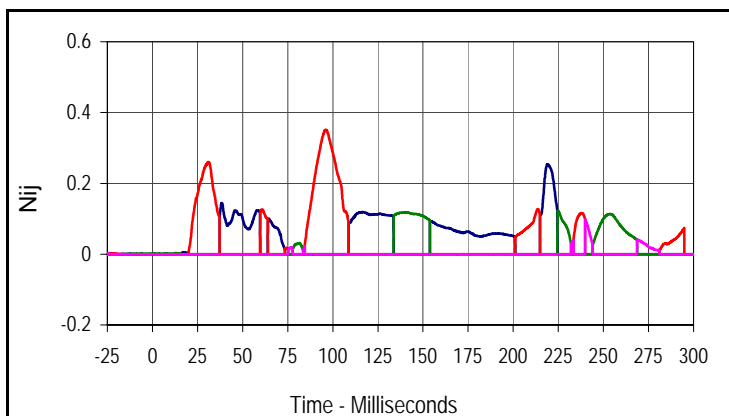
Curve Description			
Passenger Upper Neck Force X			
Plot No.	Type	SAE Class	Units
024	FIL	1000	Newtons
Max	Time	Min	Time
240.6	81.7	-237.0	31.9



Curve Description			
Passenger Upper Neck Force Z			
Plot No.	Type	SAE Class	Units
025	FIL	1000	Newtons
Max	Time	Min	Time
769.1	218.3	-234.1	255.4



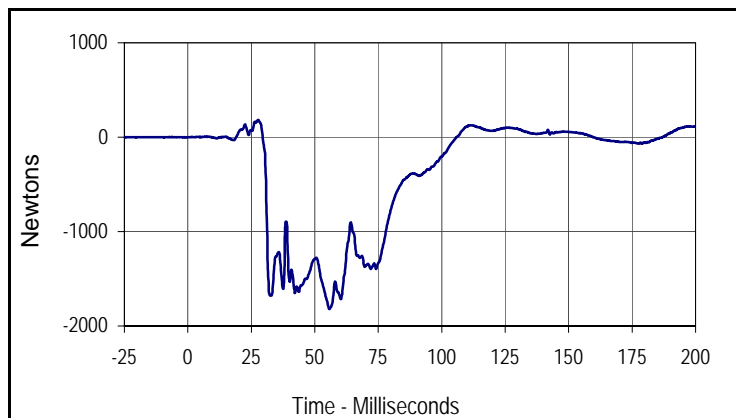
Curve Description			
Passenger Upper Neck Moment Y			
Plot No.	Type	SAE Class	Units
026	FIL	600	Nm
Max	Time	Min	Time
24.0	222.4	-20.0	95.8



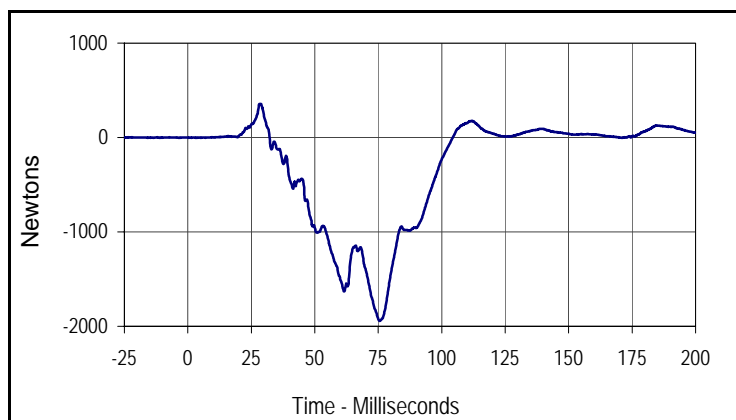
Curve Description			
Passenger Nij			
Units	Type	Max	Time
Ntf	FIL	0.25	219.1
Units	Type	Max	Time
Nte	FIL	0.35	95.9
Units	Type	Max	Time
Ncf	FIL	0.12	224.6
Units	Type	Max	Time
Nce	FIL	0.10	239.9

Test Vehicle: 2013 Honda Accord EX-L 4-Door Sedan
 Test Program: 56 km/h Frontal Impact NCAP Test

NHTSA No.: MD5303
 Test Date: 10/24/12



Curve Description			
Passenger Left Femur Force Z			
Plot No.	Type	SAE Class	Units
027	FIL	600	Newtons
Max	Time	Min	Time
182.3	27.7	-1819.1	55.8



Curve Description			
Passenger Right Femur Force Z			
Plot No.	Type	SAE Class	Units
028	FIL	600	Newtons
Max	Time	Min	Time
354.9	28.7	-1943.9	75.6

APPENDIX C
DUMMY CALIBRATION AND PERFORMANCE VERIFICATION DATA

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

Test Program: Hybrid III 50th Percentile Male Dummy Damage Checklist

Test Date: 10/15/12



ATD Serial No.: 035

Test I.D.: N/A

Dummy Item	Inspect for	Comments	Damaged	OK
Entire Dummy	Perform general cleaning			X
Outer Skin	Gashes, rips, cracks			X
Head	Ballast secure			X
	General appearance			X
Neck	Broken or cracked rubber			X
	Upper neck bracket firmly attached to the lower neck bracket			X
	Looseness at the condyle joint			X
	Nodding blocks cracked or out of position			X
Spine	Broken or cracks in rubber			X
Ribs	Broken or bent ribs			X
	Broken or bent rib supports			X
	Damping material separated or cracked			X
	Rubber bumpers in place			X
Chest Displacement Assembly	Bent shaft			X
	Slider arm riding in track			X
Transducer Leads	Torn cables			X
Accelerometer Mountings	Head mounting secure			X
	Chest mounting secure			X
Knees	Skin condition			X
	Insert (do not remove)			X
	Casting			X
Limbs	Normal movement and adjustment			X
Knee Sliders	Wires intact			X
	Rubber returned to "at rest" position			X
Pelvis	Broken			X
Other				X

Describe the repair on repair or replacement of parts:

Test Program: Hybrid III 50th Percentile Male External Measurements

Test Date: 10/15/12



ATD Serial No.: 035

Test I.D.: N/A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.32	Pass
Laboratory Relative Humidity	%	10 to 70	22.6	Pass
A - Total sitting height	mm	879 to 889	885	Pass
B - Shoulder pivot height	mm	505 to 521	514	Pass
C - H point height	mm	84 to 89	86	Pass
D - H point location from backline	mm	135 to 140	138	Pass
E - Shoulder pivot from backline	mm	84 to 94	88	Pass
F - Thigh clearance	mm	140 to 155	146	Pass
G - Back of elbow to wrist pivot	mm	290 to 305	298	Pass
H - Head back to backline	mm	41 to 46	43	Pass
I - Shoulder to elbow length	mm	330 to 345	336	Pass
J - Elbow rest height	mm	190 to 211	201	Pass
K - Buttock to knee length	mm	579 to 604	586	Pass
L - Popliteal length	mm	429 to 455	438	Pass
M - Knee pivot height	mm	485 to 500	492	Pass
N - Buttock popliteal length	mm	452 to 477	472	Pass
O - Chest depth without jacket	mm	213 to 229	226	Pass
P - Foot length	mm	251 to 267	260	Pass
V - Shoulder breadth	mm	422 to 437	433	Pass
W - Foot breadth	mm	91 to 107	99	Pass
Y - Chest circumference (with chest jacket)	mm	970 to 1001	985	Pass
Z - Waist circumference	mm	836 to 866	865	Pass
AA - Location for chest circumference	mm	429 to 434	430	Pass
BB - Location for waist circumference	mm	226 to 231	230	Pass
Overall Test Results				Pass

Test Program: Hybrid III 50th Percentile Male Head Drop Test

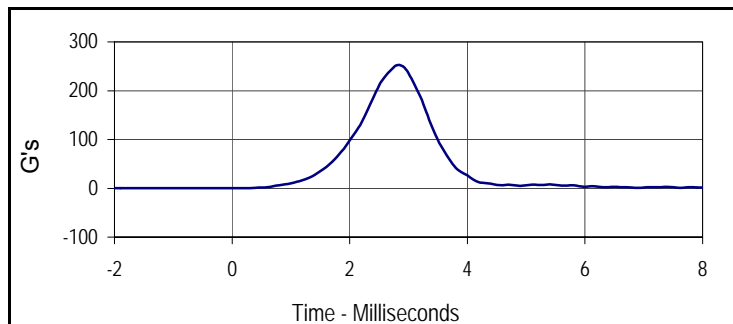
Test Date: 10/15/12



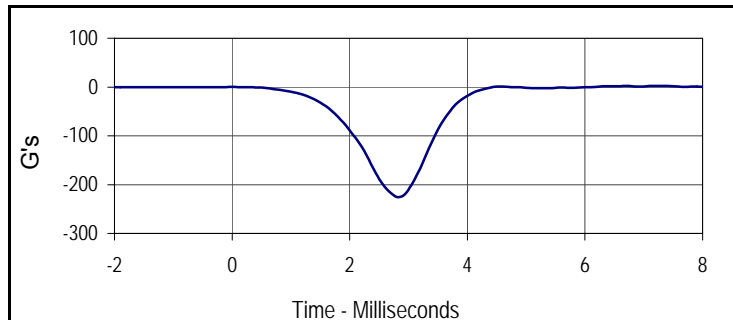
ATD Serial No.: 035

Test I.D.: M035HD047

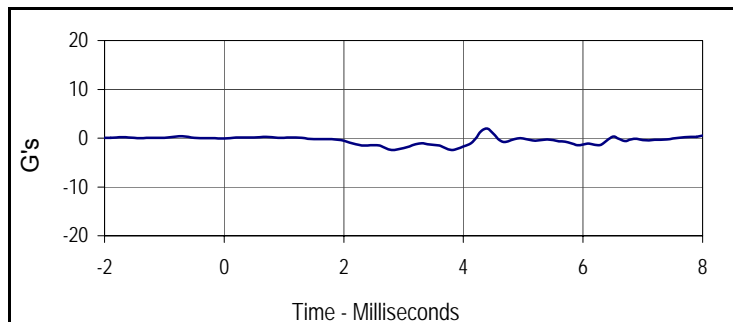
Tested Parameter	Units	Specification	Result	Pass/Fail
Head Assembly Soak Time	Minutes	≥240	250	Pass
Temperature During Soak	Max	18.9 to 25.6	21.7	Pass
	Min		20.7	Pass
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass
	Min		29.0	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	22.5	Pass
Peak Resultant Acceleration	G's	225.0 to 275.0	251.9	Pass
Peak Lateral Acceleration	G's	≤15.0	2.5	Pass
Oscillations After Main Pulse	%	<10% of peak Res. Acceleration	10.4	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass



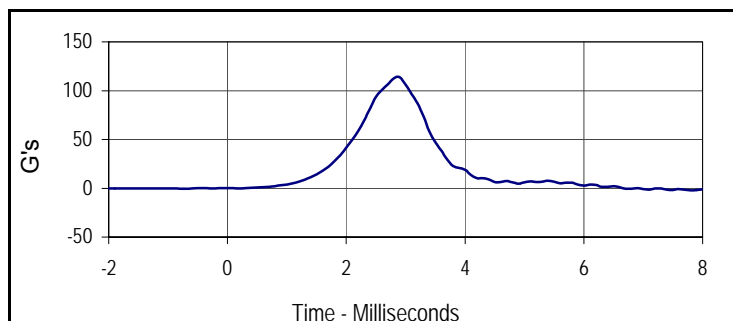
Curve Description			
Head Resultant			
Plot No.	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
251.9	2.8	0.0	-0.4



Curve Description			
Head X			
Plot No.	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
1.0	4.5	-225.2	2.8



Curve Description			
Head Y			
Plot No.	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
2.0	4.4	-2.5	2.8



Curve Description			
Head Z			
Plot No.	Type	SAE Class	Units
004	FIL	1000	G's
Max	Time	Min	Time
113.8	2.9	-0.4	-0.8

Test Program: Hybrid III 50th Percentile Male Neck Flexion Test

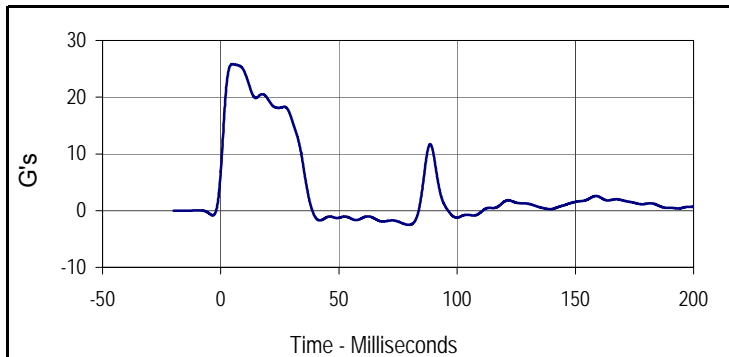
Test Date: 10/15/12



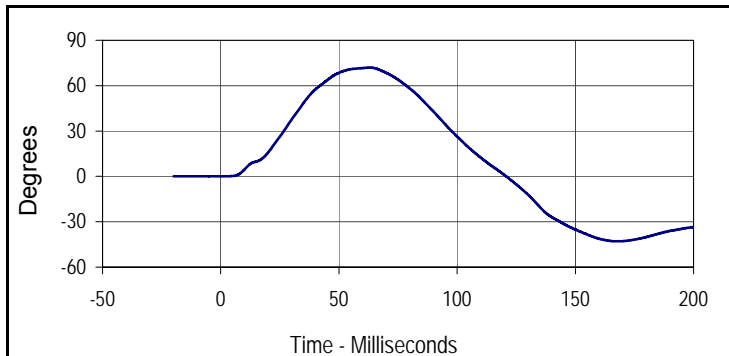
ATD Serial No.: 035

Test I.D.: M035NF047

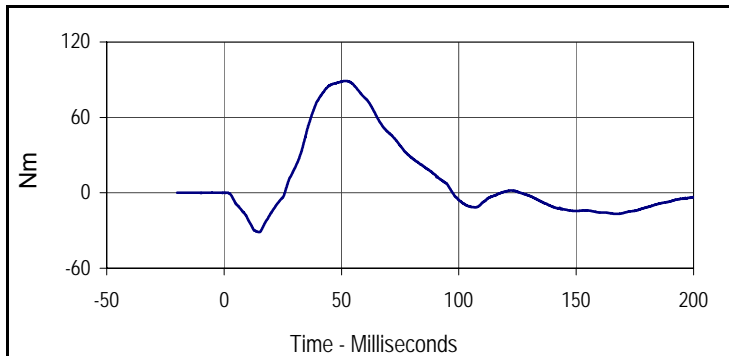
Tested Parameter	Units	Specification	Result	Pass/Fail	
Neck Assembly Soak Time	Minutes	≥240	295	Pass	
Temperature During Soak	Max	20.6 to 22.2	21.7	Pass	
	Min		20.7	Pass	
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass	
	Min		29.0	Pass	
Laboratory Temperature During Test	°C	20.6 to 22.2	21.6	Pass	
Laboratory Humidity During Test	%	10.0 to 70.0	30.2	Pass	
Pendulum Velocity	m/s	6.89 to 7.13	7.01	Pass	
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	24.5	Pass
	20 Msec.	G's	17.6 to 22.6	19.6	Pass
	30 Msec.	G's	12.5 to 18.5	16.1	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 29.0	16.1	Pass	
Deceleration Decay, Time to Cross 5 G's	Msec.	34.0 to 42.0	36.1	Pass	
Maximum "D" Plane Rotation	Max	Degrees	64.0 to 78.0	71.9	Pass
	Time	Msec.	57.0 to 64.0	63.1	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	113.0 to 128.0	120.8	Pass	
Moment About Occ. Condyle	Max	Nm	84.1 to 108.5	89.0	Pass
	Time	Msec.	47.0 to 58.0	52.3	Pass
Positive Moment Decay, Time To Zero Crossing	Msec.	97.0 to 107.0	97.4	Pass	
Overall Test Results				Pass	



Curve Description			
Pendulum Deceleration			
Plot No.	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
25.8	5.0	-2.5	79.6



Curve Description			
"D" Plane Rotation			
Plot No.	Type	SAE Class	Units
002	FIL	60	Degrees
Max	Time	Min	Time
71.9	63.1	-42.9	167.7



Curve Description			
Moment About Occipital Condyle			
Plot No.	Type	SAE Class	Units
003	FIL	600	Nm
Max	Time	Min	Time
89.0	52.3	-31.3	14.9

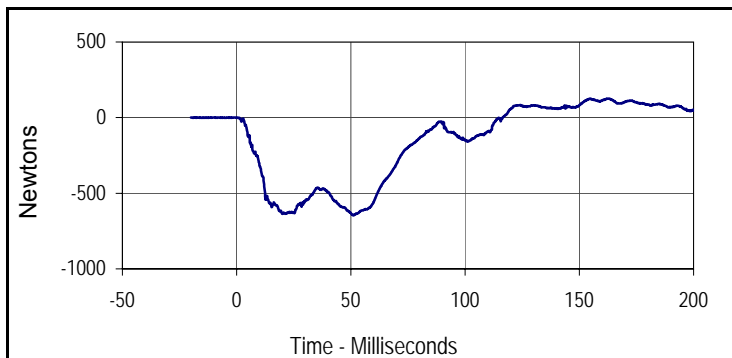
Test Program: Hybrid III 50th Percentile Male Neck Flexion Test

Test Date: 10/15/12

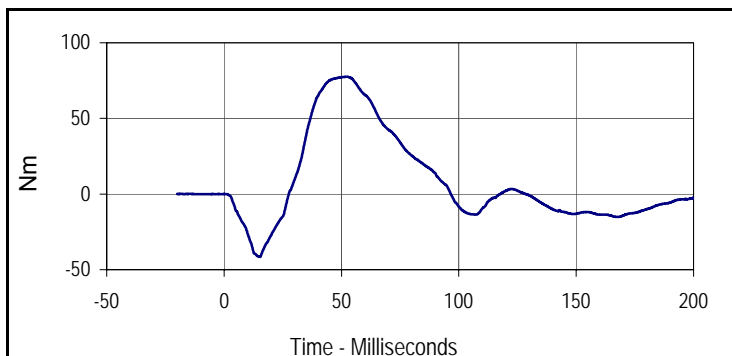


ATD Serial No.: 035

Test I.D.: M035NF047



Curve Description			
Neck Force X			
Plot No.	Type	SAE Class	Units
004	FIL	1000	Newtons
Max	Time	Min	Time
126.5	162.7	-646.1	51.1



Curve Description			
Neck Moment Y			
Plot No.	Type	SAE Class	Units
005	FIL	600	Nm
Max	Time	Min	Time
77.7	52.4	-41.6	15.2

Test Program: Hybrid III 50th Percentile Male Neck Extension Test

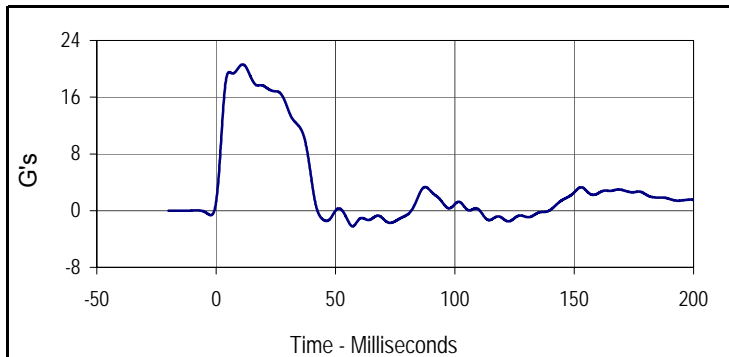
Test Date: 10/15/12



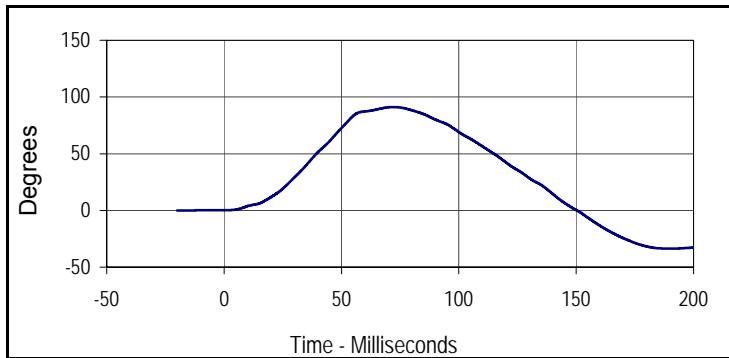
ATD Serial No.: 035

Test I.D.: M035NE047

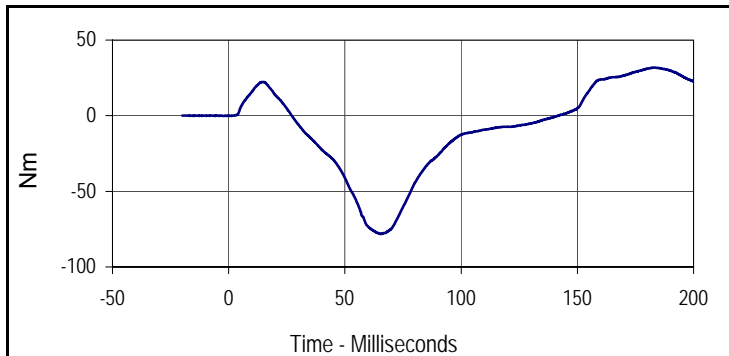
Tested Parameter	Units	Specification	Result	Pass/Fail	
Neck Assembly Soak Time	Minutes	≥240	330	Pass	
Temperature During Soak	Max	20.6 to 22.2	21.7	Pass	
	Min		20.7	Pass	
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass	
	Min		29.0	Pass	
Laboratory Temperature During Test	°C	20.6 to 22.2	21.4	Pass	
Laboratory Humidity During Test	%	10.0 to 70.0	22.4	Pass	
Pendulum Velocity	m/s	5.94 to 6.19	6.09	Pass	
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	20.4	Pass
	20 Msec.	G's	14.0 to 19.0	17.6	Pass
	30 Msec.	G's	11.0 to 16.0	14.4	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 22.0	14.4	Pass	
Deceleration Decay, Time to Cross 5 G's	Msec.	38.0 to 46.0	39.7	Pass	
Maximum "D" Plane Rotation	Max	Degrees	81.0 to 106.0	91.1	Pass
	Time	Msec.	72.0 to 82.0	72.1	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	147.0 to 174.0	150.4	Pass	
Moment About Occ. Condyle	Max	Nm	-52.9 to -79.9	-78.3	Pass
	Time	Msec.	65.0 to 79.0	65.5	Pass
Positive Moment Decay, Time To Zero Crossing	Msec.	120.0 to 148.0	141.9	Pass	
Overall Test Results				Pass	



Curve Description			
Pendulum Deceleration			
Plot No.	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
20.6	11.1	-2.2	57.2



Curve Description			
"D" Plane Rotation			
Plot No.	Type	SAE Class	Units
002	FIL	60	Degrees
Max	Time	Min	Time
91.1	72.1	-33.7	190.4



Curve Description			
Moment About Occipital Condyle			
Plot No.	Type	SAE Class	Units
003	FIL	600	Nm
Max	Time	Min	Time
31.8	183.3	-78.3	65.5

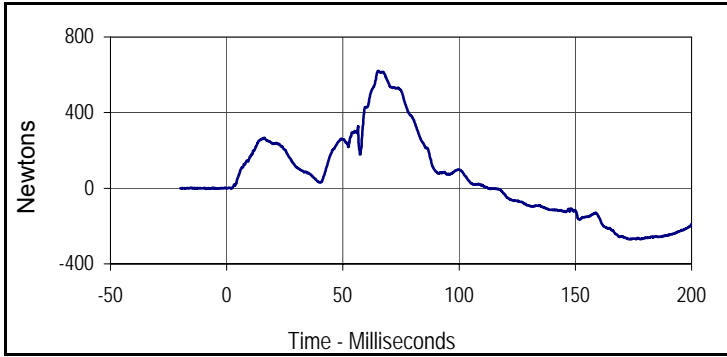
Test Program: Hybrid III 50th Percentile Male Neck Extension Test

Test Date: 10/15/12

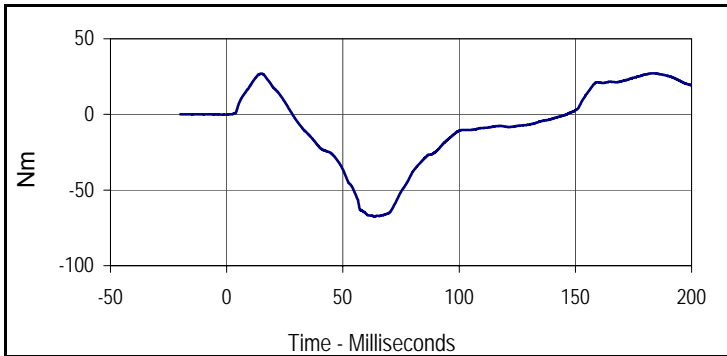


ATD Serial No.: 035

Test I.D.: M035NE1047



Curve Description			
Neck Force X			
Plot No.	Type	SAE Class	Units
004	FIL	1000	Newtons
Max	Time	Min	Time
619.8	65.2	-270.5	174.0



Curve Description			
Neck Moment Y			
Plot No.	Type	SAE Class	Units
005	FIL	600	Nm
Max	Time	Min	Time
27.2	183.3	-67.6	63.7

Test Program: Hybrid III 50th Percentile Male Thorax Impact Test

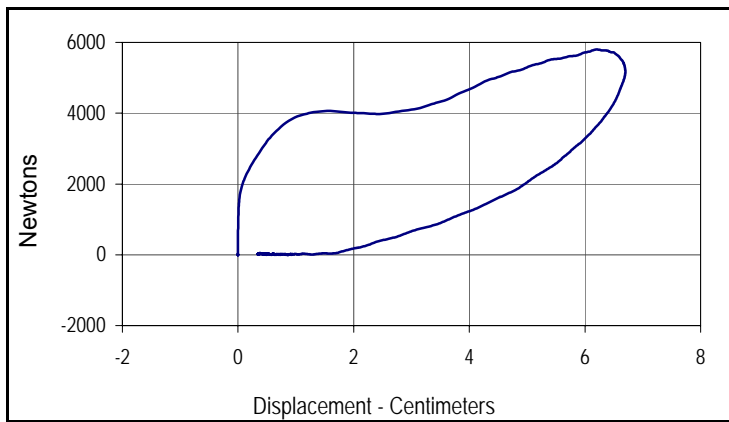
Test Date: 10/15/12



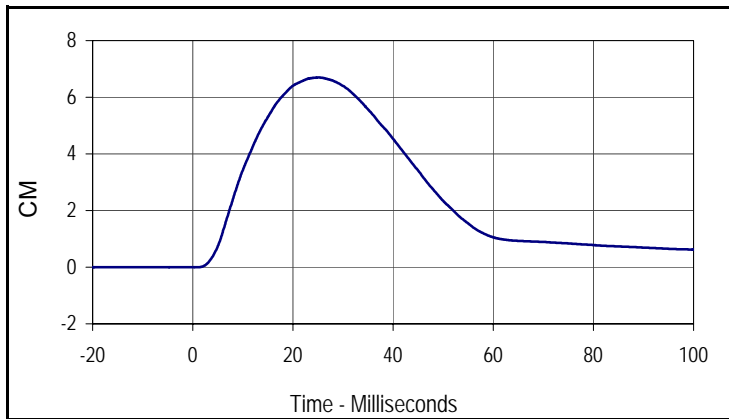
ATD Serial No.: 035

Test I.D.: M035CH047

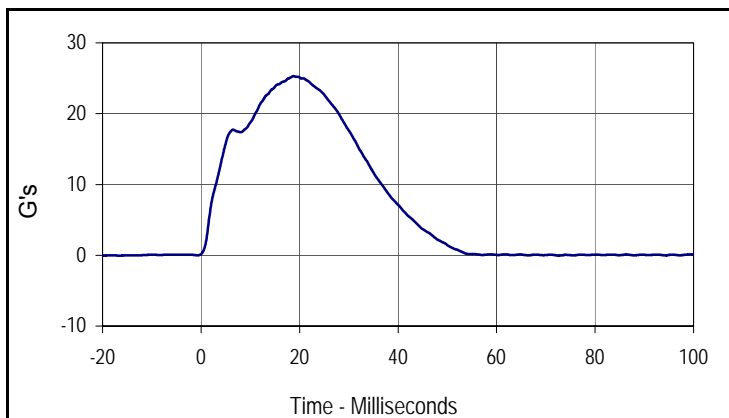
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥240	365	Pass
Temperature During Soak	Max	20.6 to 22.2	21.7	Pass
	Min		20.7	Pass
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass
	Min		29.0	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.1	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	29.7	Pass
Probe Velocity	m/s	6.58 to 6.82	6.79	Pass
Peak Probe Force	Newtons	5159 to 5893	5798	Pass
Peak Sternum Deflection	CM	6.35 to 7.26	6.70	Pass
Internal Hysteresis	%	69 to 85	71.9	Pass
Overall Test Results				Pass



Curve Description			
Probe Force vs. Chest Deflection			
Plot No.	Type	SAE Class	Hysteresis
001	FIL	180	71.9
Peak Probe Force		Peak Chest Deflection	
5798		6.70	



Curve Description			
Chest Deflection			
Plot No.	Type	SAE Class	Units
002	FIL	180	CM
Max	Time	Min	Time
6.7	25.1	0.0	0.8



Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
25.3	18.7	0.0	-16.6

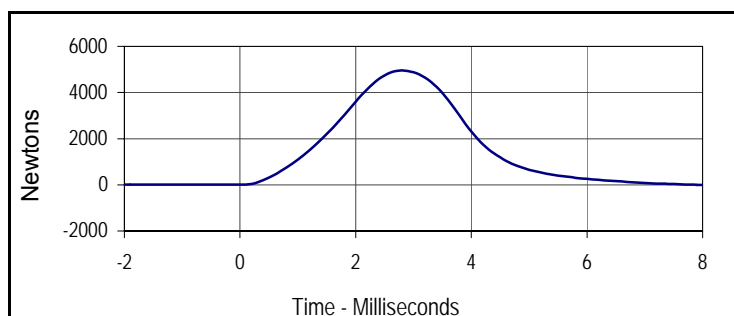


Left Knee

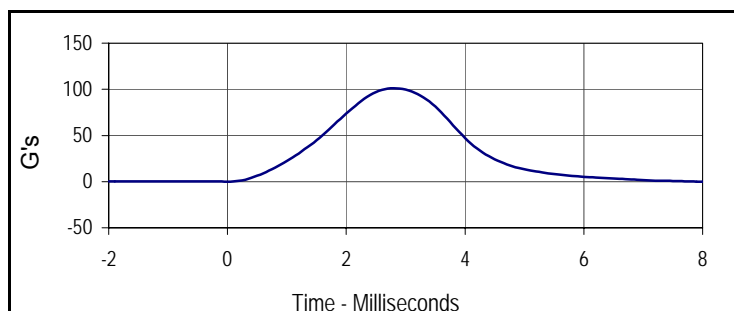
Tested Parameter	Units	Specification	Result	Pass/Fail
Knee Assembly Soak Time	Minutes	≥240	410	Pass
Temperature During Soak	Max	18.9 to 25.6	21.7	Pass
	Min		20.7	Pass
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass
	Min		29.0	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.0	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	30.0	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.10	Pass
Peak Probe Force	Newtons	4715 to 5782	4955	Pass
Overall Test Results				Pass

Right Knee

Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.11	Pass
Peak Probe Force	Newtons	4715 to 5782	5016	Pass
Overall Test Results				Pass



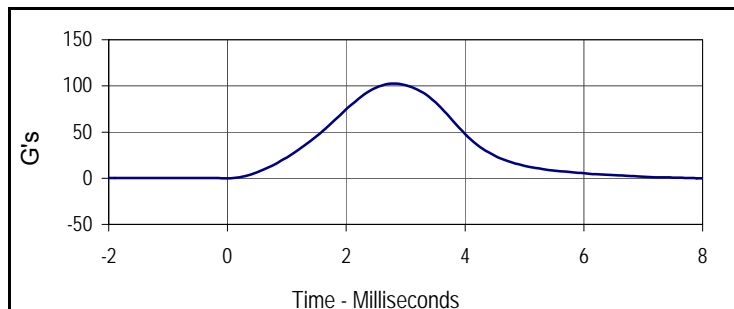
Curve Description			
Left Knee Probe Force			
Plot No.	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
4955.1	2.8	-12.9	8.7



Curve Description			
Left Knee Acceleration			
Plot No.	Type	SAE Class	Units
002	FIL	600	G's
Max	Time	Min	Time
101.3	2.8	-0.3	8.7



Curve Description			
Right Knee Probe Force			
Plot No.	Type	SAE Class	Units
003	FIL	600	Newtons
Max	Time	Min	Time
5016.3	2.8	-12.8	8.7



Curve Description			
Right Knee Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	600	G's
Max	Time	Min	Time
102.5	2.8	-0.3	8.7

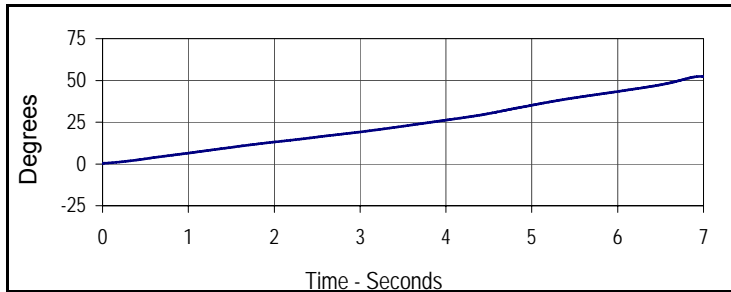


Left Hip Joint-Femur Results

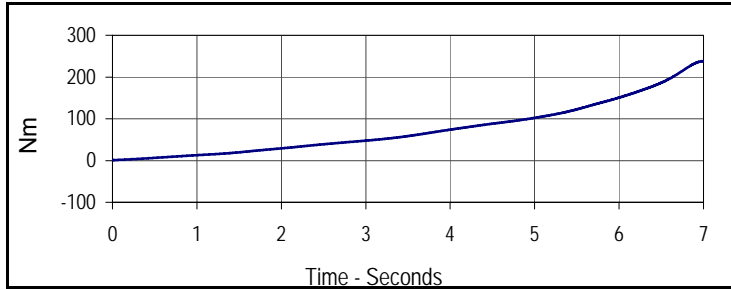
Tested Parameter	Units	Specification	Result	Pass/Fail
Hip Joint-Femur Assembly Soak Time	Minutes	≥240	465	Pass
Temperature During Soak	Max	18.9 to 25.6	21.7	Pass
	Min		20.7	Pass
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass
	Min		29.0	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.4	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	22.4	Pass
Rotation Rate	deg/sec	5 to 10	7.5	Pass
Femur Torque at 30°	Nm	≤ 95	87.8	Pass
Rotation at 203 Nm	Degrees	40.0 to 50.0	49.1	Pass
Overall Test Results				Pass

Right Hip Joint-Femur Results

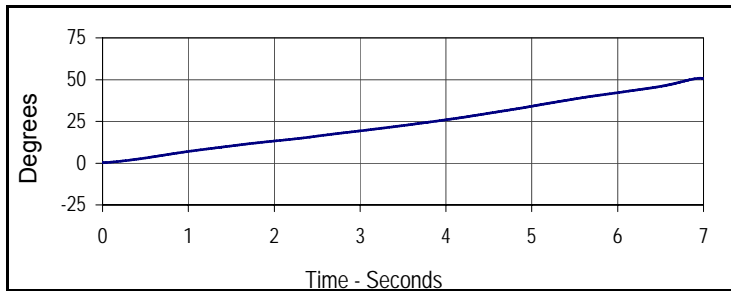
Rotation Rate	deg/sec	5 to 10	7.3	Pass
Femur Torque at 30°	Nm	≤ 95	86.2	Pass
Rotation at 203 Nm	Degrees	40.0 to 50.0	48.0	Pass
Overall Test Results				Pass



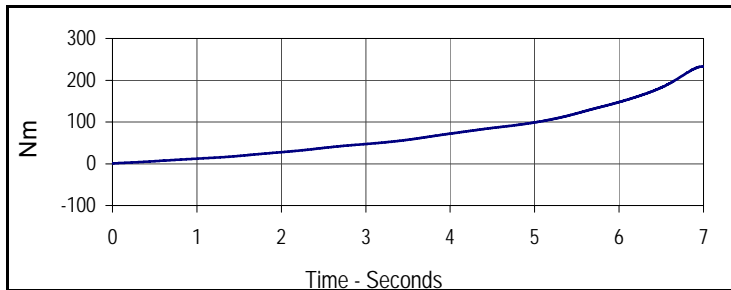
Curve Description			
Left Hip-Femur Rotation			
Plot No.	Type	SAE Class	Units
001	FIL	60	Degrees
Max	Time	Min	Time
52.4	7.0	0.3	0.0



Curve Description			
Left Femur Torque			
Plot No.	Type	SAE Class	Units
002	FIL	600	Nm
Max	Time	Min	Time
237.8	7.0	1.0	0.0



Curve Description			
Right Hip-Femur Rotation			
Plot No.	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
50.8	7.0	0.2	0.0



Curve Description			
Right Femur Torque			
Plot No.	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
232.9	7.0	1.0	0.0

Test Program: Hybrid III 5th Percentile Female Dummy Damage Checklist

Test Date: 9/27/12



ATD Serial No.: 635

Test I.D.: N/A

Dummy Item	Inspect for	Comments	Damaged	OK
Entire Dummy	Perform general cleaning			X
Outer Skin	Gashes, rips, cracks			X
Head	Ballast secure			X
	General appearance			X
Neck	Broken or cracked rubber			X
	Upper neck bracket firmly attached to the lower neck bracket			X
	Looseness at the condyle joint			X
	Nodding blocks cracked or out of position			X
Spine	Broken or cracks in rubber			X
Ribs	Broken or bent ribs			X
	Broken or bent rib supports			X
	Damping material separated or cracked			X
	Rubber bumpers in place			X
Chest Displacement Assembly	Bent shaft			X
	Slider arm riding in track			X
Transducer Leads	Torn cables			X
Accelerometer Mountings	Head mounting secure			X
	Chest mounting secure			X
Knees	Skin condition			X
	Insert (do not remove)			X
	Casting			X
Limbs	Normal movement and adjustment			X
Knee Sliders	Wires intact			X
	Rubber returned to "at rest" position			X
Pelvis	Broken			X
Other				X

Describe the repair on repair or replacement of parts:

Test Program: Hybrid III 5th Percentile Female External Measurements

Test Date: 9/27/12



ATD Serial No.: 635

Test I.D.: N/A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	20.97	Pass
Laboratory Relative Humidity	%	10 to 70	30.1	Pass
A - Total sitting height	mm	774.7 to 800.1	788	Pass
B - Shoulder pivot height	mm	431.8 to 457.2	451	Pass
C - H point height	mm	81.3 to 86.3	84	Pass
D - H point location from backline	mm	144.8 to 149.8	146	Pass
E - Shoulder pivot from backline	mm	68.6 to 83.8	78	Pass
F - Thigh clearance	mm	119.4 to 134.6	126	Pass
G - Back of elbow to wrist pivot	mm	243.9 to 259.1	250	Pass
H - Head back to backline	mm	40.7 to 45.7	44	Pass
I - Shoulder to elbow length	mm	276.8 to 297.2	285	Pass
J - Elbow rest height	mm	182.8 to 203.2	196	Pass
K - Buttock to knee length	mm	520.7 to 546.1	532	Pass
L - Popliteal length	mm	355.6 to 376.0	372	Pass
M - Knee pivot height	mm	393.7 to 419.1	404	Pass
N - Buttock popliteal length	mm	414.0 to 439.4	420	Pass
O - Chest depth without jacket	mm	175.3 to 190.5	186	Pass
P - Foot length	mm	218.5 to 233.7	221	Pass
R - Buttock to Knee Pivot Length	mm	457.2 to 482.6	473	Pass
S - Head Breadth	mm	137.1 to 147.3	144	Pass
T - Head Depth	mm	177.8 to 188.0	180	Pass
U - Hip Breadth	mm	299.7 to 314.9	302	Pass
V - Shoulder breadth	mm	350.5 to 365.7	359	Pass
W - Foot breadth	mm	78.8 to 94.0	90	Pass
X - Head circumference	mm	528.3 to 548.7	541	Pass
Y - Chest circumference (with chest jacket)	mm	850.8 to 881.3	864	Pass
Z - Waist circumference	mm	759.5 to 789.9	766	Pass
AA - Location for chest circumference	mm	299.7 to 309.9	300	Pass
BB - Location for waist circumference	mm	160.1 to 170.2	164	Pass
Overall Test Results				Pass

Test Program: Hybrid III 5th Percentile Female Head Drop Test

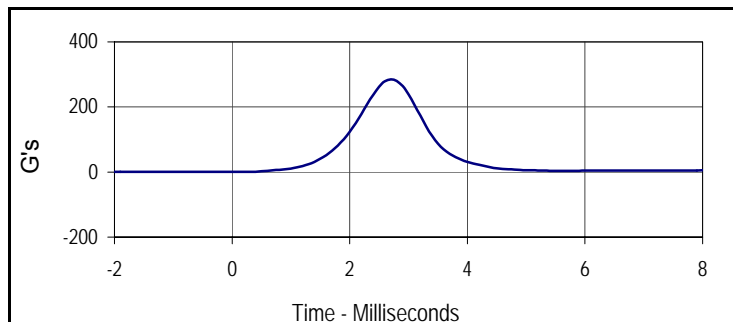
Test Date: 9/27/12



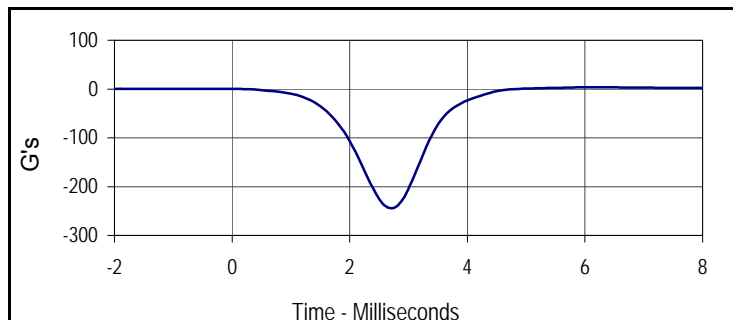
ATD Serial No.: 635

Test I.D.: F635HD032

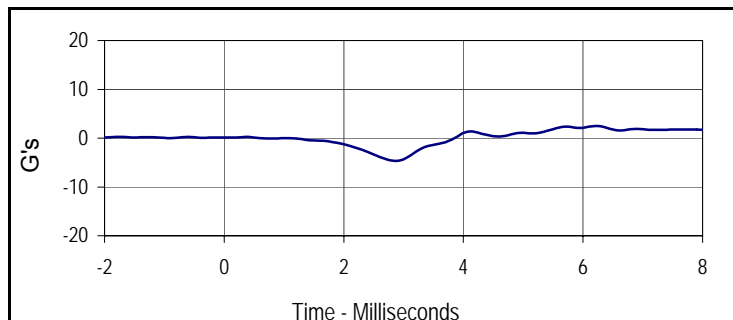
Tested Parameter	Units	Specification	Result	Pass/Fail
Head Assembly Soak Time	Minutes	≥240	270	Pass
Temperature During Soak	Max	18.9 to 25.6	21.7	Pass
	Min		20.7	Pass
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass
	Min		29.0	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.4	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	30.5	Pass
Peak Resultant Acceleration	G's	250.0 to 300.0	285.2	Pass
Peak Lateral Acceleration	G's	≤15.0	4.6	Pass
Oscillations After Main Pulse	%	<10% of peak Res. Acceleration	1.8	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass



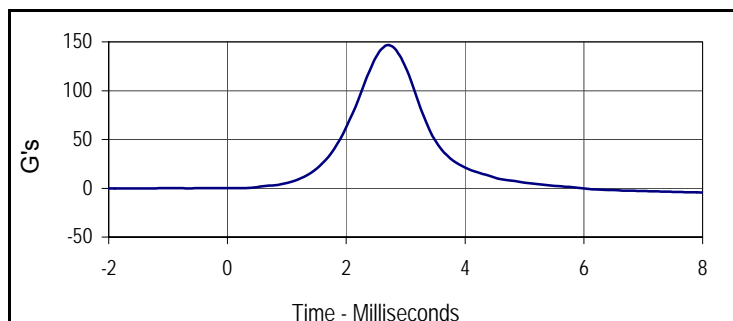
Curve Description			
Head Resultant			
Plot No.	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
285.2	2.7	0.2	0.2



Curve Description			
Head X			
Plot No.	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
3.6	6.0	-244.6	2.7



Curve Description			
Head Y			
Plot No.	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
2.3	5.7	-4.6	2.9



Curve Description			
Head Z			
Plot No.	Type	SAE Class	Units
004	FIL	1000	G's
Max	Time	Min	Time
146.7	2.7	-0.1	-1.7

Test Program: Hybrid III 5th Percentile Female Neck Flexion Test

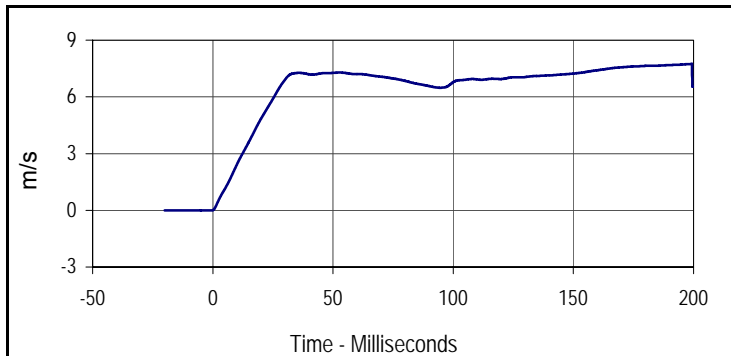
Test Date: 9/27/12



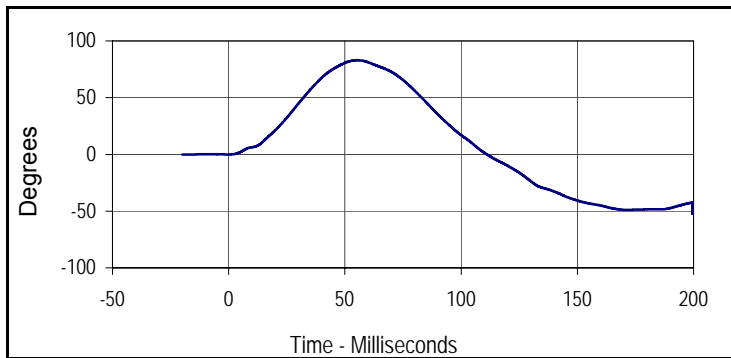
ATD Serial No.: 635

Test I.D.: F635NF032

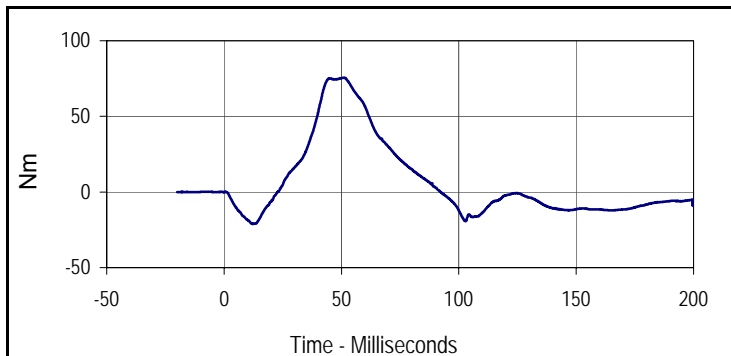
Tested Parameter	Units	Specification	Result	Pass/Fail	
Neck Assembly Soak Time	Minutes	≥240	305	Pass	
Temperature During Soak	Max	20.6 to 22.2	21.7	Pass	
	Min		20.7	Pass	
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass	
	Min		29.0	Pass	
Laboratory Temperature During Test	°C	20.6 to 22.2	21.1	Pass	
Laboratory Humidity During Test	%	10.0 to 70.0	29.7	Pass	
Pendulum Velocity	m/s	6.89 to 7.13	7.08	Pass	
Pendulum Deceleration	10 Msec.	m/s	2.1 to 2.5	2.4	Pass
	20 Msec.	m/s	4.0 to 5.0	4.8	Pass
	30 Msec.	m/s	5.8 to 7.0	6.9	Pass
"D" Plane Rotation	Max	Degrees	77.0 to 91.0	83.0	Pass
Peak Moment in Rotation	Max	Nm	69.0 to 83.0	75.6	Pass
Positive Moment Decay, Time To 10 Nm	Msec.	80.0 to 100.0	82.9	Pass	
Overall Test Results				Pass	



Curve Description			
Pendulum Velocity			
Plot No.	Type	SAE Class	Units
001	FIL	180	m/s
Max	Time	Min	Time
7.7	199.4	0.0	-0.7



Curve Description			
"D" Plane Rotation			
Plot No.	Type	SAE Class	Units
002	FIL	60	Degrees
Max	Time	Min	Time
83.0	55.3	-52.2	199.5



Curve Description			
Moment About Occipital Condyle			
Plot No.	Type	SAE Class	Units
003	FIL	600	Nm
Max	Time	Min	Time
75.6	51.2	-21.2	12.1

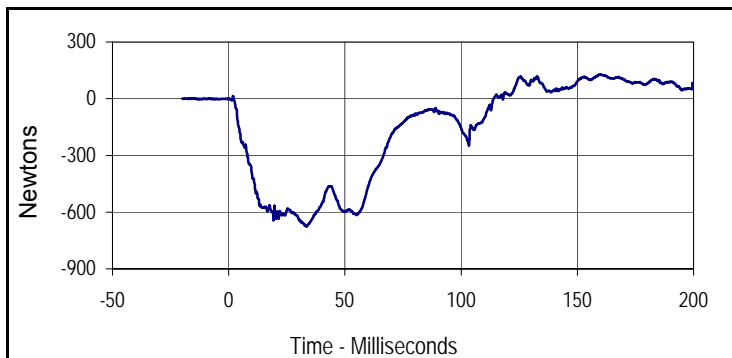
Test Program: Hybrid III 5th Percentile Female Neck Flexion Test

Test Date: 9/27/12

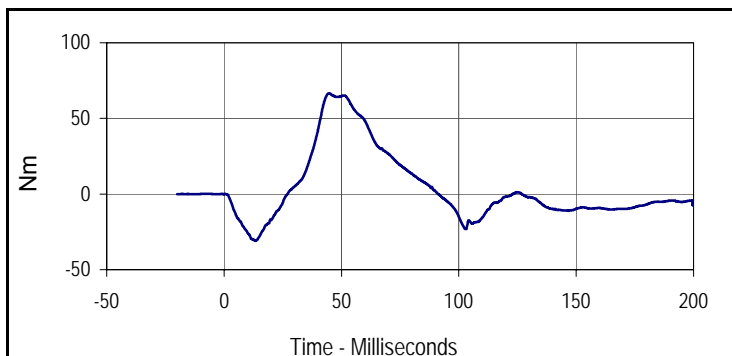


ATD Serial No.: 635

Test I.D.: F635NF032



Curve Description			
Upper Neck Force X			
Plot No.	Type	SAE Class	Units
004	FIL	1000	Newtons
Max	Time	Min	Time
127.7	160.1	-674.9	33.6



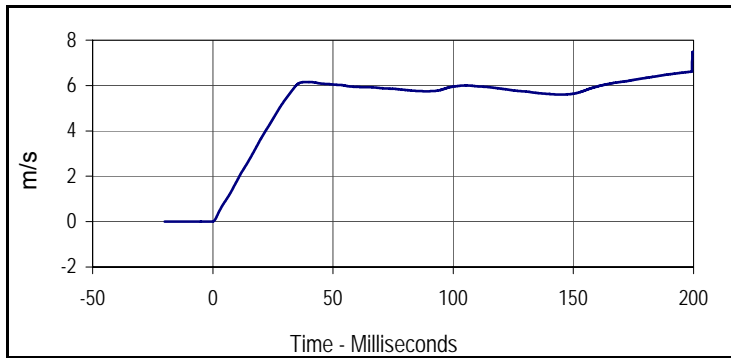
Curve Description			
Neck Moment Y			
Plot No.	Type	SAE Class	Units
005	FIL	600	Nm
Max	Time	Min	Time
66.5	44.5	-30.9	13.3

Test Program: Hybrid III 5th Percentile Female Neck Extension Test
 ATD Serial No.: 635

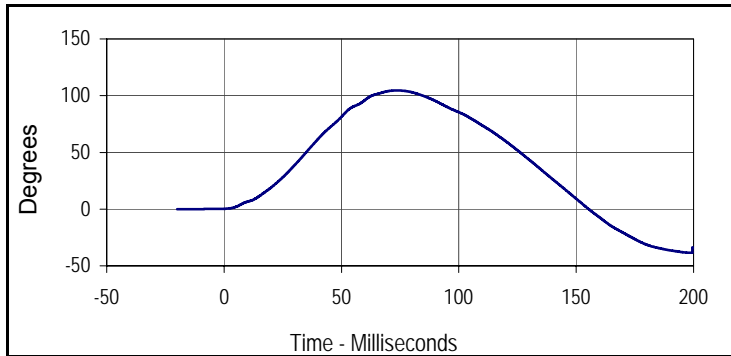
Test Date: 9/27/12
 Test I.D.: F635NE032



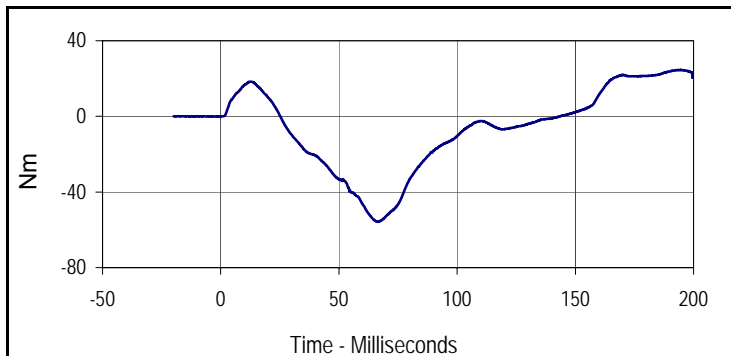
Tested Parameter	Units	Specification	Result	Pass/Fail	
Neck Assembly Soak Time	Minutes	≥240	355	Pass	
Temperature During Soak	Max	20.6 to 22.2	21.7	Pass	
	Min		20.7	Pass	
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass	
	Min		29.0	Pass	
Laboratory Temperature During Test	°C	20.6 to 22.2	21.4	Pass	
Laboratory Humidity During Test	%	10.0 to 70.0	29.9	Pass	
Pendulum Velocity	m/s	5.95 to 6.19	6.11	Pass	
Pendulum Deceleration	10 Msec.	m/s	1.5 to 1.9	1.8	Pass
	20 Msec.	m/s	3.1 to 3.9	3.7	Pass
	30 Msec.	m/s	4.6 to 5.6	5.4	Pass
"D" Plane Rotation	Max	Degrees	99.0 to 114.0	104.6	Pass
Peak Moment in Rotation	Max	Nm	-53.0 to -65.0	-55.8	Pass
Positive Moment Decay, Time To -10 Nm	Msec.	94.0 to 114.0	100.4	Pass	
Overall Test Results				Pass	



Curve Description			
Pendulum Velocity			
Plot No.	Type	SAE Class	Units
001	FIL	180	m/s
Max	Time	Min	Time
7.5	200.0	0.0	-0.6



Curve Description			
"D" Plane Rotation			
Plot No.	Type	SAE Class	Units
002	FIL	60	Degrees
Max	Time	Min	Time
104.6	73.6	-38.4	199.2



Curve Description			
Moment About Occipital Condyle			
Plot No.	Type	SAE Class	Units
003	FIL	600	Nm
Max	Time	Min	Time
24.6	194.6	-55.8	66.5

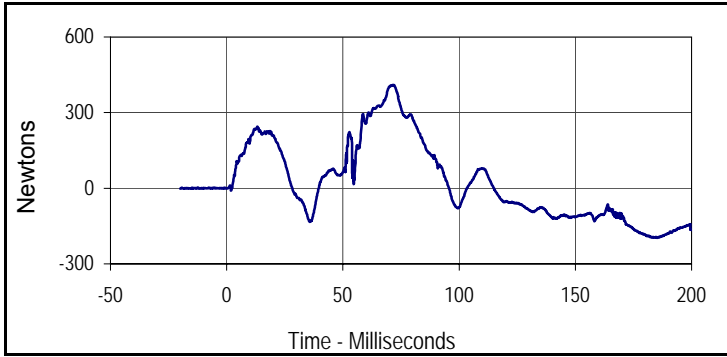
Test Program: Hybrid III 5th Percentile Female Neck Extension Test

Test Date: 9/27/12

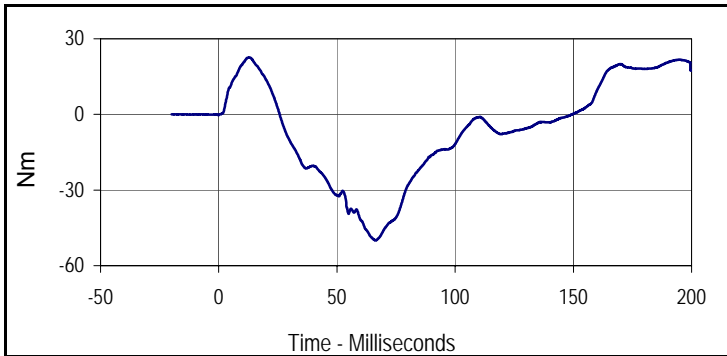


ATD Serial No.: 635

Test I.D.: F635NE032



Curve Description			
Upper Neck Force X			
Plot No.	Type	SAE Class	Units
004	FIL	1000	Newtons
Max	Time	Min	Time
410.1	71.9	-196.7	185.1



Curve Description			
Neck Moment Y			
Plot No.	Type	SAE Class	Units
005	FIL	600	Nm
Max	Time	Min	Time
22.6	13.0	-50.0	66.4

Test Program: Hybrid III 5th Percentile Female Thorax Impact Test

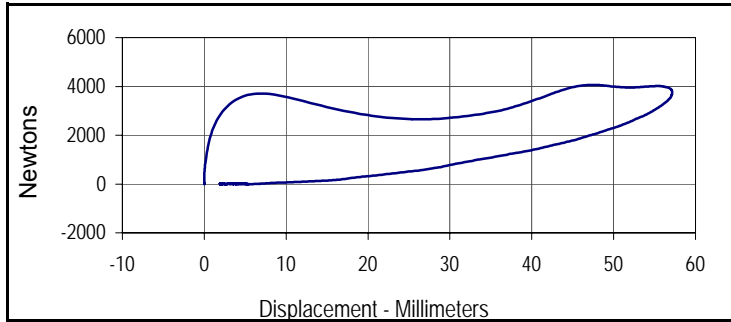
Test Date: 9/27/12



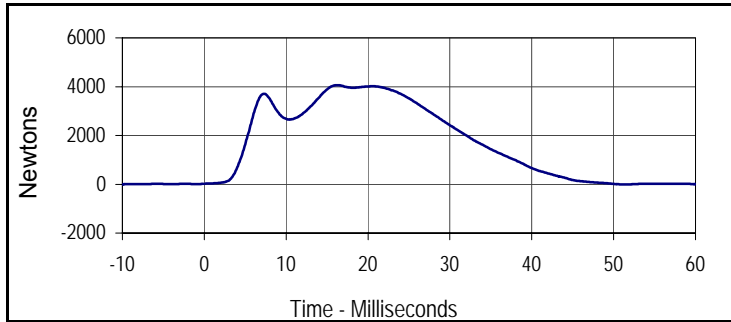
ATD Serial No.: 635

Test I.D.: F635CH032

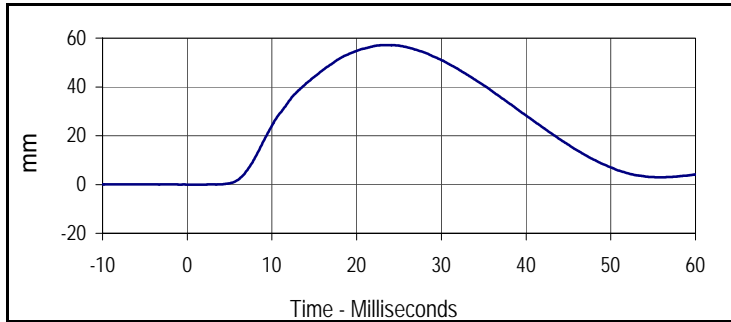
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥240	390	Pass
Temperature During Soak	Max	20.6 to 22.2	21.7	Pass
	Min		20.7	Pass
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass
	Min		29.0	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	30.2	Pass
Probe Velocity	m/s	6.59 to 6.83	6.74	Pass
Peak Chest Deflection	mm	50.0 to 58.0	57.1	Pass
Peak Force Between 50 and 58 MM	Newtons	3900 to 4400	4062	Pass
Peak Force Between 18 and 50 MM	Newtons	≤4600	4016	Pass
Internal Hysteresis	%	69 to 85	70.1	Pass
Overall Test Results				Pass



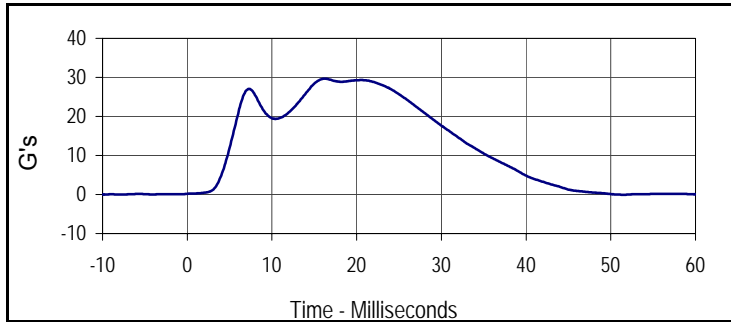
Curve Description			
Probe Force vs. Chest Deflection			
Plot No.	Type	SAE Class	Hysteresis
001	FIL	180	70.1
Peak Probe Force		Peak Chest Deflection	
4062.4		57.1	



Curve Description			
Probe Force			
Plot No.	Type	SAE Class	Units
002	FIL	180	Newtons
Max	Time	Min	Time
4062.4	16.2	-16.3	149.9



Curve Description			
Chest Deflection			
Plot No.	Type	SAE Class	Units
003	FIL	600	mm
Max	Time	Min	Time
57.1	23.7	0.0	0.5



Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
29.7	16.2	-0.1	93.7

Test Program: Hybrid III 5th Percentile Female Knee Impact Test

Test Date: 9/27/12



ATD Serial No.: 635

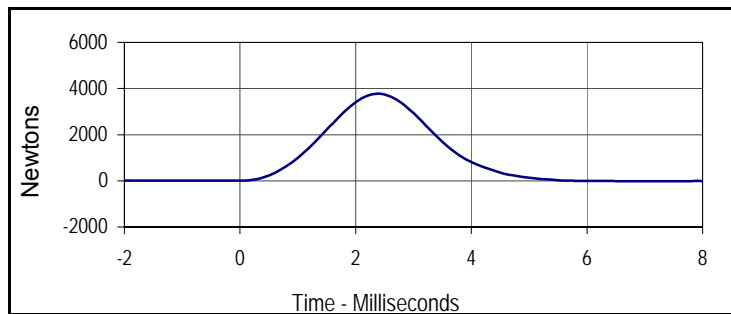
Test I.D.: F635LK032, F635RK032

Left Knee

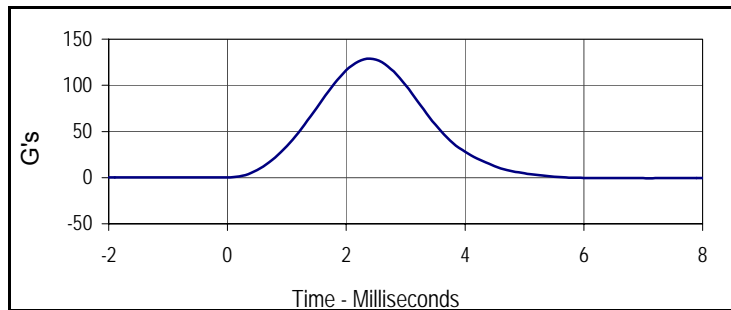
Tested Parameter	Units	Specification	Result	Pass/Fail
Knee Assembly Soak Time	Minutes	≥240	425	Pass
Temperature During Soak	Max	18.9 to 25.6	21.7	Pass
	Min		20.7	Pass
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass
	Min		29.0	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.0	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	29.4	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.09	Pass
Peak Probe Force	Newtons	3450 to 4060	3775	Pass
Overall Test Results				Pass

Right Knee

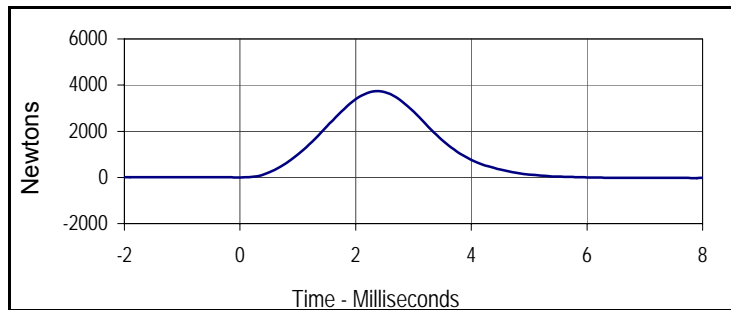
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.10	Pass
Peak Probe Force	Newtons	3450 to 4060	3739	Pass
Overall Test Results				Pass



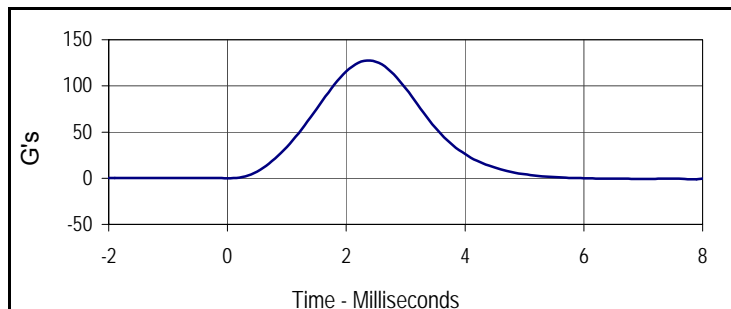
Curve Description			
Left Knee Probe Force			
Plot No.	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
3775.1	2.4	-17.8	7.1



Curve Description			
Left Knee Acceleration			
Plot No.	Type	SAE Class	Units
002	FIL	600	G's
Max	Time	Min	Time
128.8	2.4	-0.6	7.1



Curve Description			
Right Knee Probe Force			
Plot No.	Type	SAE Class	Units
003	FIL	600	Newtons
Max	Time	Min	Time
3739.3	2.4	-33.7	7.9



Curve Description			
Right Knee Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	600	G's
Max	Time	Min	Time
127.6	2.4	-1.2	7.9

Test Program: Hybrid III 5th Percentile Female Torso Flexion Test

Test Date: 9/27/12

ATD Serial No.: 635

Test I.D.: F635TF032



Left Hip Joint-Femur Results

Tested Parameter		Units	Specification	Result	Pass/Fail
Dummy Soak Time		Minutes	≥240	460	Pass
Temperature During Soak	Max	°C	18.9 to 25.6	21.7	Pass
	Min	°C		20.7	Pass
Humidity During Soak	Max	%	10.0 to 70.0	31.0	Pass
	Min	%		29.0	Pass
Laboratory Temperature During Test		°C	18.9 to 25.6	21.1	Pass
Laboratory Humidity During Test		%	10.0 to 70.0	30.1	Pass
Initial Reference Plane Angle		Degrees	≤ 20	0.1	Pass
Peak Force at 45° +/-0.5°		Newtons	320.0 to 390.0	357.5	Pass
Torso Rotation Rate		deg/sec	0.5 to 1.5	1.1	Pass
Final Reference Plane Angle		Degrees	+/-8	1.5	Pass
Overall Test Results					Pass

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

Test Program: Hybrid III 50th Percentile Male Dummy Damage Checklist

Test Date: 10/25/12



ATD Serial No.: 035

Test I.D.: N/A

Dummy Item	Inspect for	Comments	Damaged	OK
Entire Dummy	Perform general cleaning			X
Outer Skin	Gashes, rips, cracks			X
Head	Ballast secure			X
	General appearance			X
Neck	Broken or cracked rubber			X
	Upper neck bracket firmly attached to the lower neck bracket			X
	Looseness at the condyle joint			X
	Nodding blocks cracked or out of position			X
Spine	Broken or cracks in rubber			X
Ribs	Broken or bent ribs			X
	Broken or bent rib supports			X
	Damping material separated or cracked			X
	Rubber bumpers in place			X
Chest Displacement Assembly	Bent shaft			X
	Slider arm riding in track			X
Transducer Leads	Torn cables			X
Accelerometer Mountings	Head mounting secure			X
	Chest mounting secure			X
Knees	Skin condition			X
	Insert (do not remove)			X
	Casting			X
Limbs	Normal movement and adjustment			X
Knee Sliders	Wires intact			X
	Rubber returned to "at rest" position			X
Pelvis	Broken			X
Other				X

Describe the repair on repair or replacement of parts:

Test Program: Hybrid III 50th Percentile Male External Measurements

Test Date: 10/25/12



ATD Serial No.: 035

Test I.D.: N/A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.26	Pass
Laboratory Relative Humidity	%	10 to 70	22.5	Pass
A - Total sitting height	mm	879 to 889	884	Pass
B - Shoulder pivot height	mm	505 to 521	515	Pass
C - H point height	mm	84 to 89	85	Pass
D - H point location from backline	mm	135 to 140	137	Pass
E - Shoulder pivot from backline	mm	84 to 94	89	Pass
F - Thigh clearance	mm	140 to 155	146	Pass
G - Back of elbow to wrist pivot	mm	290 to 305	298	Pass
H - Head back to backline	mm	41 to 46	43	Pass
I - Shoulder to elbow length	mm	330 to 345	336	Pass
J - Elbow rest height	mm	190 to 211	200	Pass
K - Buttock to knee length	mm	579 to 604	586	Pass
L - Popliteal length	mm	429 to 455	438	Pass
M - Knee pivot height	mm	485 to 500	491	Pass
N - Buttock popliteal length	mm	452 to 477	472	Pass
O - Chest depth without jacket	mm	213 to 229	225	Pass
P - Foot length	mm	251 to 267	260	Pass
V - Shoulder breadth	mm	422 to 437	433	Pass
W - Foot breadth	mm	91 to 107	99	Pass
Y - Chest circumference (with chest jacket)	mm	970 to 1001	981	Pass
Z - Waist circumference	mm	836 to 866	865	Pass
AA - Location for chest circumference	mm	429 to 434	430	Pass
BB - Location for waist circumference	mm	226 to 231	231	Pass
Overall Test Results				Pass

Test Program: Hybrid III 50th Percentile Male Head Drop Test

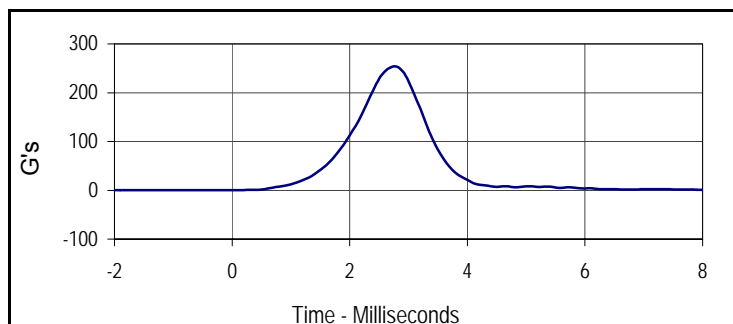
Test Date: 10/25/12



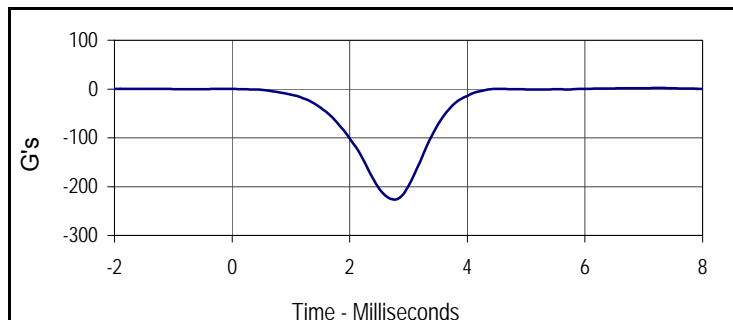
ATD Serial No.: 035

Test I.D.: M035HD048

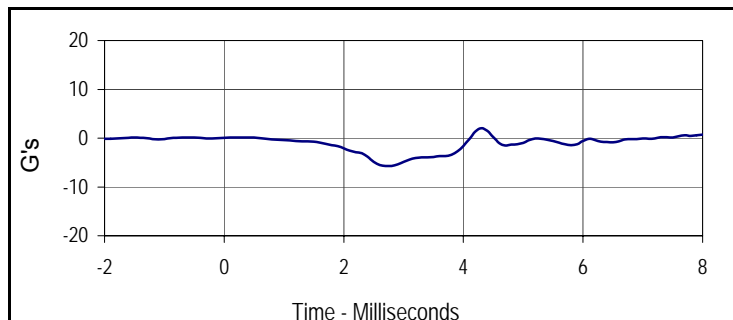
Tested Parameter	Units	Specification	Result	Pass/Fail
Head Assembly Soak Time	Minutes	≥240	247	Pass
Temperature During Soak	Max	18.9 to 25.6	21.7	Pass
	Min		20.7	Pass
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass
	Min		29.0	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.2	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	22.3	Pass
Peak Resultant Acceleration	G's	225.0 to 275.0	253.2	Pass
Peak Lateral Acceleration	G's	≤15.0	5.7	Pass
Oscillations After Main Pulse	%	<10% of peak Res. Acceleration	8.5	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass



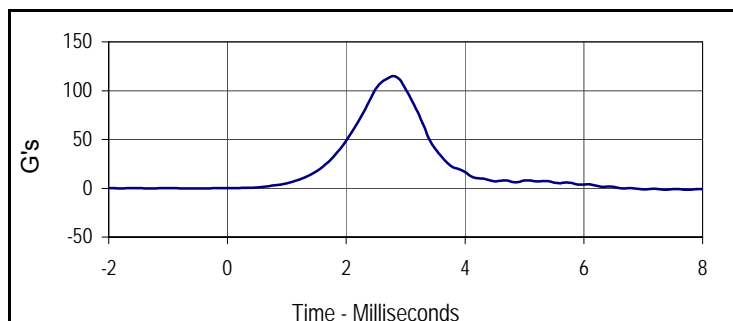
Curve Description			
Head Resultant			
Plot No.	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
253.2	2.8	0.0	-1.7



Curve Description			
Head X			
Plot No.	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
0.6	4.5	-225.6	2.8



Curve Description			
Head Y			
Plot No.	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
2.1	4.3	-5.7	2.7



Curve Description			
Head Z			
Plot No.	Type	SAE Class	Units
004	FIL	1000	G's
Max	Time	Min	Time
114.8	2.8	-0.2	-0.5

Test Program: Hybrid III 50th Percentile Male Neck Flexion Test

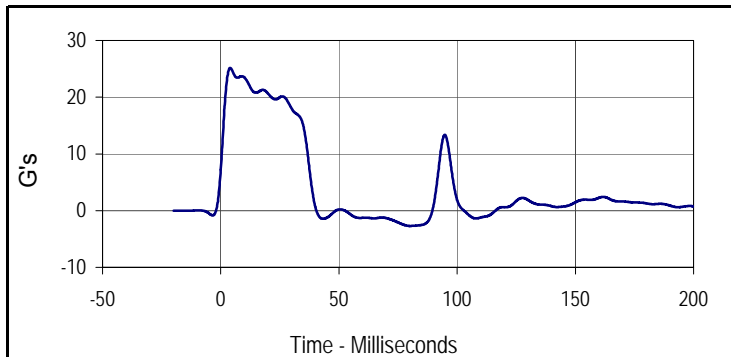
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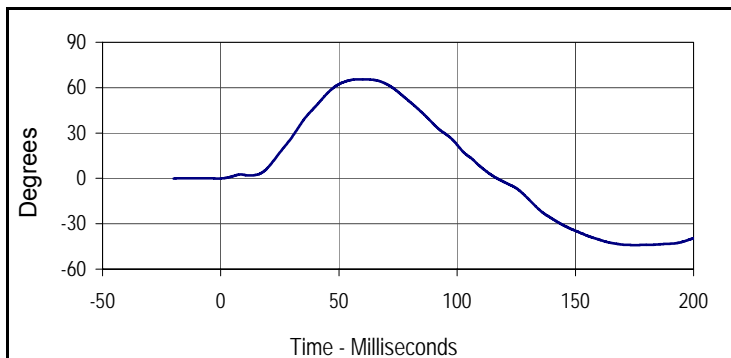
ATD Serial No.: 035

Test I.D.: M035NF048

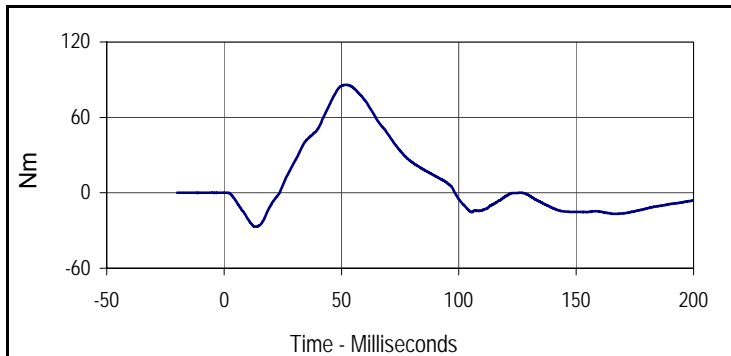
Tested Parameter	Units	Specification	Result	Pass/Fail	
Neck Assembly Soak Time	Minutes	≥240	292	Pass	
Temperature During Soak	Max	20.6 to 22.2	21.7	Pass	
	Min		20.7	Pass	
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass	
	Min		29.0	Pass	
Laboratory Temperature During Test	°C	20.6 to 22.2	21.2	Pass	
Laboratory Humidity During Test	%	10.0 to 70.0	22.3	Pass	
Pendulum Velocity	m/s	6.89 to 7.13	7.04	Pass	
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	23.5	Pass
	20 Msec.	G's	17.6 to 22.6	20.6	Pass
	30 Msec.	G's	12.5 to 18.5	18.0	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 29.0	18.0	Pass	
Deceleration Decay, Time to Cross 5 G's	Msec.	34.0 to 42.0	38.3	Pass	
Maximum "D" Plane Rotation	Max	Degrees	64.0 to 78.0	65.5	Pass
	Time	Msec.	57.0 to 64.0	58.8	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	113.0 to 128.0	116.9	Pass	
Moment About Occ. Condyle	Max	Nm	84.1 to 108.5	85.9	Pass
	Time	Msec.	47.0 to 58.0	52.1	Pass
Positive Moment Decay, Time To Zero Crossing	Msec.	97.0 to 107.0	98.4	Pass	
Overall Test Results				Pass	



Curve Description			
Pendulum Deceleration			
Plot No.	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
25.2	4.0	-2.7	80.1



Curve Description			
"D" Plane Rotation			
Plot No.	Type	SAE Class	Units
002	FIL	60	Degrees
Max	Time	Min	Time
65.5	58.8	-44.1	175.2



Curve Description			
Moment About Occipital Condyle			
Plot No.	Type	SAE Class	Units
003	FIL	600	Nm
Max	Time	Min	Time
85.9	52.1	-27.0	13.5

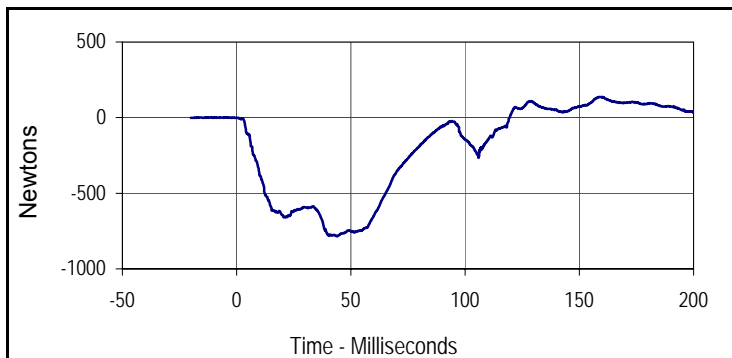
Test Program: Hybrid III 50th Percentile Male Neck Flexion Test

Test Date: 10/25/12

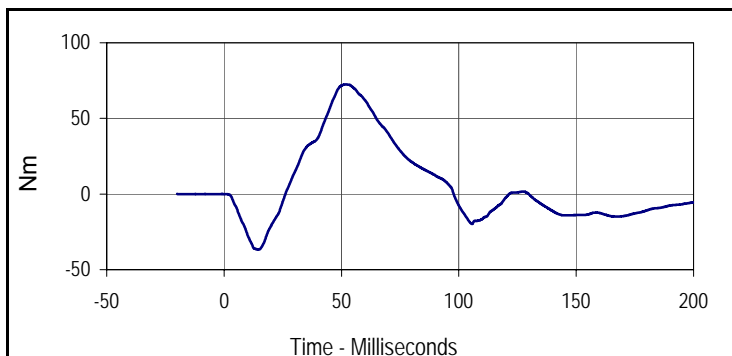


ATD Serial No.: 035

Test I.D.: M035NF048



Curve Description			
Neck Force X			
Plot No.	Type	SAE Class	Units
004	FIL	1000	Newtons
Max	Time	Min	Time
137.0	159.6	-784.8	44.1



Curve Description			
Neck Moment Y			
Plot No.	Type	SAE Class	Units
005	FIL	600	Nm
Max	Time	Min	Time
72.5	52.2	-36.7	14.6

Test Program: Hybrid III 50th Percentile Male Neck Extension Test

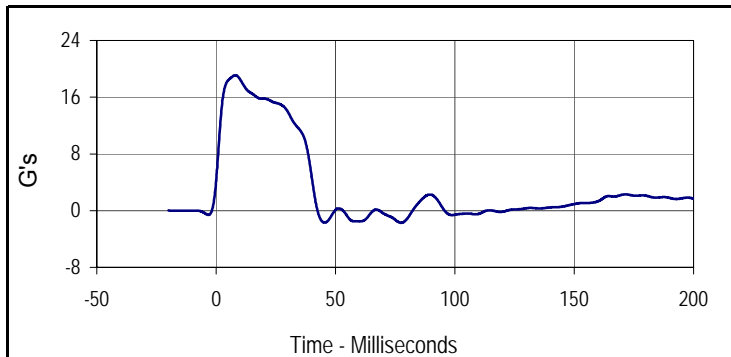
Test Date: 10/25/12



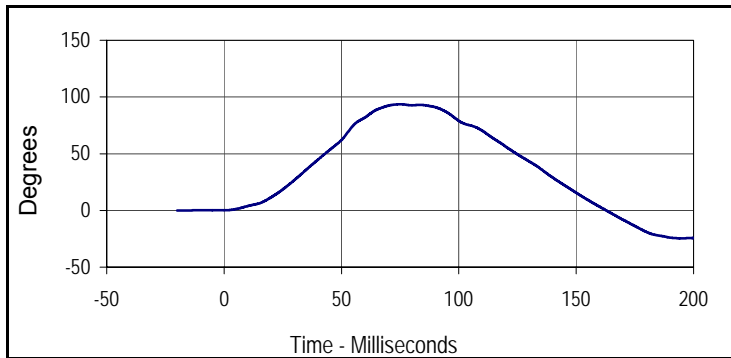
ATD Serial No.: 035

Test I.D.: M035NE048

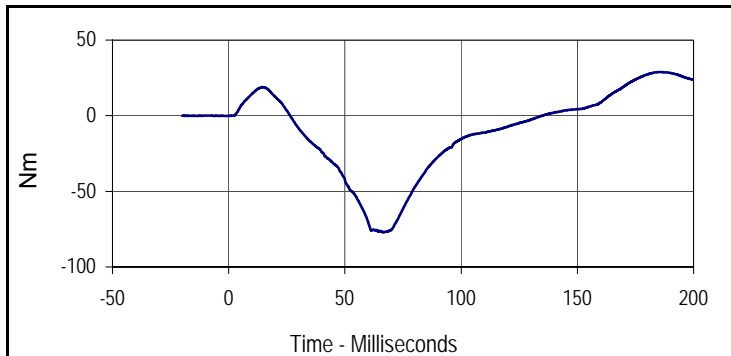
Tested Parameter	Units	Specification	Result	Pass/Fail	
Neck Assembly Soak Time	Minutes	≥240	327	Pass	
Temperature During Soak	Max	20.6 to 22.2	21.7	Pass	
	Min		20.7	Pass	
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass	
	Min		29.0	Pass	
Laboratory Temperature During Test	°C	20.6 to 22.2	21.7	Pass	
Laboratory Humidity During Test	%	10.0 to 70.0	22.9	Pass	
Pendulum Velocity	m/s	5.94 to 6.19	6.07	Pass	
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	18.5	Pass
	20 Msec.	G's	14.0 to 19.0	15.8	Pass
	30 Msec.	G's	11.0 to 16.0	14.0	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 22.0	14.0	Pass	
Deceleration Decay, Time to Cross 5 G's	Msec.	38.0 to 46.0	40.0	Pass	
Maximum "D" Plane Rotation	Max	Degrees	81.0 to 106.0	93.5	Pass
	Time	Msec.	72.0 to 82.0	75.0	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	147.0 to 174.0	162.8	Pass	
Moment About Occ. Condyle	Max	Nm	-52.9 to -79.9	-77.1	Pass
	Time	Msec.	65.0 to 79.0	66.7	Pass
Positive Moment Decay, Time To Zero Crossing	Msec.	120.0 to 148.0	134.8	Pass	
Overall Test Results				Pass	



Curve Description			
Pendulum Deceleration			
Plot No.	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
19.1	8.0	-1.7	77.5



Curve Description			
"D" Plane Rotation			
Plot No.	Type	SAE Class	Units
002	FIL	60	Degrees
Max	Time	Min	Time
93.5	75.0	-24.5	194.6



Curve Description			
Moment About Occipital Condyle			
Plot No.	Type	SAE Class	Units
003	FIL	600	Nm
Max	Time	Min	Time
28.9	185.8	-77.1	66.7

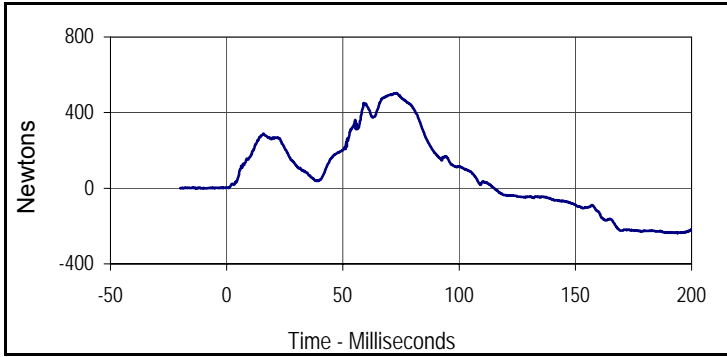
Test Program: Hybrid III 50th Percentile Male Neck Extension Test

Test Date: 10/25/12

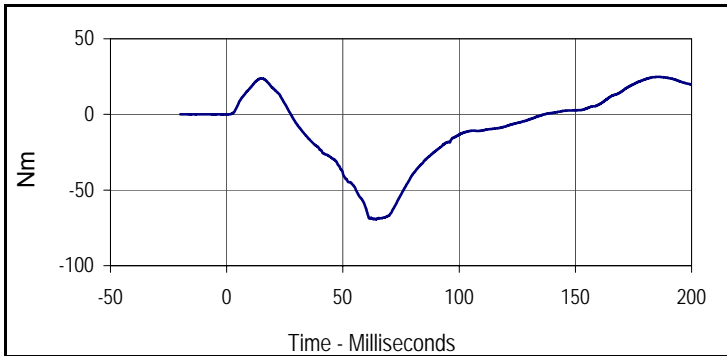


ATD Serial No.: 035

Test I.D.: M035NE048



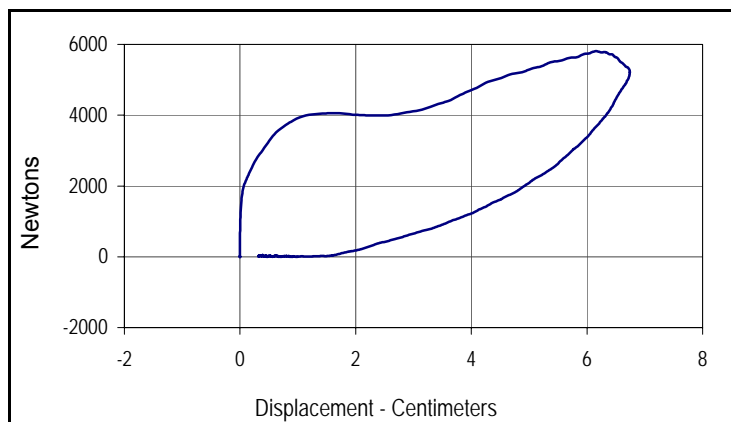
Curve Description			
Neck Force X			
Plot No.	Type	SAE Class	Units
004	FIL	1000	Newtons
Max	Time	Min	Time
503.1	72.9	-236.9	193.9



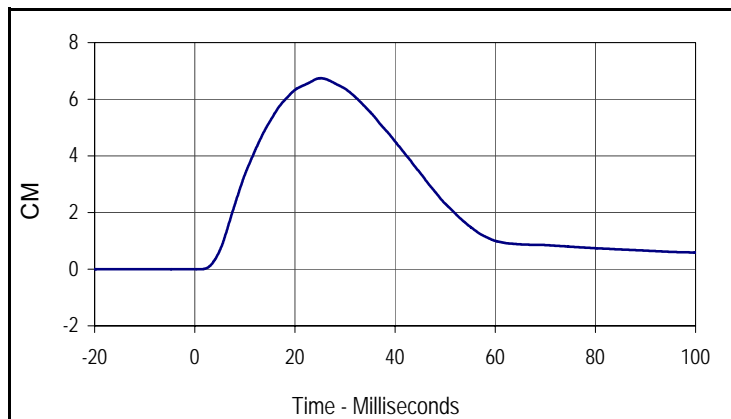
Curve Description			
Neck Moment Y			
Plot No.	Type	SAE Class	Units
005	FIL	600	Nm
Max	Time	Min	Time
24.8	185.8	-69.5	64.2



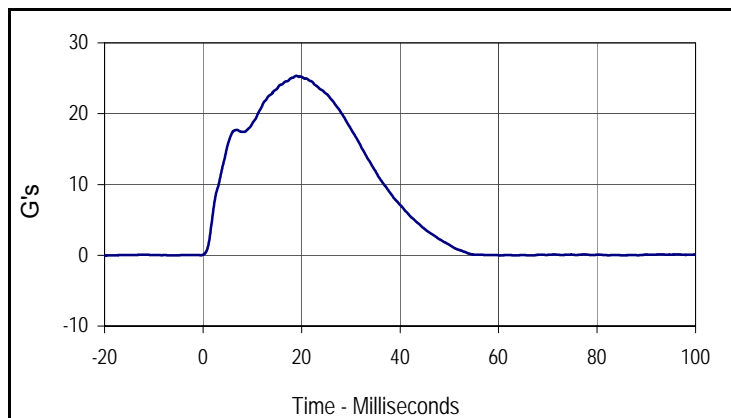
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥240	377	Pass
Temperature During Soak	Max	20.6 to 22.2	21.7	Pass
	Min		20.7	Pass
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass
	Min		29.0	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.5	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	22.7	Pass
Probe Velocity	m/s	6.58 to 6.82	6.78	Pass
Peak Probe Force	Newtons	5159 to 5893	5808	Pass
Peak Sternum Deflection	CM	6.35 to 7.26	6.74	Pass
Internal Hysteresis	%	69 to 85	70.9	Pass
Overall Test Results				Pass



Curve Description			
Probe Force vs. Chest Deflection			
Plot No.	Type	SAE Class	Hysteresis
001	FIL	180	70.9
Peak Probe Force		Peak Chest Deflection	
5808		6.74	



Curve Description			
Chest Deflection			
Plot No.	Type	SAE Class	Units
002	FIL	180	CM
Max	Time	Min	Time
6.7	25.1	0.0	1.0



Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
25.4	18.9	0.0	-20.0

Test Program: Hybrid III 50th Percentile Male Knee Impact Test

Test Date: 10/25/12



ATD Serial No.: 035

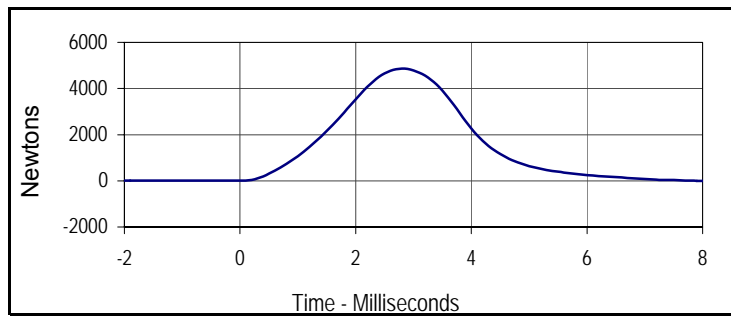
Test I.D.: M035LK048, M035RK048

Left Knee

Tested Parameter	Units	Specification	Result	Pass/Fail
Knee Assembly Soak Time	Minutes	≥240	412	Pass
Temperature During Soak	Max	18.9 to 25.6	21.7	Pass
	Min		20.7	Pass
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass
	Min		29.0	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.5	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	22.5	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.10	Pass
Peak Probe Force	Newtons	4715 to 5782	4861	Pass
Overall Test Results				Pass

Right Knee

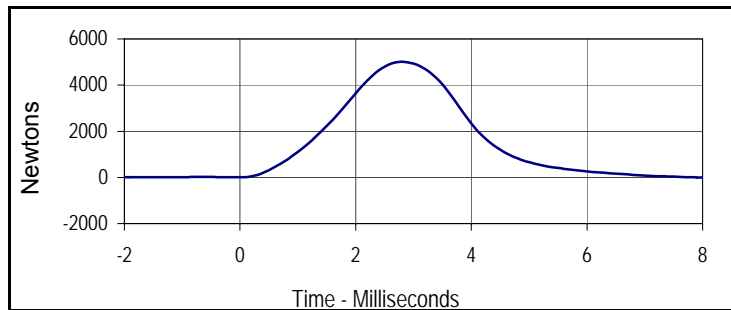
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.11	Pass
Peak Probe Force	Newtons	4715 to 5782	5013	Pass
Overall Test Results				Pass



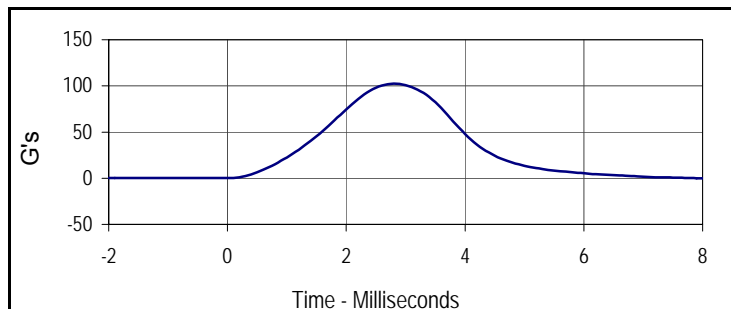
Curve Description			
Left Knee Probe Force			
Plot No.	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
4860.9	2.8	-12.9	8.7



Curve Description			
Left Knee Acceleration			
Plot No.	Type	SAE Class	Units
002	FIL	600	G's
Max	Time	Min	Time
99.3	2.8	-0.3	8.7



Curve Description			
Right Knee Probe Force			
Plot No.	Type	SAE Class	Units
003	FIL	600	Newtons
Max	Time	Min	Time
5013.2	2.8	-13.2	8.7



Curve Description			
Right Knee Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	600	G's
Max	Time	Min	Time
102.5	2.8	-0.3	8.7

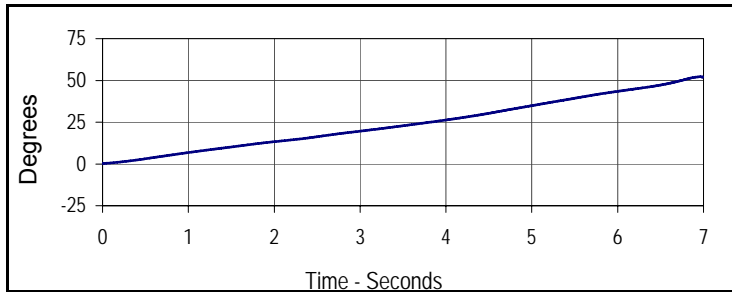


Left Hip Joint-Femur Results

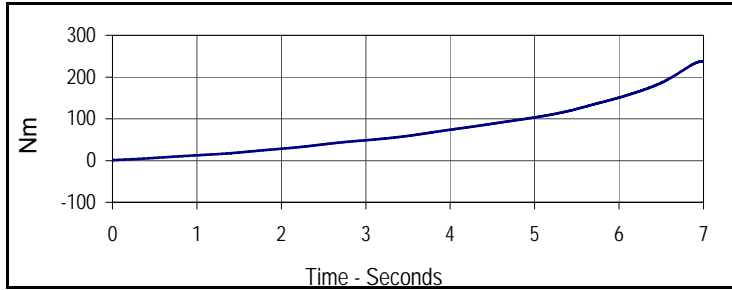
Tested Parameter	Units	Specification	Result	Pass/Fail
Hip Joint-Femur Assembly Soak Time	Minutes	≥240	462	Pass
Temperature During Soak	Max	18.9 to 25.6	21.7	Pass
	Min		20.7	Pass
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass
	Min		29.0	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.5	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	22.6	Pass
Rotation Rate	deg/sec	5 to 10	7.5	Pass
Femur Torque at 30°	Nm	≤ 95	87.2	Pass
Rotation at 203 Nm	Degrees	40.0 to 50.0	48.9	Pass
Overall Test Results				Pass

Right Hip Joint-Femur Results

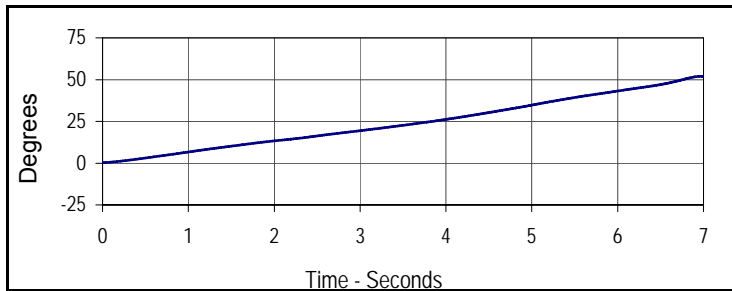
Rotation Rate	deg/sec	5 to 10	7.5	Pass
Femur Torque at 30°	Nm	≤ 95	86.7	Pass
Rotation at 203 Nm	Degrees	40.0 to 50.0	48.7	Pass
Overall Test Results				Pass



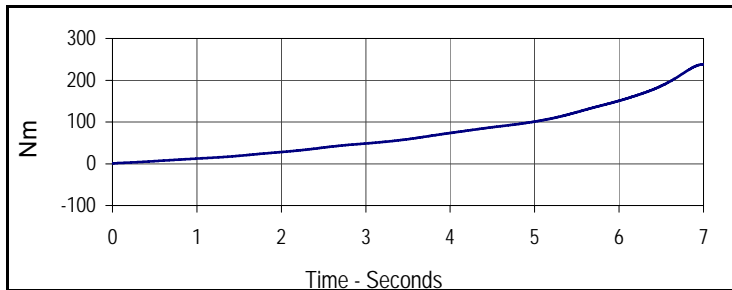
Curve Description			
Left Hip-Femur Rotation			
Plot No.	Type	SAE Class	Units
001	FIL	60	Degrees
Max	Time	Min	Time
52.1	7.0	0.2	0.0



Curve Description			
Left Femur Torque			
Plot No.	Type	SAE Class	Units
002	FIL	600	Nm
Max	Time	Min	Time
237.6	7.0	1.0	0.0



Curve Description			
Right Hip-Femur Rotation			
Plot No.	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
51.9	7.0	0.2	0.0



Curve Description			
Right Femur Torque			
Plot No.	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
237.8	7.0	1.1	0.0

Test Program: Hybrid III 5th Percentile Female Dummy Damage Checklist

Test Date: 10/26/12



ATD Serial No.: 635

Test I.D.: N/A

Dummy Item	Inspect for	Comments	Damaged	OK
Entire Dummy	Perform general cleaning			X
Outer Skin	Gashes, rips, cracks			X
Head	Ballast secure			X
	General appearance			X
Neck	Broken or cracked rubber			X
	Upper neck bracket firmly attached to the lower neck bracket			X
	Looseness at the condyle joint			X
	Nodding blocks cracked or out of position			X
Spine	Broken or cracks in rubber			X
Ribs	Broken or bent ribs			X
	Broken or bent rib supports			X
	Damping material separated or cracked			X
	Rubber bumpers in place			X
Chest Displacement Assembly	Bent shaft			X
	Slider arm riding in track			X
Transducer Leads	Torn cables			X
Accelerometer Mountings	Head mounting secure			X
	Chest mounting secure			X
Knees	Skin condition			X
	Insert (do not remove)			X
	Casting			X
Limbs	Normal movement and adjustment			X
Knee Sliders	Wires intact			X
	Rubber returned to "at rest" position			X
Pelvis	Broken			X
Other				X

Describe the repair on repair or replacement of parts:

Test Program: Hybrid III 5th Percentile Female External Measurements

Test Date: 10/26/12



ATD Serial No.: 635

Test I.D.: N/A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	20.98	Pass
Laboratory Relative Humidity	%	10 to 70	30.1	Pass
A - Total sitting height	mm	774.7 to 800.1	787	Pass
B - Shoulder pivot height	mm	431.8 to 457.2	450	Pass
C - H point height	mm	81.3 to 86.3	84	Pass
D - H point location from backline	mm	144.8 to 149.8	146	Pass
E - Shoulder pivot from backline	mm	68.6 to 83.8	77	Pass
F - Thigh clearance	mm	119.4 to 134.6	126	Pass
G - Back of elbow to wrist pivot	mm	243.9 to 259.1	250	Pass
H - Head back to backline	mm	40.7 to 45.7	44	Pass
I - Shoulder to elbow length	mm	276.8 to 297.2	285	Pass
J - Elbow rest height	mm	182.8 to 203.2	197	Pass
K - Buttock to knee length	mm	520.7 to 546.1	532	Pass
L - Popliteal length	mm	355.6 to 376.0	371	Pass
M - Knee pivot height	mm	393.7 to 419.1	403	Pass
N - Buttock popliteal length	mm	414.0 to 439.4	420	Pass
O - Chest depth without jacket	mm	175.3 to 190.5	186	Pass
P - Foot length	mm	218.5 to 233.7	221	Pass
R - Buttock to Knee Pivot Length	mm	457.2 to 482.6	473	Pass
S - Head Breadth	mm	137.1 to 147.3	144	Pass
T - Head Depth	mm	177.8 to 188.0	180	Pass
U - Hip Breadth	mm	299.7 to 314.9	302	Pass
V - Shoulder breadth	mm	350.5 to 365.7	359	Pass
W - Foot breadth	mm	78.8 to 94.0	90	Pass
X - Head circumference	mm	528.3 to 548.7	541	Pass
Y - Chest circumference (with chest jacket)	mm	850.8 to 881.3	864	Pass
Z - Waist circumference	mm	759.5 to 789.9	766	Pass
AA - Location for chest circumference	mm	299.7 to 309.9	300	Pass
BB - Location for waist circumference	mm	160.1 to 170.2	164	Pass
Overall Test Results				Pass

Test Program: Hybrid III 5th Percentile Female Head Drop Test

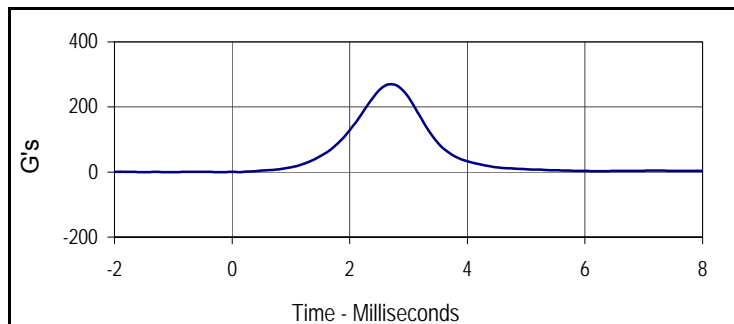
Test Date: 10/26/12



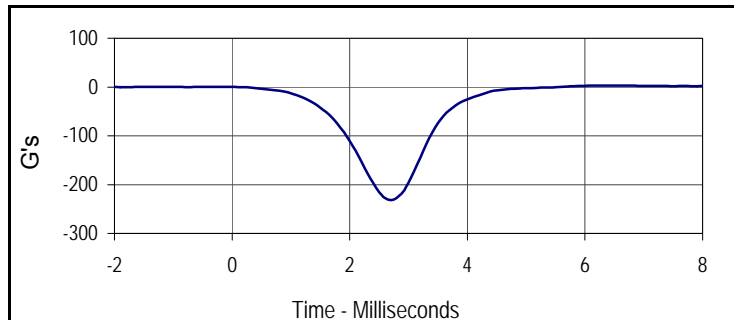
ATD Serial No.: 635

Test I.D.: F635HD033

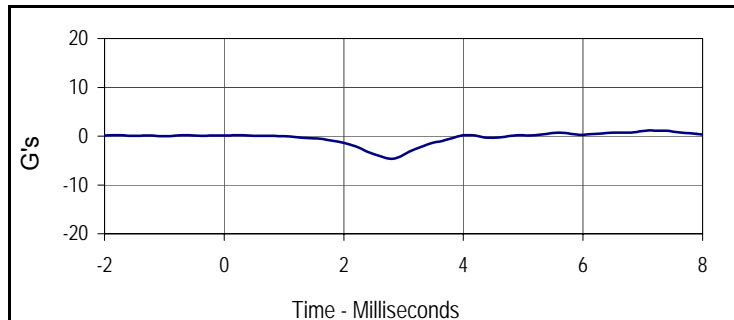
Tested Parameter	Units	Specification	Result	Pass/Fail
Head Assembly Soak Time	Minutes	≥240	295	Pass
Temperature During Soak	Max	18.9 to 25.6	21.7	Pass
	Min		20.7	Pass
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass
	Min		29.0	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.4	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	30.5	Pass
Peak Resultant Acceleration	G's	250.0 to 300.0	270.7	Pass
Peak Lateral Acceleration	G's	≤15.0	4.6	Pass
Oscillations After Main Pulse	%	<10% of peak Res. Acceleration	1.5	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass



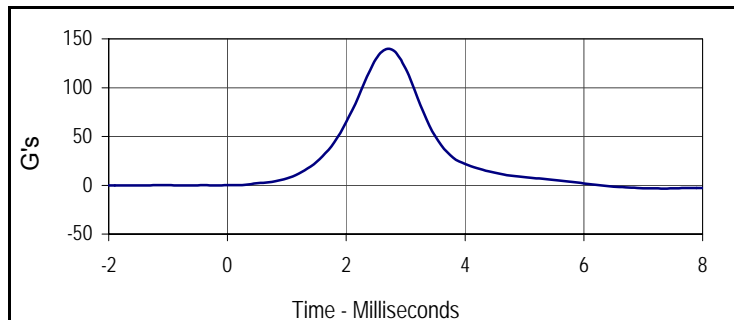
Curve Description			
Head Resultant			
Plot No.	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
270.7	2.7	0.1	-0.9



Curve Description			
Head X			
Plot No.	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
2.5	6.0	-231.7	2.7



Curve Description			
Head Y			
Plot No.	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
0.7	5.6	-4.6	2.8



Curve Description			
Head Z			
Plot No.	Type	SAE Class	Units
004	FIL	1000	G's
Max	Time	Min	Time
139.9	2.7	-0.2	-0.7

Test Program: Hybrid III 5th Percentile Female Neck Flexion Test

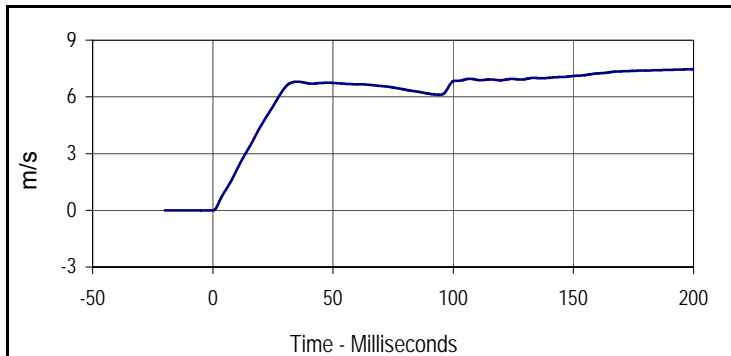
Test Date: 10/26/12



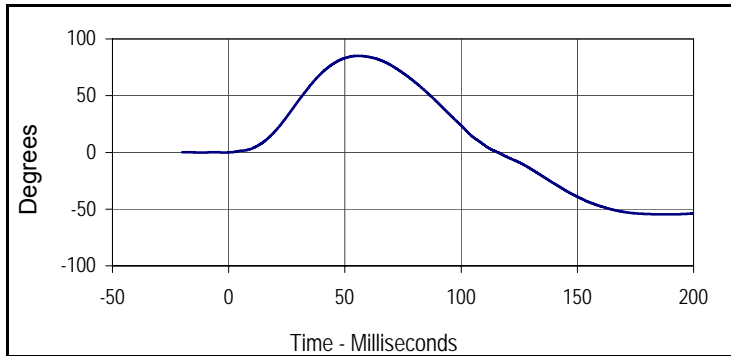
ATD Serial No.: 635

Test I.D.: F635NF033

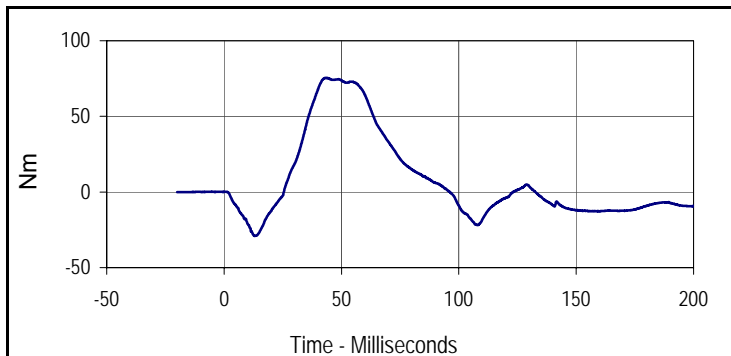
Tested Parameter	Units	Specification	Result	Pass/Fail	
Neck Assembly Soak Time	Minutes	≥240	340	Pass	
Temperature During Soak	Max	20.6 to 22.2	21.7	Pass	
	Min		20.7	Pass	
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass	
	Min		29.0	Pass	
Laboratory Temperature During Test	°C	20.6 to 22.2	21.1	Pass	
Laboratory Humidity During Test	%	10.0 to 70.0	29.7	Pass	
Pendulum Velocity	m/s	6.89 to 7.13	7.05	Pass	
Pendulum Deceleration	10 Msec.	m/s	2.1 to 2.5	2.1	Pass
	20 Msec.	m/s	4.0 to 5.0	4.5	Pass
	30 Msec.	m/s	5.8 to 7.0	6.5	Pass
"D" Plane Rotation	Max	Degrees	77.0 to 91.0	85.1	Pass
Peak Moment in Rotation	Max	Nm	69.0 to 83.0	75.3	Pass
Positive Moment Decay, Time To 10 Nm	Msec.	80.0 to 100.0	84.3	Pass	
Overall Test Results				Pass	



Curve Description			
Pendulum Velocity			
Plot No.	Type	SAE Class	Units
001	FIL	180	m/s
Max	Time	Min	Time
7.5	200.0	0.0	-0.2



Curve Description			
"D" Plane Rotation			
Plot No.	Type	SAE Class	Units
002	FIL	60	Degrees
Max	Time	Min	Time
85.1	55.7	-54.6	186.7



Curve Description			
Moment About Occipital Condyle			
Plot No.	Type	SAE Class	Units
003	FIL	600	Nm
Max	Time	Min	Time
75.4	43.0	-29.0	13.0

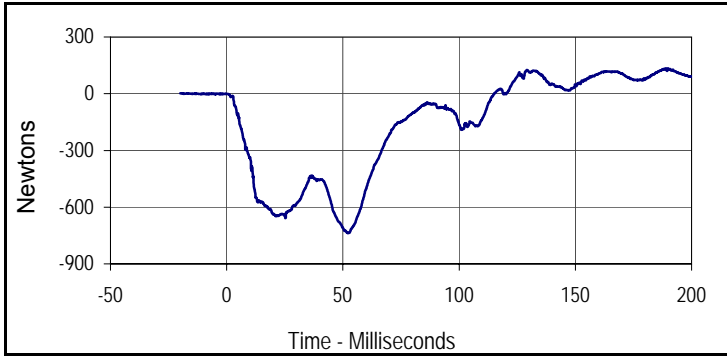
Test Program: Hybrid III 5th Percentile Female Neck Flexion Test

Test Date: 10/26/12

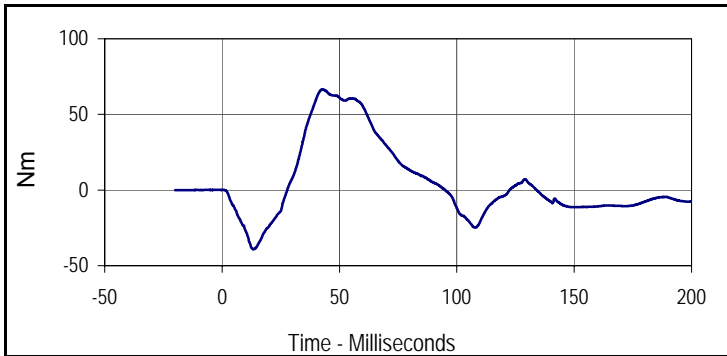


ATD Serial No.: 635

Test I.D.: F635NF033



Curve Description			
Upper Neck Force X			
Plot No.	Type	SAE Class	Units
004	FIL	1000	Newtons
Max	Time	Min	Time
134.1	188.9	-736.9	52.3



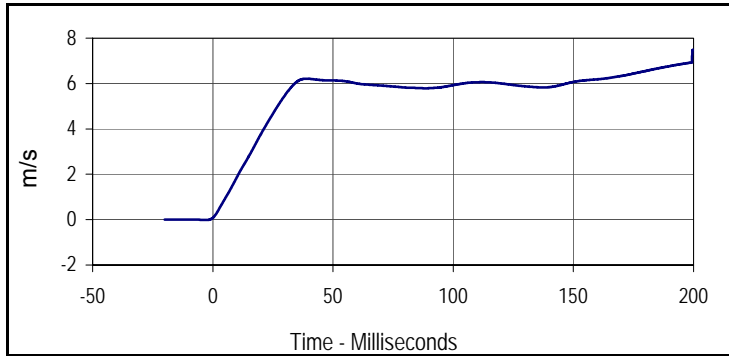
Curve Description			
Neck Moment Y			
Plot No.	Type	SAE Class	Units
005	FIL	600	Nm
Max	Time	Min	Time
66.6	42.9	-39.1	13.4

Test Program: Hybrid III 5th Percentile Female Neck Extension Test
 ATD Serial No.: 635

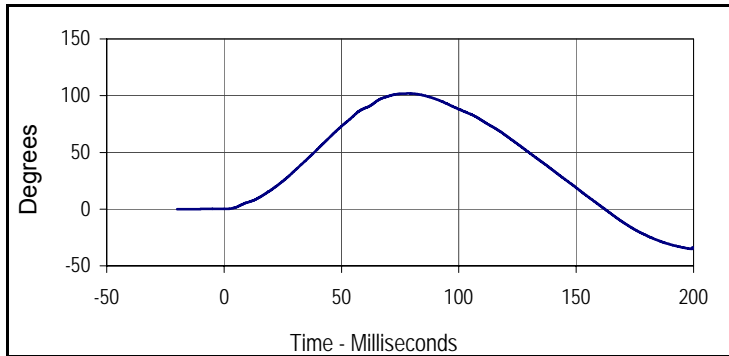
Test Date: 10/26/12
 Test I.D.: F635NE033



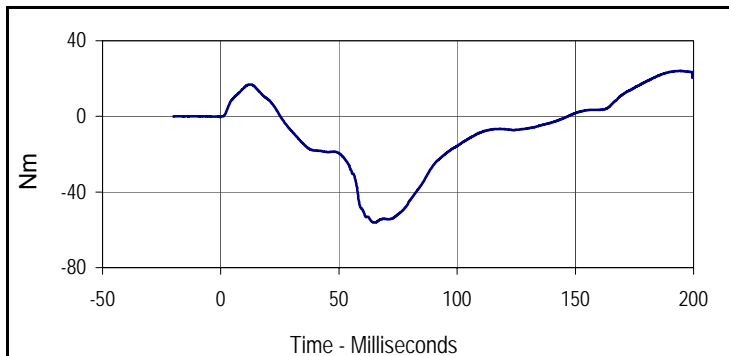
Tested Parameter	Units	Specification	Result	Pass/Fail	
Neck Assembly Soak Time	Minutes	≥240	375	Pass	
Temperature During Soak	Max	20.6 to 22.2	21.7	Pass	
	Min		20.7	Pass	
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass	
	Min		29.0	Pass	
Laboratory Temperature During Test	°C	20.6 to 22.2	21.4	Pass	
Laboratory Humidity During Test	%	10.0 to 70.0	29.9	Pass	
Pendulum Velocity	m/s	5.95 to 6.19	6.07	Pass	
Pendulum Deceleration	10 Msec.	m/s	1.5 to 1.9	1.9	Pass
	20 Msec.	m/s	3.1 to 3.9	3.8	Pass
	30 Msec.	m/s	4.6 to 5.6	5.5	Pass
"D" Plane Rotation	Max	Degrees	99.0 to 114.0	101.9	Pass
Peak Moment in Rotation	Max	Nm	-53.0 to -65.0	-54.4	Pass
Positive Moment Decay, Time To -10 Nm	Msec.	94.0 to 114.0	107.5	Pass	
Overall Test Results				Pass	



Curve Description			
Pendulum Velocity			
Plot No.	Type	SAE Class	Units
001	FIL	180	m/s
Max	Time	Min	Time
7.5	200.0	0.0	-2.8



Curve Description			
"D" Plane Rotation			
Plot No.	Type	SAE Class	Units
002	FIL	60	Degrees
Max	Time	Min	Time
101.9	78.5	-35.1	199.4



Curve Description			
Moment About Occipital Condyle			
Plot No.	Type	SAE Class	Units
003	FIL	600	Nm
Max	Time	Min	Time
24.0	193.8	-56.2	65.0

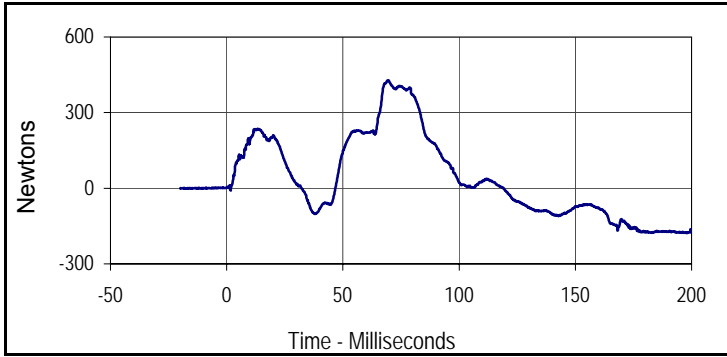
Test Program: Hybrid III 5th Percentile Female Neck Extension Test

Test Date: 10/26/12

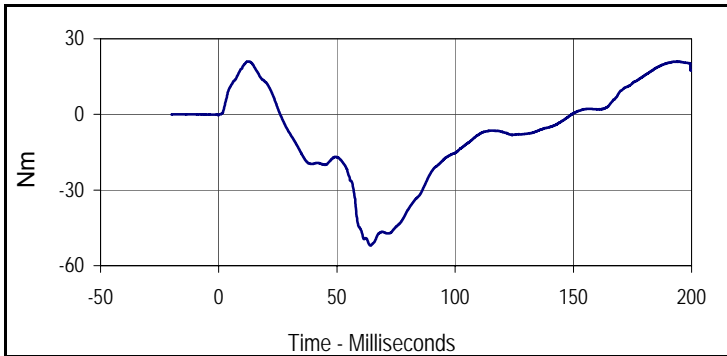


ATD Serial No.: 635

Test I.D.: F635NE033



Curve Description			
Upper Neck Force X			
Plot No.	Type	SAE Class	Units
004	FIL	1000	Newtons
Max	Time	Min	Time
427.8	69.2	-177.9	197.9



Curve Description			
Neck Moment Y			
Plot No.	Type	SAE Class	Units
005	FIL	600	Nm
Max	Time	Min	Time
21.0	12.4	-52.0	64.2

Test Program: Hybrid III 5th Percentile Female Thorax Impact Test

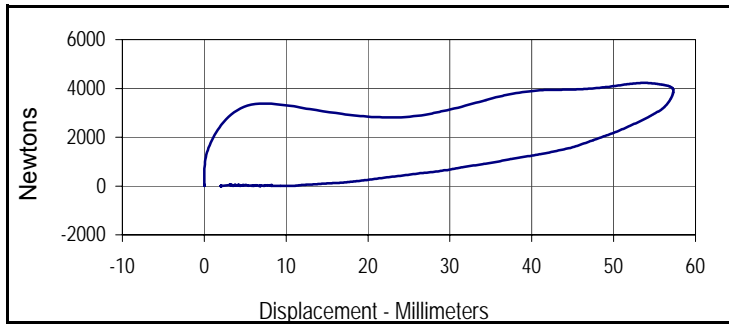
Test Date: 10/26/12



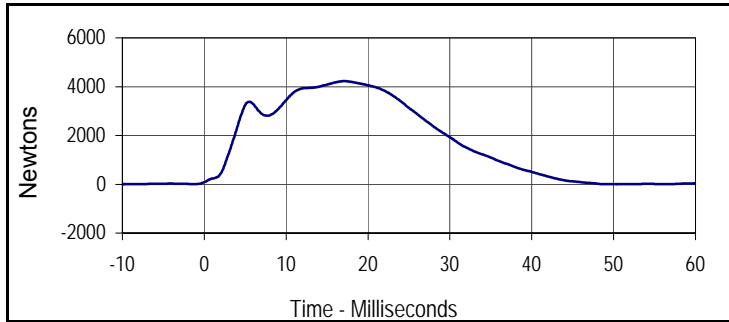
ATD Serial No.: 635

Test I.D.: F635CH033

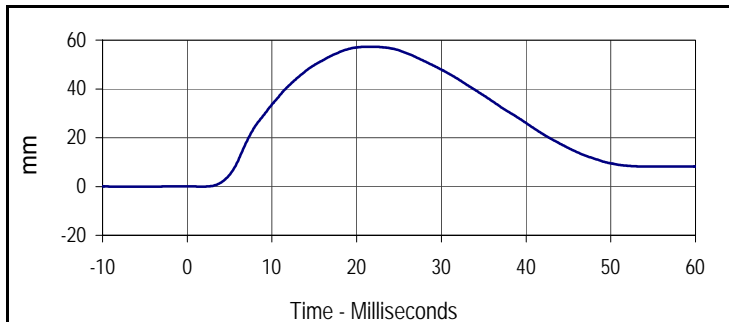
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥240	425	Pass
Temperature During Soak	Max	20.6 to 22.2	21.7	Pass
	Min		20.7	Pass
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass
	Min		29.0	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	30.3	Pass
Probe Velocity	m/s	6.59 to 6.83	6.76	Pass
Peak Chest Deflection	mm	50.0 to 58.0	57.3	Pass
Peak Force Between 50 and 58 MM	Newtons	3900 to 4400	4103	Pass
Peak Force Between 18 and 50 MM	Newtons	≤4600	4224	Pass
Internal Hysteresis	%	69 to 85	73.1	Pass
Overall Test Results				Pass



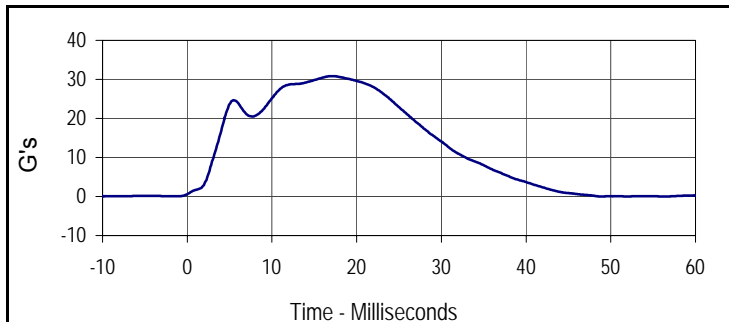
Curve Description			
Probe Force vs. Chest Deflection			
Plot No.	Type	SAE Class	Hysteresis
001	FIL	180	73.1
Peak Probe Force		Peak Chest Deflection	
4224.2		57.3	



Curve Description			
Probe Force			
Plot No.	Type	SAE Class	Units
002	FIL	180	Newtons
Max	Time	Min	Time
4224.2	17.1	-10.5	76.1



Curve Description			
Chest Deflection			
Plot No.	Type	SAE Class	Units
003	FIL	600	mm
Max	Time	Min	Time
57.3	21.6	0.0	1.8



Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
30.8	17.1	-0.1	76.1

Test Program: Hybrid III 5th Percentile Female Knee Impact Test

Test Date: 10/26/12



ATD Serial No.: 635

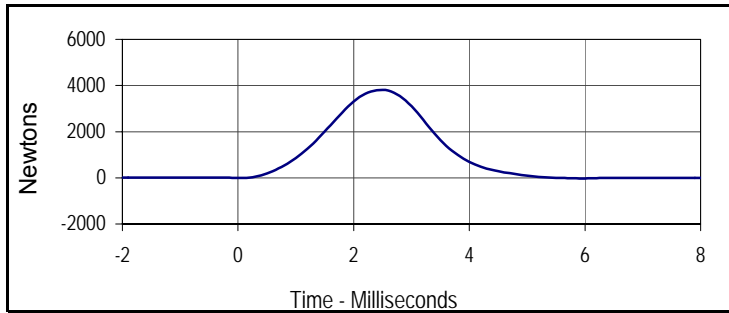
Test I.D.: F635LK033, F635RK033

Left Knee

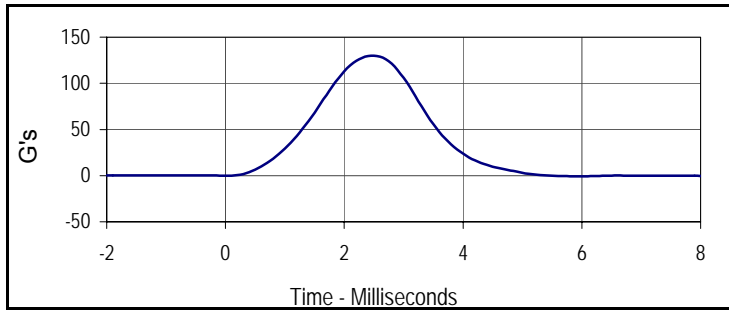
Tested Parameter	Units	Specification	Result	Pass/Fail
Knee Assembly Soak Time	Minutes	≥240	455	Pass
Temperature During Soak	Max	18.9 to 25.6	21.7	Pass
	Min		20.7	Pass
Humidity During Soak	Max	10.0 to 70.0	31.0	Pass
	Min		29.0	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.1	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	29.4	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.10	Pass
Peak Probe Force	Newtons	3450 to 4060	3808	Pass
Overall Test Results				Pass

Right Knee

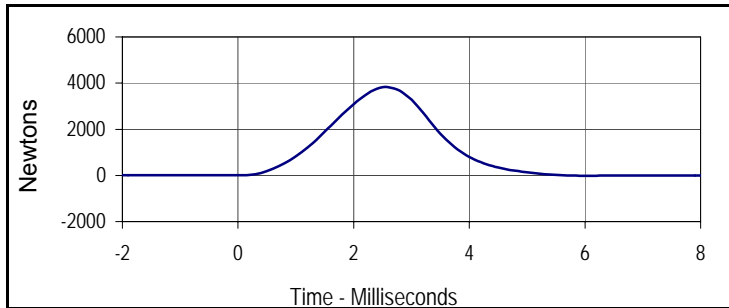
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.12	Pass
Peak Probe Force	Newtons	3450 to 4060	3825	Pass
Overall Test Results				Pass



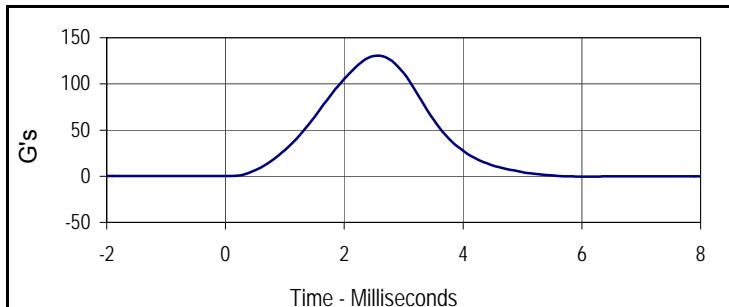
Curve Description			
Left Knee Probe Force			
Plot No.	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
3807.6	2.5	-25.9	5.9



Curve Description			
Left Knee Acceleration			
Plot No.	Type	SAE Class	Units
002	FIL	600	G's
Max	Time	Min	Time
129.9	2.5	-0.9	5.9



Curve Description			
Right Knee Probe Force			
Plot No.	Type	SAE Class	Units
003	FIL	600	Newtons
Max	Time	Min	Time
3825.1	2.6	-16.8	9.3



Curve Description			
Right Knee Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	600	G's
Max	Time	Min	Time
130.5	2.6	-0.6	9.3

Test Program: Hybrid III 5th Percentile Female Torso Flexion Test

Test Date: 10/26/12



ATD Serial No.: 635

Test I.D.: F635TF033

Left Hip Joint-Femur Results

Tested Parameter		Units	Specification	Result	Pass/Fail
Dummy Soak Time		Minutes	≥240	480	Pass
Temperature During Soak	Max	°C	18.9 to 25.6	21.7	Pass
	Min	°C		20.7	Pass
Humidity During Soak	Max	%	10.0 to 70.0	31.0	Pass
	Min	%		29.0	Pass
Laboratory Temperature During Test		°C	18.9 to 25.6	21.1	Pass
Laboratory Humidity During Test		%	10.0 to 70.0	30.2	Pass
Initial Reference Plane Angle		Degrees	≤ 20	0.1	Pass
Peak Force at 45° +/-0.5°		Newtons	320.0 to 390.0	352.9	Pass
Torso Rotation Rate		deg/sec	0.5 to 1.5	0.9	Pass
Final Reference Plane Angle		Degrees	+/-8	1.2	Pass
Overall Test Results					Pass