

REPORT NUMBER: NCAPSIDE-TRC-2006-002

**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST**

**HONDA OF CANADA MFG.
2007 HONDA CIVIC LX 2-DOOR COUPE
NHTSA NUMBER: H75300**

**PREPARED BY:
TRANSPORTATION RESEARCH CENTER INC.
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Test Date: September 28, 2006

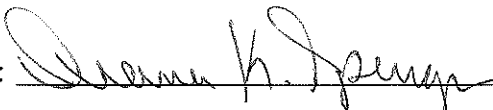
Report Date: October 4, 2006

FINAL REPORT

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

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Approval Date: Oct 4, 2006

FINAL REPORT ACCEPTANCE BY OCWS:

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Acceptance Date: _____

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15. Supplemental Notes																																					
16. Abstract This 56/28 km/h 90° Moving Deformable Barrier NCAP Side Impact Test was conducted on the subject vehicle, a 2007 Honda Civic LX 2-door coupe, to obtain new car assessment and research data indicant of FMVSS 214D performance. This test was conducted by Transportation Research Center Inc. in East Liberty, Ohio, on September 28, 2006. The impact velocity of the Moving Deformable Barrier (MDB) was 62.0 km/h, and the ambient temperature at the struck (driver's side) side of the target vehicle at the time of impact was 21° C. The target vehicle's post-test maximum crush was 220 mm at Level 2. The test or target vehicle's performance is given below (with FIR filter): <table border="0"> <thead> <tr> <th></th> <th><u>Front SID HIII</u></th> <th></th> <th><u>Rear SID HIII</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib Acceleration:</td> <td><u>57.3</u></td> <td>g's</td> <td><u>47.9</u></td> <td>g's</td> </tr> <tr> <td>Left Lower Rib Acceleration:</td> <td><u>52.7</u></td> <td>g's</td> <td><u>45.8</u></td> <td>g's</td> </tr> <tr> <td>Lower Spine Acceleration:</td> <td><u>68.6</u></td> <td>g's</td> <td><u>49.3</u></td> <td>g's</td> </tr> <tr> <td>Thoracic Trauma Index, (TTI):</td> <td><u>62.9</u></td> <td>g's</td> <td><u>48.6</u></td> <td>g's</td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td><u>71.1</u></td> <td>g's</td> <td><u>41.5</u></td> <td>g's</td> </tr> <tr> <td>Head Injury Criteria (HIC):</td> <td><u>168</u></td> <td>g's</td> <td><u>863</u></td> <td>g's</td> </tr> </tbody> </table> The doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during side impact event.				<u>Front SID HIII</u>		<u>Rear SID HIII</u>		Left Upper Rib Acceleration:	<u>57.3</u>	g's	<u>47.9</u>	g's	Left Lower Rib Acceleration:	<u>52.7</u>	g's	<u>45.8</u>	g's	Lower Spine Acceleration:	<u>68.6</u>	g's	<u>49.3</u>	g's	Thoracic Trauma Index, (TTI):	<u>62.9</u>	g's	<u>48.6</u>	g's	Pelvis Acceleration (PEV):	<u>71.1</u>	g's	<u>41.5</u>	g's	Head Injury Criteria (HIC):	<u>168</u>	g's	<u>863</u>	g's
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17. Key Words New Car Assessment Program (NCAP) Side Impact Side Impact Hybrid III Dummy (SID HIII) Occupant Side Impact Protection	18. Distribution Statement <u>Copies of this report are available from:</u> NHTSA Technical Information Services (TIS) Room 5108 (NPO-230), 400 Seventh Street, S.W. Washington, DC 20590 Telephone No. (202) 366-4946 Attn: Robert Hornicle																																				
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SECTION 1

PURPOSE AND TEST PROCEDURE

PURPOSE

This side impact test was conducted as part of the FY' 2006 test program sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-03-D-02005. The purpose of this test was to evaluate side impact protection in a 2007 Honda Civic LX manufactured by Honda of Canada Mfg..

TEST PROCEDURE

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

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

SECTION 2

SUMMARY OF NCAP SIDE IMPACT TEST

A model year 2007 Honda Civic LX was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 62.0 km/h. The specified impact velocity range is from 61.1 to 62.7 km/h. The test (target) vehicle was stationary and positioned 63° to the line of forward motion. The weight of the vehicle as tested was 1428.4 kg and the test weight of the MDB was 1361.0 kg. The test was conducted at TRC Inc. in East Liberty, OH, on September 28, 2006.

One (1) real-time motion picture camera and nine (9) high-speed digital motion picture cameras were used to document the impact event. The pre-test and post-test conditions were recorded by one (1) real-time motion picture camera. Camera locations and pertinent camera information are documented in the data sheets. Pre-test and post-test photographs of the vehicle and Side Impact Dummy (SID/HIII) can be found in Appendix A. Two 50th percentile adult male SID/HIIIs were placed in the driver and left rear passenger designated seating positions according to instructions specified in the Laboratory Test Procedure for New Car Assessment Program Side Impact Testing dated November 2002. The SID/HIIIs were instrumented in the following locations:

- Left Upper Rib (LUR) uniaxial accelerometer (Y-axis primary and redundant)
- Left Lower Rib (LLR) uniaxial accelerometer (Y-axis primary and redundant)
- Lower Thoracic Spine (T12) uniaxial accelerometer (Y-axis primary and redundant)
- Pelvic (PEV) section uniaxial accelerometer (Y-axis primary and redundant)
- Head Center of Gravity (CG) triaxial accelerometers (X, Y and Z axes primary and redundant)
- Upper Neck load cell (Fx, Fy, Fz, Mx, My, Mz)

The test vehicle was instrumented with twenty-one (21) structural accelerometers and the MDB was instrumented with five (5) accelerometers and two (2) contact switches on the bumper to compare left side to right side bumper impact timing. All data channels were recorded with a fully self-contained onboard Kayser Threde Data Acquisition System. The data was digitally sampled at 12,500 samples per second and processed per Appendix V of the Test Procedure.

GENERAL COMMENTS

The test vehicle sustained a maximum static crush of 220 mm at level 2, 600 mm rearward of the left impact point. The driver SID/HIII, Serial No. 055, and left rear passenger SID/HIII, Serial No. 059, were calibrated prior to this test.

Appendix A contains the still photograph prints. Appendix B contains the driver SID/HIII, vehicle, and MDB response data traces. Appendix C contains the SID/HIII configuration and performance verification data.

The occupant data is summarized below:

ATD position	HIC	T ¹	T ²	TTI (G's)	Peak Pelvis (G's)
Driver	168	32.6	68.2	62.9	71.1
Passenger	863	44.6	50.8	48.6	41.5

Supplemental Restraint Information

Restraint Type	Left Front (Driver)		Left Rear Passenger	
	Installed	Deployed	Installed	Deployed
Front Airbag	Yes	No	No	N/A
Side Torso Airbag	Yes	Yes	No	N/A
Side Torso/Head Airbag	No	N/A	No	N/A
Side Head Curtain Airbag	Yes	Yes	Yes	Yes

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

TEST NOTES

The following channels did not collect valid data:

Passenger Neck Moment about X
 Passenger Neck Moment about Y
 Rear Floorpan above Axle X, Y, and Z
 Left Lower A-Post Y
 Left Middle A-Post Y
 Left Lower B-Post Y
 Left Middle B-Post Y
 Left Front Seat Track Y

DATA SHEET NO. 1

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2007 Honda Civic
 Test Program: NCAP Side Impact

NHTSA No.: H75300
 Test Date: 09/28/06

TEST VEHICLE INFORMATION

Make	Honda
Model	Civic
Body Style	2-door coupe
NHTSA No.	H75300
VIN	2HGFG12667H502550
Color	Nighthawk Black
Delivery Date	9/21/2006
Odometer Reading	55 miles
Dealer	Hugh White Honda
Transmission	Automatic
Final Drive	Front wheel drive
Number of Cylinders	4
Engine Displacement	1.8L
Engine Placement	Transverse
Automatic Door Locks (ADL)	Yes
Does Owner's Manual Detail Instructions on Disabling ADLs	Yes

TEST VEHICLE OPTIONS

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

DATA FROM CERTIFICATION LABEL

Manufactured By	Honda of Canada Mfg.
Date of Manufacture	9/06

GVWR (kg)	1645
GAWR Front (kg)	880
GAWR Rear (kg)	775

Measured Parameter	Front	Mid	Rear	Total
Type of Seats	Bucket	N/A	Bench	
Number Of Occupants	2	0	3	5
Capacity Wt. (VCW)				385
Cargo Wt. (RCLW) (kg)				45

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

Test Vehicle: 2007 Honda Civic
 Test Program: NCAP Side Impact

NHTSA No.: H75300
 Test Date: 09/28/06

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW) (Axle)			As Tested (ATW) (Axle)		
		Front	Rear	Total	Front	Rear	Total
Left	kg	381.0	235.0		424.8	320.8	
Right	kg	373.0	231.0		389.6	293.2	
Ratio	%	61.8	38.2		57.0	43.0	
Totals	kg	754.0	466.0	1220.0	814.4	614.0	1428.4

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1220.0
Weight of 2 P572M ATDs	kg	168.0
Rated Cargo/Luggage Weight (RCLW)	kg	45.0
Calculated Vehicle Target Weight (TVTW)	kg	1433.0

TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG(aft of front axle)
As Delivered	mm	647	659	660	669	1012
As Tested	mm	636	646	632	643	1139
Fully Loaded	mm	625	646	616	635	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheelbase	mm	2650
Total Vehicle Length at Left Side	mm	4247
Total Vehicle Length at Centerline	mm	4405
Total Vehicle Length at Right Side	mm	4247
Weight of Ballast in Cargo Area	kg	0
Amount of Stoddard Solvent in Fuel Tank	liters	46.6

TEST VEHICLE VERTICAL IMPACT LINE DATA

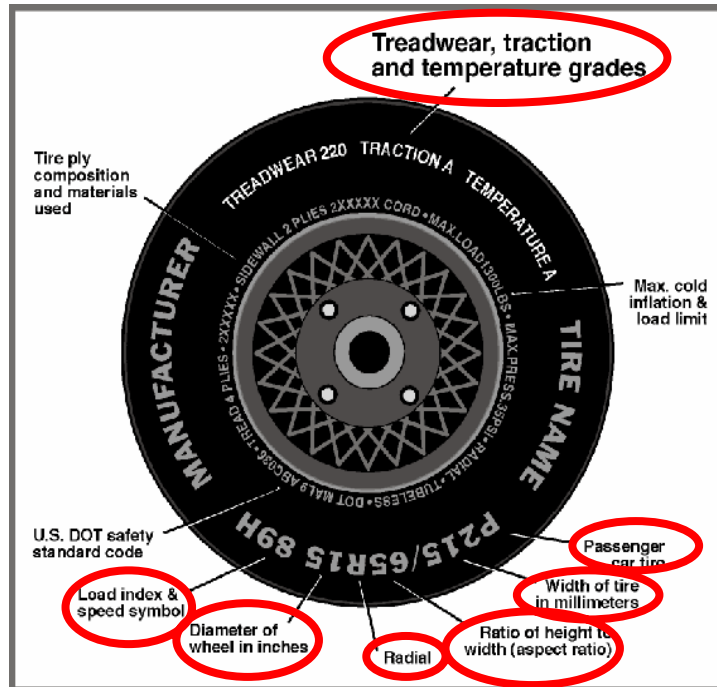
Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2650
Target Impact Point Aft of Front Axle	mm	385
Actual Impact Point Aft of Front Axle	mm	376

DATA SHEET NO. 2

TEST VEHICLE TIRE INFORMATION

Test Vehicle: 2007 Honda Civic
 Test Program: NCAP Side Impact

NHTSA No.: H75300
 Test Date: 09/28/06



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	300	300
Cold / Test Pressure (kPa)	220	220
Recommended Tire Size	P205/55R16	P205/55R16
Tire Size on Vehicle	P205/55R16	P205/55R16
Tire Manufacturer	Bridgestone	Bridgestone
Tire Name	Turanza	Turanza
Tire Type	P	P
Tire Width (mm)	205	205
Ratio of Height to Width (aspect ratio)	55	55
Radial	R	R
Wheel Diameter	16	16
Load Index & Speed Symbol	89H	89H
Treadwear	300	300
Traction Grade	A	A
Temperature Grade	A	A

DATA SHEET NO. 3

TEST VEHICLE INFORMATION

Test Vehicle: 2007 Honda Civic
Test Program: NCAP Side Impact

NHTSA No.: H75300
Test Date: 09/28/06

NORMAL DESIGN RIDING POSITION

The driver and passenger seat back is positioned to the manufacturer's designated angle.

Driver: Total Number of detents: 25

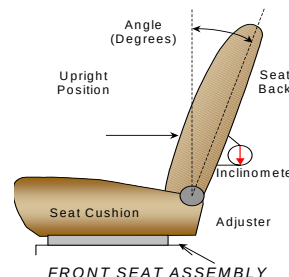
Test detent (with the forward-most detent defined as 0): 11

Passenger: Total Number of detents: Fixed

Test detent (with the forward-most detent defined as 0): N/A

Driver seat back angle: 14 notches back from full up

Passenger seat back angle: Fixed

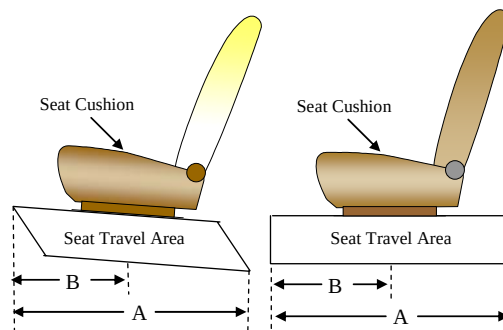


SEAT FORE/AFT POSITIONS

The total seat travel was measured from forward most position to rearmost position, irrespective of vertical seat height in those positions. The seat was set at the longitudinal mid position with vertical adjustment at the lowest position obtainable for both the driver and passenger.

SEAT FORE/AFT POSITIONING

	Total Fore/Aft Travel	Placed in Position No.
Driver Seat	25	11
Rear Seat	Fixed	Fixed



SEAT BELT UPPER ANCHORAGE

	Total No. of Positions	Placed in Position No.
Driver Seat	Fixed	N/A
Rear Seat	Fixed	N/A

Position number one is the uppermost adjustment position.

DATA SHEET NO. 3 (CONTINUED)

TEST VEHICLE INFORMATION

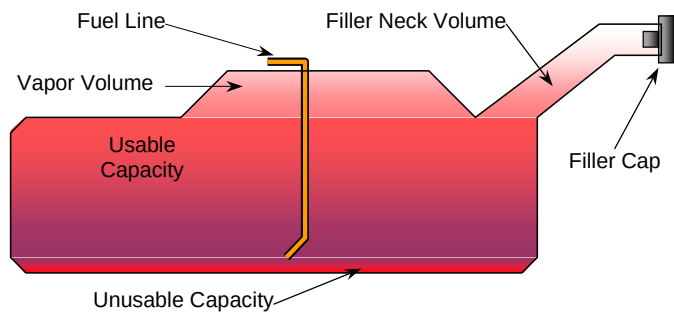
Test Vehicle: 2007 Honda Civic
Test Program: NCAP Side Impact

NHTSA No.: H75300
Test Date: 09/28/06

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard Tank"	50.0
Usable Capacity of "Optional" Tank	N/A
Usable Capacity used for FMVSS301	50.0
Actual Amount of Solvent used	46.6
1/3 of Usable Capacity	16.7

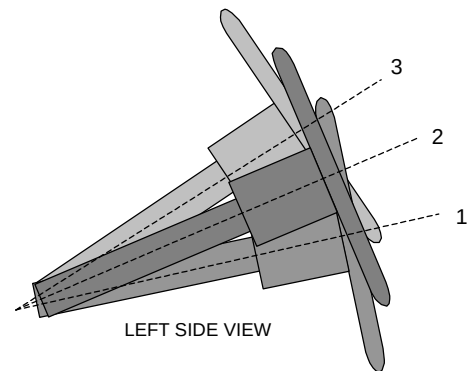
The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the left rear fender. The standard fuel tank occupies the area under the rear seat.



VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when moved through its full range of motion. An aluminum plate is placed across the rim of the steering wheel, an inclinometer is placed on the plate and the angle is measured.



STEERING COLUMN ASSEMBLY

STEERING COLUMN POSITIONS

	Degrees	Fore/Aft Position, mm
Lowermost Position	20.4°	0
Geometric Center Position	23.2°	22
Uppermost Position	26°	43

DATA SHEET NO. 4

MOVING DEFORMABLE BARRIER (MDB) SUMMARY OF RESULTS

Test Vehicle: 2007 Honda Civic
Test Program: NCAP Side Impact

NHTSA No.: H75300
Test Date: 09/28/06

MDB SPECIFICATIONS

Measurement Description	Length (mm)
Overall Width of Framework Carriage	1252
Overall Length Including Honeycomb Face	4115
Wheel base of Framework Carriage	2591
C.G. Location aft of Front Axle	1112

MDB WEIGHTS

	Units	Front Axle	Rear Axle	Total
Left	kg	389.2	291.4	
Right	kg	393.6	286.8	
Ratio	%	57.5	42.5	
Totals	kg	782.8	578.2	1361.0

SPEED AND IMPACT ANGLE DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	62.0
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	62.0
MDB CL to Target Vehicle CL	degrees	88.5 to 91.5	90.0

POST TEST OBSERVATIONS

MDB LEFT EDGE IMPACT POINT DATA

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	9 mm left
Vertical Offset	mm	+/- 20	5 mm up

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

Test Vehicle: 2007 Honda Civic
 Test Program: NCAP Side Impact

NHTSA No.: H75300
 Test Date: 09/28/06

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat SID/HIII	Rear Seat SID/HIII
Dummy Type / Serial No.	SID/HIII / 055	SID/HIII / 059
Head Contact	Airbag, head rest	Airbag, side header, head rest
Upper Torso Contact	Door panel, airbag	Door panel
Lower Torso Contact	None	None
Left Knee Contact	Door panel	Door panel
Right Knee Contact	None	None

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

Description	Front	Rear
Locked/Unlocked Doors	Unlocked	Not Applicable
Left Side Door Opening	Jammed & Latched	Not Applicable
Right Side Door Opening	Close & Latched	Not Applicable
Seat Movement	None	None
Seat Back Failure	None	None

POST TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	Did not separate from vehicle
Sill Separation	Did not separate from vehicle
Windshield Damage	Cracked
Window Damage	Left front and left rear shattered
Other Notable Effects	None

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

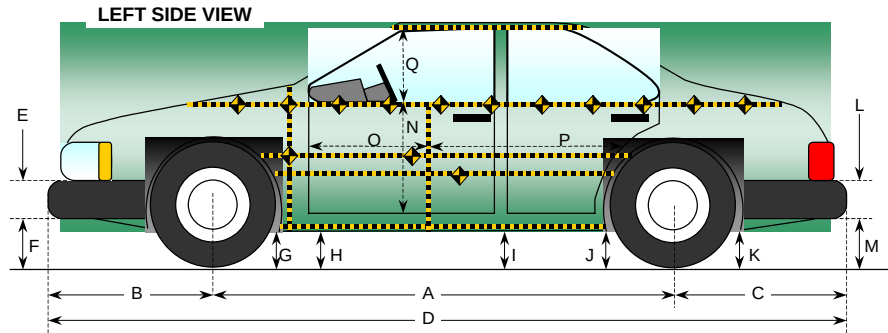
Restraint Type	Left Front (Driver) Occupant Location 01		Left Rear (Passenger) Occupant Location 04	
	Installed	Operation	Installed	Operation
Front Airbag	Yes	No	No	N/A
Side Airbag	Yes	Yes	No	N/A
Head Airbag	No	N/A	No	N/A
Curtain Airbag	Yes	Yes	Yes	Yes
Seat Belt Pretensioner	Yes	Unknown	No	N/A
Seat Belt Load Limiter	No	N/A	No	N/A

DATA SHEET NO. 6

VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle: 2007 Honda Civic
 Test Program: NCAP Side Impact

NHTSA No.: H75300
 Test Date: 09/28/06



All Measurements in mm

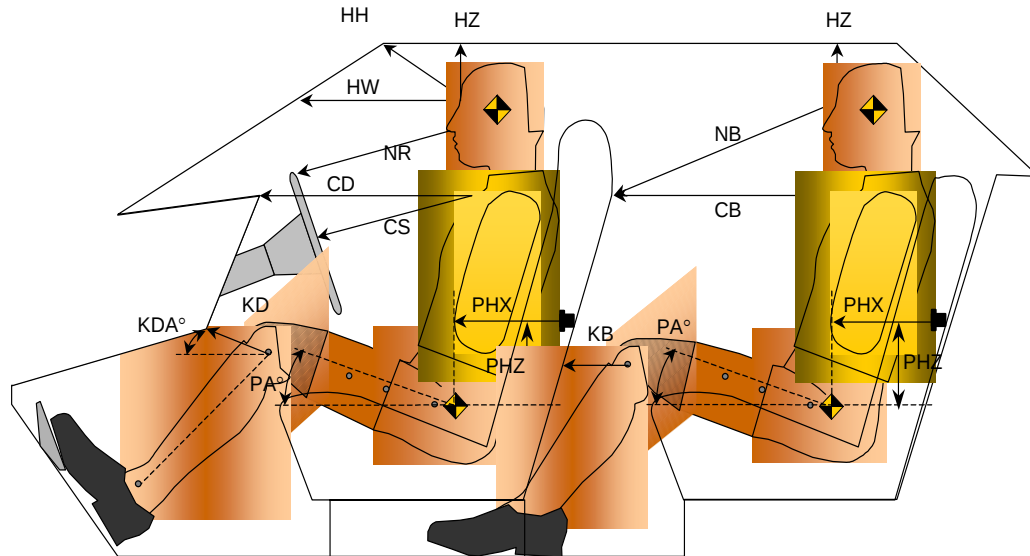
Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2650	2657	-7
B	Front Axle to Front Surface of Vehicle	838	920	-82
C	Rear Axle to Rear Surface of Vehicle	917	918	-1
D	Total Length at Centerline	4405	4410	-5
E	Front Bumper Thickness	185	185	0
F	Front Bumper Bottom to Ground	350	346	4
G	Sill Height at Front Wheel Well	286	294	-8
H	Sill Height at Front Door Leading Edge	182	168	14
I	Sill Height at "B" Pillar	216	261	-45
J1	Sill Height at Rear Wheel Well	153	155	-2
J2	Pinch Weld Height at Rear Wheel Well	203	127	76
K	Sill Height Aft of Rear Wheel Well	290	255	35
L	Rear Bumper Thickness	211	211	0
M	Rear Bumper Bottom to Ground	424	385	39
N	Sill Height to Window Bottom Sill	N/A	N/A	N/A
O	Front Door Leading Edge to Impact CL	790	1440	-650
P	Rear Door Trailing Edge to Impact CL	N/A	N/A	N/A
Q	Front Window Opening	325	307	18
R	Right Side Length	4247	4265	-18
S	Left Side Length	4247	4231	16
T	Vehicle Width at "B" Post	1320	1190	130

DATA SHEET NO. 7

SID/HIII LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2007 Honda Civic
 Test Program: NCAP Side Impact

NHTSA No.: H75300
 Test Date: 09/28/06



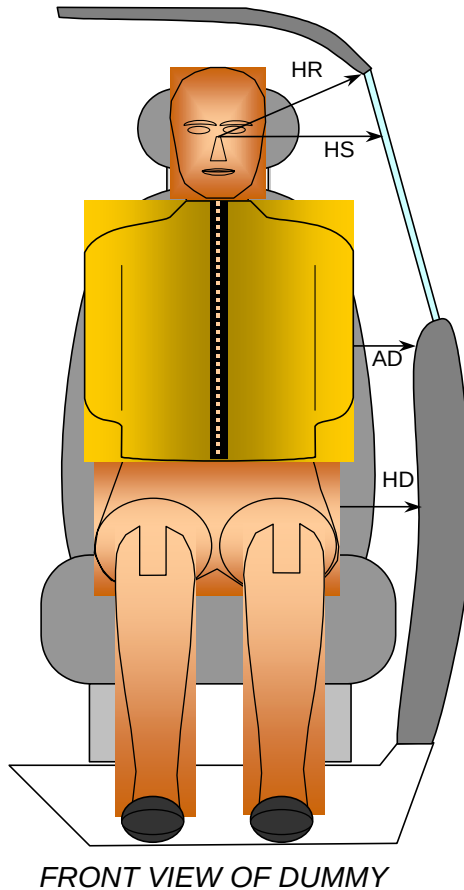
Driver Code	Pass. Code	Measurement Description	Driver S/N 055		Passenger S/N 059	
			Length (mm)	Angle (°)	Length (mm)	Angle (°)
HH		Head to Header	345			
HW		Head to Windshield	575			
HZ	HZ	Head to Roof	137		96	
NR	NB	Nose to Rim/Nose to Seatback	423		561	
CD	CB	Chest to Dash or Seatback	600		485	
CS		Chest to Steering Wheel	334			
KDL	KBL	Left Knee to Dash or Seatback	153	38.3	195	39.3
KDR	KBR	Right Knee to Dash or Seatback	172	35.4	192	42.0
PA	PA	Pelvic Angle		23.4		24.6
PHX	PHX	H-Point to Striker (X-Axis)	431		425	
PHZ	PHZ	H-Point to Striker (Z-Axis)	222		175	

DATA SHEET NO. 8

SID/HIII LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2007 Honda Civic
Test Program: NCAP Side Impact

NHTSA No.: H75300
Test Date: 09/28/06



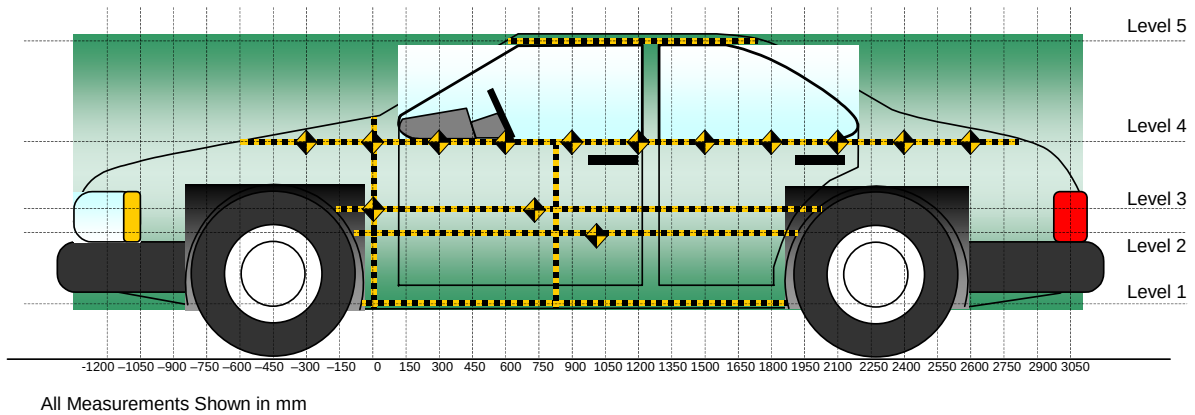
Code	Measurement Description	Units	Driver S/N 055	Passenger S/N 059
HR	Head to Side Header	mm	165	145
HS	Head to Side Window	mm	280	143
AD	Arm to Door	mm	101	65
HD	H-Point to Door	mm	134	135

DATA SHEET NO. 9

VEHICLE SIDE MEASUREMENTS

Test Vehicle: 2007 Honda Civic
 Test Program: NCAP Side Impact

NHTSA No.: H75300
 Test Date: 09/28/06



LEFT SIDE VIEW

Measurements are taken with vehicle in the as tested condition.

All measurements below in mm.

MAXIMUM EXTERIOR STATIC CRUSH

Level	Measurement Description	Maximum Exterior Static Crush	Distance From Impact	Height Above Ground
5	Window Top	8	1500	1315
4	Window Sill	175	1800	855
3	Mid Door	212	900	595
2	Occupant H-Point	220	600	505
1	Sill Top	19	1050	230
	Maximum Penetration	220		

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2007 Honda Civic
Test Program: NCAP Side Impact

NHTSA No.: H75300
Test Date: 09/28/06

	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-900															
-750		-855	-846				-853	-836				2	10		
-600			-870	-673				-863	-670				7	3	
-450				-708					-700					8	
-300				-740					-723					17	
-150			-874	-762				-843	-736				31	26	
0	-844	-868	-869	-779		-847	-851	-843	-758		-3	17	26	21	
150	-841	-864	-864	-792		-846	-674	-700	-774		-5	190	164	18	
300	-840	-864	-864	-800		-821	-648	-676	-735		19	216	188	65	
450	-841	-866	-865	-810		-823	-646	-660	-697		18	220	205	113	
600	-840	-866	-866	-817		-823	-646	-656	-673		17	220	210	144	
750	-841	-867	-867	-823	-607	-822	-653	-655	-669	-607	19	214	212	154	0
900	-840	-867	-867	-831	-611	-821	-664	-655	-670	-610	19	203	212	161	1
1050	-839	-866	-867	-835	-614	-820	-675	-656	-664	-610	19	191	211	171	4
1200	-839	-866	-866	-837	-615	-822	-697	-665	-662	-609	17	169	201	175	6
1350	-839	-865	-866	-831	-613	-830	-730	-725	-658	-605	9	135	141	173	8
1500	-842	-864	-864	-839	-611	-840	-815	-778	-683	-603	2	49	86	156	8
1650	-844	-862	-861	-837	-606	-851	-764	-720	-701	-608	-7	98	141	136	-2
1800	-846	-860	-861	-837	-593	-842	-779	-740	-662	-600	4	81	121	175	-7
1950		-858	-868	-834			-850	-824	-703			8	44	131	
2100				-832					-755					77	
2250				-831					-806					25	
2400				-826					-836					-10	
2550			-856	-818				-866	-829				-10	-11	
2700			-827	-806				-851	-816				-24	-10	
2850															
3000		-832					-852					-20			

Reference plane is parallel to test vehicle longitudinal centerline.

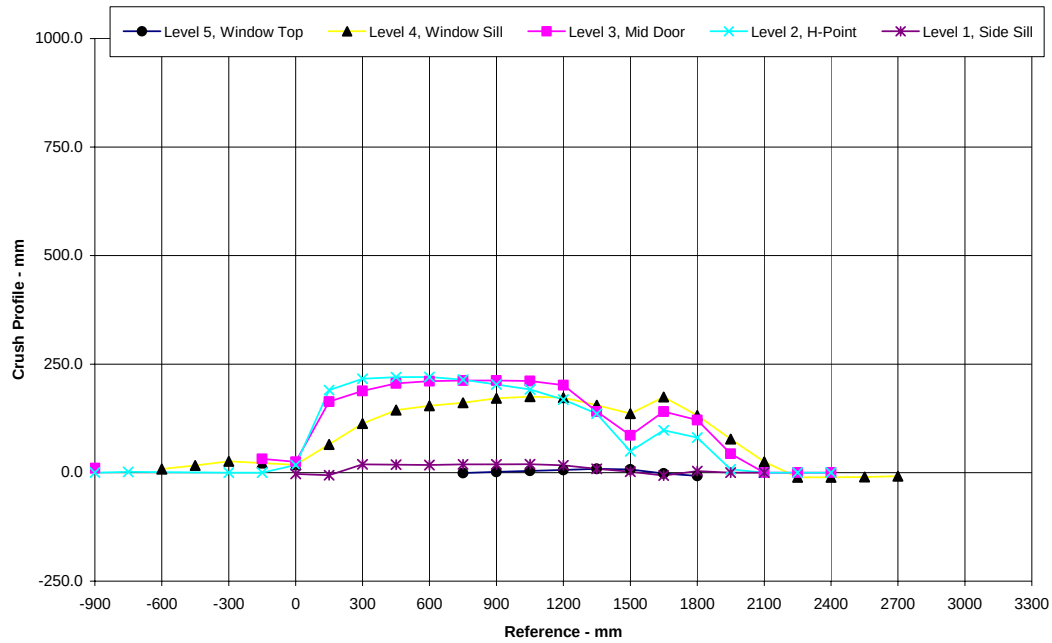
Given measurements = Reference plane to car body

DATA SHEET NO. 10 (CONTINUED)

VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2007 Honda Civic
 Test Program: NCAP Side Impact

NHTSA No.: H75300
 Test Date: 09/28/06



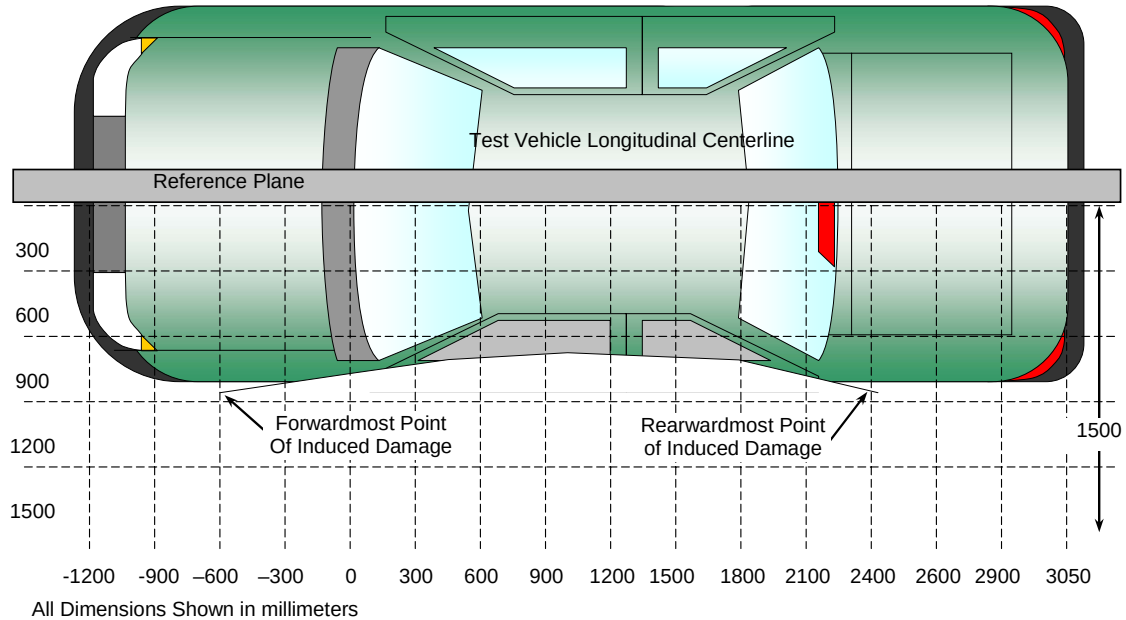
	Units	Level 1	Level 2	Level 3	Level 4	Level 5
Maximum Crush	mm	19	220	212	175	8
Distance from Impact	mm	1050	600	900	1800	1500

DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2007 Honda Civic
 Test Program: NCAP Side Impact

NHTSA No.: H75300
 Test Date: 09/28/06



TOP VIEW

DAMAGE PROFILE DISTANCES

DPD	Distance from Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max. Static Crush (mm)
1	2100 mm	4	-832	-755	77
2	1650 mm	3	-861	-720	141
3	1200 mm	3	-866	-665	201
4	750 mm	2	-867	-653	214
5	300 mm	2	-864	-648	216
6	-300 mm	4	-740	-723	17

Reference plane is parallel to test vehicle longitudinal centerline.

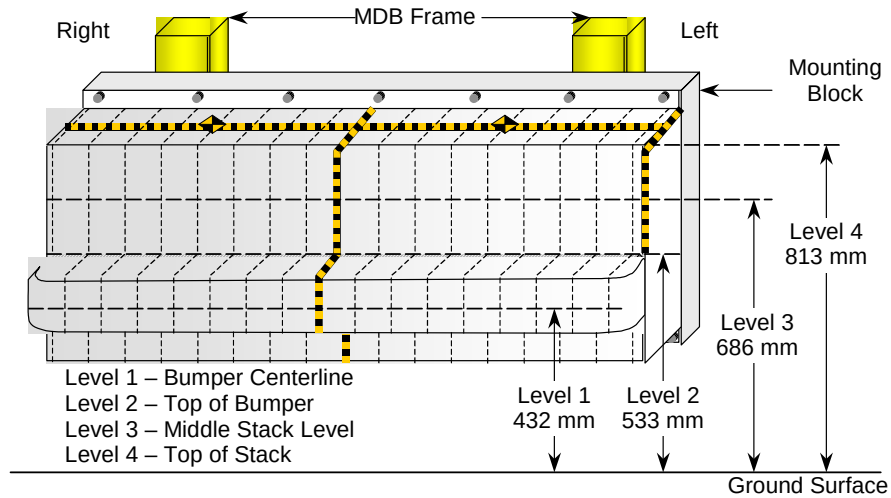
Given dimensions = Reference plane to car body.

DATA SHEET NO. 12

DEFORMABLE BARRIER HONEYCOMB FACE STATIC CRUSH

Test Vehicle: 2007 Honda Civic
 Test Program: NCAP Side Impact

NHTSA No.: H75300
 Test Date: 09/28/06



DEFORMABLE BARRIER STATIC CRUSH

Stack Level	Distance Right of Center								C/L	Distance Left of Center							
	800	700	600	500	400	300	200	100		0	100	200	300	400	500	600	700
1	-49	-23	-16	-64	-34	-13	-6	-1	2	1	-0	-3	-5	-10	-26	-57	-90
2	-61	-33	-74	-59	-51	-30	-14	-6	-2	-1	-1	-4	-6	-9	-14	-32	-71
3	-114	-115	-133	-98	-71	-60	-36	-31	-26	-20	-18	-19	-18	-22	-33	-44	-56
4	-192	-218	-258	-248	-186	-136	-108	-88	-77	-75	-74	-73	-72	-80	-93	-107	-113

All measurements are in mm

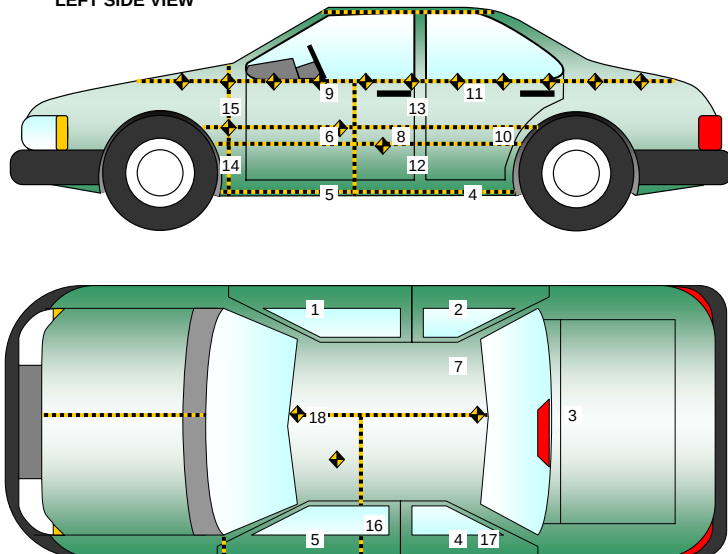
DATA SHEET NO. 13

VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle: 2007 Honda Civic
 Test Program: NCAP Side Impact

NHTSA No.: H75300
 Test Date: 09/28/06

LEFT SIDE VIEW



Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Right Sill at Front Seat	3200	645	-244
2	Right Sill at Rear Seat	2340	645	-252
3	Rear Floorpan Above Axle	1335	-50	-483
4	Left Sill at Rear Seat	2320	645	-342
5	Left Sill at Front Seat	3210	654	-230
6	Left Front Door C/L	N/A	----	----
7	Rear Occupant Compartment	2055	610	-404
8	Left Front Door Mid-Rear	N/A	----	----
9	Left Front Door Upper C/L	N/A	----	----
10	Left Rear Door Mid-Rear	N/A	----	----
11	Left Rear Door Upper C/L	N/A	----	----
12	Left Lower B-Post	2205	-740	-491
13	Left Middle B-Post	2170	-740	-708
14	Left Lower A-Post	3365	-705	-532
15	Left Middle A-Post	3340	-740	-678
16	Front Seat Track	2540	-555	-262
17	Rear Seat Track or Structure	1610	-580	-428
18	Vehicle CG	2780	0	-377

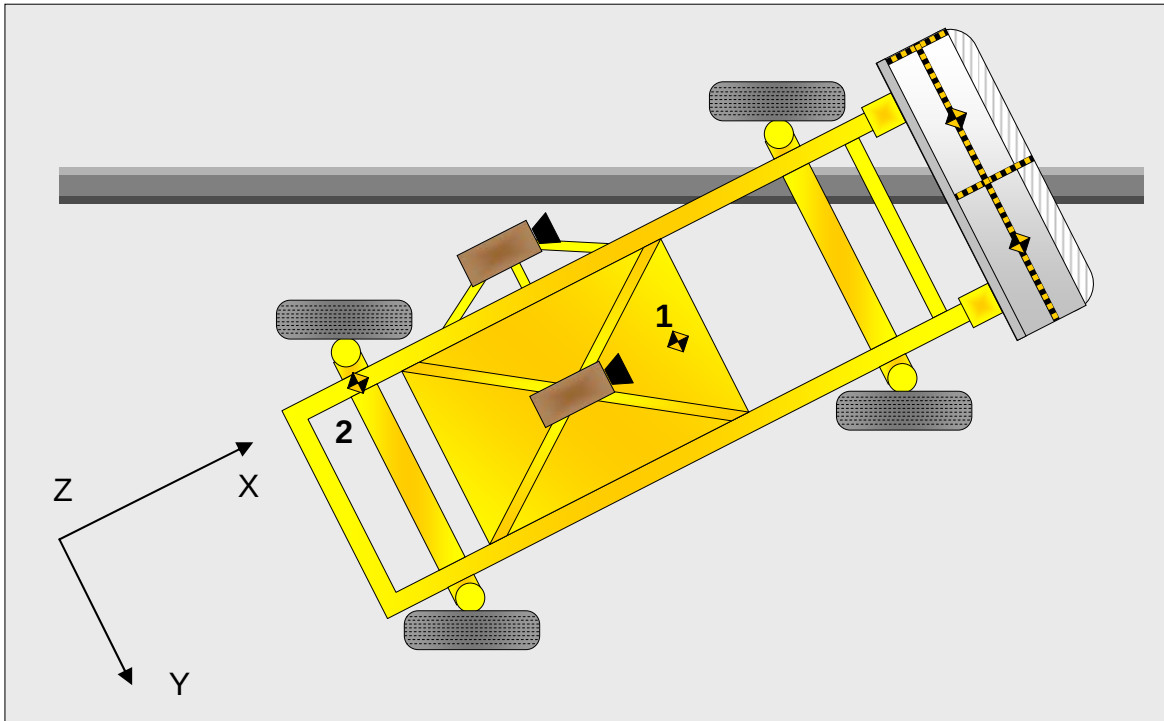
Reference Points: X - Test Vehicle Rear Bumper (+ forward)
 Y - Test Vehicle Centerline (+ to right)
 Z - Ground Plane (+ down)

DATA SHEET NO. 14

MDB ACCELEROMETER LOCATIONS

Test Vehicle: 2007 Honda Civic
Test Program: NCAP Side Impact

NHTSA No.: H75300
Test Date: 09/28/06



Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	MDB CG	1855	0	-520
2	MDB Rear	412	-677	-625

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

DATA SHEET NO. 15**VEHICLE STRUCTURAL MEASUREMENTS**

Test Vehicle: 2007 Honda Civic
Test Program: NCAP Side Impact

NHTSA No.: H75300
Test Date: 09/28/06

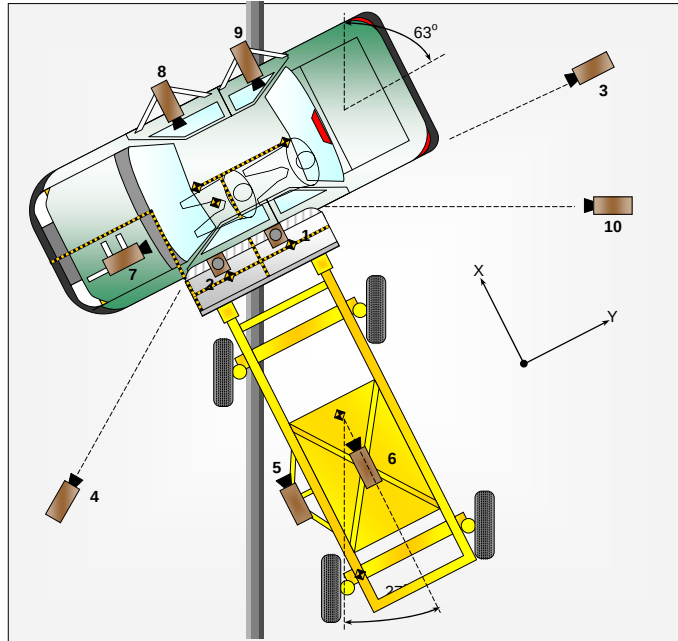
	Elements	Pre-Test (mm)
1	Total Length	Not Recorded
2	Total Width	Not Recorded
3	Bumper Top Height	Not Recorded
4	Bumper Bottom Height	Not Recorded
5	Longitudinal Member Top Height	Not Recorded
6	Distance between Longitudinal Members	Not Recorded
7	Longitudinal Member Width	Not Recorded
8	Engine Top Height	Not Recorded
9	Engine Bottom Height	Not Recorded
10	Engine and gearbox width	Not Recorded
11	Front bumper-engine distance	Not Recorded
12	Front shock absorber fixing height	Not Recorded
13	Hood (bonnet) leading edge height	Not Recorded
14	Front shock absorber fixing width	Not Recorded
15	Front bumper – front axle distance	Not Recorded
16	Front axle – A pillar distance	Not Recorded
17	A-pillar – B-pillar distance	Not Recorded
18	B-Pillar – rear axle distance	Not Recorded
19	B-pillar – C-pillar distance	Not Recorded
20	Roof sill bottom height	Not Recorded
21	Roof sill top height	Not Recorded
22	Floor sill bottom height	Not Recorded
23	Floor sill top height	Not Recorded

DATA SHEET NO. 16

HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2007 Honda Civic
 Test Program: NCAP Side Impact

NHTSA No.: H75300
 Test Date: 09/28/06



No.	Camera View	Location (mm)			Lens (mm)	Frame Speed (fps)
		X	Y	Z		
1	Overhead Overall	250	2150	-5750	12.5	1000
2	Overhead Close-up	370	1800	-5750	25	1000
3	Right Side, Ground Level, Overall	0	8300	-1100	25	1000
4	Left Side, Ground Level, Overall	-2400	-4500	-1110	25	1000
5	MDB Onboard, Impact Point Close-up	-1750	40	-720	12.5	1000
6	MDB Onboard, Centerline of Impact	-2480	830	-1353	12	1000
7	Vehicle Onboard Front SID/HIII, Front	450	-580	-1340	12.5	1000
8	Vehicle Onboard Front SID/HIII, Side	1650	760	-1200	6.5	1000
9	Vehicle Onboard Rear SID/HIII, Side	1650	1640	-1200	6.5	1000
10	Real Time Coverage				Zoom	30

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

DATA SHEET NO. 17

SUMMARY OF FMVSS 301 DATA

Test Vehicle: 2007 Honda Civic
 Test Program: NCAP Side Impact

NHTSA No.: H75300
 Test Date: 09/28/06

FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Temperature at Time of Impact: 21 Test Time: 15:11

Stoddard Solvent Spillage Measurements

A. From impact until vehicle motion ceases: 0 oz.

(Maximum allowable = 1 ounce)

B. For the 5 minute period after motion ceases: 0

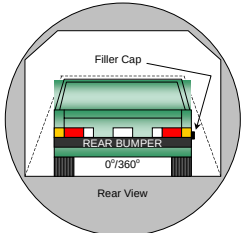
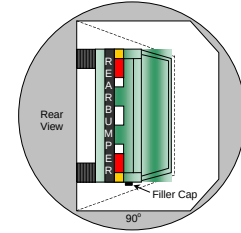
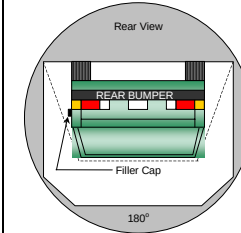
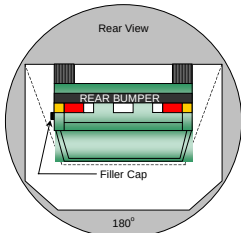
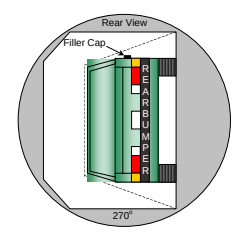
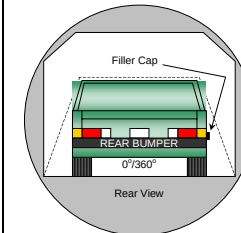
(Maximum allowable = 5 ounces)

C. For the following 25 minutes: 0

(Maximum allowable = 1 oz./minute)

D. Spillage Details: None

FMVSS 301 STATIC ROLLOVER DATA

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

Test Phase	Rotation Time (sec.)	Hold Time (sec.)	Spillage Collection Time (min)	Spillage (oz.)	Spillage Collection Time (min)	Spillage (oz.)	Spillage Collection Time (min)	Spillage (oz.)
0° to 90°	120	300	First 5	0	Sixth	0	Seventh	0
90° to 180°	120	300	First 5	0	Sixth	0	Seventh	0
180° to 270°	120	300	First 5	0	Sixth	0	Seventh	0
270° to 360°	120	300	First 5	0	Sixth	0	Seventh	0

APPENDIX A
PHOTOGRAPHS

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Figure A-1 Manufacturer's Label

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Figure A-2 Tire Placard

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Figure A-3 Pre-Test Front View



Figure A-4 Post-Test Front View



Figure A-5 Pre-Test Left Front Three-Quarter View



Figure A-6 Post-Test Left Front Three-Quarter View



Figure A-7 Pre-Test Left Side View



Figure A-8 Post-Test Left Side View



Figure A-9 Pre-Test Left Rear Three-Quarter View

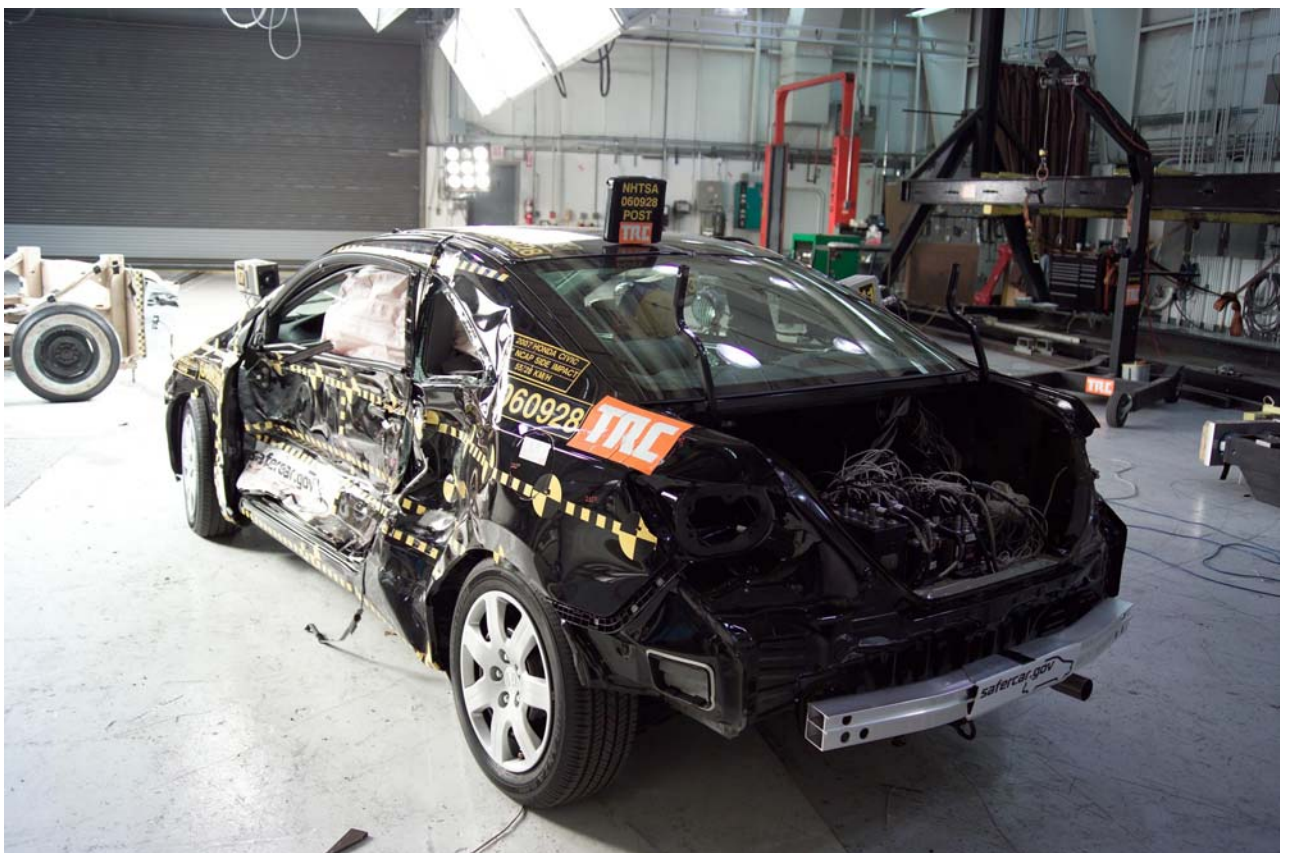


Figure A-10 Post-Test Left Rear Three-Quarter View

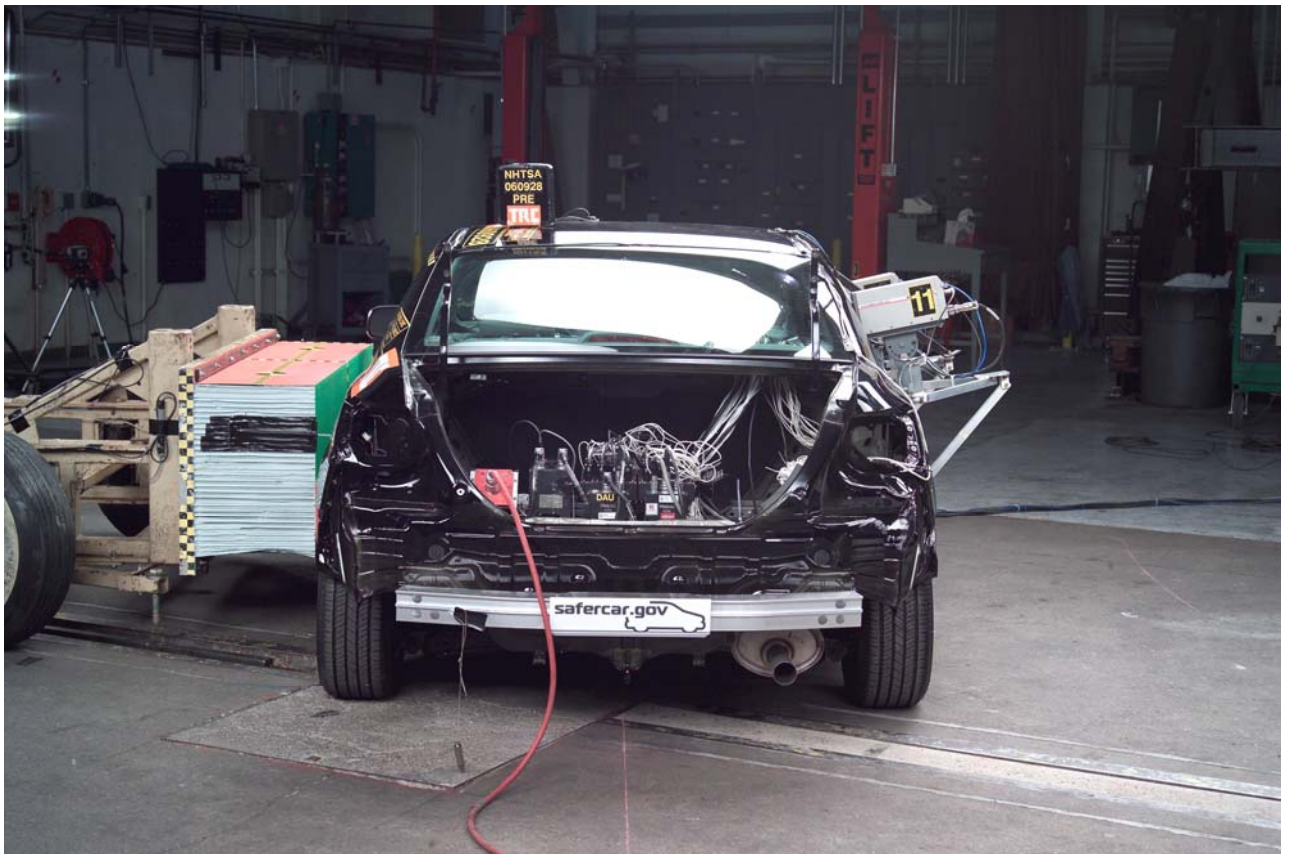


Figure A-11 Pre-Test Rear View



Figure A-12 Post-Test Rear View



Figure A-13 Pre-Test Right Rear Three-Quarter View



Figure A-14 Post-Test Right Rear Three-Quarter View



Figure A-15 Pre-Test Right Side View



Figure A-16 Post-Test Right Side View



Figure A-17 Pre-Test Right Front Three-Quarter View



Figure A-18 Post-Test Right Front Three-Quarter View



Figure A-19 Pre-Test Overhead Alignment View

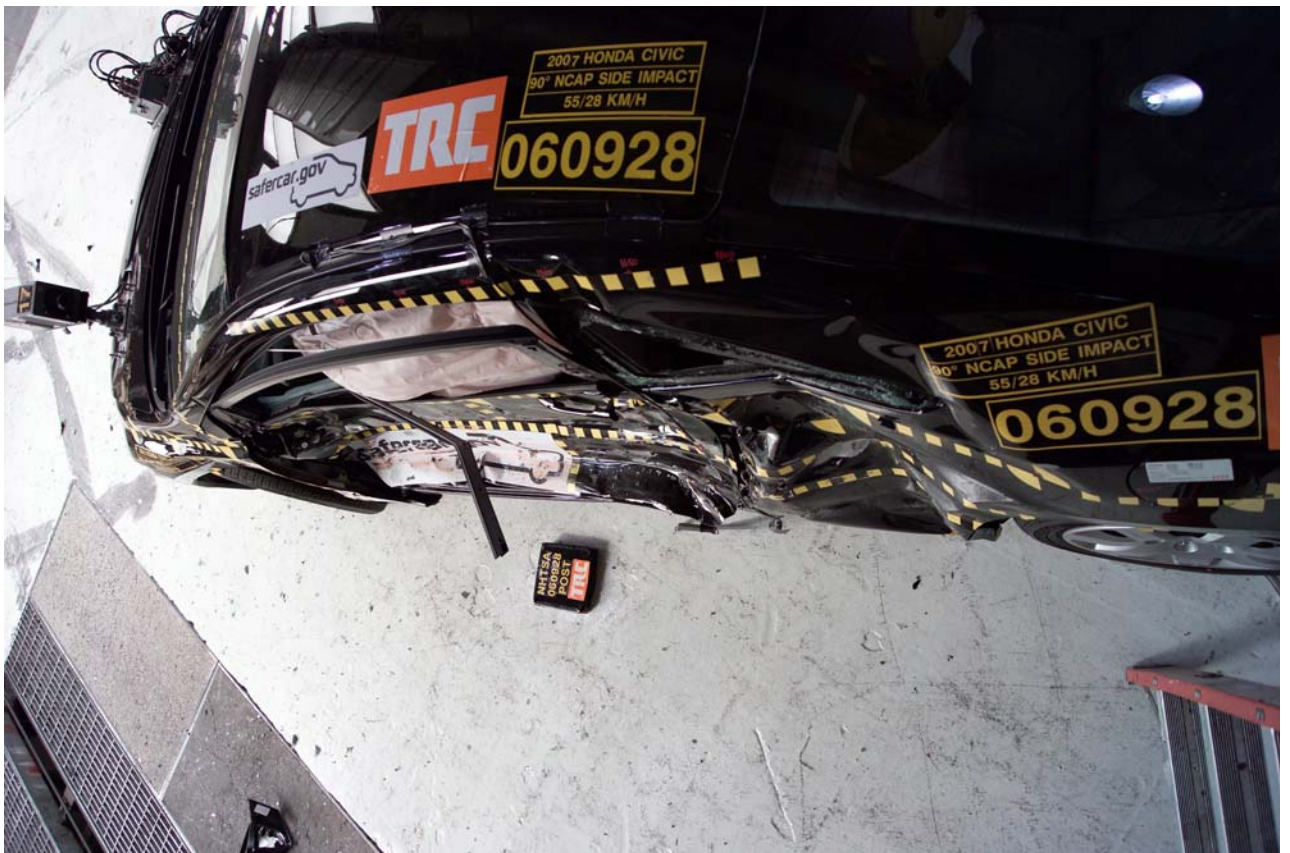


Figure A-20 Post-Test Overhead Alignment View



Figure A-21 Pre-Test Primary Impact Point



Figure A-22 Post-Test Primary Impact Point



Figure A-23 Pre-Test Secondary Impact Point



Figure A-24 Post-Test Secondary Impact Point



Figure A-25 Pre-Test Fuel Filler Cap View



Figure A-26 Post-Test Fuel Filler Cap - View 1



Figure A-27 Post-Test Fuel Filler Cap - View 2

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Figure A-28 Pre-Test Driver Dummy (Through Window)



Figure A-29 Post-Test Driver Dummy (Through Window)



Figure A-30 Pre-Test Driver Dummy (Door Open)

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Figure A-31 Pre-Test Driver Dummy Clearance from Door



Figure A-32 Post-Test Driver Dummy Clearance from Door



Figure A-33 Pre-Test Driver Dummy Right Side View



Figure A-34 Post-Test Driver Dummy Right Side View



Figure A-35 Pre-Test Front Door Panel (Interior)



Figure A-36 Post-Test Front Door Panel (Interior) - View 1



Figure A-37 Post-Test Front Door Panel (Interior) - View 2



Figure A-38 Post-Test Front Door Panel (Interior) - View 3



Figure A-39 Pre-Test Rear Passenger Dummy (Front)

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Figure A-40 Pre-Test Rear Passenger Dummy (Through Window)



Figure A-41 Post-Test Rear Passenger Dummy (Through Window)



Figure A-42 Pre-Test Rear Passenger Dummy Clearance from Door



Figure A-43 Post-Test Rear Passenger Dummy Clearance from Door



Figure A-44 Pre-Test Rear Passenger Dummy Right Front View

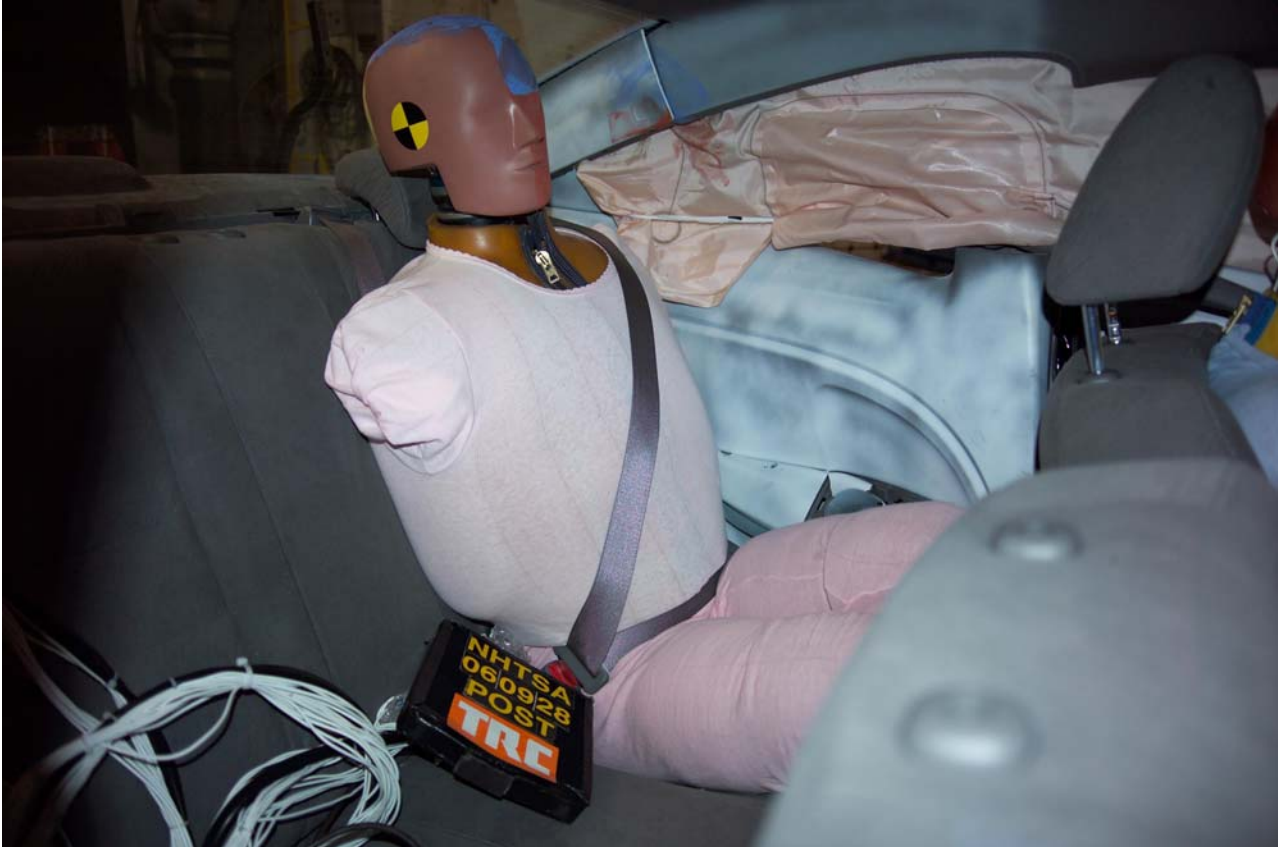


Figure A-45 Post-Test Rear Passenger Dummy Right Front View



Figure A-46 Post-Test Rear Door Panel (Interior) - View 1



Figure A-47 Post-Test Rear Door Panel (Interior) - View 2



Figure A-48 Post-Test Rear Door Panel (Interior) - View 3



Figure A-49 Post-Test Rear Door Panel (Interior) - View 4



Figure A-50 Pre-Test Front View of Barrier Face



Figure A-51 Post-Test Front View of Barrier Face

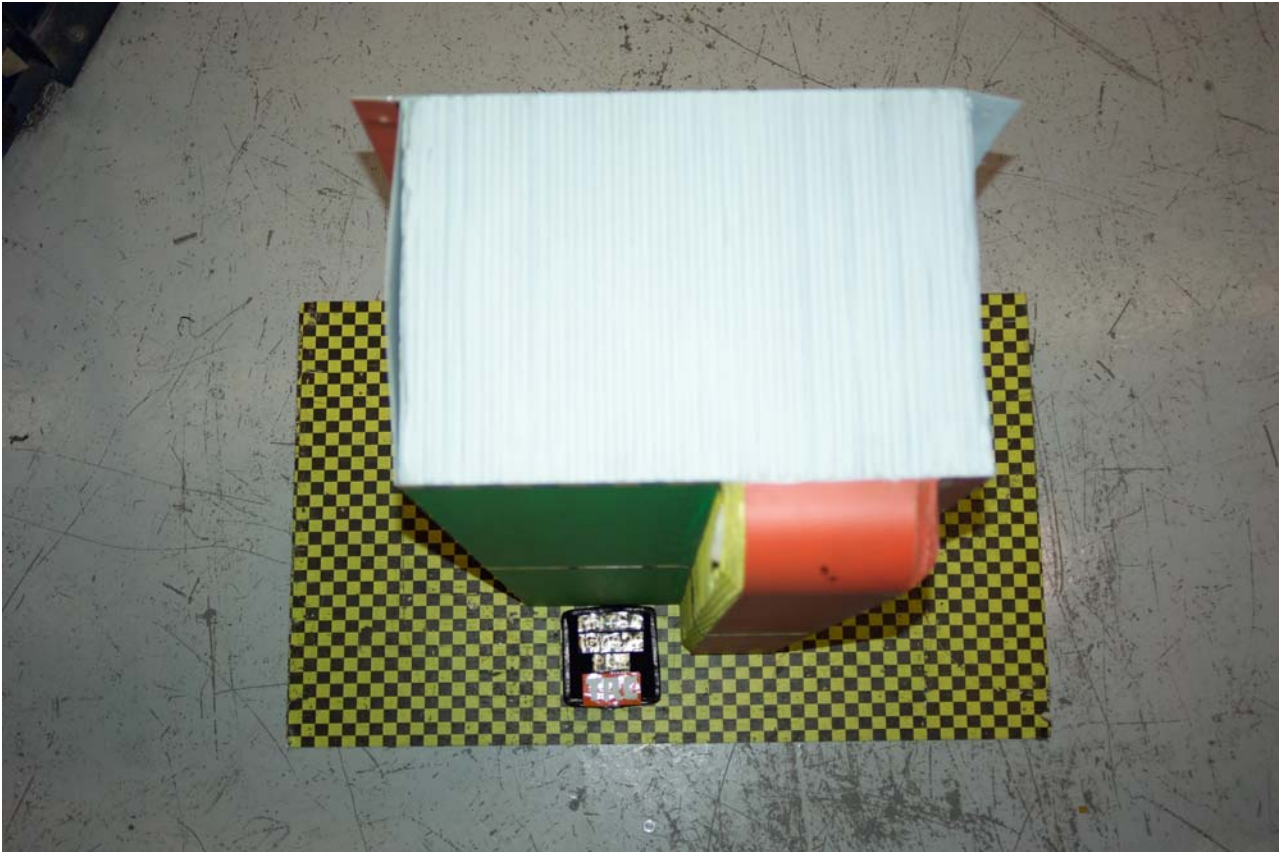


Figure A-52 Pre-Test Left Side View of Barrier Face

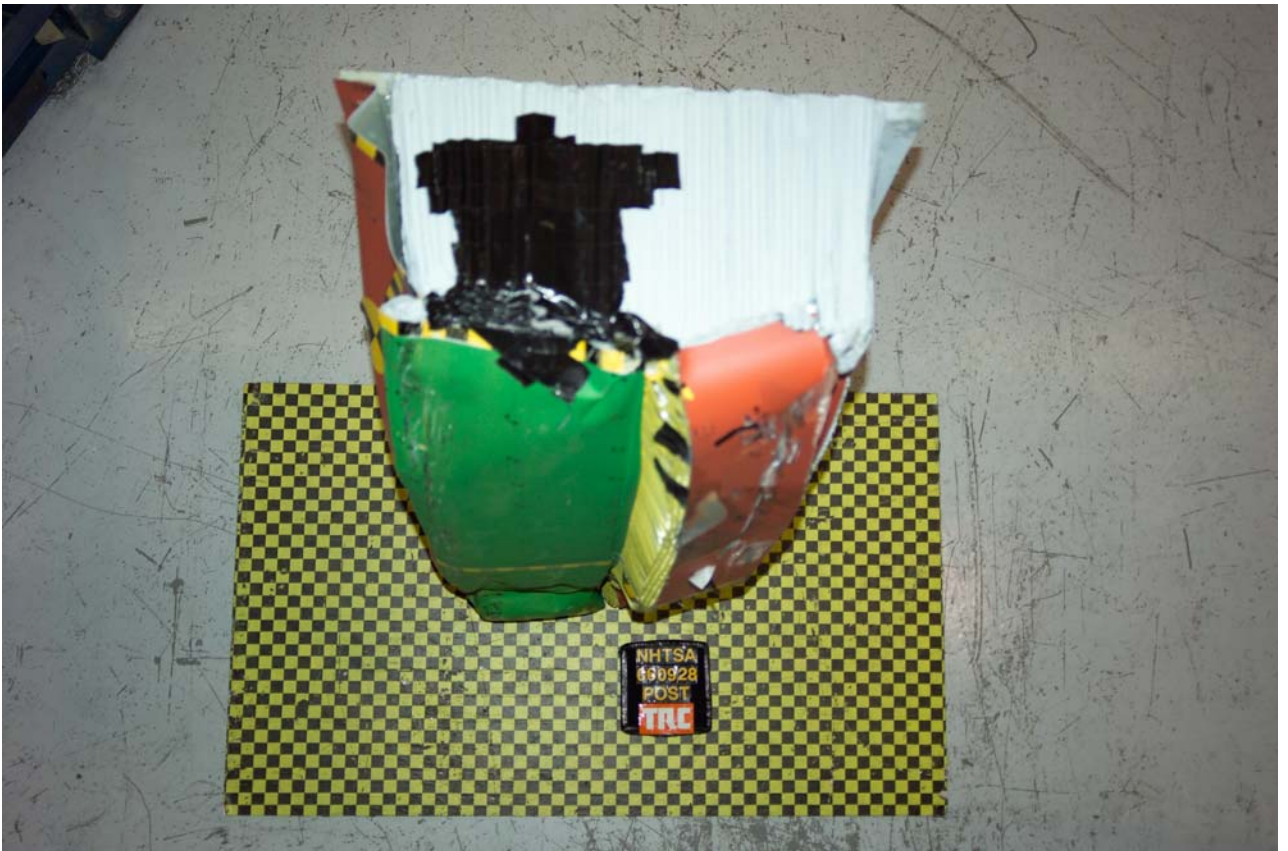


Figure A-53 Post-Test Left Side View of Barrier Face

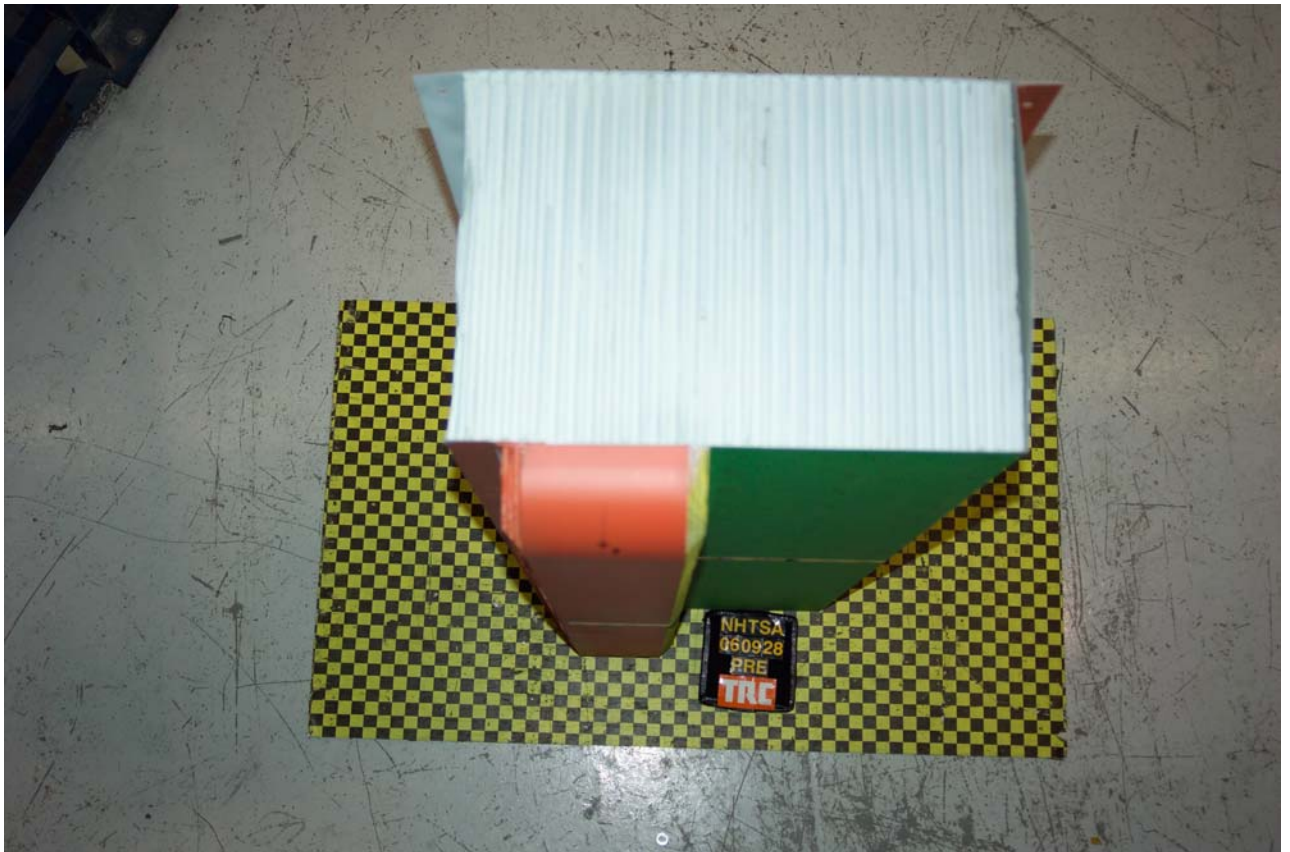


Figure A-54 Pre-Test Right Side View of Barrier Face



Figure A-55 Post-Test Right Side View of Barrier Face



Figure A-56 Pre-Test Top View of Barrier Face



Figure A-57 Post-Test Top View of Barrier Face



Figure A-58 Pre-Test Front View of Deformable Barrier



Figure A-59 Post-Test Front View of Deformable Barrier



Figure A-60 Pre-Test Left Side View of Deformable Barrier

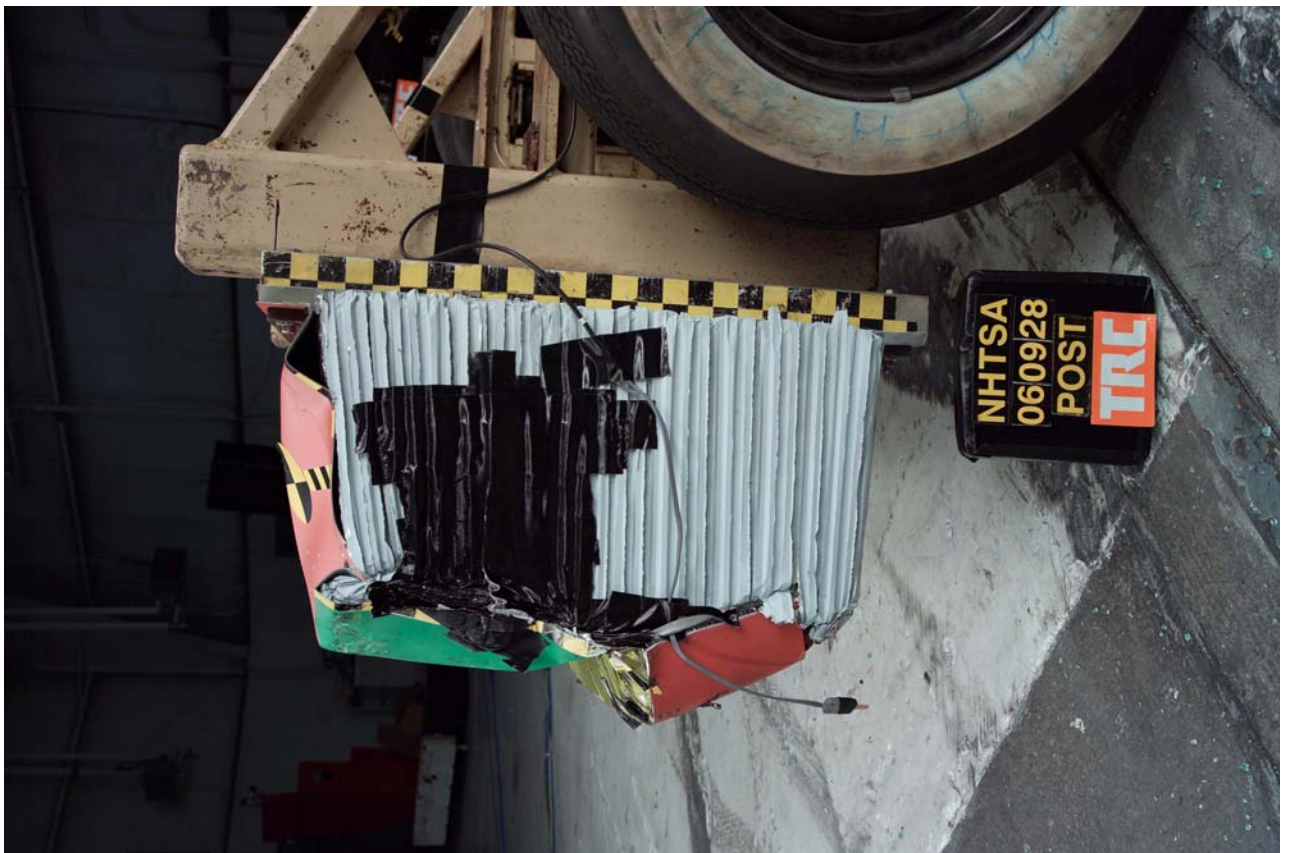


Figure A-61 Post-Test Left Side View of Deformable Barrier



Figure A-62 Pre-Test Right Side View of Deformable Barrier



Figure A-63 Post-Test Right Side View of Deformable Barrier

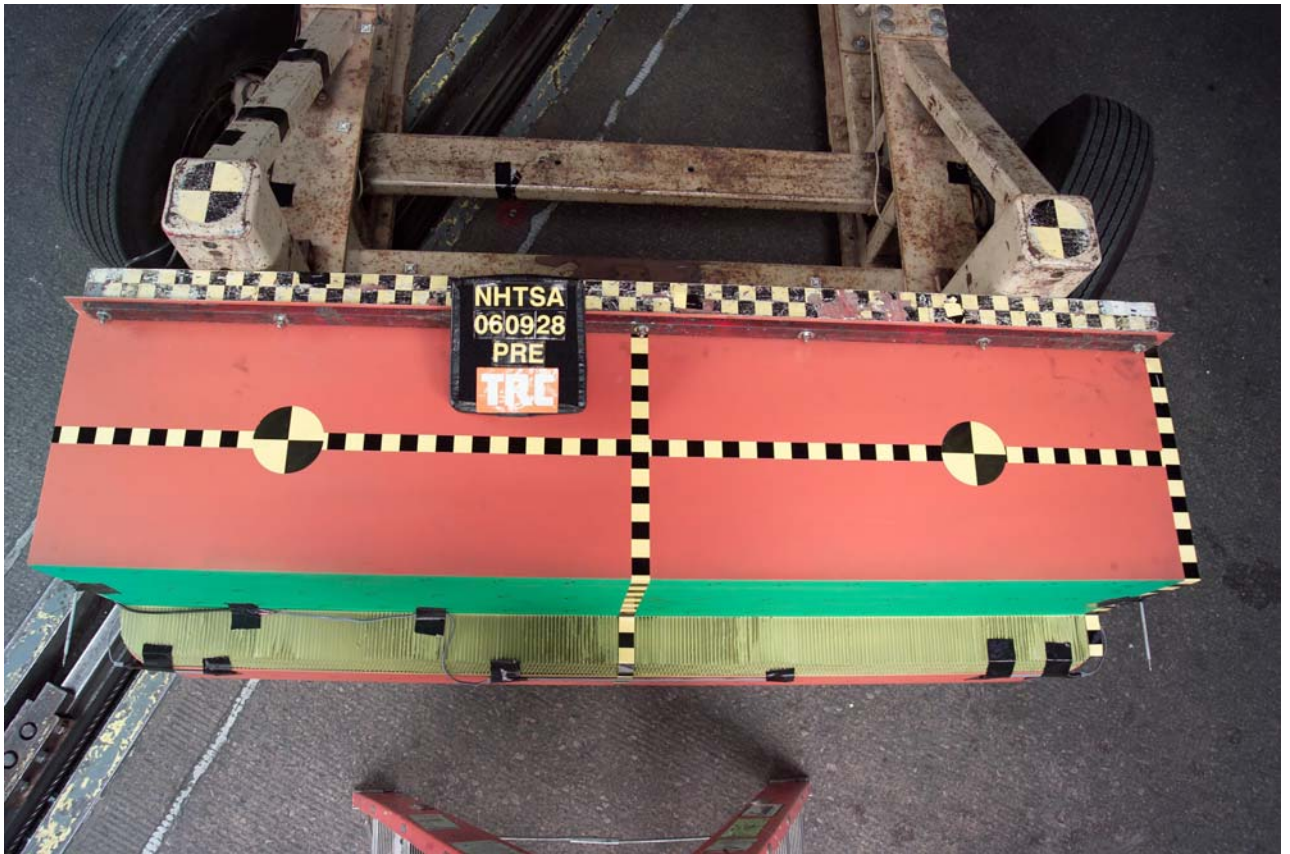


Figure A-64 Pre-Test Top View of Deformable Barrier

Intentionally Left Blank



Figure A-65 Pre-Test Moving Barrier and Vehicle Front View

Intentionally Left Blank



Figure A-66 Pre-Test Moving Barrier and Vehicle Left Front View

Intentionally Left Blank



Figure A-67 Pre-Test Moving Barrier and Vehicle Left Side View



Figure A-68 Post-Test Moving Barrier and Vehicle Left Side View

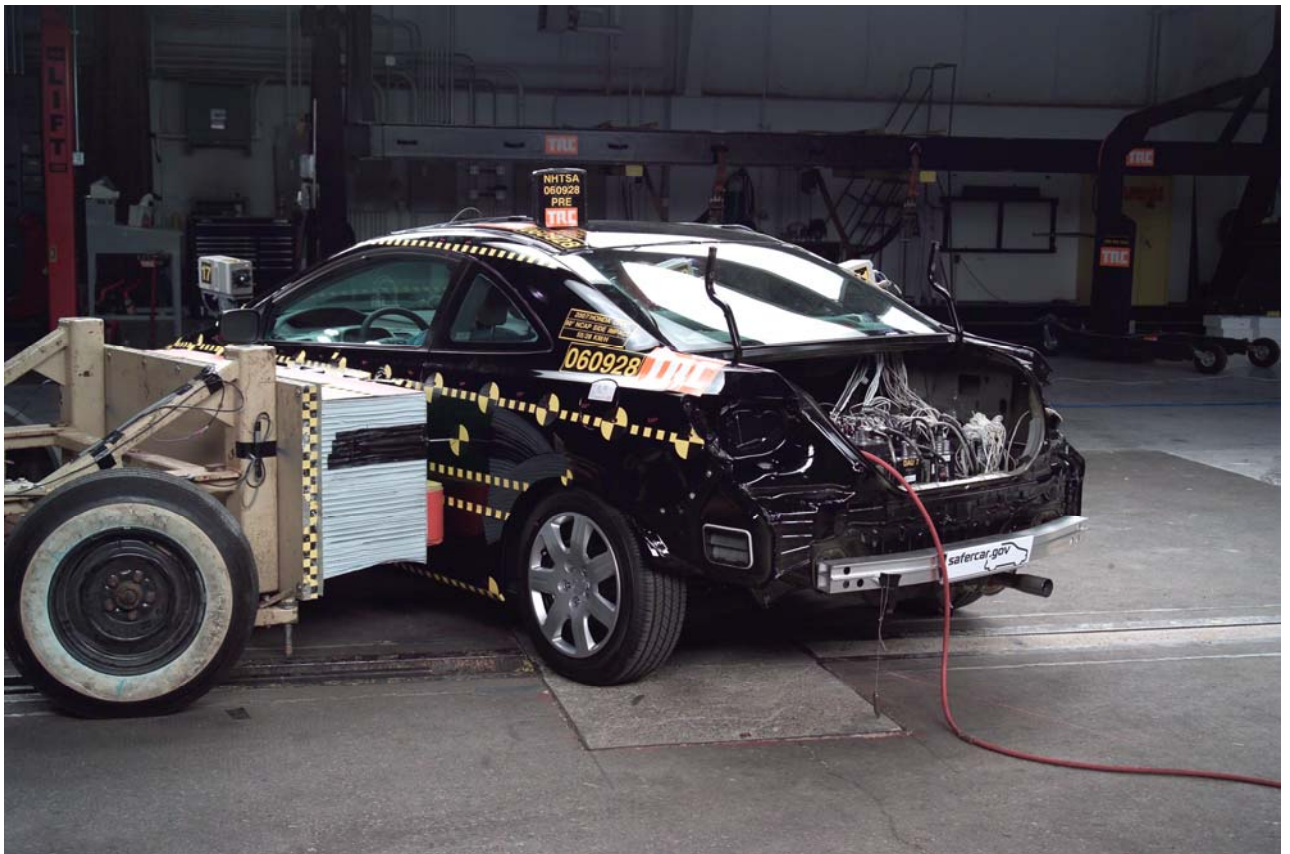


Figure A-69 Pre-Test Moving Barrier and Vehicle Left Rear View



Figure A-70 Post-Test Moving Barrier and Vehicle Left Rear - View 1

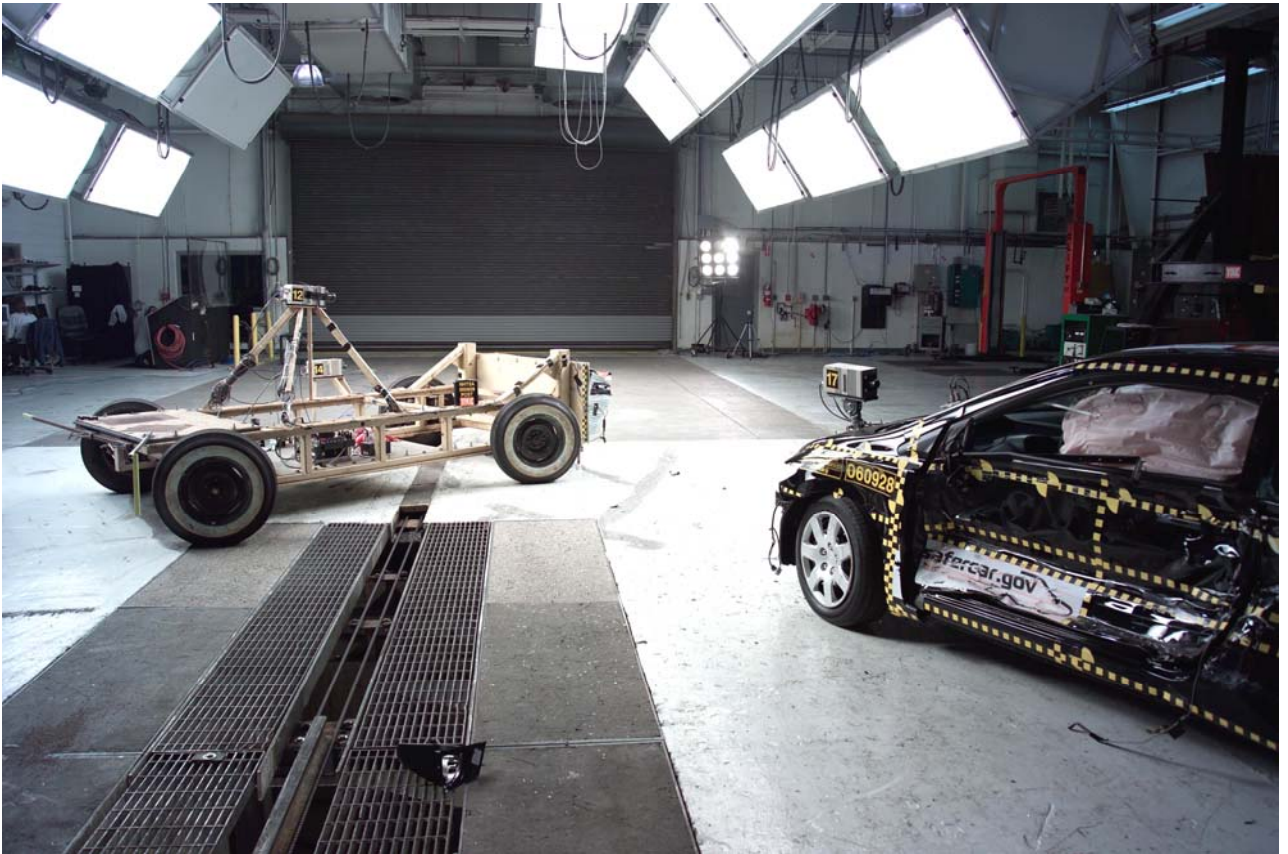


Figure A-71 Post-Test Moving Barrier and Vehicle Left Rear - View 2

Intentionally Left Blank

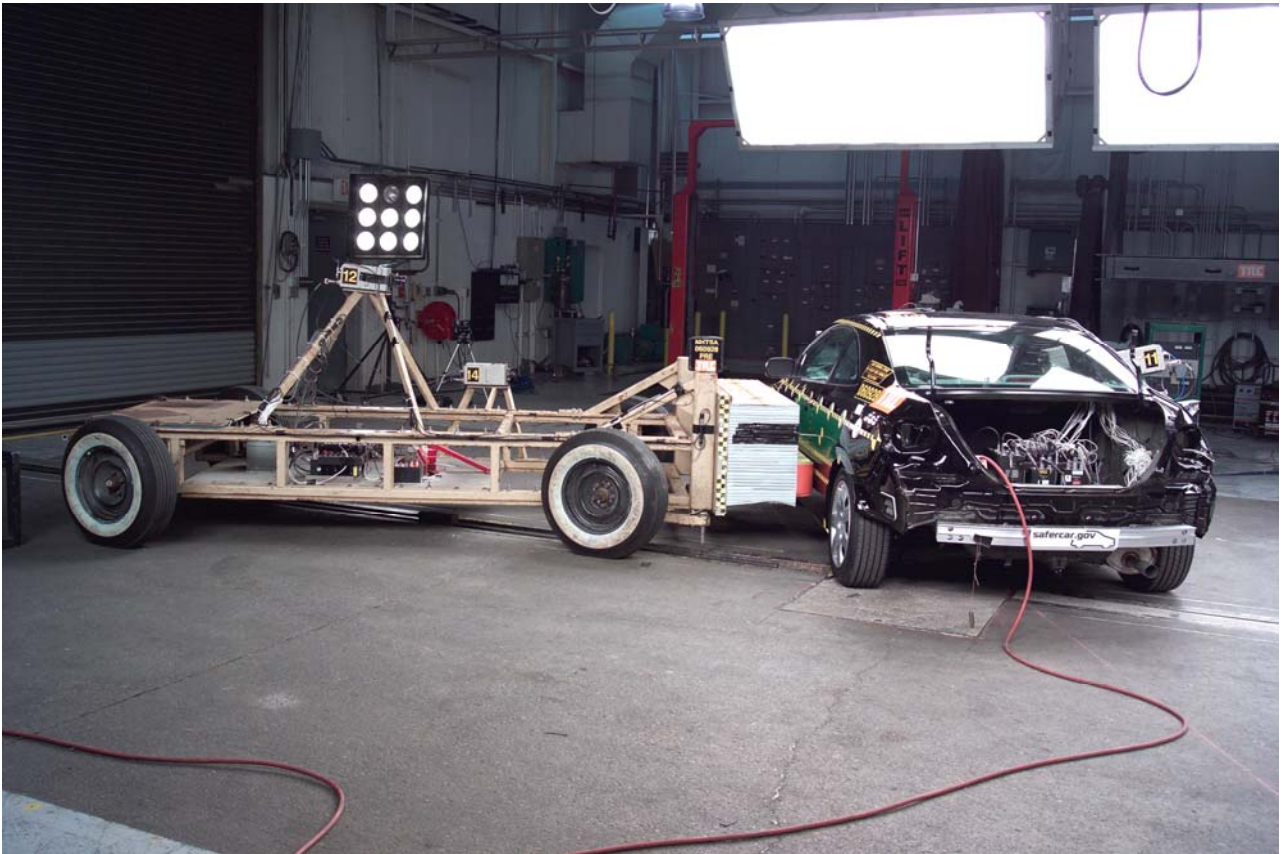


Figure A-72 Pre-Test Moving Barrier and Vehicle Rear View



Figure A-73 Post-Test Moving Barrier and Vehicle Rear View



Figure A-74 Pre-Test Moving Barrier and Vehicle Right Rear View

Intentionally Left Blank



Figure A-75 Post-Test Moving Barrier and Vehicle Right Side View

Intentionally Left Blank

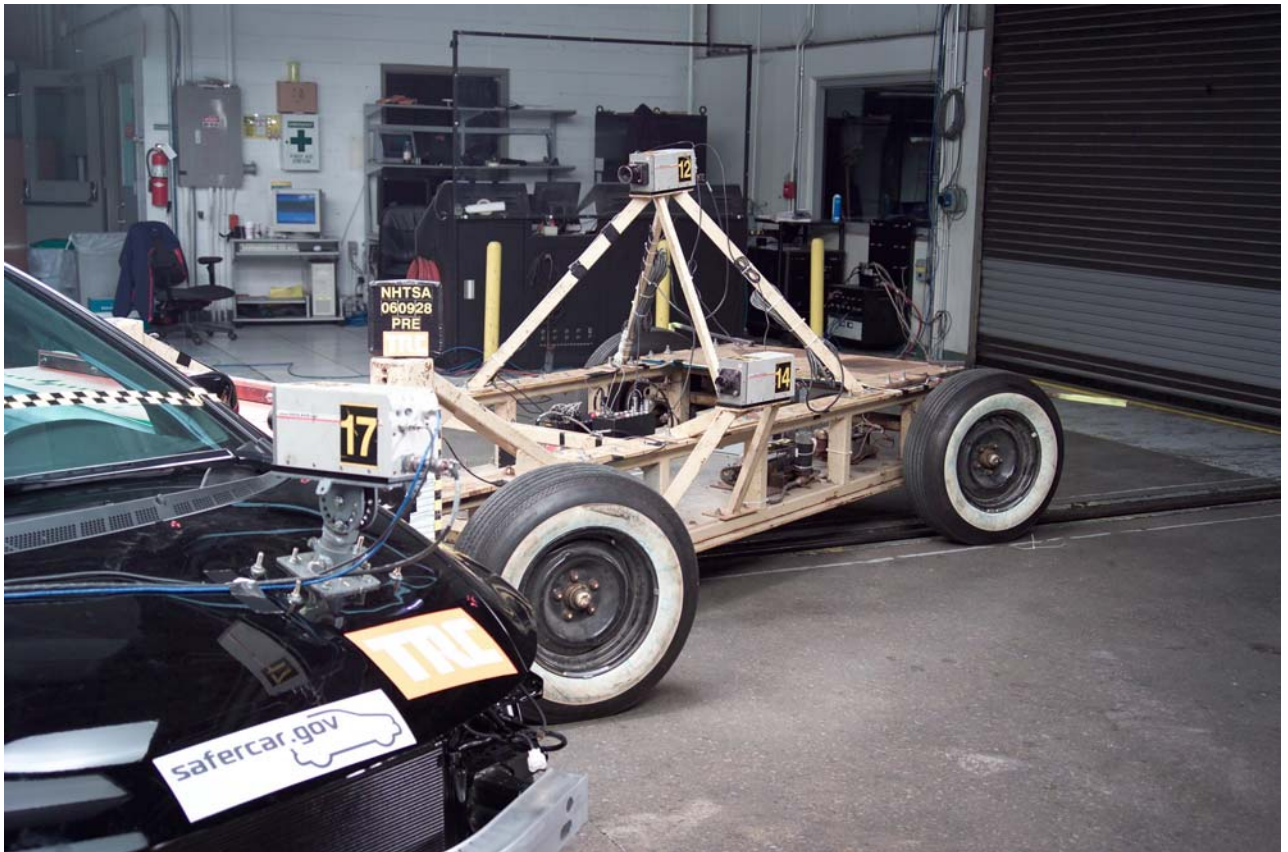


Figure A-76 Pre-Test Moving Barrier and Vehicle Right Front View



Figure A-77 Post-Test Moving Barrier and Vehicle Right Front View

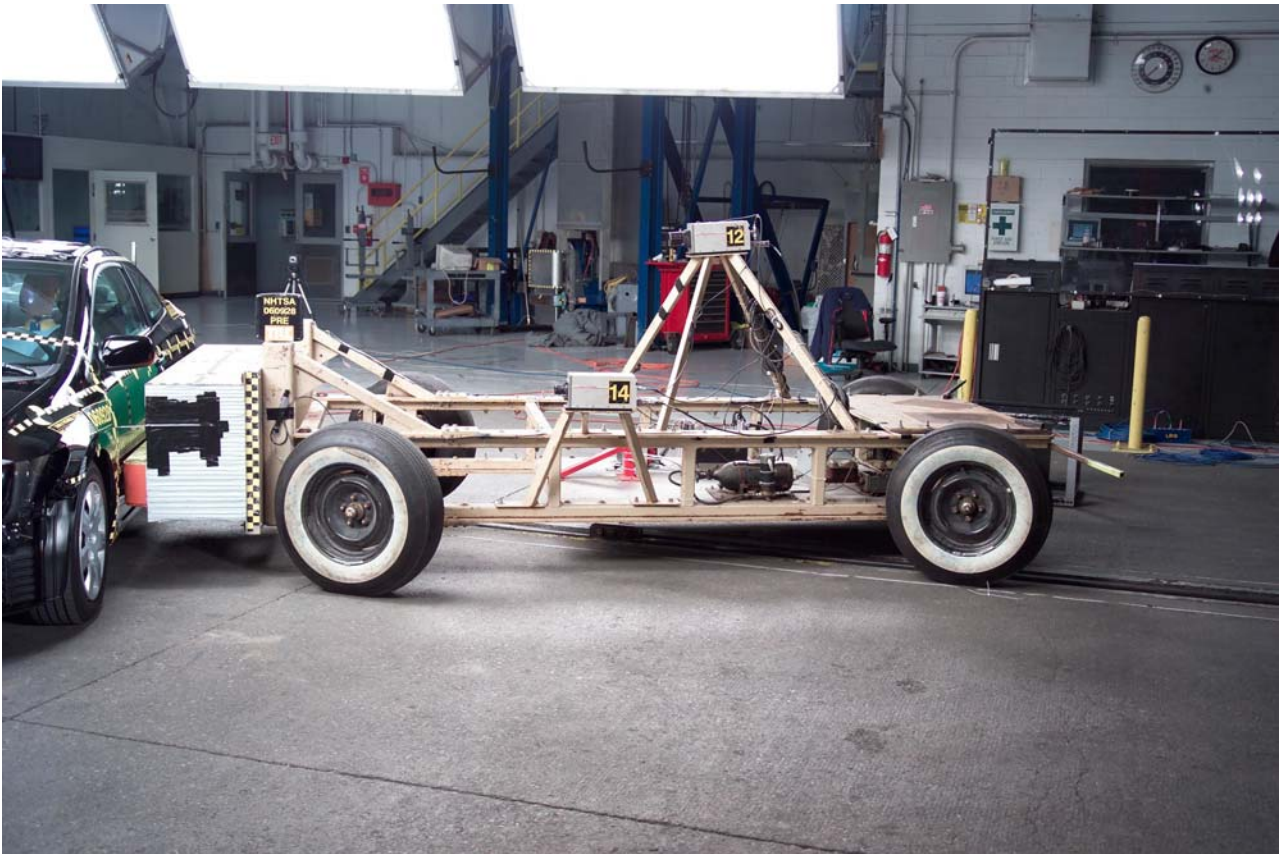


Figure A-78 Pre-Test Moving Barrier Left Side View

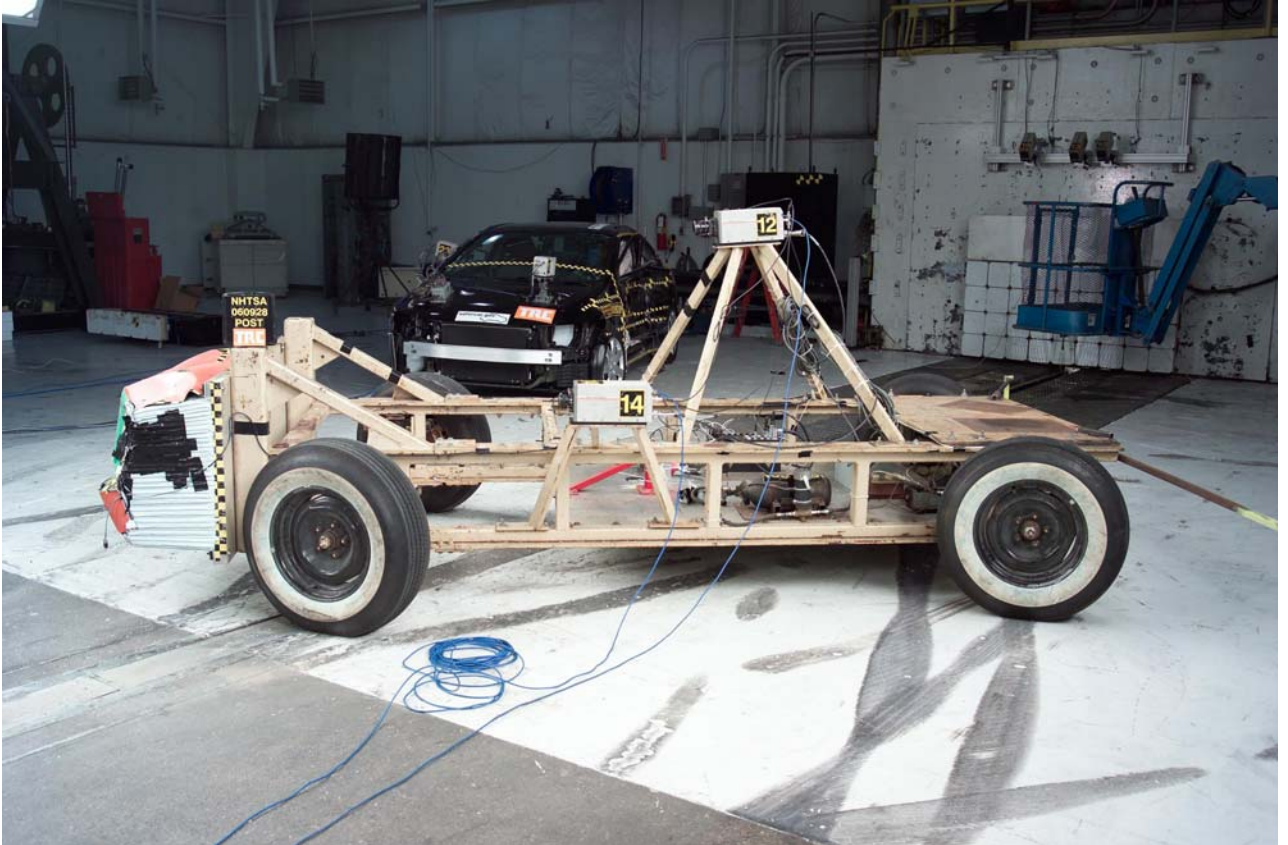


Figure A-79 Post-Test Moving Barrier Left Side View



Figure A-80 Pre-Test Moving Barrier Right Side View



Figure A-81 Post-Test Moving Barrier Right Side View



Figure A-82 Vehicle on Rollover Device (90°)

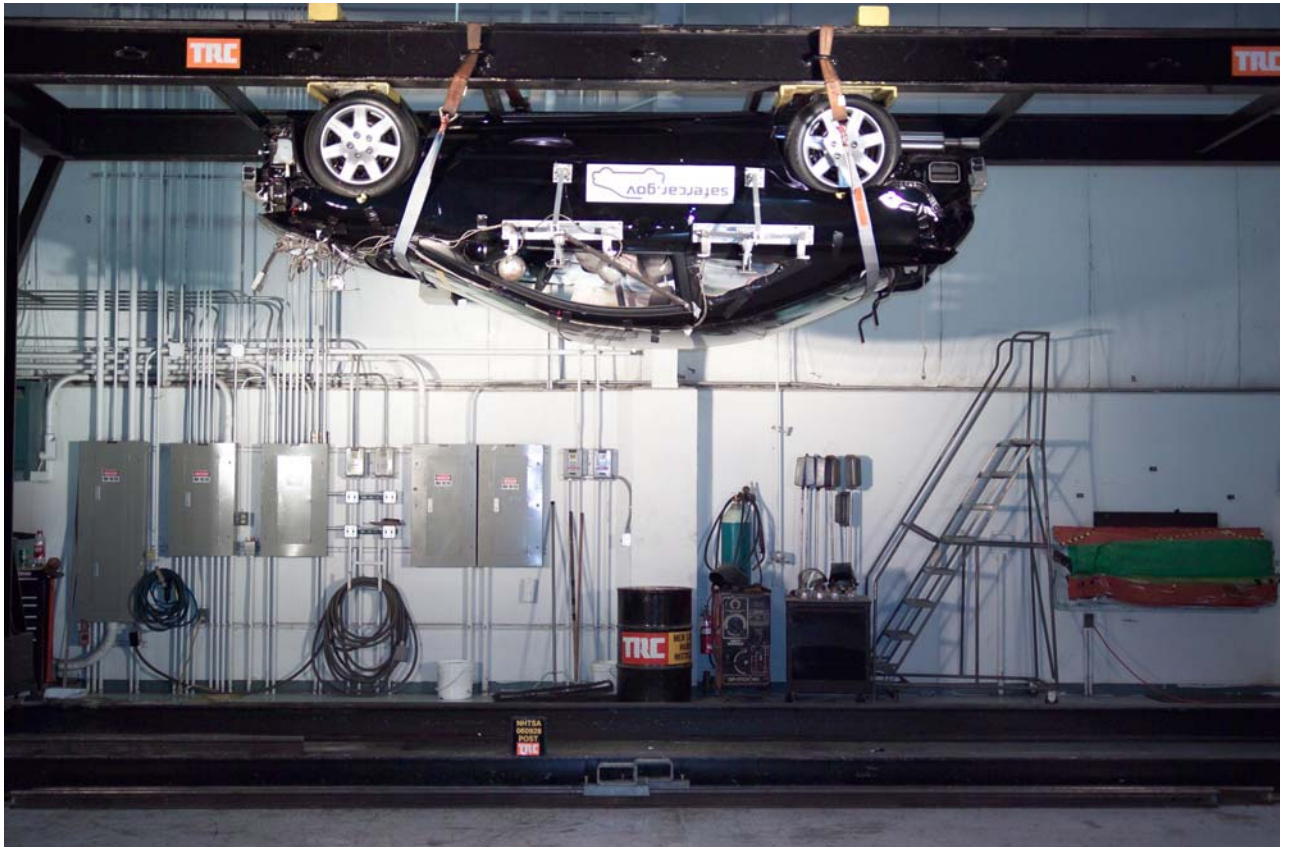


Figure A-83 Vehicle on Rollover Device (180°)

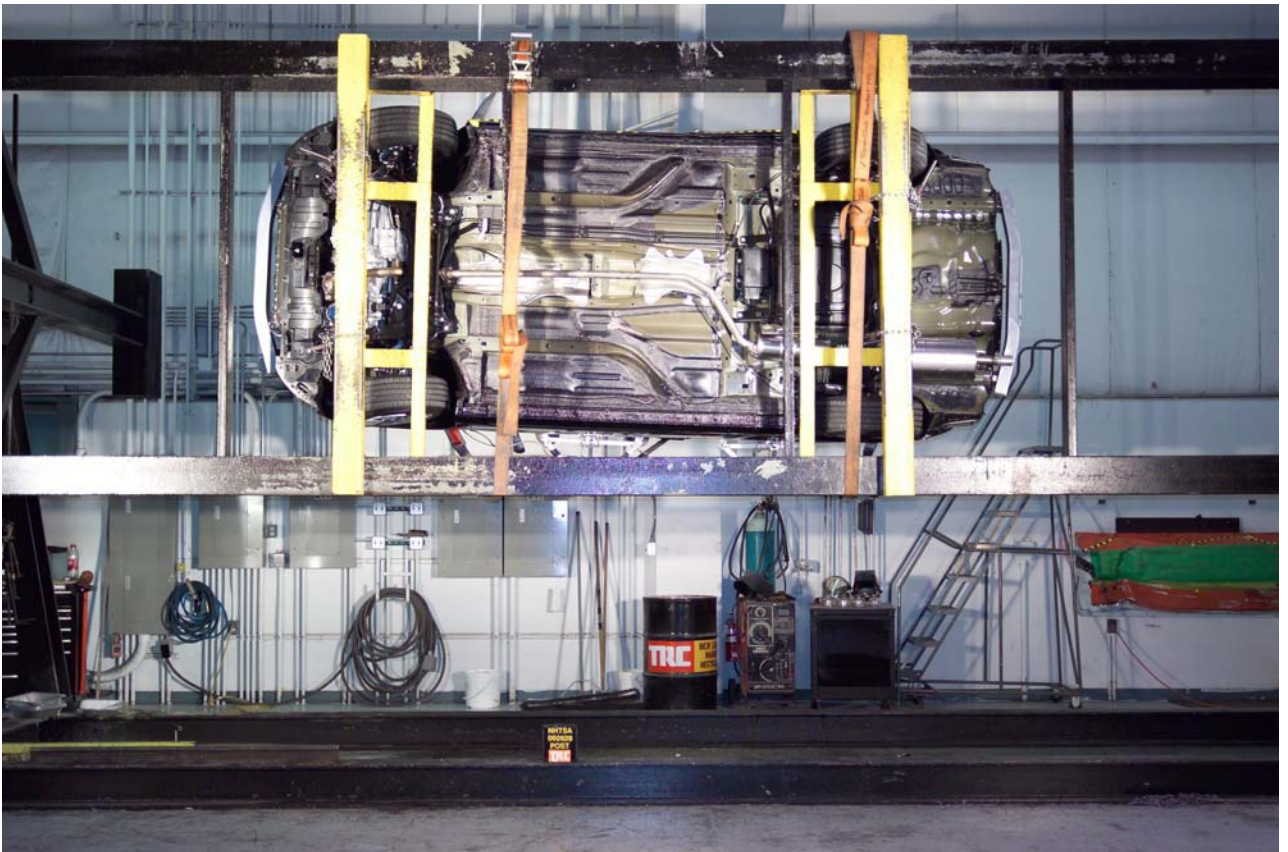


Figure A-84 Vehicle on Rollover Device (270°)



Figure A-85 Vehicle on Rollover Device (360°)



Figure A-86 Vehicle Impact

Intentionally Left Blank



Figure A-87 Post-Test Digital Light Trap Read-out - View 1

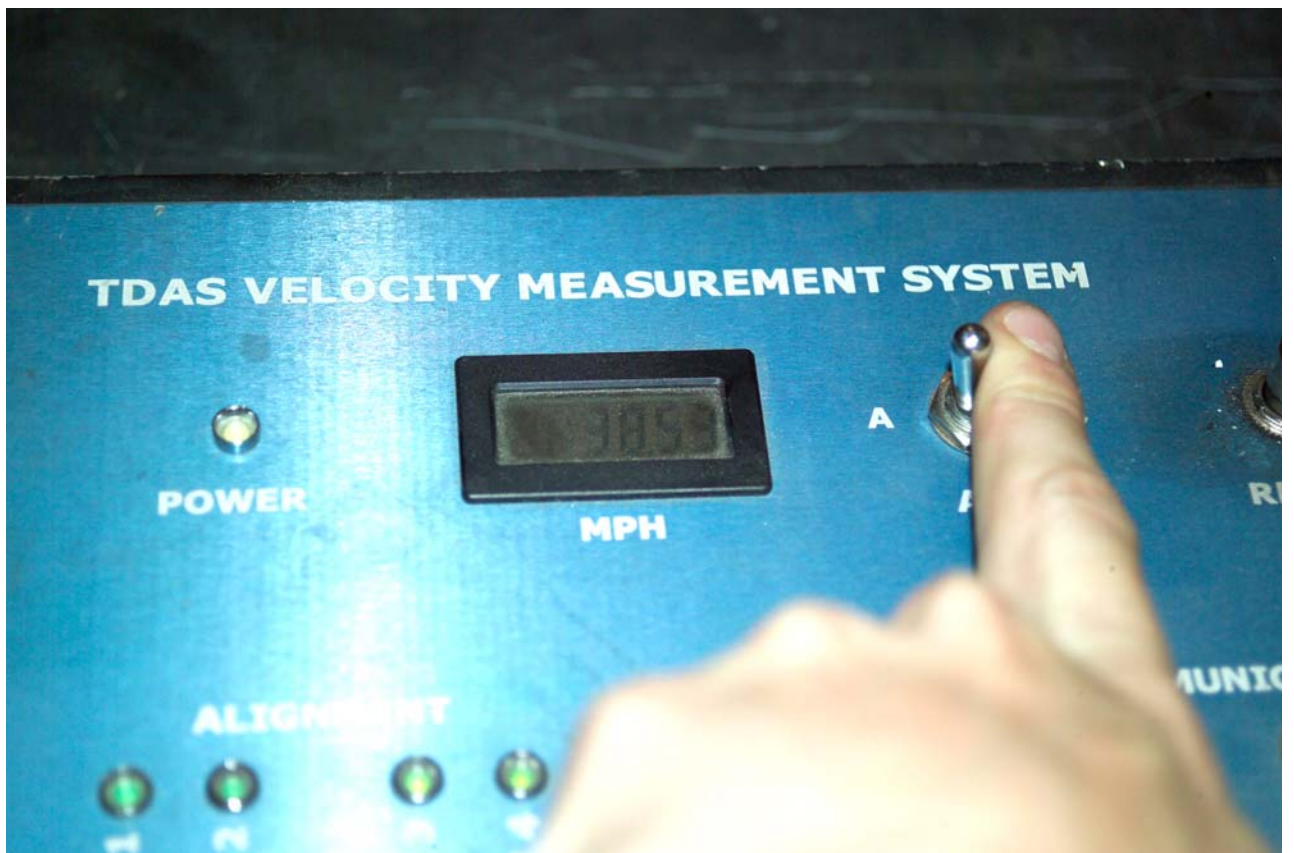


Figure A-88 Post-Test Digital Light Trap Read-out - View 2

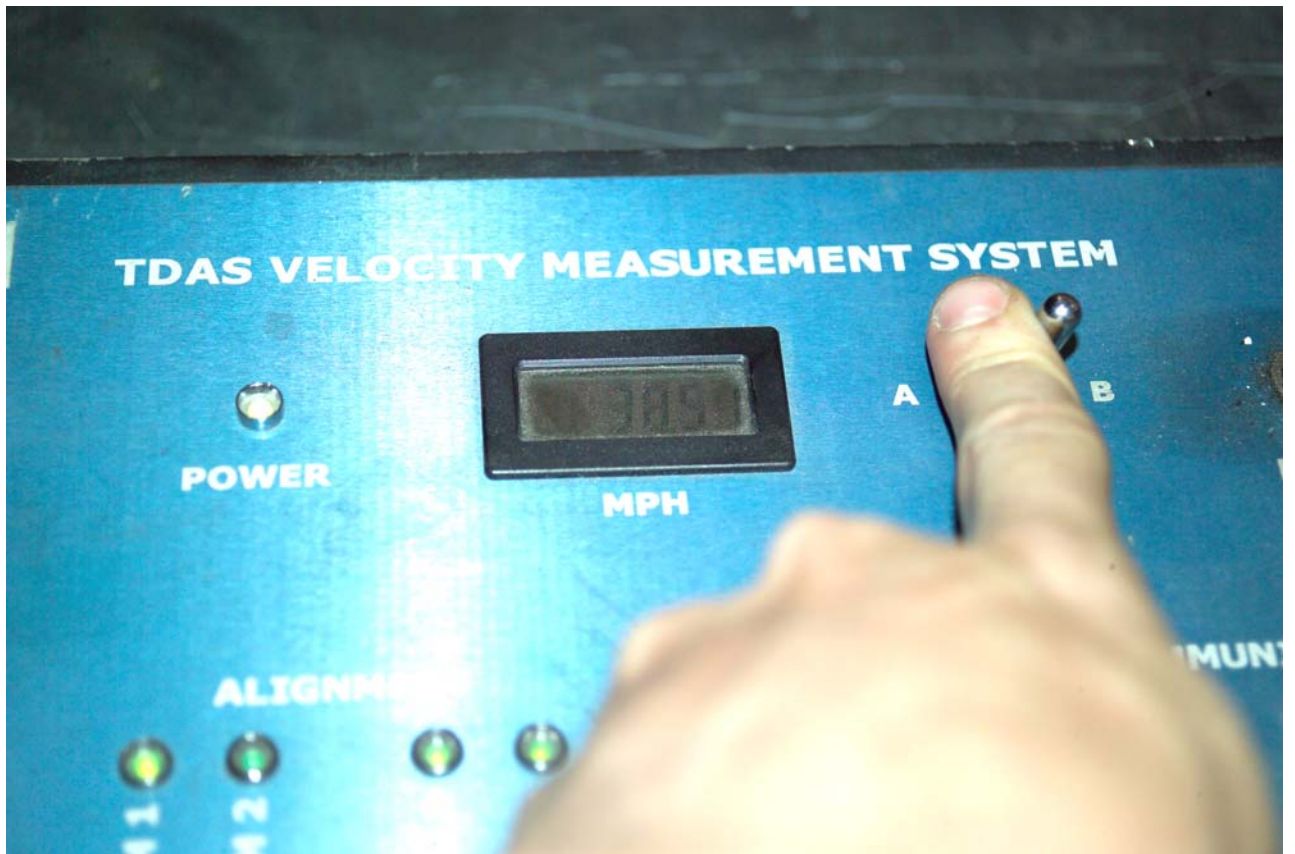


Figure A-89 Post-Test Digital Light Trap Read-out - View 3

APPENDIX B
SID/HIII, VEHICLE AND MDB RESPONSE DATA

Data Plot	LIST OF DATA PLOTS PROVIDED IN THE TEST REPORT	Page
B-1	Driver Upper Rib Primary Y	B-5
B-1	Driver Lower Rib Primary Y	B-5
B-1	Driver Lower Spine Primary Y	B-5
B-1	Driver Pelvis Primary Y	B-5
B-2	Driver Upper Rib Redundant Y	B-6
B-2	Driver Lower Rib Redundant Y	B-6
B-2	Driver Lower Spine Redundant Y	B-6
B-2	Driver Pelvis Redundant Y	B-6
B-3	Passenger Upper Rib Primary Y	B-7
B-3	Passenger Lower Rib Primary Y	B-7
B-3	Passenger Lower Spine Primary Y	B-7
B-3	Passenger Pelvis Primary Y	B-7
B-4	Passenger Upper Rib Redundant Y	B-8
B-4	Passenger Lower Rib Redundant Y	B-8
B-4	Passenger Lower Spine Redundant Y	B-8
B-4	Passenger Pelvis Redundant Y	B-8

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

Data Plot	LIST OF DATA PLOTS (CONTINUED)
	Driver Head X Primary
	Driver Head Y Primary
	Driver Head Z Primary
	Driver Head X Redundant
	Driver Head Y Redundant
	Driver Head Z Redundant
	Driver Upper Neck Force X
	Driver Upper Neck Force Y
	Driver Upper Neck Force Z
	Driver Upper Neck Moment X
	Driver Upper Neck Moment Y
	Driver Upper Neck Moment Z
	Driver Upper Rib Redundant Y
	Driver Lower Rib Redundant Y
	Driver Lower Spine Redundant Y
	Driver Pelvis Redundant Y
	Passenger Head X Primary
	Passenger Head Y Primary
	Passenger Head Z Primary
	Passenger Head X Redundant
	Passenger Head Y Redundant
	Passenger Head Z Redundant
	Passenger Upper Neck Force X
	Passenger Upper Neck Force Y
	Passenger Upper Neck Force Z
	Passenger Upper Neck Moment X
	Passenger Upper Neck Moment Y
	Passenger Upper Neck Moment Z
	Passenger Upper Rib Redundant Y
	Passenger Lower Rib Redundant Y
	Passenger Lower Spine Redundant Y
	Passenger Pelvis Redundant Y

<u>Data Plot</u>	<u>LIST OF DATA PLOTS (CONTINUED)</u>
	Vehicle Right Sill at Front Seat X
	Vehicle Right Sill at Front Seat Y
	Vehicle Right Sill at Front Seat Z
	Vehicle Right Sill at Rear Seat X
	Vehicle Right Sill at Rear Seat Y
	Vehicle Right Sill at Rear Seat Z
	Vehicle Rear Floor Above Axle X
	Vehicle Rear Floor Above Axle Y
	Vehicle Rear Floor Above Axle Z
	Vehicle Left Sill at Front Seat Y
	Vehicle Left Sill at Rear Seat Y
	Vehicle Right Rear Occupant Compartment Y
	Vehicle A-Post Lower Y
	Vehicle A-Post Middle Y
	Vehicle B-Post Lower Y
	Vehicle B-Post Middle Y
	Vehicle Left Front Seat Track Y
	Vehicle Left Rear Seat Track Y
	Vehicle CG X
	Vehicle CG Y
	Vehicle CG Z
	MDB CG X
	MDB CG Y
	MDB CG Z
	MDB Rear X
	MDB Rear Y
	MDB Right Bumper Contact
	MDB Left Bumper Contact

NHTSA

Test Lab: CTF

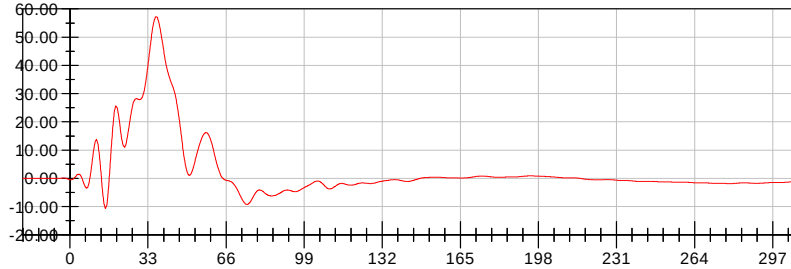
Test Number: 060928 (H75300)

Position #1 SID H3 Dummy (055)

Position #4 SID H3 Dummy (059)

Test Date: 09/28/2006

DRIVER UPPER RIB Y-AXIS ACCELERATION (g) vs. Time [ms]



<Max>

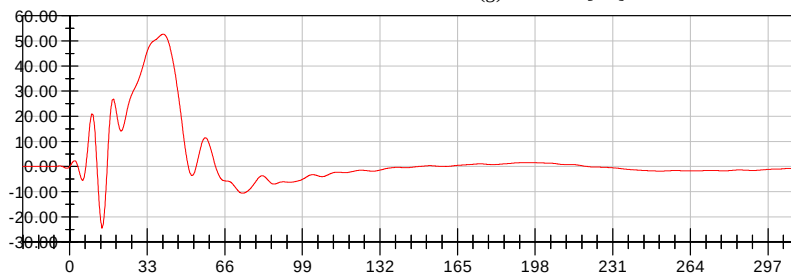
57.26 g at 36.32 ms

<Min>

-10.68 g at 15.04 ms

FIR_100

DRIVER LOWER RIB Y-AXIS ACCELERATION (g) vs. Time [ms]



<Max>

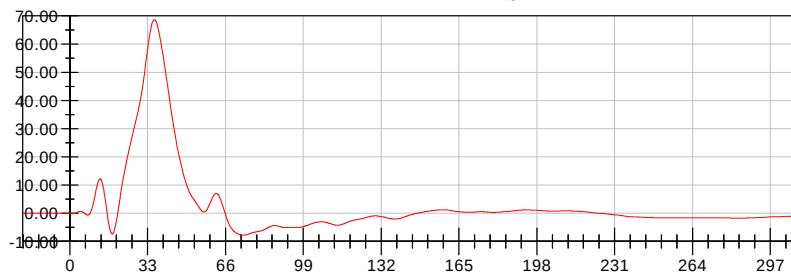
52.70 g at 40.00 ms

<Min>

-24.66 g at 13.76 ms

FIR_100

DRIVER LOWER SPINE Y-AXIS ACCELERATION (g) vs. Time [ms]



<Max>

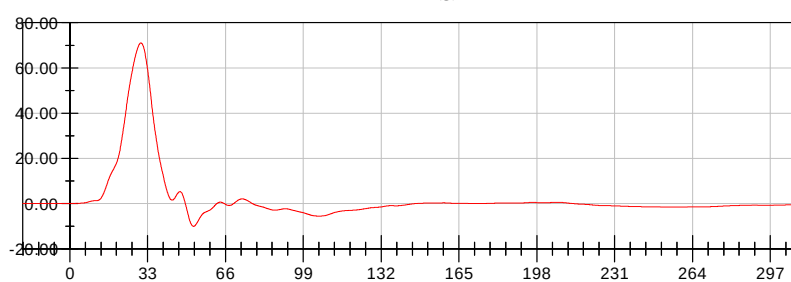
68.61 g at 35.68 ms

<Min>

-7.78 g at 73.76 ms

FIR_100

DRIVER PELVIS Y-AXIS ACCELERATION (g) vs. Time [ms]



<Max>

71.10 g at 30.00 ms

<Min>

-10.05 g at 52.48 ms

FIR_100



NHTSA

Test Lab: CTF

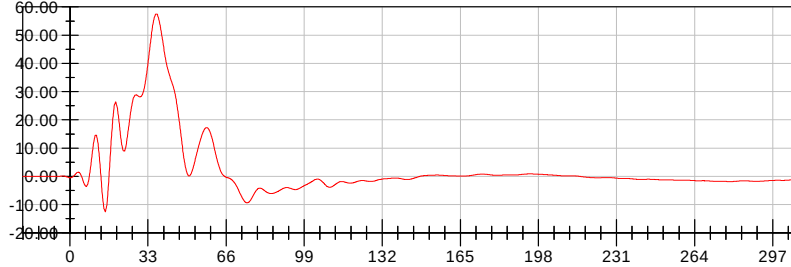
Test Number: 060928 (H75300)

Position #1 SID H3 Dummy (055)

Position #4 SID H3 Dummy (059)

Test Date: 09/28/2006

DRIVER UPPER RIB Y-AXIS REDUNDANT ACCELERATION (g) vs. Time [ms]



<Max>

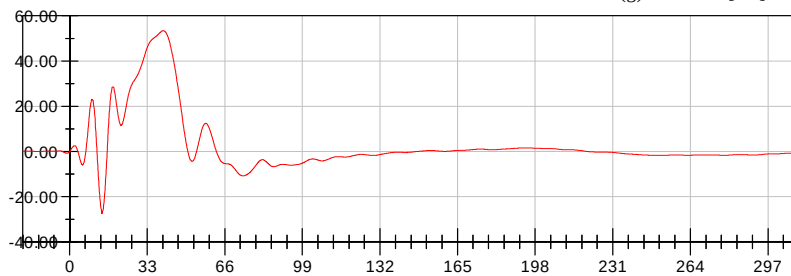
57.51 g at 36.32 ms

<Min>

-12.52 g at 14.96 ms

FIR_100

DRIVER LOWER RIB Y-AXIS REDUNDANT ACCELERATION (g) vs. Time [ms]



<Max>

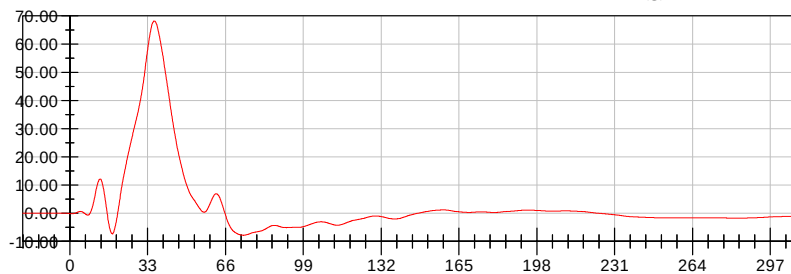
53.42 g at 40.00 ms

<Min>

-27.57 g at 13.76 ms

FIR_100

DRIVER LOWER SPINE Y-AXIS REDUNDANT ACCELERATION (g) vs. Time [ms]



<Max>

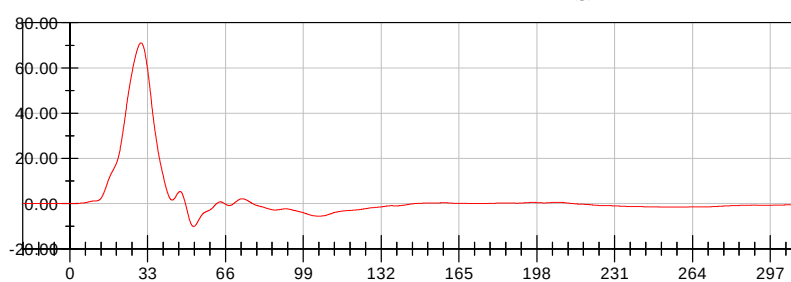
68.17 g at 35.68 ms

<Min>

-7.82 g at 73.76 ms

FIR_100

DRIVER PELVIS Y-AXIS REDUNDANT ACCELERATION (g) vs. Time [ms]



<Max>

71.08 g at 30.00 ms

<Min>

-10.13 g at 52.48 ms

FIR_100



NHTSA

Test Lab: CTF

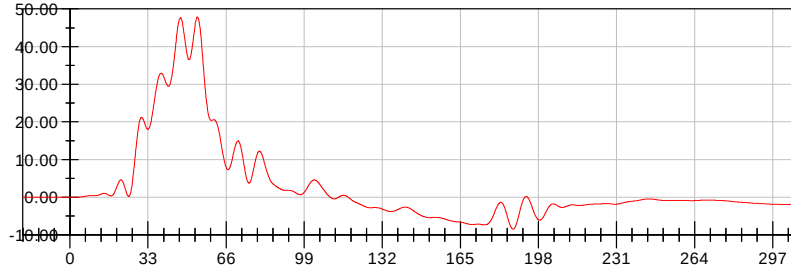
Test Number: 060928 (H75300)

Position #1 SID H3 Dummy (055)

Position #4 SID H3 Dummy (059)

Test Date: 09/28/2006

PASSENGER UPPER RIB Y-AXIS ACCELERATION (g) vs. Time [ms]



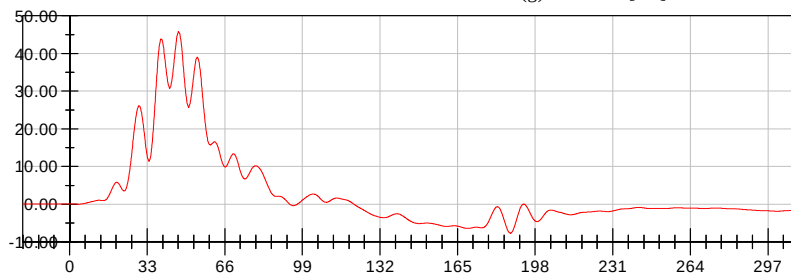
<Max>

47.91 g at 53.76 ms

<Min>

-8.50 g at 187.44 ms

PASSENGER LOWER RIB Y-AXIS ACCELERATION (g) vs. Time [ms]



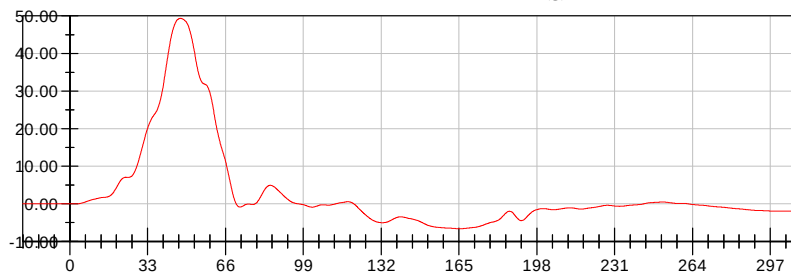
<Max>

45.83 g at 46.24 ms

<Min>

-7.75 g at 187.52 ms

PASSENGER LOWER SPINE Y-AXIS ACCELERATION (g) vs. Time [ms]



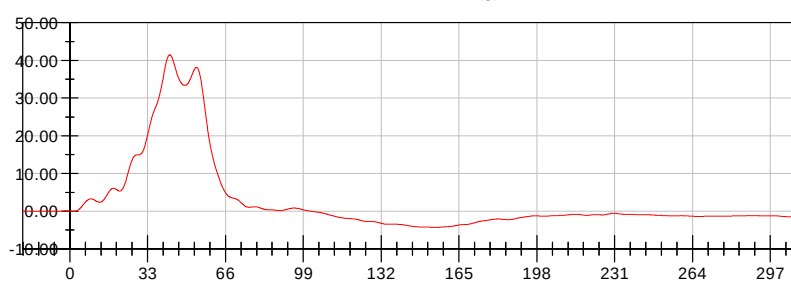
<Max>

49.33 g at 46.88 ms

<Min>

-6.61 g at 165.04 ms

PASSENGER PELVIS Y-AXIS ACCELERATION (g) vs. Time [ms]



<Max>

41.53 g at 42.48 ms

<Min>

-4.28 g at 155.04 ms



NHTSA

Test Lab: CTF

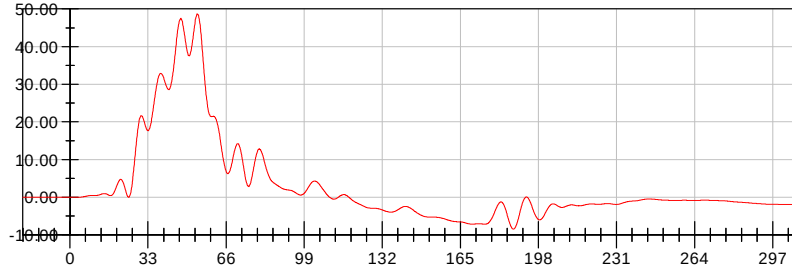
Test Number: 060928 (H75300)

Position #1 SID H3 Dummy (055)

Position #4 SID H3 Dummy (059)

Test Date: 09/28/2006

PASSENGER UPPER RIB Y-AXIS REDUNDANT ACCELERATION (g) vs. Time [ms]



<Max>

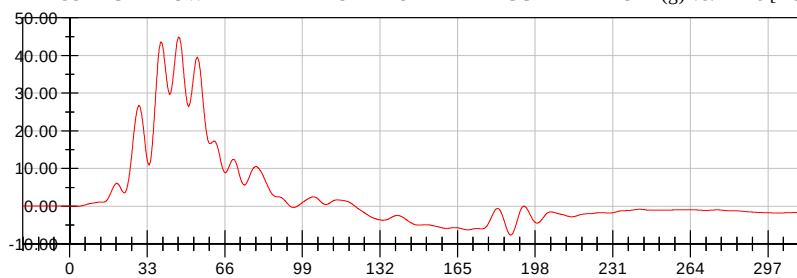
48.75 g at 53.76 ms

<Min>

-8.51 g at 187.52 ms

FIR_100

PASSENGER LOWER RIB Y-AXIS REDUNDANT ACCELERATION (g) vs. Time [ms]



<Max>

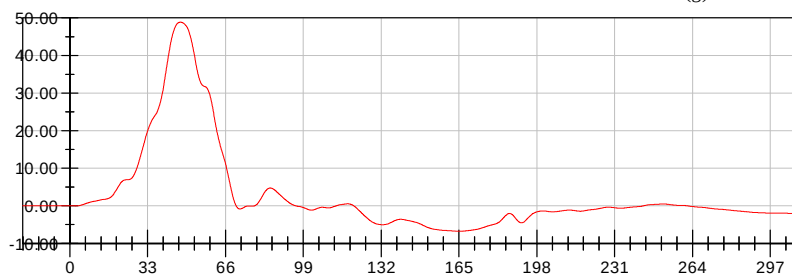
44.89 g at 46.24 ms

<Min>

-7.72 g at 187.52 ms

FIR_100

PASSENGER LOWER SPINE Y-AXIS REDUNDANT ACCELERATION (g) vs. Time [ms]



<Max>

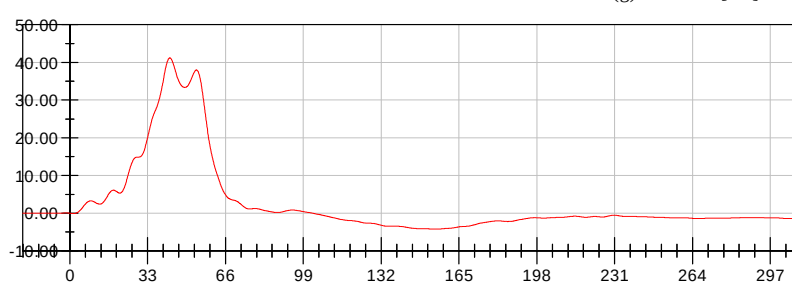
48.87 g at 46.88 ms

<Min>

-6.76 g at 165.04 ms

FIR_100

PASSENGER PELVIS Y-AXIS REDUNDANT ACCELERATION (g) vs. Time [ms]



<Max>

41.25 g at 42.48 ms

<Min>

-4.22 g at 155.04 ms

FIR_100



APPENDIX C
DUMMY CALIBRATION DATA

CALIBRATION TEST RESULTS

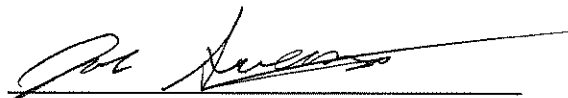
PRE-TEST

SID/HIII: 055

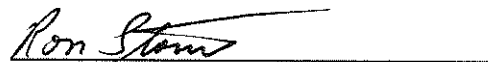
Transportation Research Center Inc.
SID/HIII Dummy
External Dimensions
Serial No. 055 Calibration No. 21

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	903 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	509 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Knee Pivot From Backline	KH	510.5 - 525.8 mm	515 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	493 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	364 mm	Yes
Top Rib Width From CVL	RW-1	165.1 - 180.3 mm	171 mm	Yes
Bottom Rib Width From CVL	RW-2	165.1 - 180.3 mm	170 mm	Yes
Difference Between Top & Bottom Rib Width from CVL		<= 2.5 mm	1.0 mm	Yes

Technician



Approved




Transportation Research Center Inc.

Left Lateral Head Drop

SID-HIII Serial No. 055 Certification No. 21-1

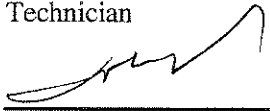
Test Date: 07/21/2006

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.0 °C	Yes
Relative Humidity	10 - 70 %	49 %	Yes
Peak Head Resultant Acceleration	120 - 150 g	140.0 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	-6.4 g	Yes
Is Head Resultant Acceleration Curve Unimodal Within 15% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician



Approved

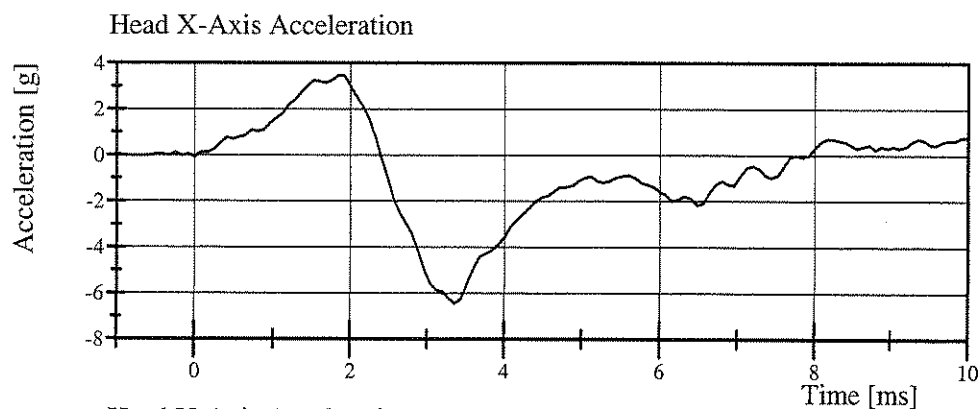


Transportation Research Center Inc.

Left Lateral Head Drop

SID-HIII Serial No. 055 Certification No. 21-1

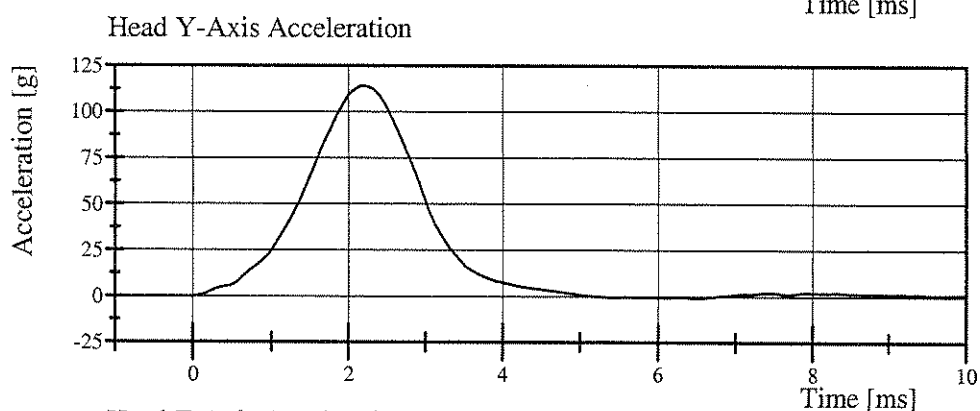
Test Date: 07/21/2006



Filter Class: CFC_1000

Max: 3.5 g at 1.8 ms

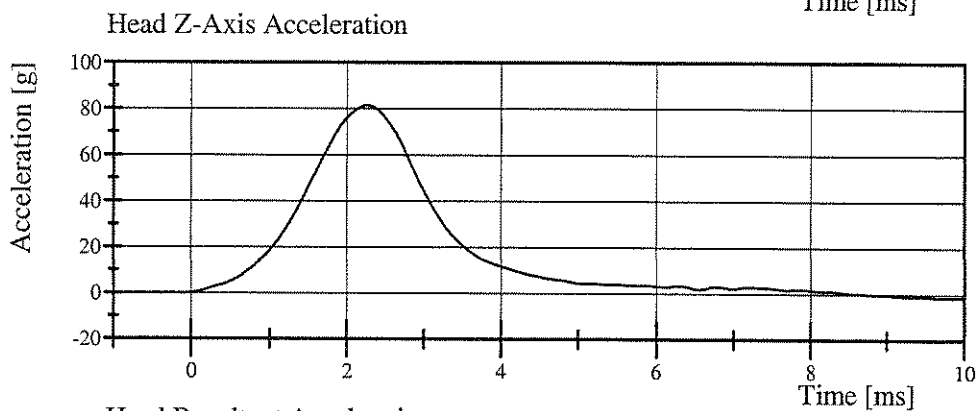
Min: -6.4 g at 3.4 ms



Filter Class: CFC_1000

Max: 114.1 g at 2.2 ms

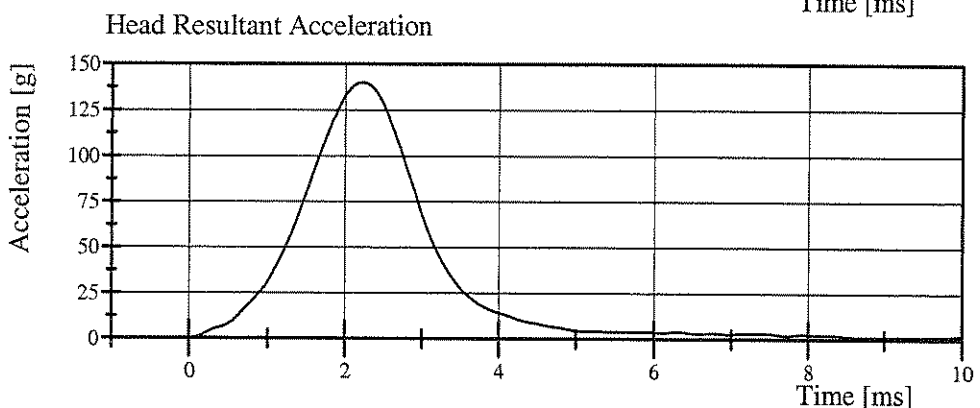
Min: -1.0 g at 6.5 ms



Filter Class: CFC_1000

Max: 81.6 g at 2.2 ms

Min: -1.4 g at 9.9 ms



Filter Class: CFC_1000

Max: 140.0 g at 2.2 ms

Min: 0.0 g at -0.8 ms

Transportation Research Center Inc.

Left Lateral Neck

SID-HIII Serial No. 055 Certification No. 21-2

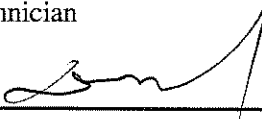
Test Date: 07/24/2006

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	20.8 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Pendulum Velocity	(-6.89) - (-7.13) m/s	-7.034 m/s	Yes
Pendulum Integrated Velocity Change at 10 ms	1.96 - 2.55 m/s	2.225 m/s	Yes
Pendulum Integrated Velocity Change at 20 ms	4.12 - 5.10 m/s	4.447 m/s	Yes
Pendulum Integrated Velocity Change at 30 ms	5.73 - 7.01 m/s	6.311 m/s	Yes
Pendulum Integrated Velocity Change at 40 to 70 ms	6.27 - 7.64 m/s	7.319 m/s	Yes
Total Head D-Plane Rotation	(-66) - (-82) °	-71.5 °	Yes
Total Head D-Plane Rotation Time to 0° after Peak Rotation	58 - 67 ms	58.6 ms	Yes
Total Neck Occipital Condyle Moment	73 - 88 N·m	83.7 N·m	Yes
Total Neck Occipital Condyle Moment Time to 0 N·m after Peak Moment	49 - 64 ms	52.2 ms	Yes
Time from Peak Moment to Peak Rotation	2 - 16 ms	10.2 ms	Yes

Test meets specifications.

Comments:

Technician



Approved



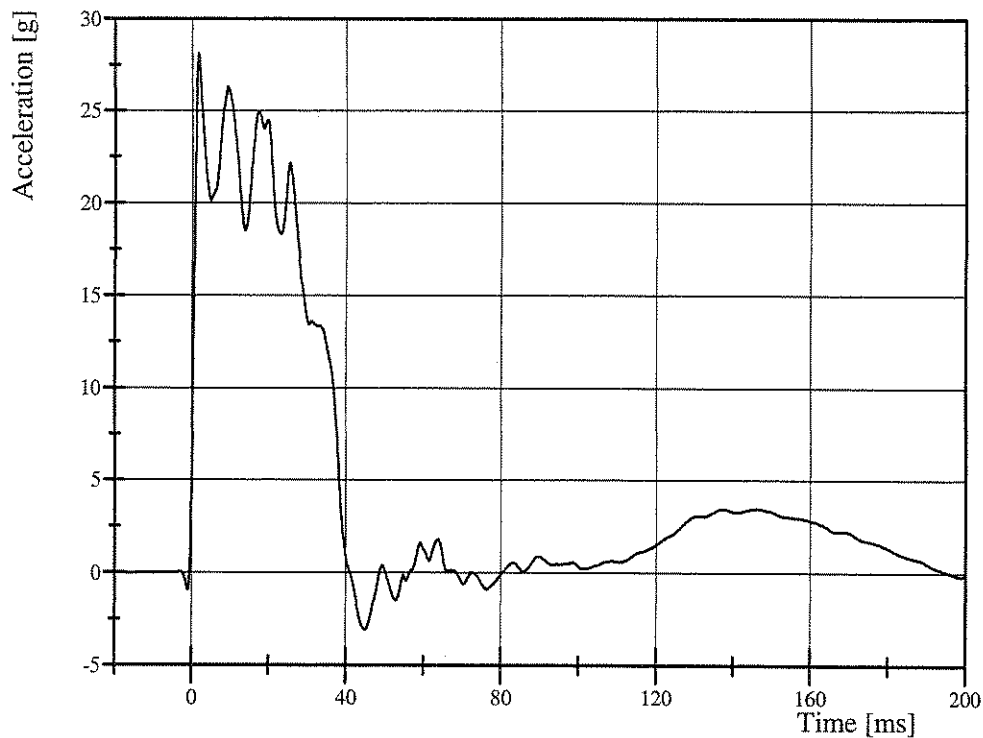
Transportation Research Center Inc.

Left Lateral Neck

SID-HIII Serial No. 055 Certification No. 21-2

Test Date: 07/24/2006

Pendulum Acceleration

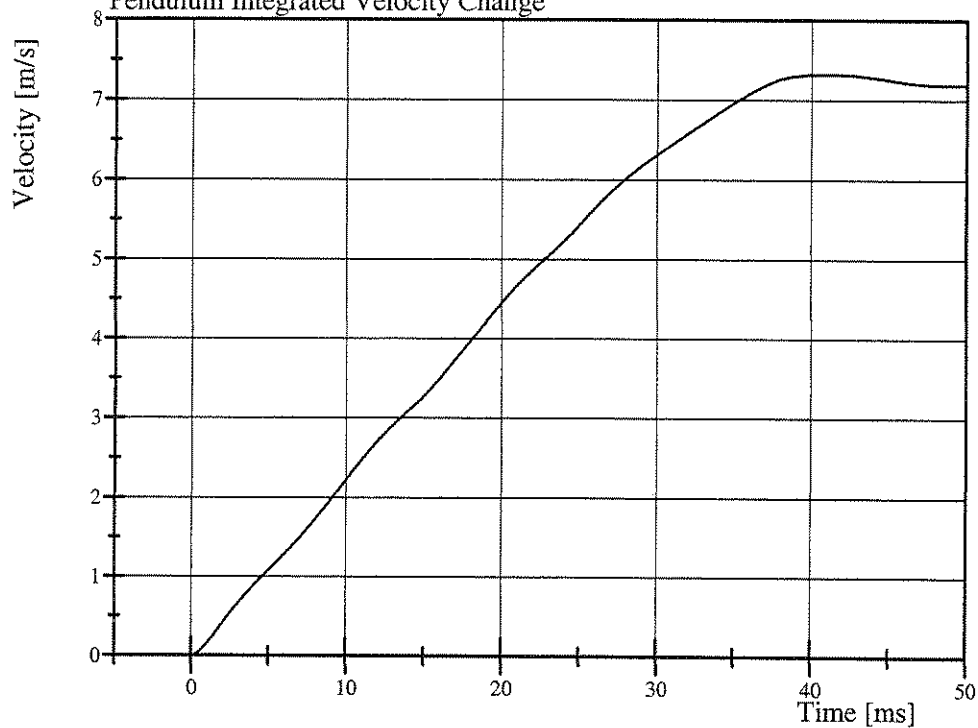


Filter Class: CFC_180

Max: 28.1 g at 1.8 ms

Min: -3.1 g at 45.1 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180

Max: 7.3 m/s at 41.1 ms

Min: 0.0 m/s at 0.0 ms

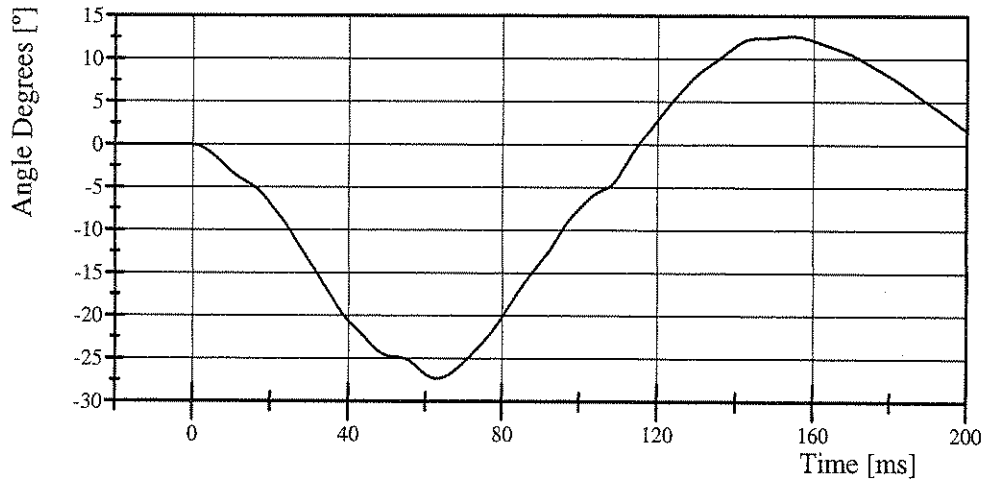
Transportation Research Center Inc.

Left Lateral Neck

SID-HIII Serial No. 055 Certification No. 21-2

Test Date: 07/24/2006

Pot Rotation at the Base of Neck

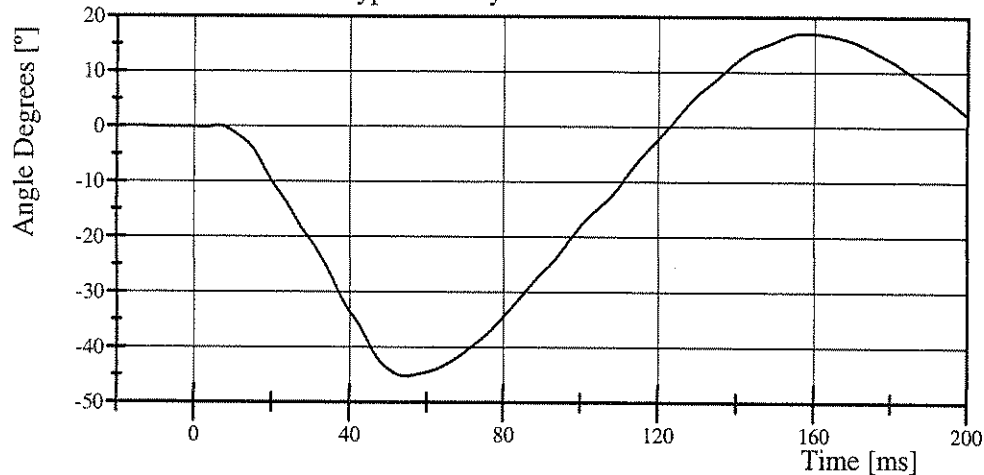


Filter Class: CFC_60

Max: 12.6 ° at 154.2 ms

Min: -27.3 ° at 62.9 ms

Head Rotation at Occypital Condyles

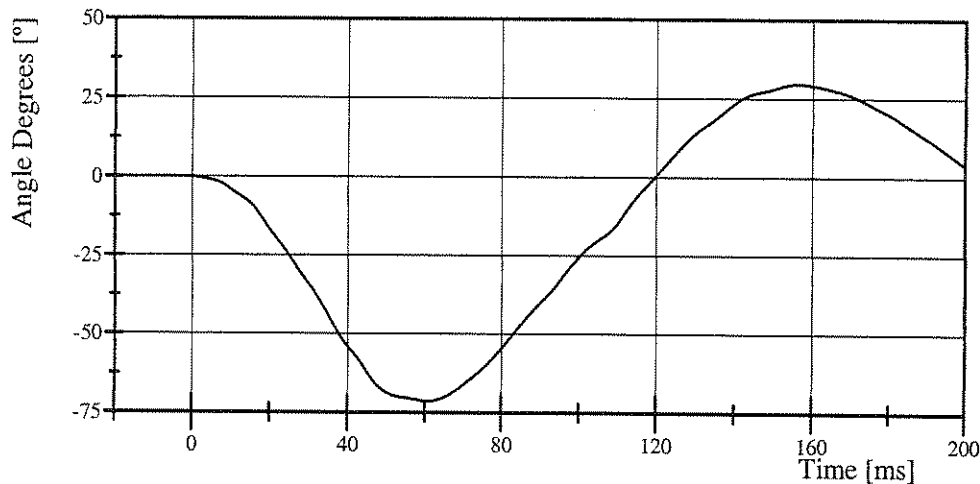


Filter Class: CFC_60

Max: 17.1 ° at 157.7 ms

Min: -45.3 ° at 54.5 ms

Total Head D-Plane Rotation



Filter Class: CFC_60

Max: 29.7 ° at 156.2 ms

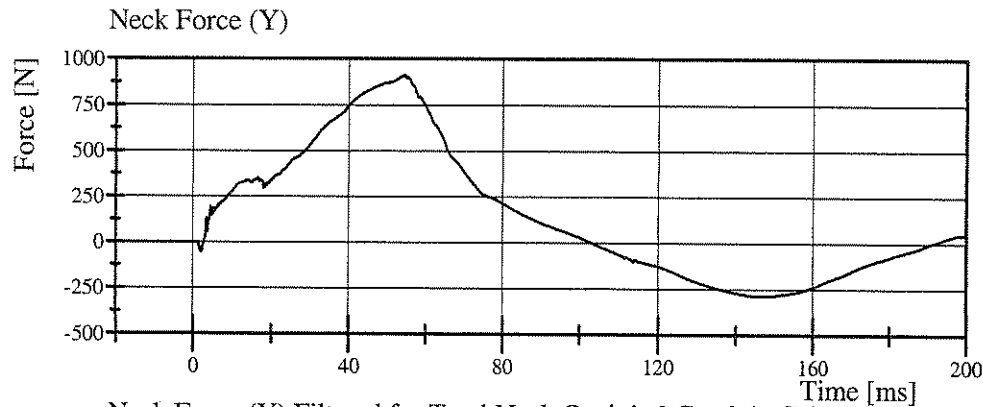
Min: -71.5 ° at 61.0 ms

Transportation Research Center Inc.

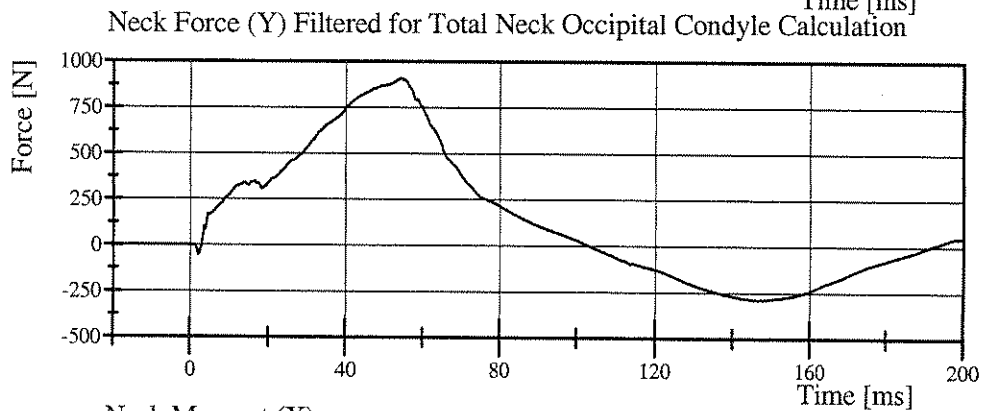
Left Lateral Neck

SID-HIII Serial No. 055 Certification No. 21-2

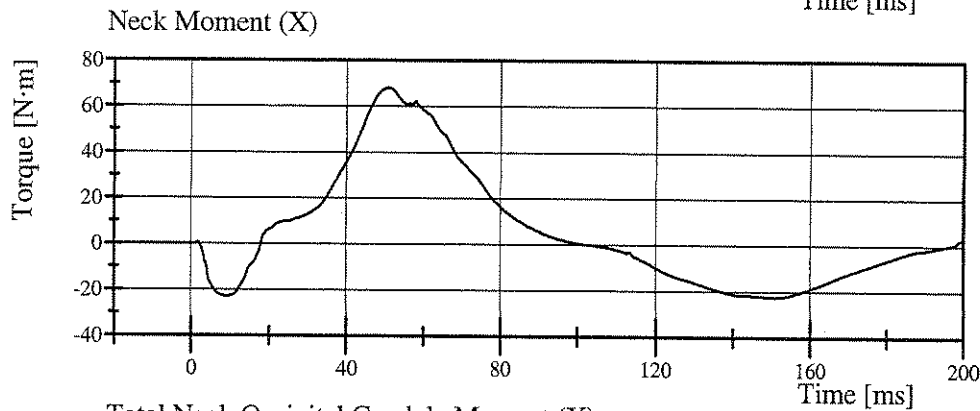
Test Date: 07/24/2006



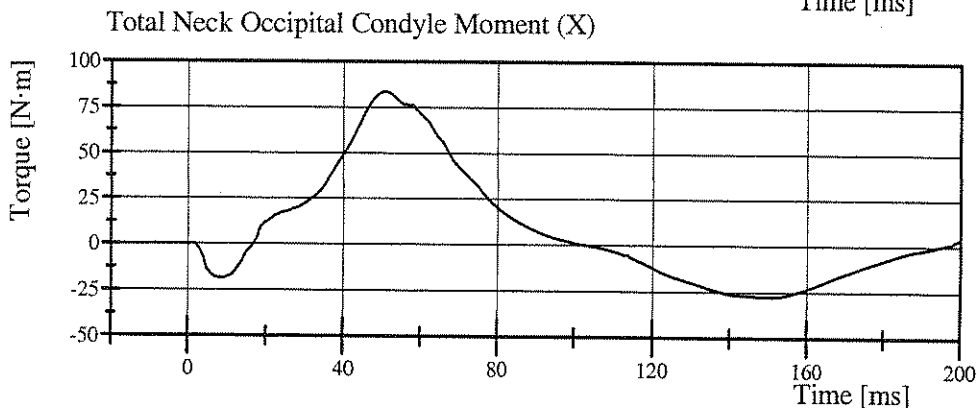
Filter Class: CFC_1000
Max: 912.3 N at 54.5 ms
Min: -288.2 N at 145.4 ms



Filter Class: CFC_600
Max: 910.7 N at 54.3 ms
Min: -288.0 N at 146.8 ms



Filter Class: CFC_600
Max: 68.2 N·m at 50.7 ms
Min: -23.1 N·m at 9.0 ms



Filter Class: CFC_600
Max: 83.7 N·m at 50.7 ms
Min: -27.6 N·m at 150.6 ms

Transportation Research Center Inc.

Left Lateral Thorax

SID-HIII Serial No. 055 Certification No. 21-1

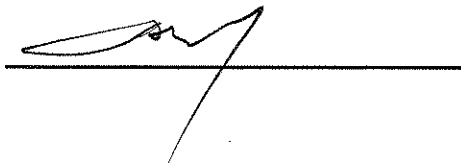
Test Date: 07/24/2006

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	49 %	Yes
Impactor Velocity	4.27 - 4.33 m/s	4.276 m/s	Yes
Upper Rib Lateral Acceleration	37 - 46 g	40.5 g	Yes
Lower Rib Lateral Acceleration	37 - 46 g	40.0 g	Yes
Lower Spine Lateral Acceleration	15 - 22 g	18.4 g	Yes

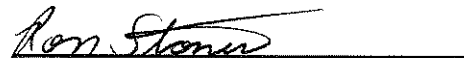
Test meets specifications.

Comments:

Technician



Approved



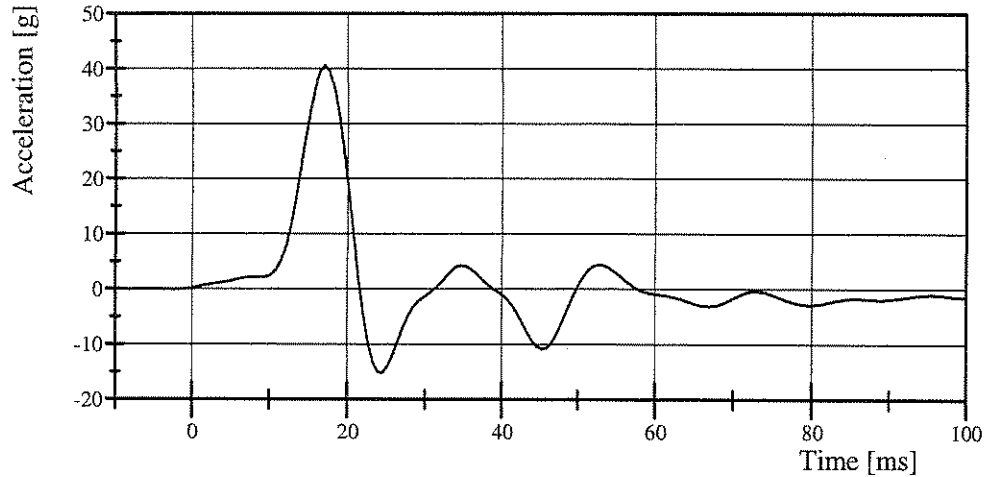
Transportation Research Center Inc.

Left Lateral Thorax

SID-HIII Serial No. 055 Certification No. 21-1

Test Date: 07/24/2006

Upper Rib Acceleration (Y)

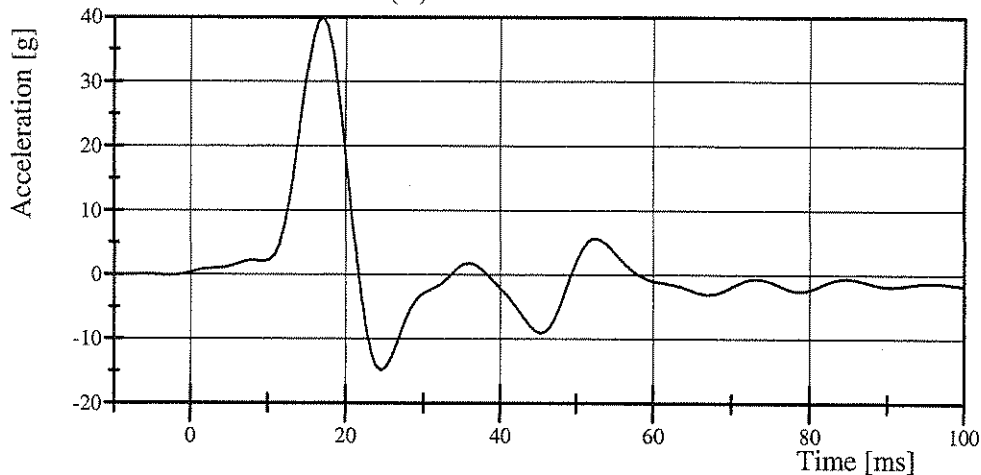


Filter Class: FIR_100

Max: 40.5 g at 17.1 ms

Min: -15.1 g at 24.6 ms

Lower Rib Acceleration (Y)

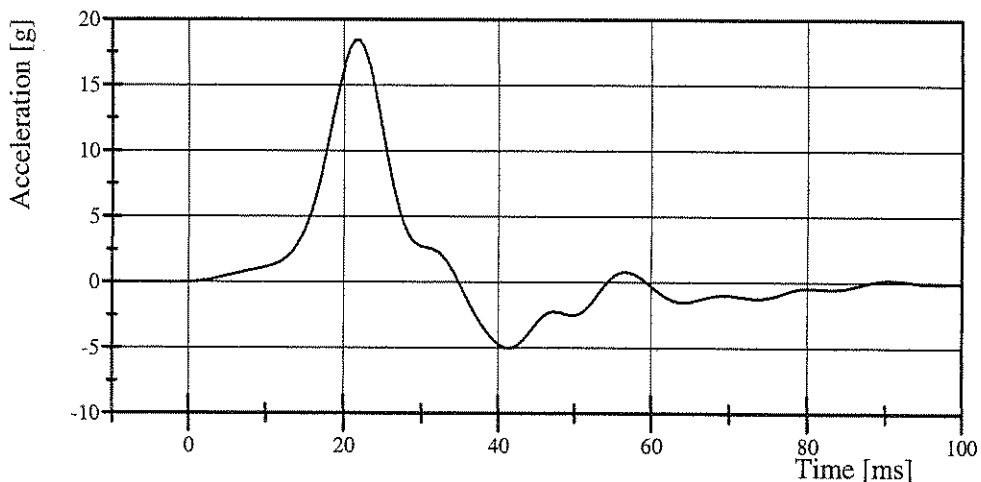


Filter Class: FIR_100

Max: 40.0 g at 17.0 ms

Min: -14.9 g at 24.6 ms

Lower Spine Acceleration (Y)



Filter Class: FIR_100

Max: 18.4 g at 22.1 ms

Min: -5.0 g at 41.4 ms

Transportation Research Center Inc.

Abdomen Compression

SID-HIII Serial No. 055 Certification No. 21-3

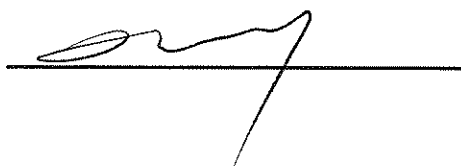
Test Date: 07/24/2006

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	20.9 °C	Yes
Relative Humidity	10 - 70 %	48 %	Yes
Probe Force within Corridor	Yes	Yes	Yes
Probe Velocity	6.35 - 8.89 mm/s	7.762 mm/s	Yes

Test meets specifications.

Comments:

Technician



Approved

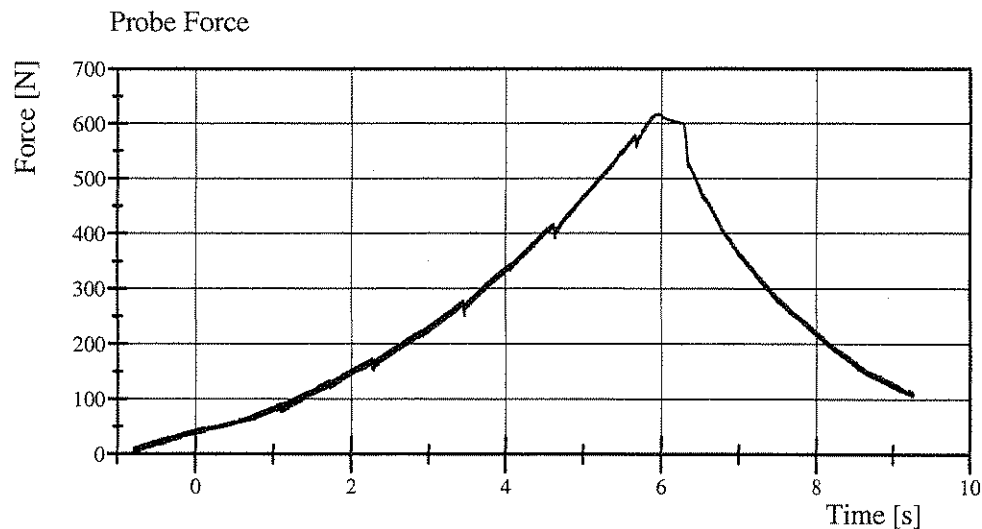


Transportation Research Center Inc.

Abdomen Compression

SID-HIII Serial No. 055 Certification No. 21-3

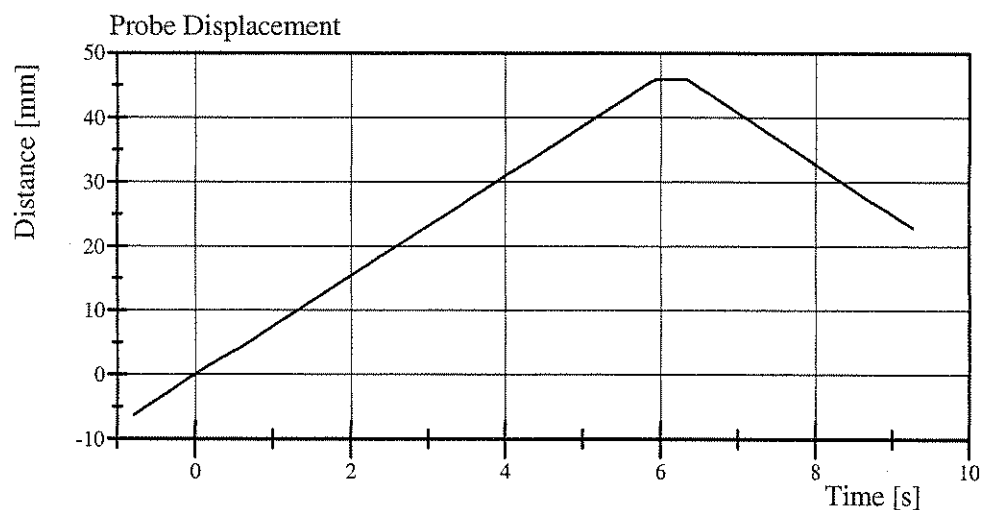
Test Date: 07/24/2006



Filter Class: CFC_600

Max: 617.6 N at 6.0 s

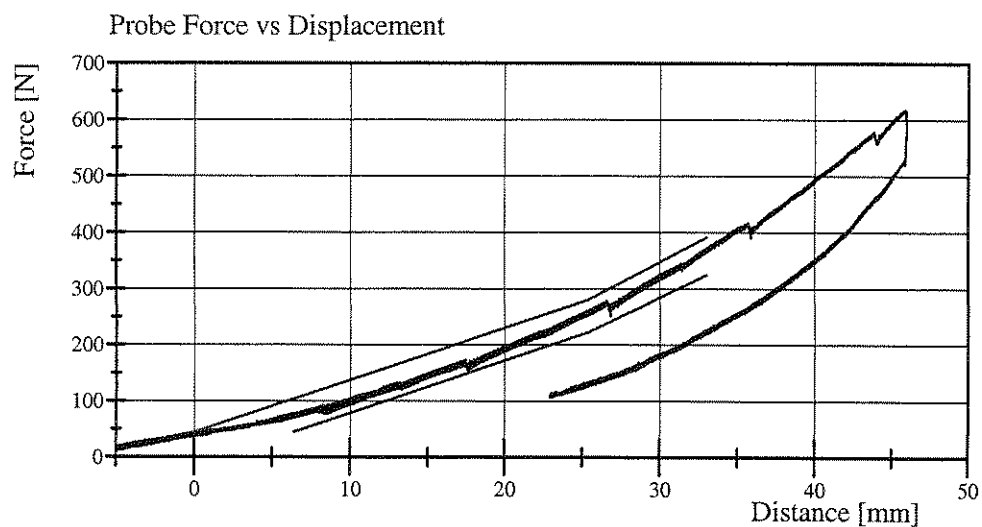
Min: 2.7 N at -0.8 s



Filter Class: CFC_180

Max: 45.9 mm at 6.3 s

Min: -6.4 mm at -0.8 s



Filter Class: CFC_600

Max: 617.6 N at 45.9 mm

Min: 2.7 N at -6.2 mm

TRANSPORTATION RESEARCH CENTER INC.

PART 572B LUMBAR FLEXION TEST

SID/HIII

CAL DATE: 24-Jul-06

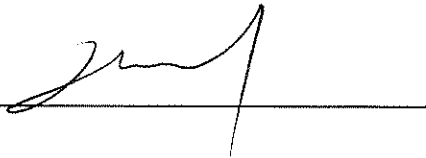
TRC, INC.

TEST NO: LUFL-01

572M SN 055 TORSO FLEX CAL 21

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6° C	21.0°C
RELATIVE HUMIDITY	10 – 70 %	48 %
FORCE AT 0 DEG. FLEXION	-27 – 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 – 151 N	115.7 N
FORCE AT 30 DEG OF FLEXION	151 – 205 N	155.7 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	213.5 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	10.8 °

TEST MEETS SPECIFICATIONS

TECHNICIAN 

Transportation Research Center Inc.

Left Lateral Pelvis

SID-HIII Serial No. 055 Certification No. 21-3

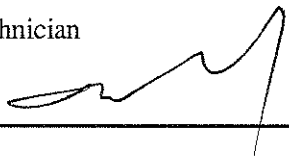
Test Date: 07/25/2006

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	20.6 °C	Yes
Relative Humidity	10 - 70 %	48 %	Yes
Impactor Velocity	4.27 - 4.33 m/s	4.271 m/s	Yes
Pelvis Lateral Acceleration Duration above 20g	3 - 7 ms	5.7 ms	Yes
Pelvis Lateral Acceleration	40 - 60 g	57.4 g	Yes
Is Acceleration Curve Unimodal Above 20g?	Yes	Yes	Yes

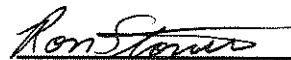
Test meets specifications.

Comments:

Technician



Approved

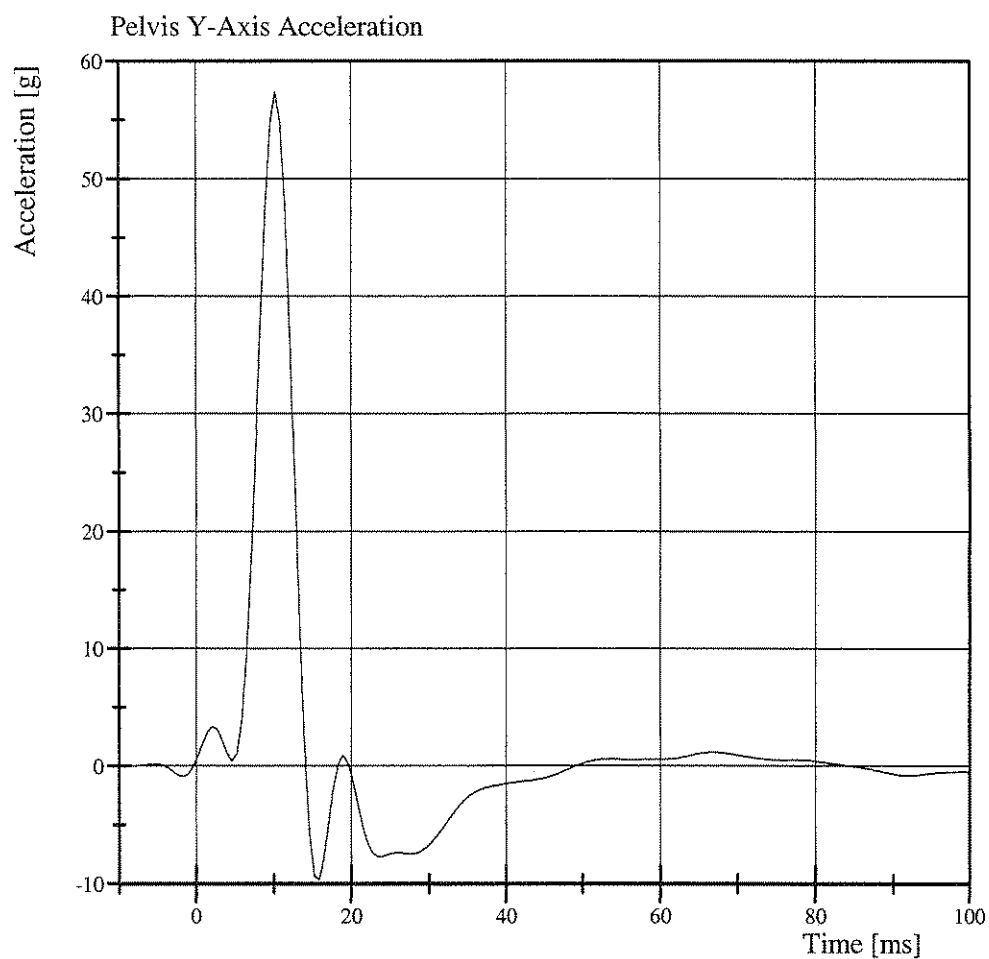


Transportation Research Center Inc.

Left Lateral Pelvis

SID-HIII Serial No. 055 Certification No. 21-3

Test Date: 07/25/2006



Filter Class: FIR_100
Max: 57.4 g at 10.2 ms
Min: -9.6 g at 15.8 ms

CALIBRATION TEST RESULTS

POST-TEST

SID/HIII: 055

Transportation Research Center Inc.
SID/HIII Dummy
External Dimensions
Serial No. 055 Calibration No. 22

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	904 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	502 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Knee Pivot From Backline	KH	510.5 - 525.8 mm	521 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	493 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	374 mm	Yes
Top Rib Width From CVL	RW-1	165.1 - 180.3 mm	171 mm	Yes
Bottom Rib Width From CVL	RW-2	165.1 - 180.3 mm	170 mm	Yes
Difference Between Top & Bottom Rib Width from CVL		<= 2.5 mm	1.0 mm	Yes

Technician

Rout Barando

Approved

Ron Storus



Transportation Research Center Inc.

Left Lateral Head Drop

SID-HIII Serial No. 055 Certification No. 22-1

Test Date: 10/02/2006

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.0 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Peak Head Resultant Acceleration	120 - 150 g	146.3 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	-5.1 g	Yes
Is Head Resultant Acceleration Curve Unimodal Within 15% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Rout B...

Approved

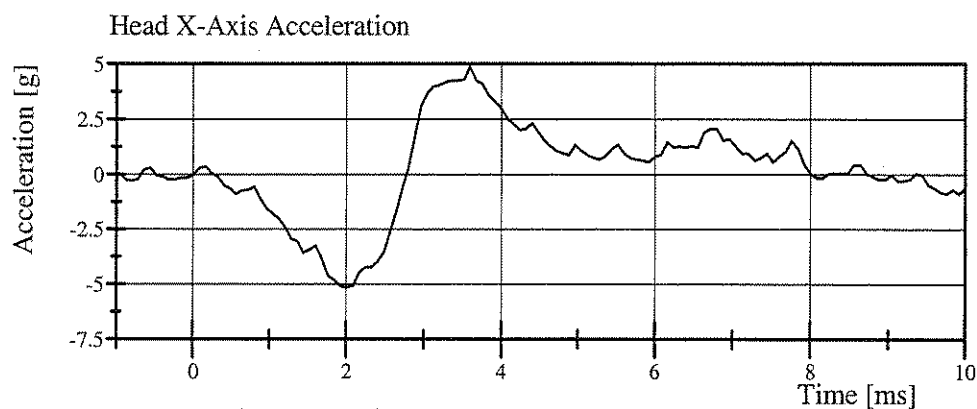
Ron Stone

Transportation Research Center Inc.

Left Lateral Head Drop

SID-HIII Serial No. 055 Certification No. 22-1

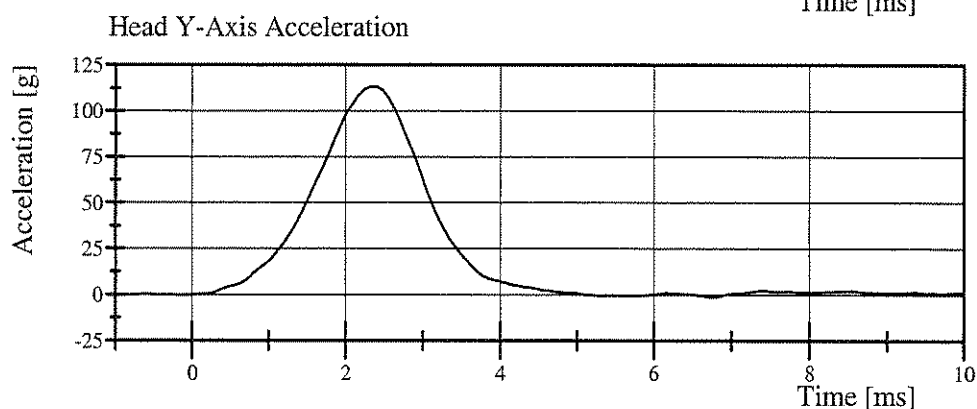
Test Date: 10/02/2006



Filter Class: CFC_1000

Max: 4.9 g at 3.6 ms

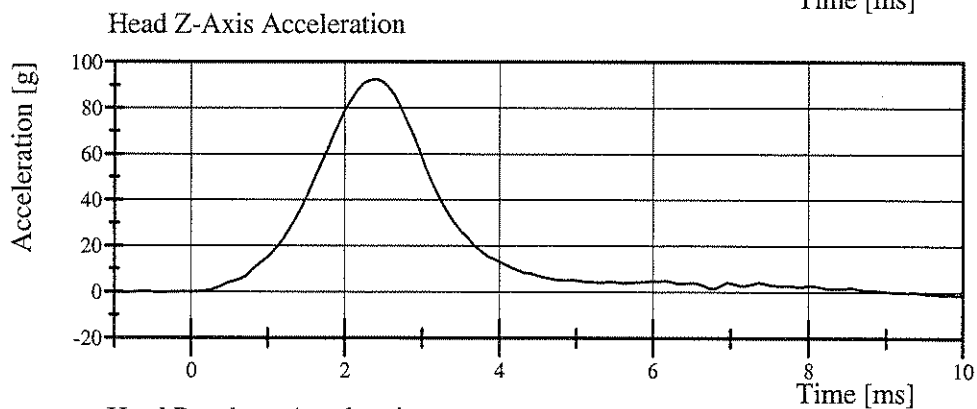
Min: -5.1 g at 2.0 ms



Filter Class: CFC_1000

Max: 113.3 g at 2.3 ms

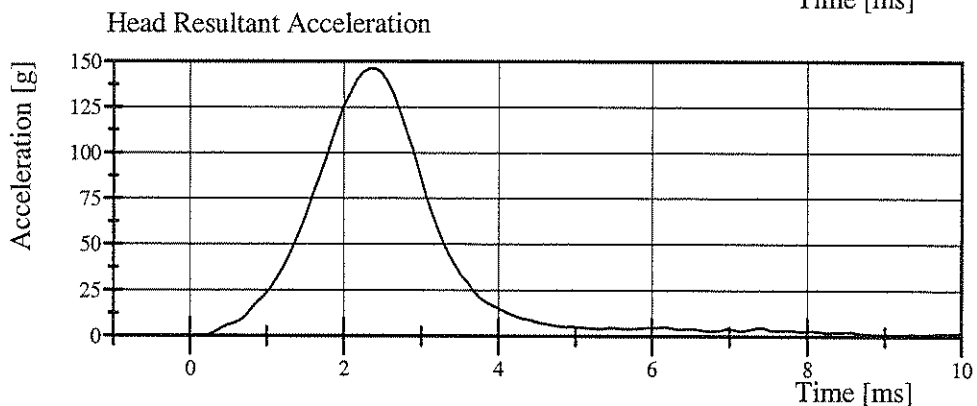
Min: -1.3 g at 6.8 ms



Filter Class: CFC_1000

Max: 92.5 g at 2.4 ms

Min: -1.3 g at 9.9 ms



Filter Class: CFC_1000

Max: 146.3 g at 2.4 ms

Min: 0.1 g at 0.0 ms



Transportation Research Center Inc.

Left Lateral Neck

SID-HIII Serial No. 055 Certification No. 22-1

Test Date: 10/02/2006

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Pendulum Velocity	(-6.89) - (-7.13) m/s	-6.970 m/s	Yes
Pendulum Integrated Velocity Change at 10 ms	1.96 - 2.55 m/s	2.440 m/s	Yes
Pendulum Integrated Velocity Change at 20 ms	4.12 - 5.10 m/s	4.794 m/s	Yes
Pendulum Integrated Velocity Change at 30 ms	5.73 - 7.01 m/s	6.759 m/s	Yes
Pendulum Integrated Velocity Change at 40 to 70 ms	6.27 - 7.64 m/s	7.311 m/s	Yes
Total Head D-Plane Rotation	(-66) - (-82) °	-72.4 °	Yes
Total Head D-Plane Rotation Time to 0° after Peak Rotation	58 - 67 ms	59.3 ms	Yes
Total Neck Occipital Condyle Moment	73 - 88 N·m	81.8 N·m	Yes
Total Neck Occipital Condyle Moment Time to 0 N·m after Peak Moment	49 - 64 ms	54.6 ms	Yes
Time from Peak Moment to Peak Rotation	2 - 16 ms	10.5 ms	Yes

Test meets specifications.

Comments:

Technician



Approved

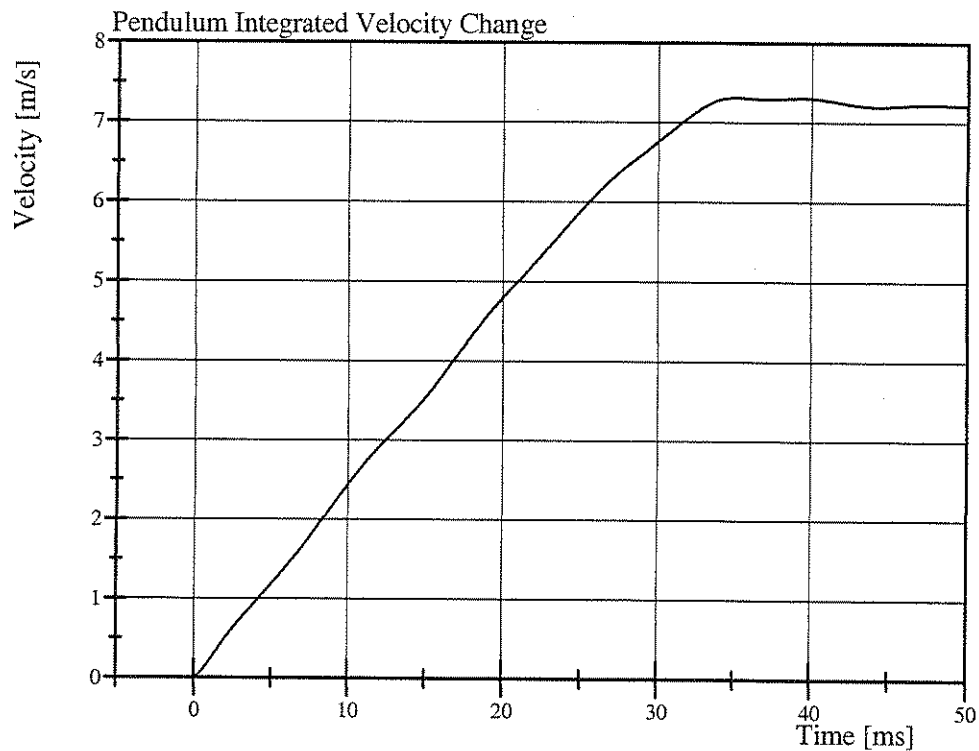
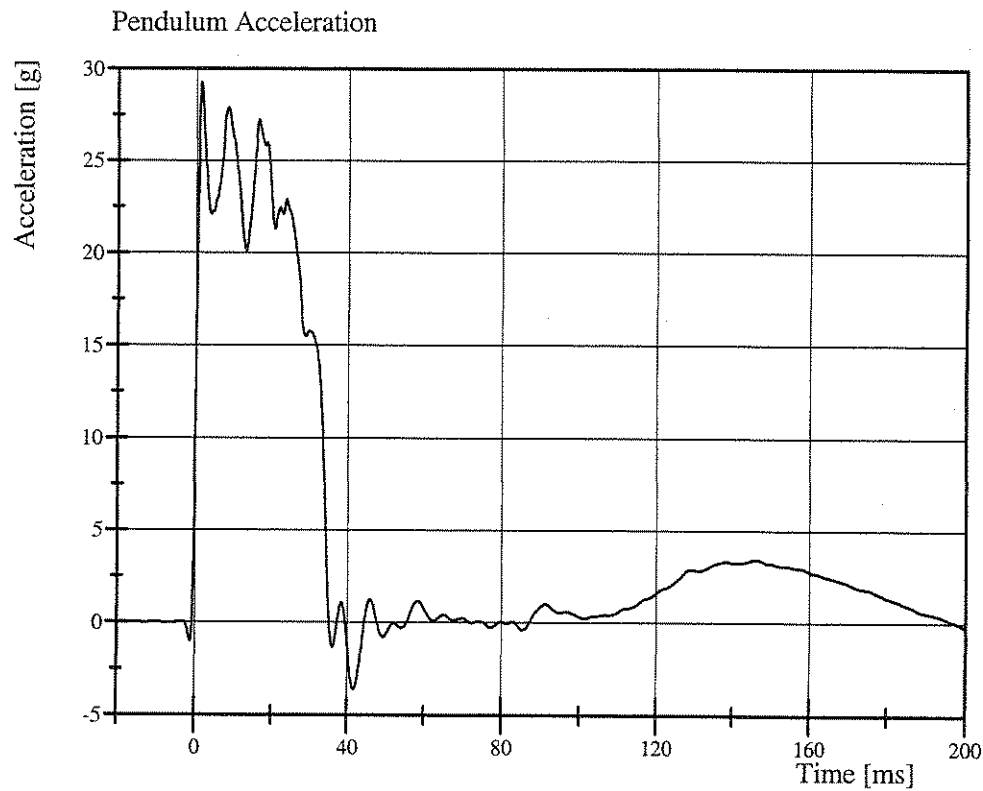


Transportation Research Center Inc.

Left Lateral Neck

SID-HIII Serial No. 055 Certification No. 22-1

Test Date: 10/02/2006



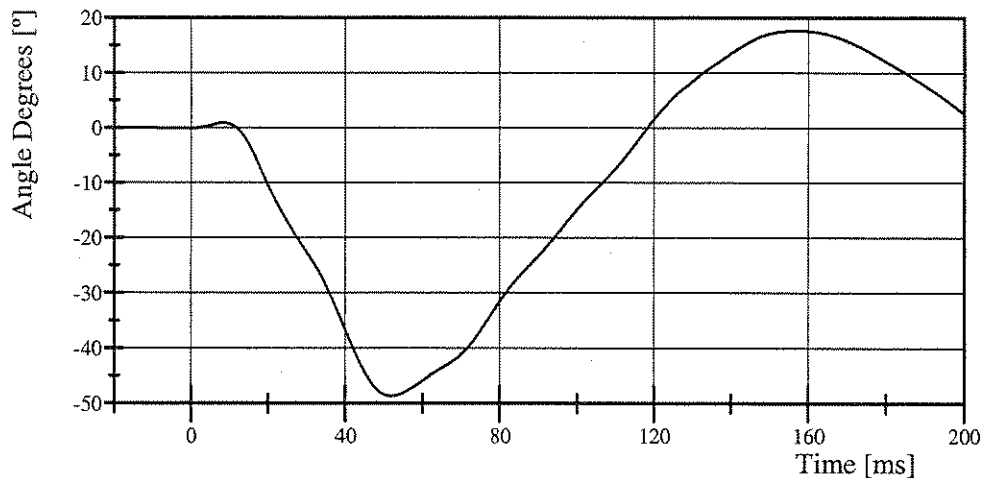
Transportation Research Center Inc.

Left Lateral Neck

SID-HIII Serial No. 055 Certification No. 22-1

Test Date: 10/02/2006

Pot Rotation at the Base of Neck

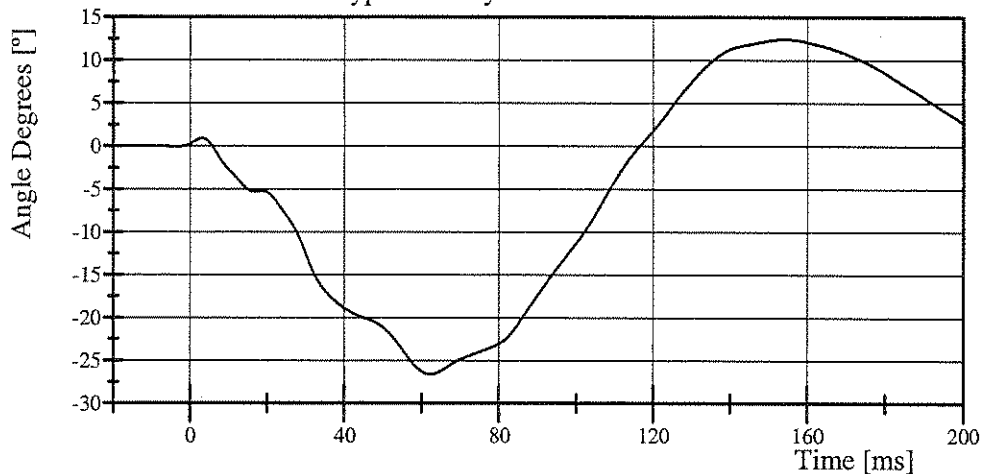


Filter Class: CFC_60

Max: 17.7 ° at 157.3 ms

Min: -48.6 ° at 52.0 ms

Head Rotation at Occypital Condyles

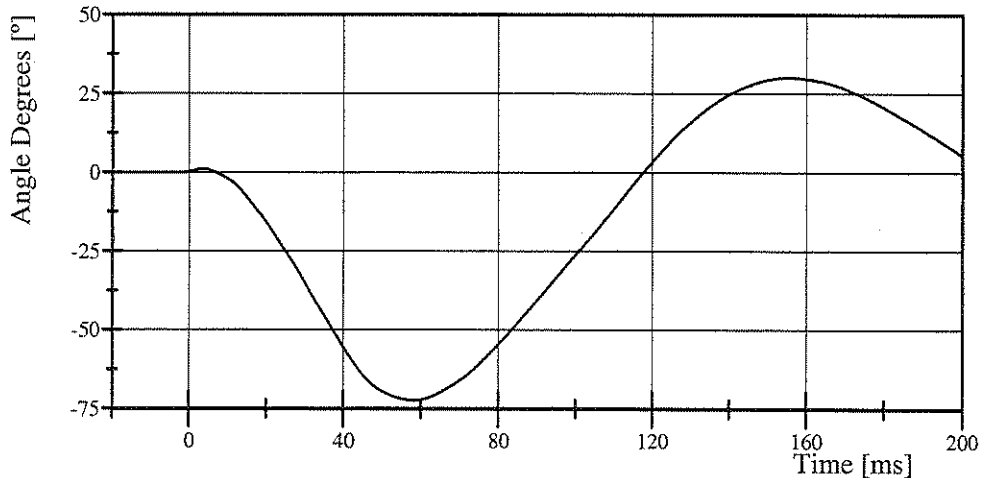


Filter Class: CFC_60

Max: 12.5 ° at 154.2 ms

Min: -26.6 ° at 62.3 ms

Total Head D-Plane Rotation



Filter Class: CFC_60

Max: 30.1 ° at 155.7 ms

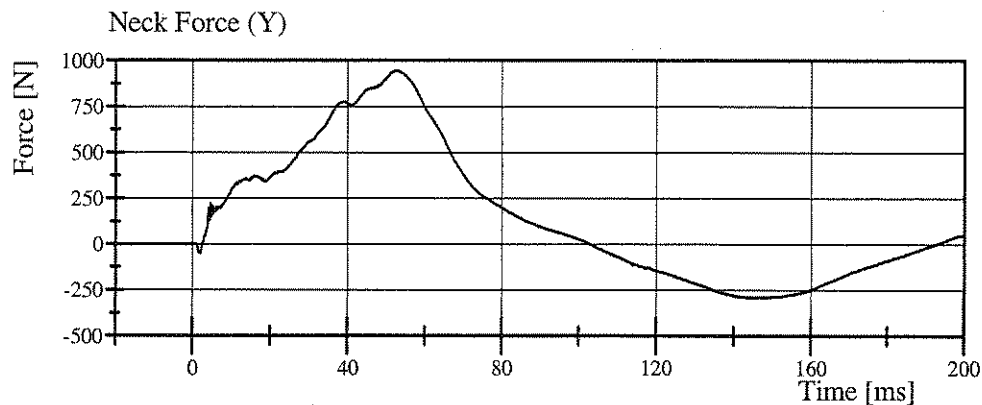
Min: -72.4 ° at 58.4 ms

Transportation Research Center Inc.

Left Lateral Neck

SID-HIII Serial No. 055 Certification No. 22-1

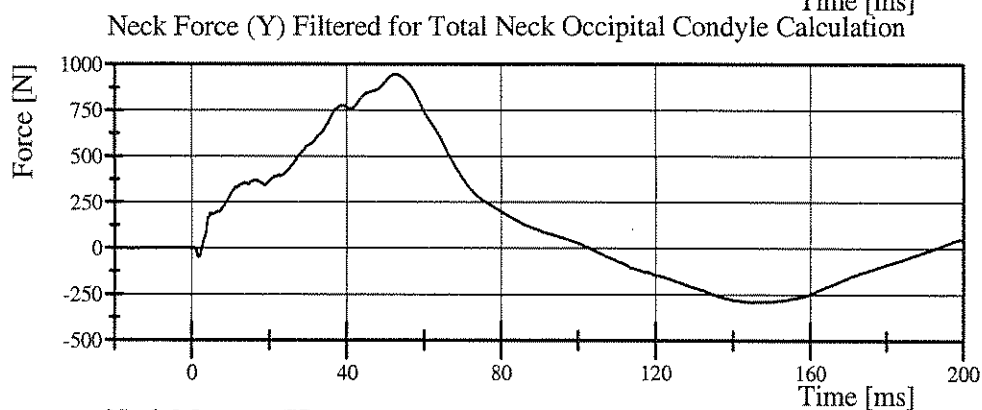
Test Date: 10/02/2006



Filter Class: CFC_1000

Max: 945.6 N at 52.4 ms

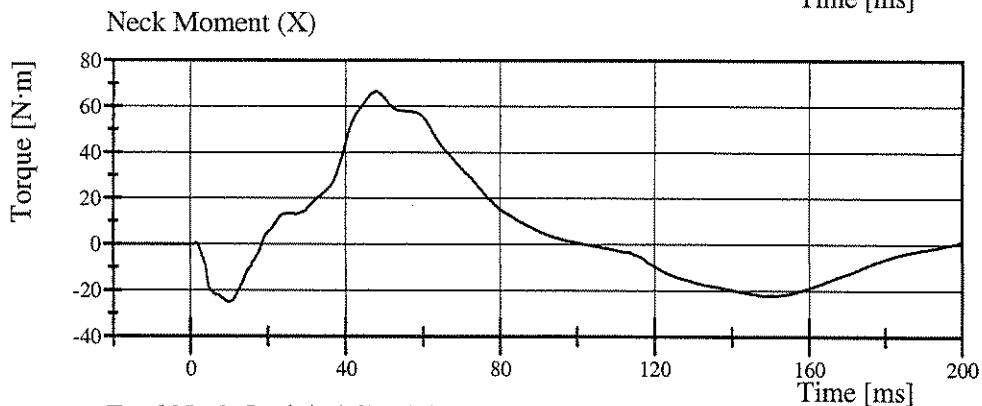
Min: -293.7 N at 147.5 ms



Filter Class: CFC_600

Max: 945.2 N at 52.3 ms

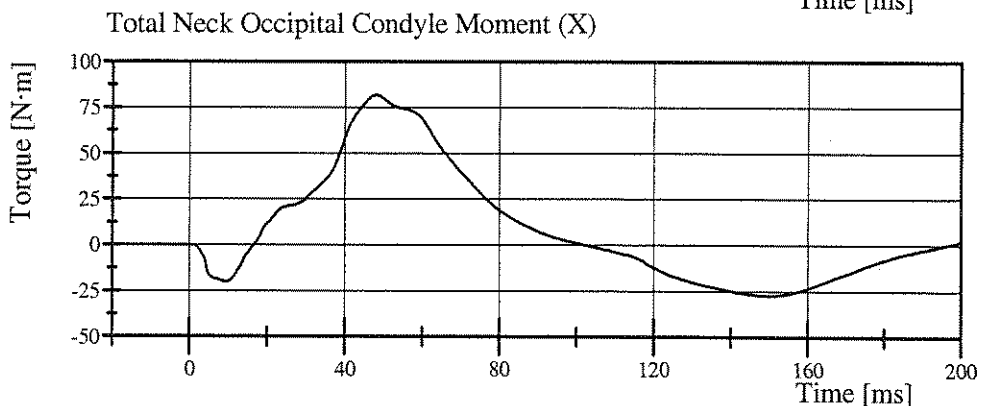
Min: -290.6 N at 145.4 ms



Filter Class: CFC_600

Max: 66.5 N·m at 47.8 ms

Min: -25.1 N·m at 10.0 ms



Filter Class: CFC_600

Max: 81.8 N·m at 47.9 ms

Min: -27.3 N·m at 150.3 ms

Transportation Research Center Inc.

Left Lateral Thorax

SID-HIII Serial No. 055 Certification No. 22-1

Test Date: 10/04/2006

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	56 %	Yes
Impactor Velocity	4.27 - 4.33 m/s	4.270 m/s	Yes
Upper Rib Lateral Acceleration	37 - 46 g	44.2 g	Yes
Lower Rib Lateral Acceleration	37 - 46 g	43.5 g	Yes
Lower Spine Lateral Acceleration	15 - 22 g	19.4 g	Yes

Test meets specifications.

Comments:

Technician

Rust Brando

Approved

Ron Stoner

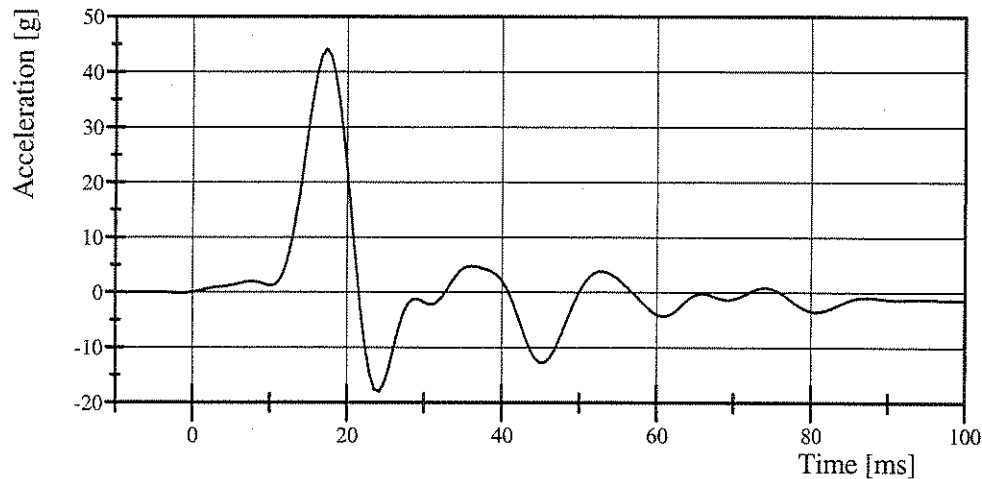
Transportation Research Center Inc.

Left Lateral Thorax

SID-HIII Serial No. 055 Certification No. 22-1

Test Date: 10/04/2006

Upper Rib Acceleration (Y)

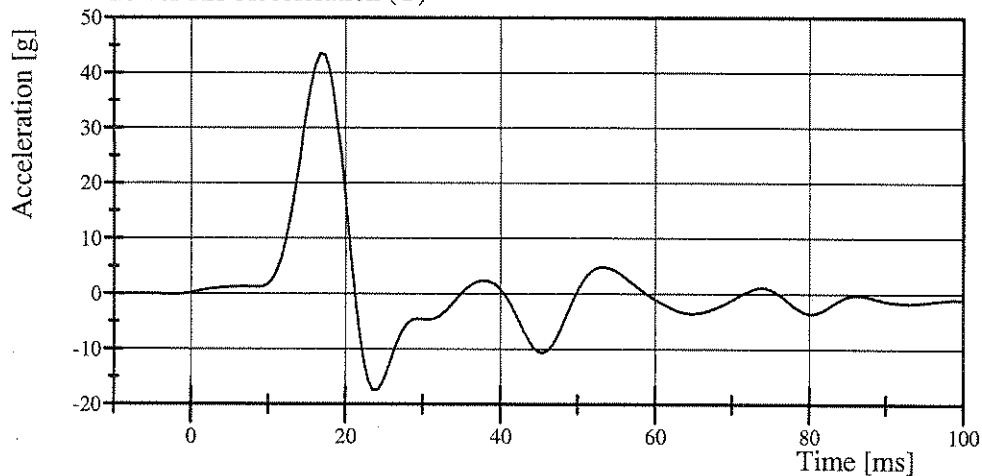


Filter Class: FIR_100

Max: 44.2 g at 17.4 ms

Min: -17.9 g at 24.2 ms

Lower Rib Acceleration (Y)

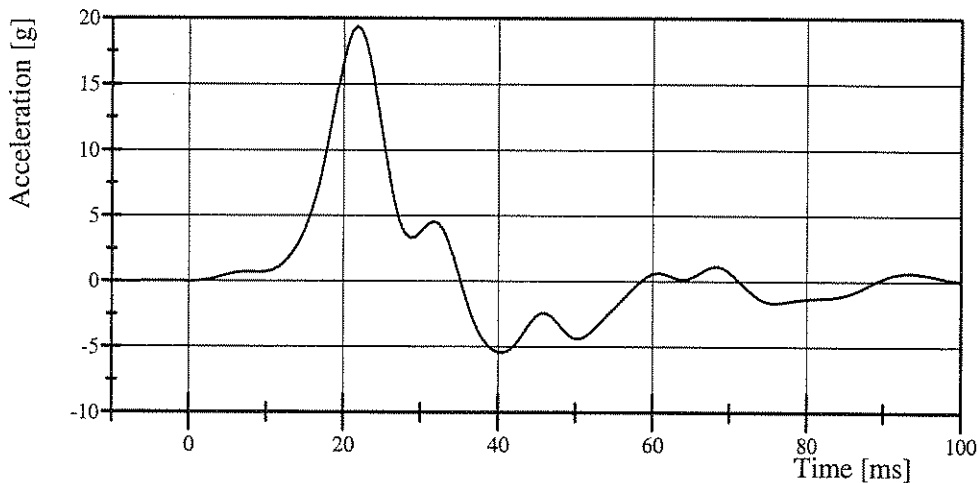


Filter Class: FIR_100

Max: 43.5 g at 16.8 ms

Min: -17.4 g at 23.7 ms

Lower Spine Acceleration (Y)



Filter Class: FIR_100

Max: 19.4 g at 21.8 ms

Min: -5.5 g at 40.5 ms

Transportation Research Center Inc.

Abdomen Compression

SID-HIII Serial No. 055 Certification No. 22-1

Test Date: 10/03/2006

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	55 %	Yes
Probe Force within Corridor	Yes	No	No
Probe Velocity	6.35 - 8.89 mm/s	8.017 mm/s	Yes

Test does not meet specifications.

Comments:

Technician

Robert Brub

Approved

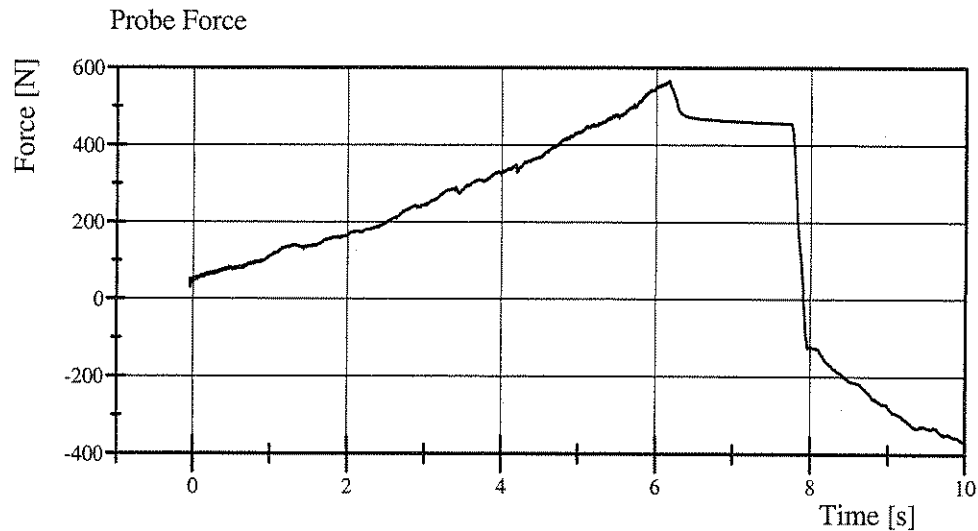
Ron. Stoner

Transportation Research Center Inc.

Abdomen Compression

SID-HIII Serial No. 055 Certification No. 22-1

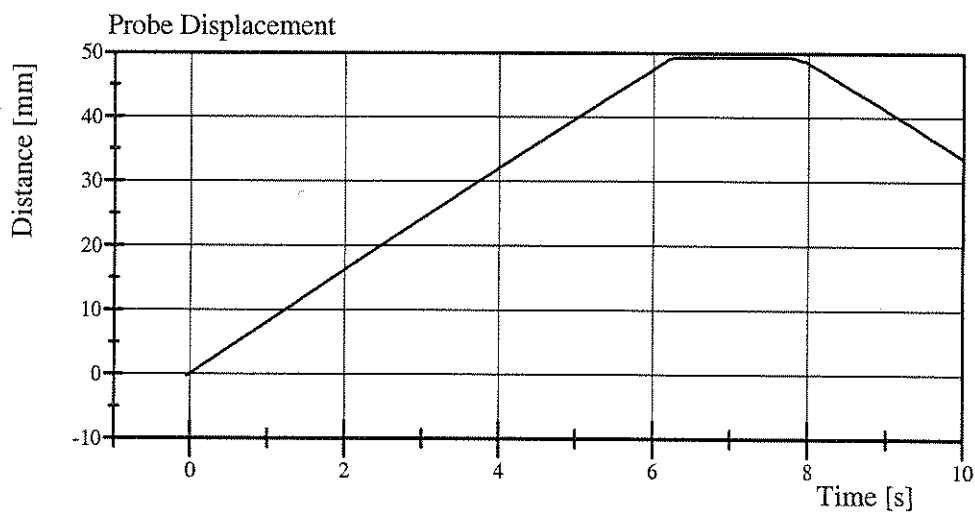
Test Date: 10/03/2006



Filter Class: CFC_600

Max: 566.1 N at 6.2 s

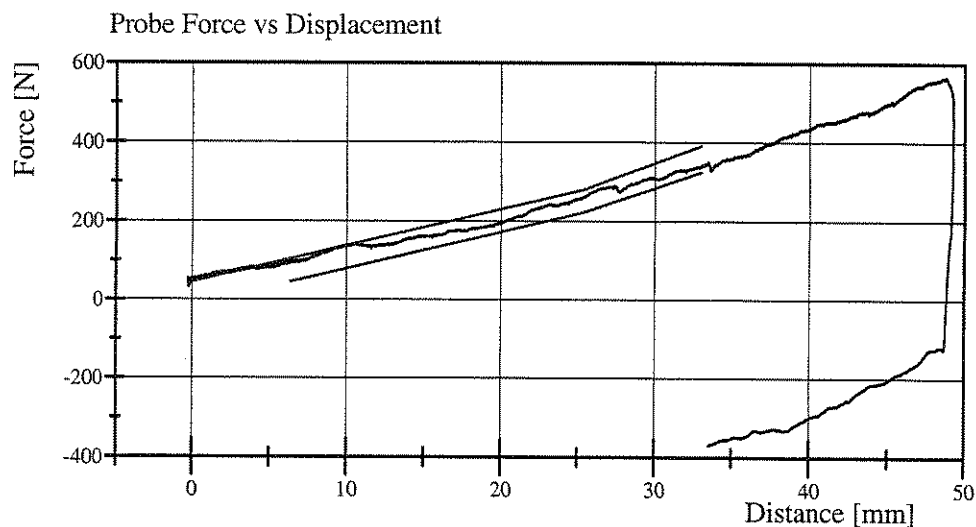
Min: -370.0 N at 10.0 s



Filter Class: CFC_180

Max: 49.3 mm at 7.5 s

Min: -0.3 mm at -0.0 s



Filter Class: CFC_600

Max: 566.1 N at 48.8 mm

Min: -370.9 N at 33.5 mm

TRANSPORTATION RESEARCH CENTER INC.

PART 572B LUMBAR FLEXION TEST

SID/HIII

CAL DATE: 04-Oct-06

TRC, INC.

TEST NO: LUFL-01

572M SN 055 TORSO FLEX CAL 22

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6° C	21.4°C
RELATIVE HUMIDITY	10 – 70 %	58 %
FORCE AT 0 DEG. FLEXION	-27 – 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 – 151 N	142.34 N
FORCE AT 30 DEG OF FLEXION	151 – 205 N	204.62 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	257.99 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	3.5 °

TEST MEETS SPECIFICATIONS

TECHNICIAN Rod Brande

Transportation Research Center Inc.

Left Lateral Pelvis

SID-HIII Serial No. 055 Certification No. 22-2

Test Date: 10/04/2006

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	59 %	Yes
Impactor Velocity	4.27 - 4.33 m/s	4.284 m/s	Yes
Pelvis Lateral Acceleration Duration above 20g	3 - 7 ms	5.6 ms	Yes
Pelvis Lateral Acceleration	40 - 60 g	52.4 g	Yes
Is Acceleration Curve Unimodal Above 20g?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Ron Baranda

Approved

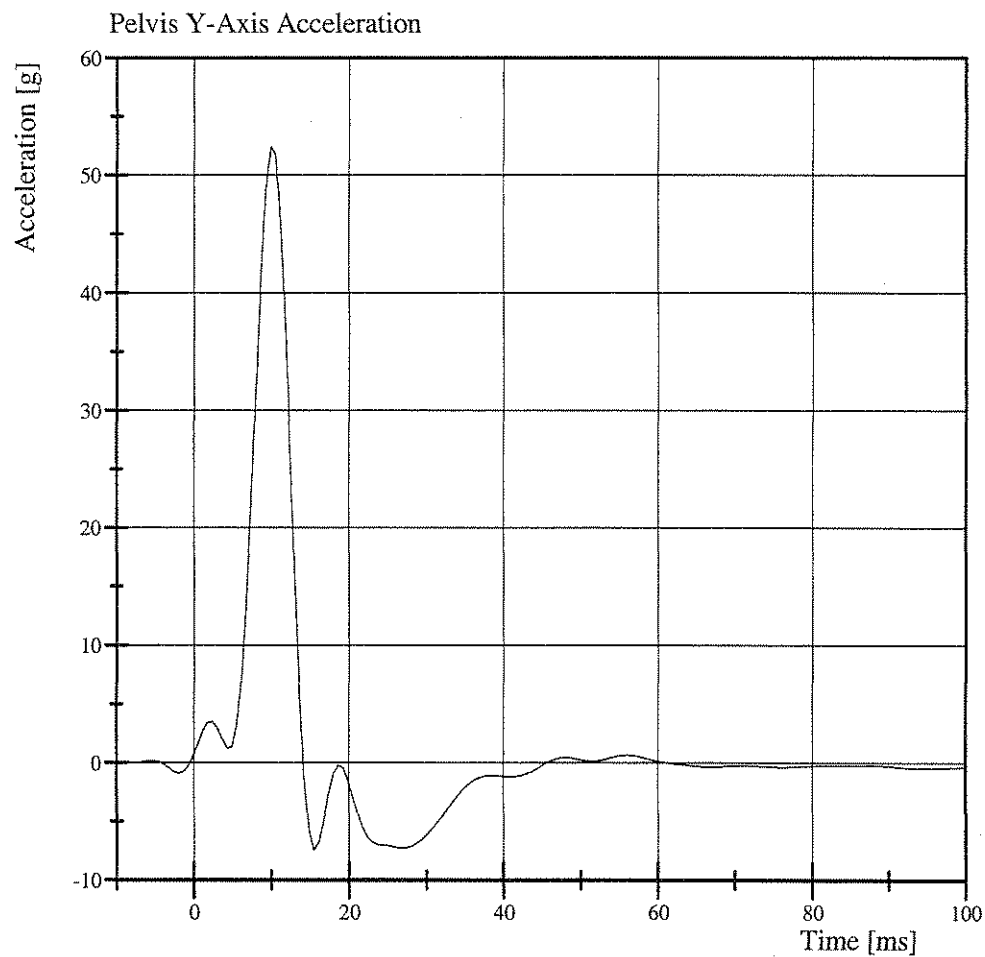
Ron Stoner

Transportation Research Center Inc.

Left Lateral Pelvis

SID-HIII Serial No. 055 Certification No. 22-2

Test Date: 10/04/2006



Filter Class: FIR_100
Max: 52.4 g at 9.9 ms
Min: -7.4 g at 15.5 ms

CALIBRATION TEST RESULTS

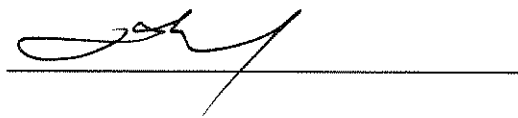
PRE-TEST

SID/HIII: 059

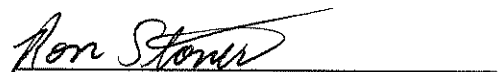
Transportation Research Center Inc.
SID/HIII Dummy Pre-Test
External Dimensions
Serial No. 059 Calibration No. 16

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	902 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	515 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Knee Pivot From Backline	KH	510.5 - 525.8 mm	523 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	503 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	360 mm	Yes
Top Rib Width From C/L	RW-1	165.1 - 180.3 mm	175 mm	Yes
Bottom Rib Width From C/L	RW-2	165.1 - 180.3 mm	175 mm	Yes
Difference Between Top & Bottom Rib Width from C/L		<= 2.5 mm	0.0 mm	Yes

Technician



Approved




Transportation Research Center Inc.

Left Lateral Head Drop

SID-HIII Serial No. 059 Certification No. 16-3

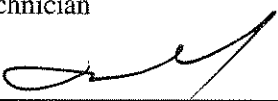
Test Date: 07/24/2006

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Peak Head Resultant Acceleration	120 - 150 g	149.5 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	-5.7 g	Yes
Is Head Resultant Acceleration Curve Unimodal Within 15% of Peak?	Yes	Yes	Yes

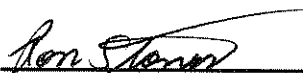
Test meets specifications.

Comments:

Technician



Approved

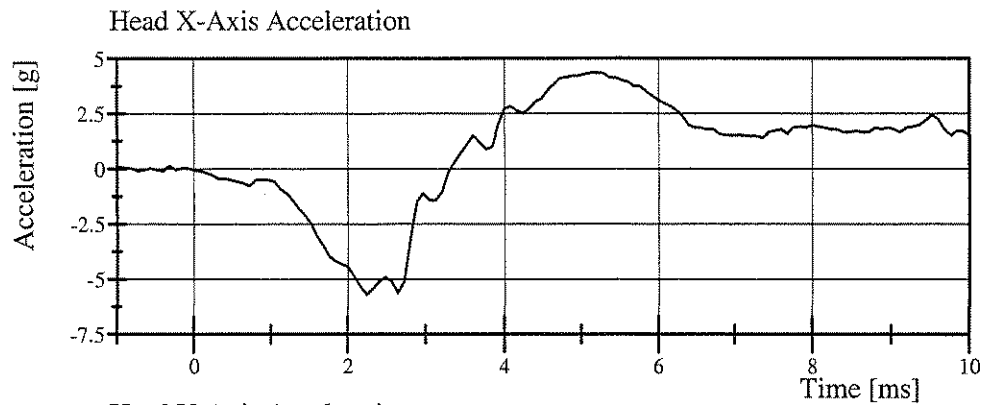


Transportation Research Center Inc.

Left Lateral Head Drop

SID-HIII Serial No. 059 Certification No. 16-3

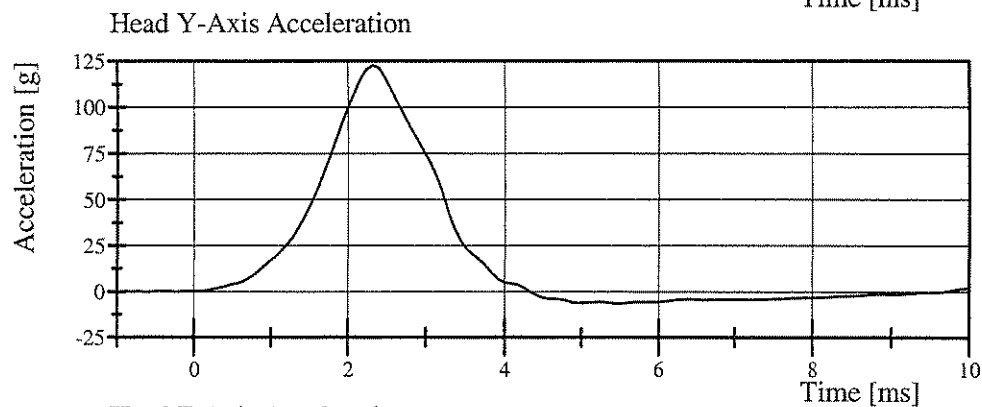
Test Date: 07/24/2006



Filter Class: CFC_1000

Max: 4.4 g at 5.1 ms

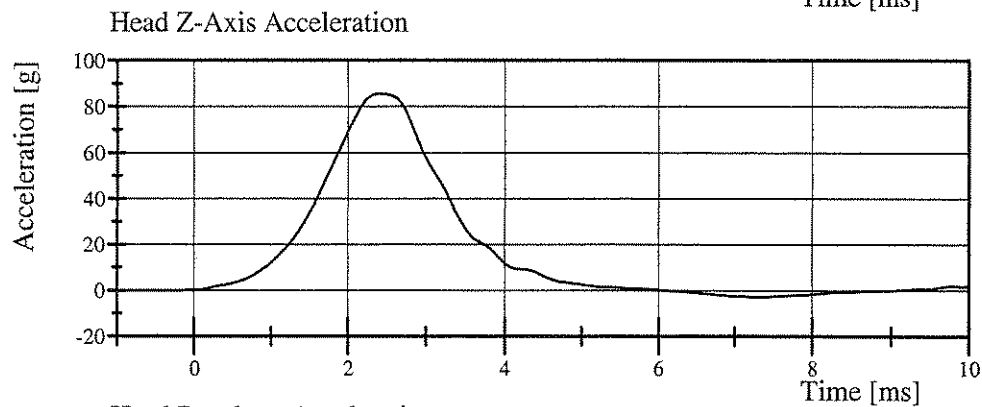
Min: -5.7 g at 2.2 ms



Filter Class: CFC_1000

Max: 122.8 g at 2.3 ms

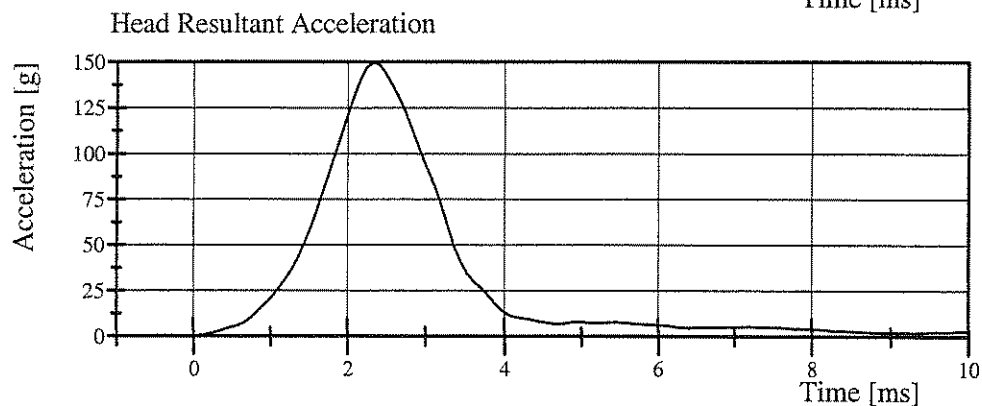
Min: -6.5 g at 5.4 ms



Filter Class: CFC_1000

Max: 85.7 g at 2.4 ms

Min: -2.8 g at 7.3 ms



Filter Class: CFC_1000

Max: 149.5 g at 2.3 ms

Min: 0.0 g at -0.6 ms

Transportation Research Center Inc.

Left Lateral Neck

SID-HIII Serial No. 059 Certification No. 16-1

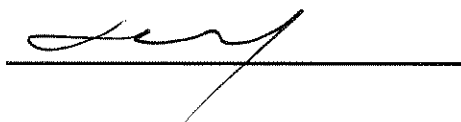
Test Date: 07/24/2006

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
Pendulum Velocity	(-6.89) - (-7.13) m/s	-7.034 m/s	Yes
Pendulum Integrated Velocity Change at 10 ms	1.96 - 2.55 m/s	2.323 m/s	Yes
Pendulum Integrated Velocity Change at 20 ms	4.12 - 5.10 m/s	4.602 m/s	Yes
Pendulum Integrated Velocity Change at 30 ms	5.73 - 7.01 m/s	6.486 m/s	Yes
Pendulum Integrated Velocity Change at 40 to 70 ms	6.27 - 7.64 m/s	7.295 m/s	Yes
Total Head D-Plane Rotation	(-66) - (-82) °	-70.0 °	Yes
Total Head D-Plane Rotation Time to 0° after Peak Rotation	58 - 67 ms	62.1 ms	Yes
Total Neck Occipital Condyle Moment	73 - 88 N·m	78.2 N·m	Yes
Total Neck Occipital Condyle Moment Time to 0 N·m after Peak Moment	49 - 64 ms	54.6 ms	Yes
Time from Peak Moment to Peak Rotation	2 - 16 ms	7.4 ms	Yes

Test meets specifications.

Comments:

Technician



Approved



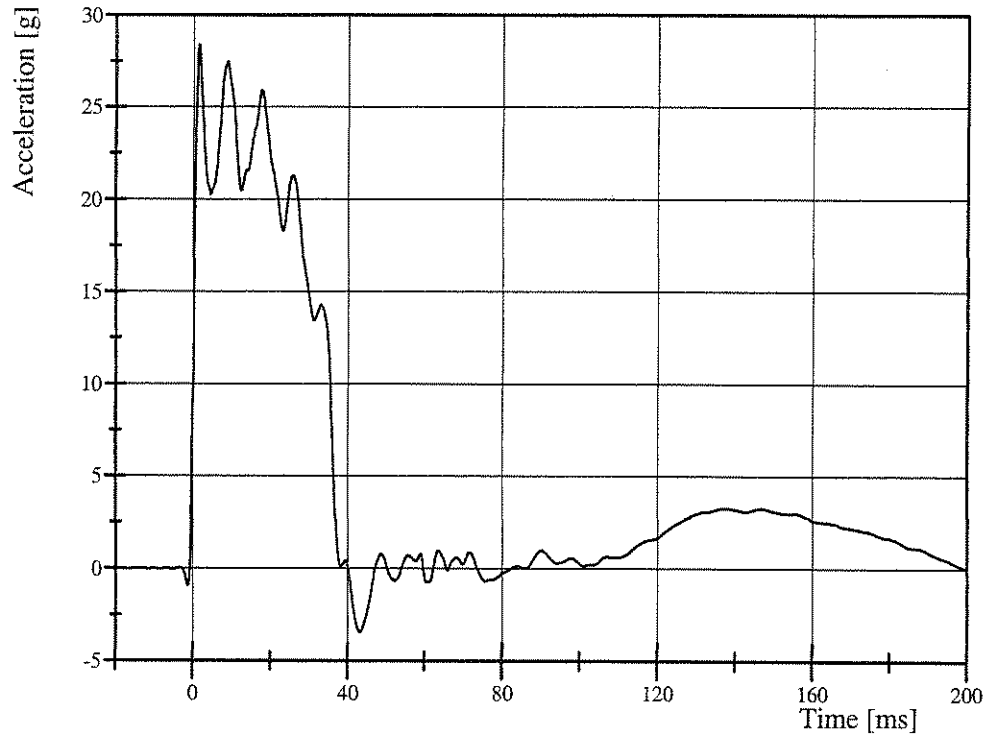
Transportation Research Center Inc.

Left Lateral Neck

SID-HIII Serial No. 059 Certification No. 16-1

Test Date: 07/24/2006

Pendulum Acceleration

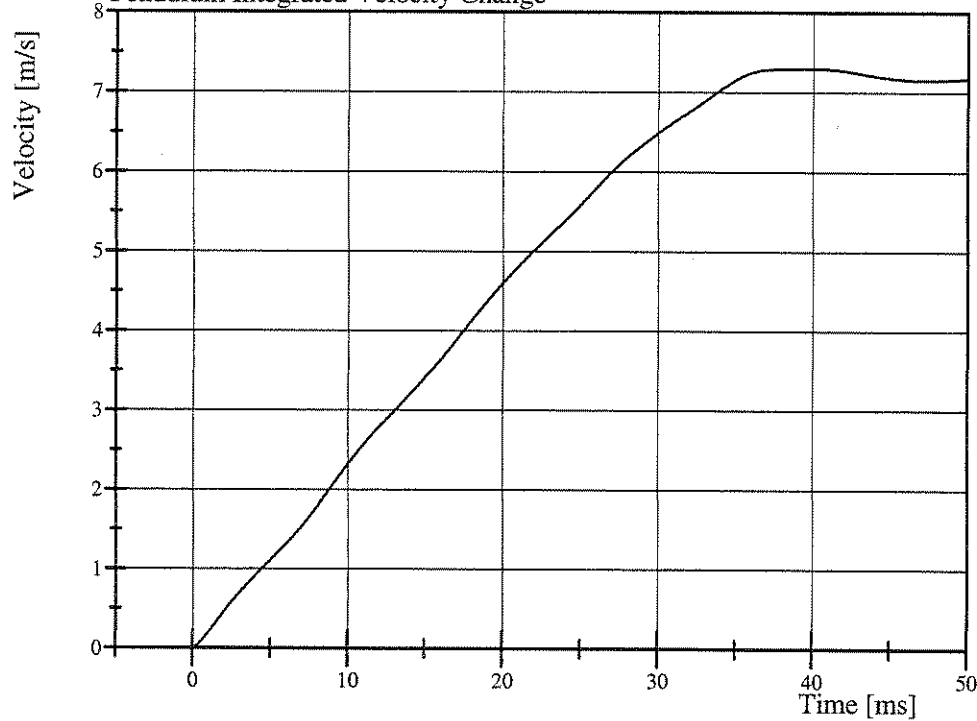


Filter Class: CFC_180

Max: 28.4 g at 1.4 ms

Min: -3.4 g at 43.2 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180

Max: 7.3 m/s at 40.2 ms

Min: 0.0 m/s at 0.0 ms



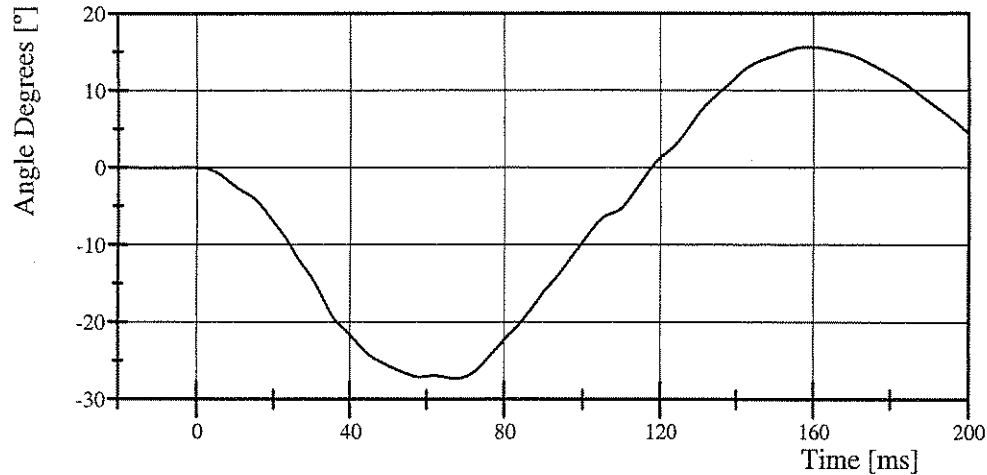
Transportation Research Center Inc.

Left Lateral Neck

SID-HIII Serial No. 059 Certification No. 16-1

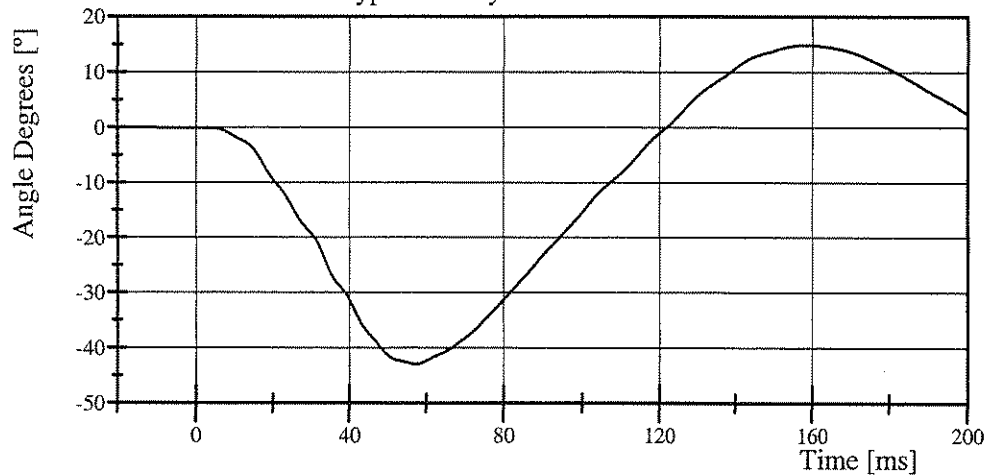
Test Date: 07/24/2006

Pot Rotation at the Base of Neck



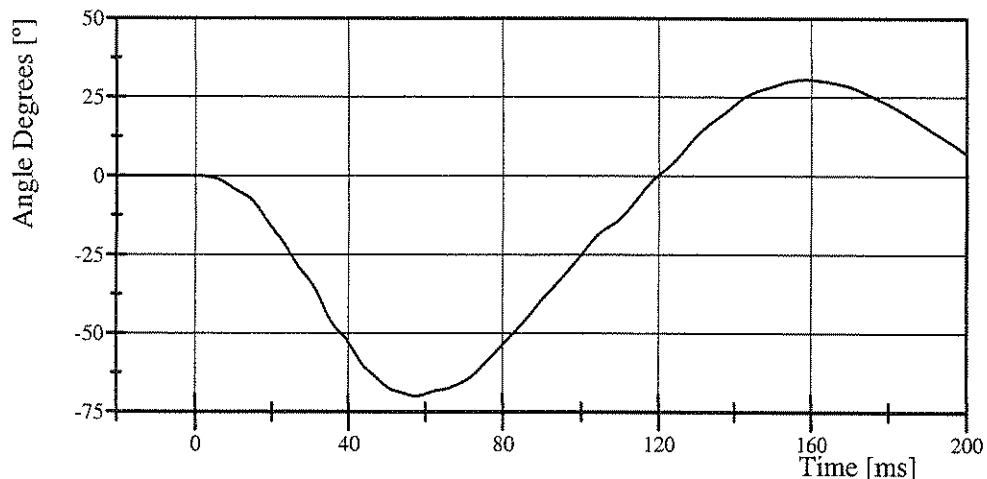
Filter Class: CFC_60
Max: 15.7 ° at 158.7 ms
Min: -27.3 ° at 67.5 ms

Head Rotation at Occypital Condyles



Filter Class: CFC_60
Max: 14.9 ° at 158.2 ms
Min: -42.9 ° at 57.3 ms

Total Head D-Plane Rotation



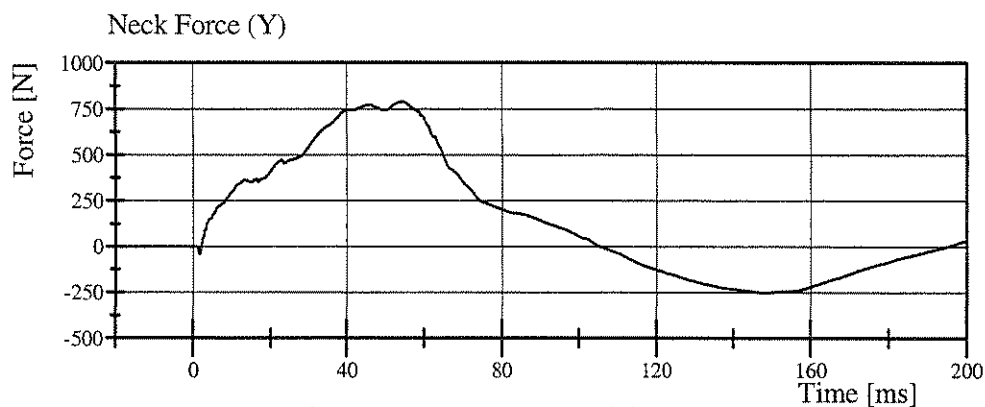
Filter Class: CFC_60
Max: 30.6 ° at 158.6 ms
Min: -70.0 ° at 57.6 ms

Transportation Research Center Inc.

Left Lateral Neck

SID-HIII Serial No. 059 Certification No. 16-1

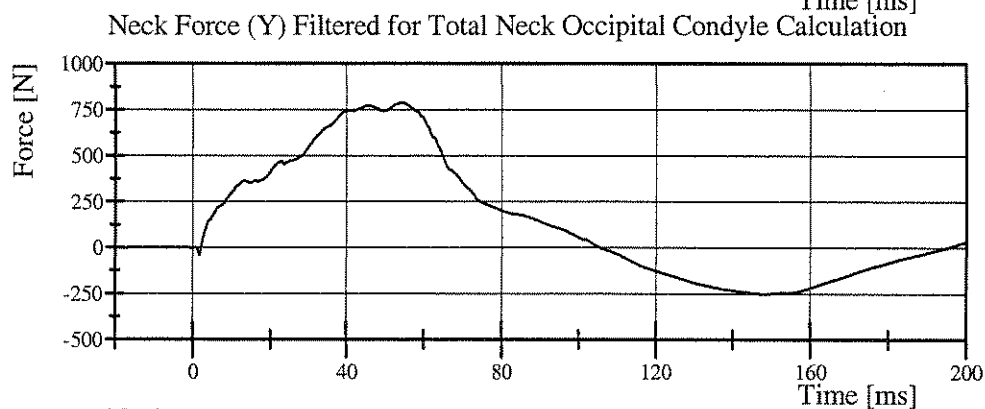
Test Date: 07/24/2006



Filter Class: CFC_1000

Max: 789.8 N at 54.4 ms

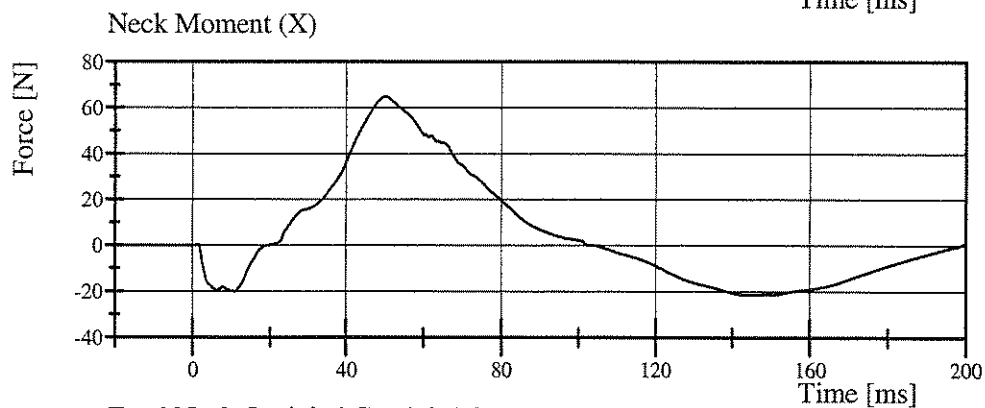
Min: -251.6 N at 147.6 ms



Filter Class: CFC_600

Max: 789.5 N at 54.4 ms

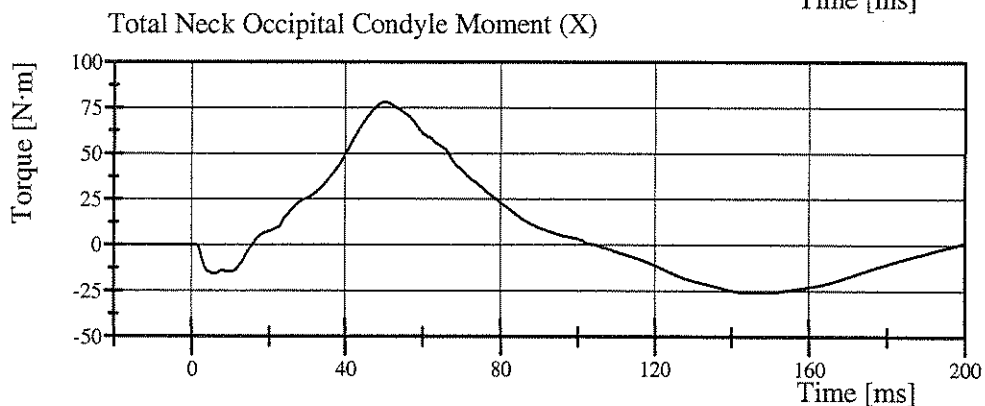
Min: -251.1 N at 147.8 ms



Filter Class: CFC_600

Max: 65.0 N at 50.1 ms

Min: -21.5 N at 144.2 ms



Filter Class: CFC_600

Max: 78.2 N·m at 50.2 ms

Min: -25.8 N·m at 144.9 ms



Transportation Research Center Inc.

Left Lateral Thorax

SID-HIII Serial No. 059 Certification No. 16-1

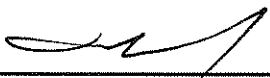
Test Date: 07/24/2006

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	20.9 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Impactor Velocity	4.27 - 4.33 m/s	4.301 m/s	Yes
Upper Rib Lateral Acceleration	37 - 46 g	40.4 g	Yes
Lower Rib Lateral Acceleration	37 - 46 g	38.3 g	Yes
Lower Spine Lateral Acceleration	15 - 22 g	18.0 g	Yes

Test meets specifications.

Comments:

Technician



Approved



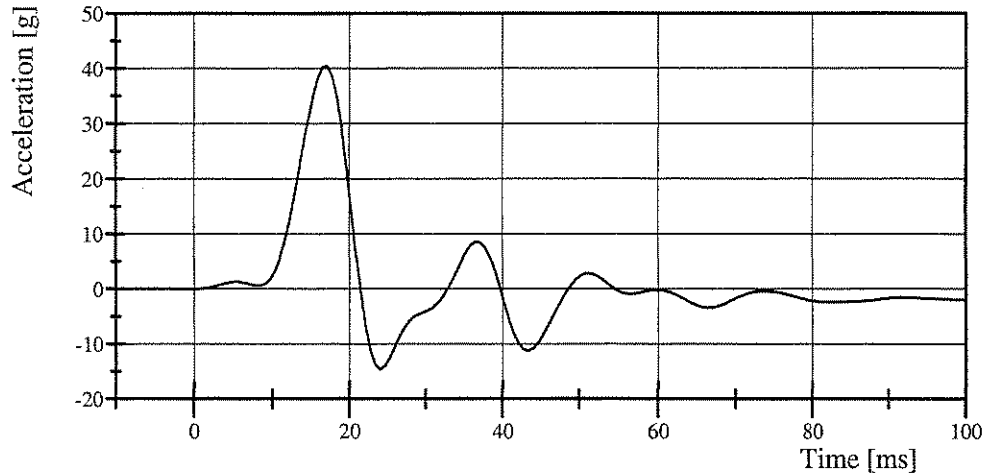
Transportation Research Center Inc.

Left Lateral Thorax

SID-HIII Serial No. 059 Certification No. 16-1

Test Date: 07/24/2006

Upper Rib Acceleration (Y)

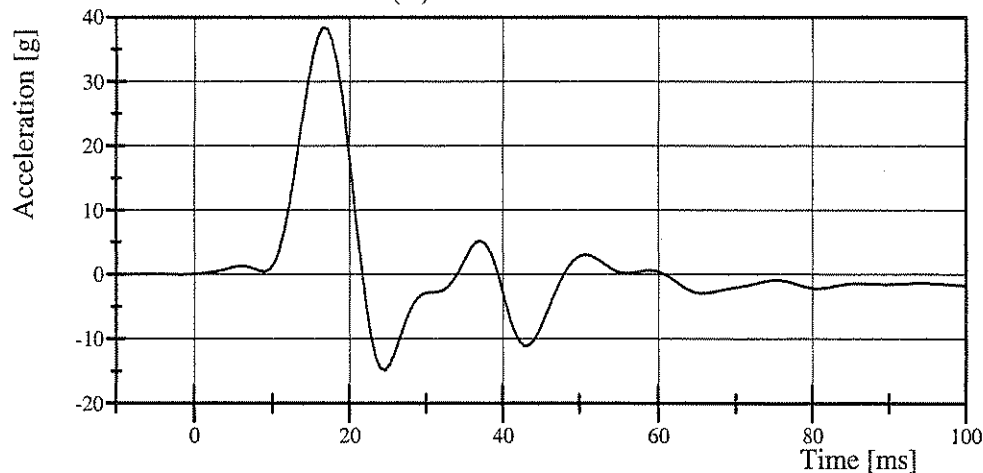


Filter Class: FIR_100

Max: 40.4 g at 17.1 ms

Min: -14.6 g at 24.0 ms

Lower Rib Acceleration (Y)

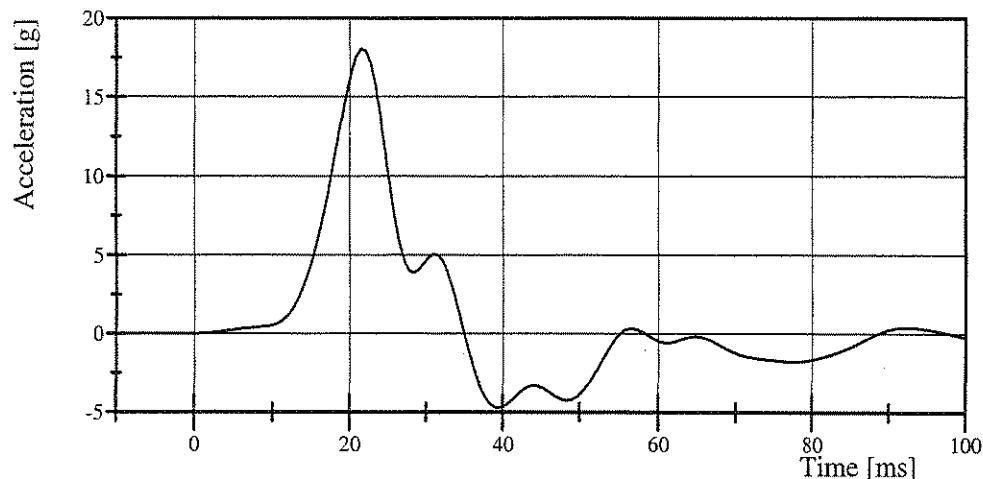


Filter Class: FIR_100

Max: 38.3 g at 16.5 ms

Min: -14.8 g at 24.6 ms

Lower Spine Acceleration (Y)



Filter Class: FIR_100

Max: 18.0 g at 21.5 ms

Min: -4.7 g at 39.6 ms

Transportation Research Center Inc.

Abdomen Compression

SID-HIII Serial No. 059 Certification No. 16-3

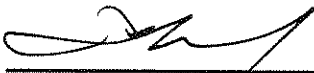
Test Date: 07/21/2006

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	47 %	Yes
Probe Force within Corridor	Yes	Yes	Yes
Probe Velocity	6.35 - 8.89 mm/s	7.873 mm/s	Yes

Test meets specifications.

Comments:

Technician



Approved

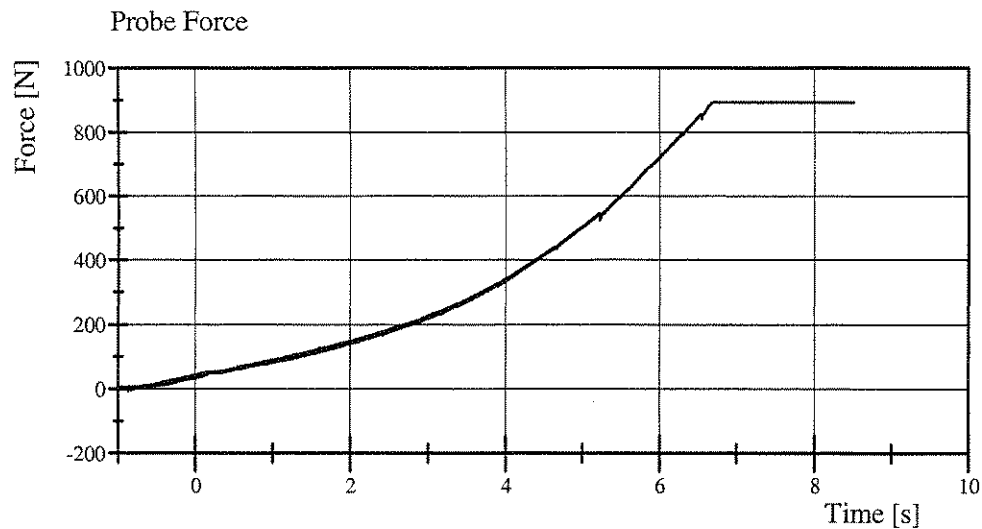

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Transportation Research Center Inc.

Abdomen Compression

SID-HIII Serial No. 059 Certification No. 16-3

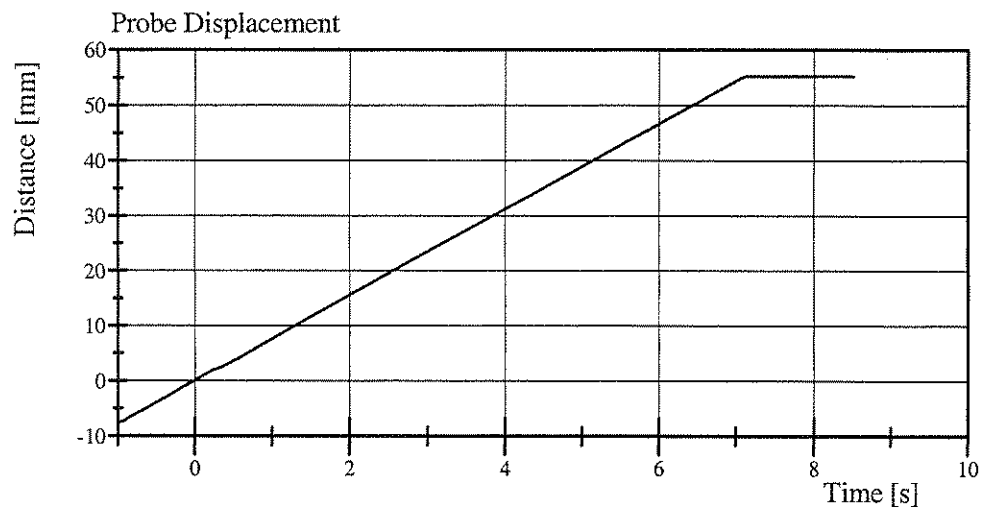
Test Date: 07/21/2006



Filter Class: CFC_600

Max: 893.2 N at 6.7 s

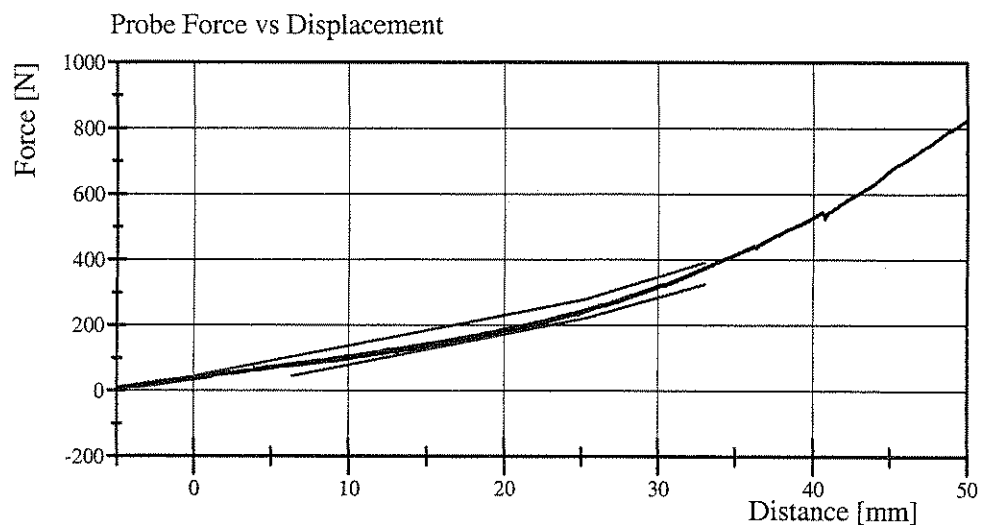
Min: -7.0 N at -0.9 s



Filter Class: CFC_180

Max: 55.3 mm at 8.4 s

Min: -7.4 mm at -1.0 s



Filter Class: CFC_600

Max: 893.2 N at 52.1 mm

Min: -7.0 N at -6.7 mm

TRANSPORTATION RESEARCH CENTER INC.

LUMBAR FLEXION TEST

SID PART 572B

CAL DATE: 24-Jul-06

TRC, INC.

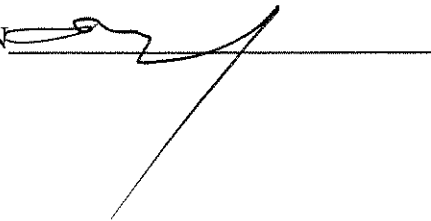
TEST NO: LUFL-01

572B SN 059 TORSO FLEX CAL 16

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6° C	21.0 C
RELATIVE HUMIDITY	10 – 70 %	49 %
FORCE AT 0 DEG. FLEXION	-27 – 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 – 151 N	137.9 N
FORCE AT 30 DEG OF FLEXION	151 – 205 N	191.3 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	222.4 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	8.9 °

TEST MEETS SPECIFICATIONS

TECHNICIAN



Transportation Research Center Inc.

Left Lateral Pelvis

SID-HIII Serial No. 059 Certification No. 16-1

Test Date: 07/24/2006

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	20.8 °C	Yes
Relative Humidity	10 - 70 %	48 %	Yes
Impactor Velocity	4.27 - 4.33 m/s	4.283 m/s	Yes
Pelvis Lateral Acceleration Duration above 20g	3 - 7 ms	6.2 ms	Yes
Pelvis Lateral Acceleration	40 - 60 g	42.5 g	Yes
Is Acceleration Curve Unimodal Above 20g?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician



Approved

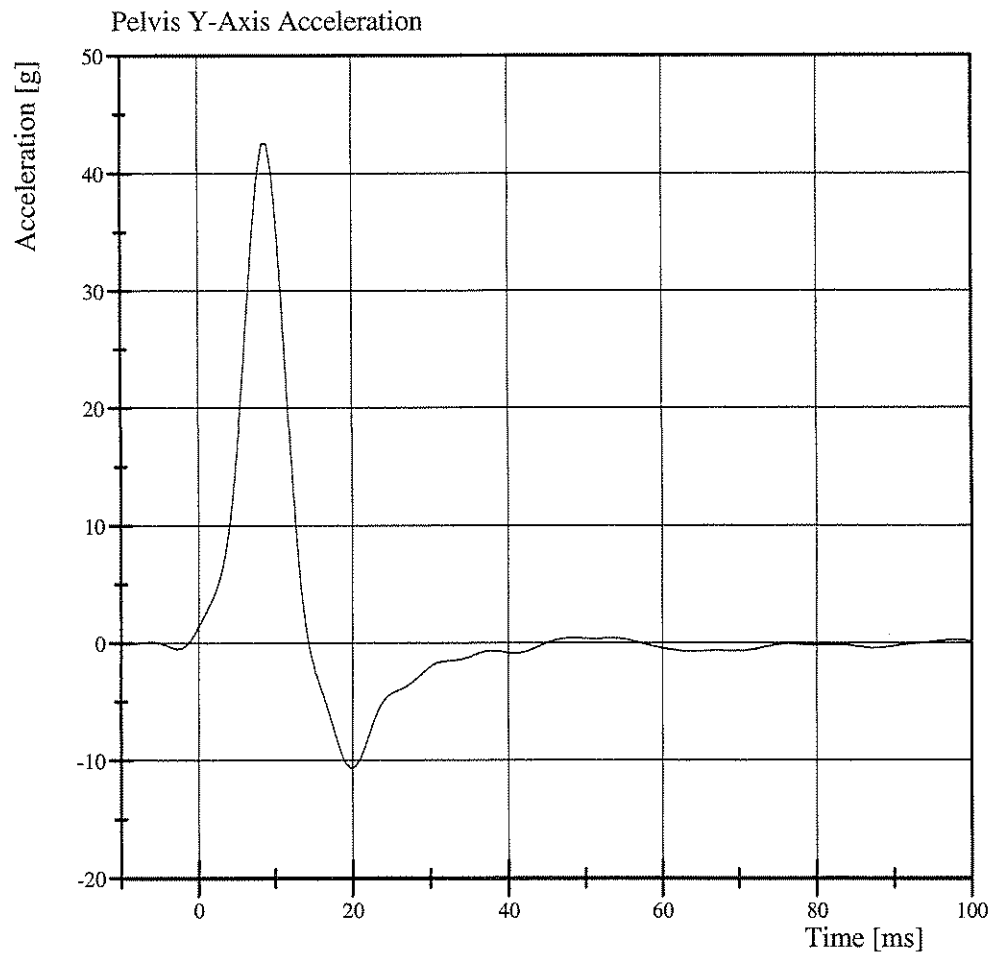


Transportation Research Center Inc.

Left Lateral Pelvis

SID-HIII Serial No. 059 Certification No. 16-1

Test Date: 07/24/2006



Filter Class: FIR_100
Max: 42.5 g at 9.0 ms
Min: -10.6 g at 19.7 ms

CALIBRATION TEST RESULTS

POST-TEST

SID/HIII: 059

Transportation Research Center Inc.
SID/HIII Dummy Post-Test
External Dimensions
Serial No. 059 Calibration No. 17

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	906 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	510 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Knee Pivot From Backline	KH	510.5 - 525.8 mm	520 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	495 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	359 mm	Yes
Top Rib Width From CVL	RW-1	165.1 - 180.3 mm	172 mm	Yes
Bottom Rib Width From CVL	RW-2	165.1 - 180.3 mm	170 mm	Yes
Difference Between Top & Bottom Rib Width from CVL		<= 2.5 mm	2.0 mm	Yes

Technician



Approved





Transportation Research Center Inc.

Left Lateral Head Drop

SID-HIII Serial No. 059 Certification No. 17-2

Test Date: 10/02/2006

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	56 %	Yes
Peak Head Resultant Acceleration	120 - 150 g	142.2 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	-7.3 g	Yes
Is Head Resultant Acceleration Curve Unimodal Within 15% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Ron Starnes

Approved

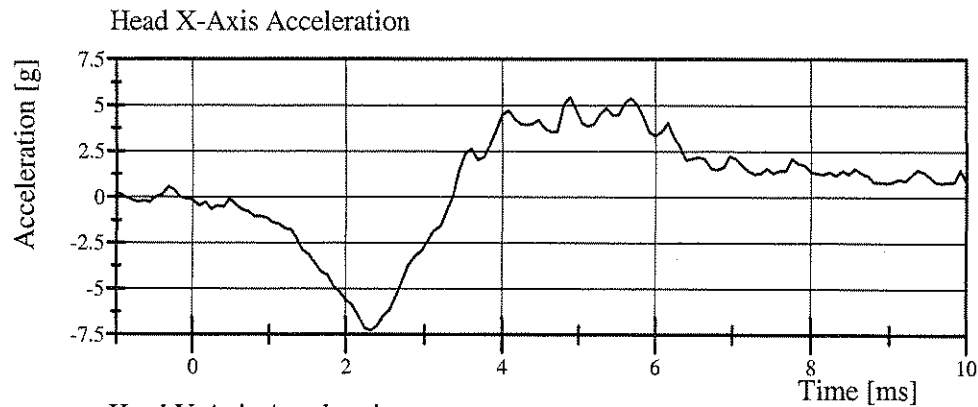
Ron Starnes

Transportation Research Center Inc.

Left Lateral Head Drop

SID-HIII Serial No. 059 Certification No. 17-2

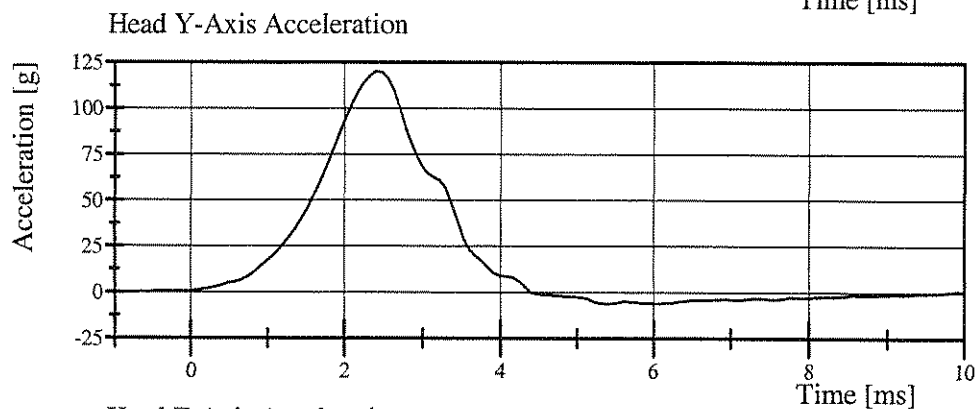
Test Date: 10/02/2006



Filter Class: CFC_1000

Max: 5.4 g at 4.9 ms

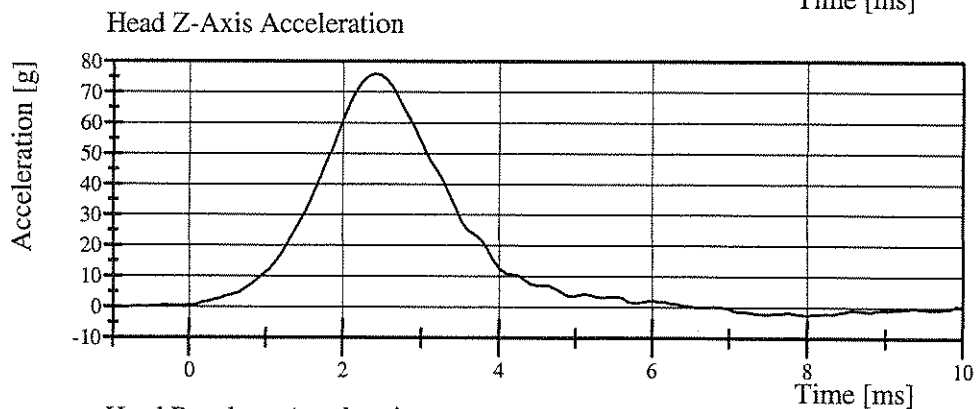
Min: -7.3 g at 2.3 ms



Filter Class: CFC_1000

Max: 119.9 g at 2.4 ms

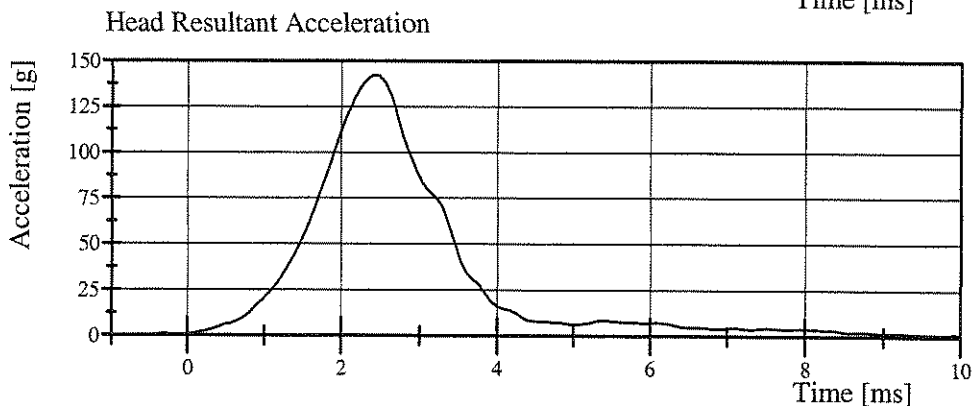
Min: -6.3 g at 5.4 ms



Filter Class: CFC_1000

Max: 76.0 g at 2.4 ms

Min: -2.6 g at 8.0 ms



Filter Class: CFC_1000

Max: 142.2 g at 2.4 ms

Min: 0.2 g at -0.8 ms

Transportation Research Center Inc.

Left Lateral Neck

SID-HIII Serial No. 059 Certification No. 17-1

Test Date: 10/02/2006

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	56 %	Yes
Pendulum Velocity	(-6.89) - (-7.13) m/s	-6.977 m/s	Yes
Pendulum Integrated Velocity Change at 10 ms	1.96 - 2.55 m/s	2.414 m/s	Yes
Pendulum Integrated Velocity Change at 20 ms	4.12 - 5.10 m/s	4.700 m/s	Yes
Pendulum Integrated Velocity Change at 30 ms	5.73 - 7.01 m/s	6.500 m/s	Yes
Pendulum Integrated Velocity Change at 40 to 70 ms	6.27 - 7.64 m/s	7.359 m/s	Yes
Total Head D-Plane Rotation	(-66) - (-82) °	-70.7 °	Yes
Total Head D-Plane Rotation Time to 0° after Peak Rotation	58 - 67 ms	58.1 ms	Yes
Total Neck Occipital Condyle Moment	73 - 88 N·m	79.6 N·m	Yes
Total Neck Occipital Condyle Moment Time to 0 N·m after Peak Moment	49 - 64 ms	54.1 ms	Yes
Time from Peak Moment to Peak Rotation	2 - 16 ms	9.4 ms	Yes

Test meets specifications.

Comments:

Technician

Robert Brander

Approved

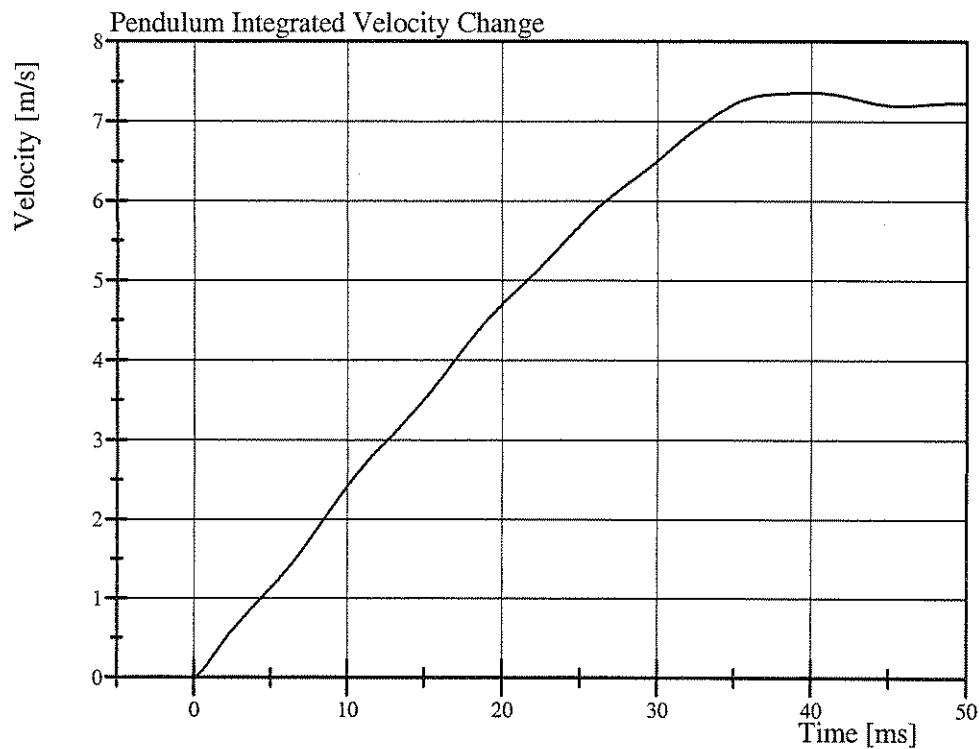
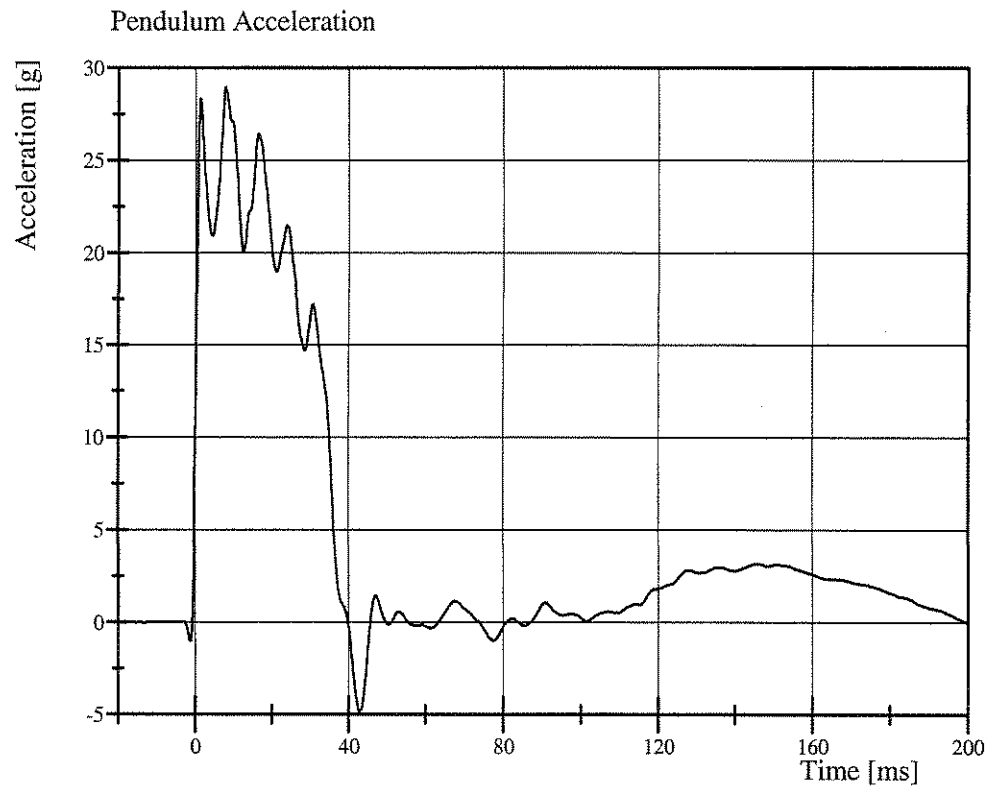
Ron Stover

Transportation Research Center Inc.

Left Lateral Neck

SID-HIII Serial No. 059 Certification No. 17-1

Test Date: 10/02/2006



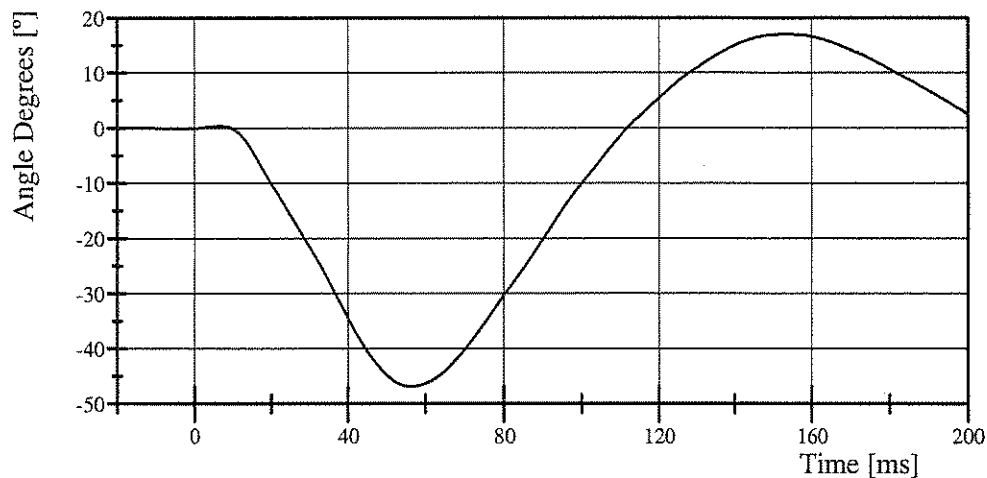
Transportation Research Center Inc.

Left Lateral Neck

SID-HIII Serial No. 059 Certification No. 17-1

Test Date: 10/02/2006

Pot Rotation at the Base of Neck

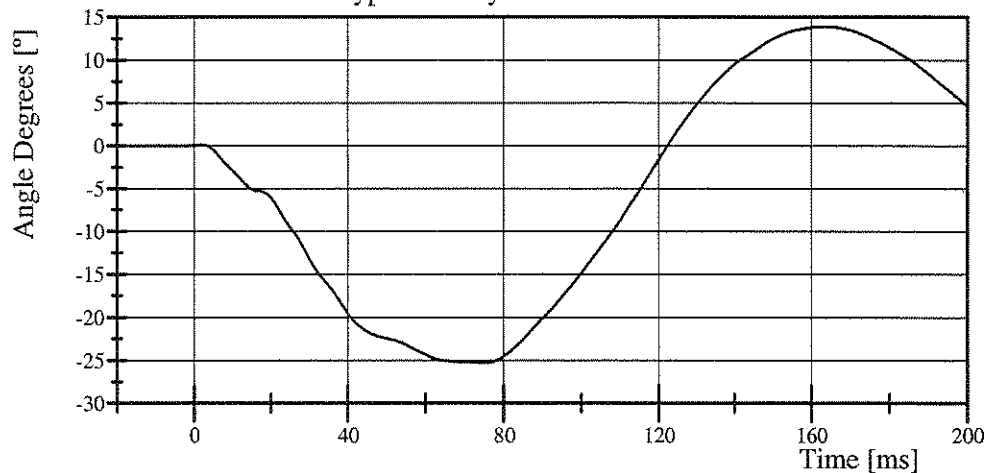


Filter Class: CFC_60

Max: 17.0 ° at 153.4 ms

Min: -46.8 ° at 56.3 ms

Head Rotation at Occypital Condyles

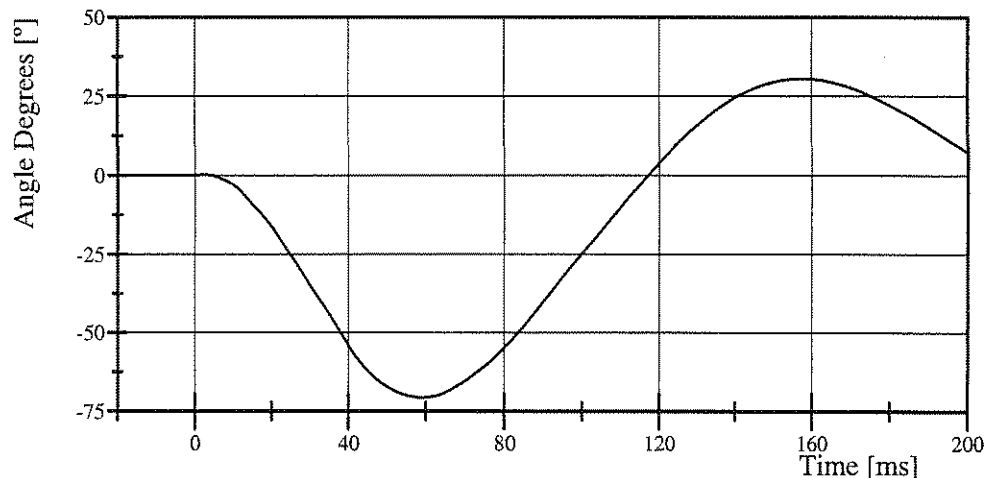


Filter Class: CFC_60

Max: 13.9 ° at 163.5 ms

Min: -25.3 ° at 75.3 ms

Total Head D-Plane Rotation



Filter Class: CFC_60

Max: 30.5 ° at 157.7 ms

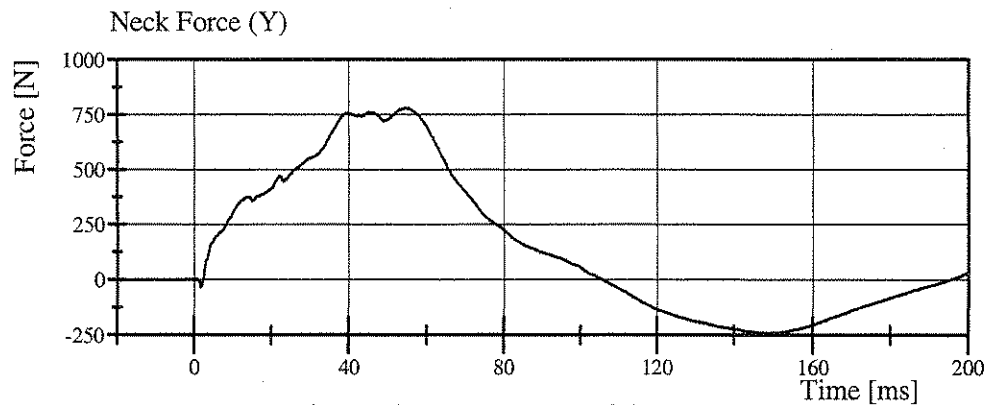
Min: -70.7 ° at 59.1 ms

Transportation Research Center Inc.

Left Lateral Neck

SID-HIII Serial No. 059 Certification No. 17-1

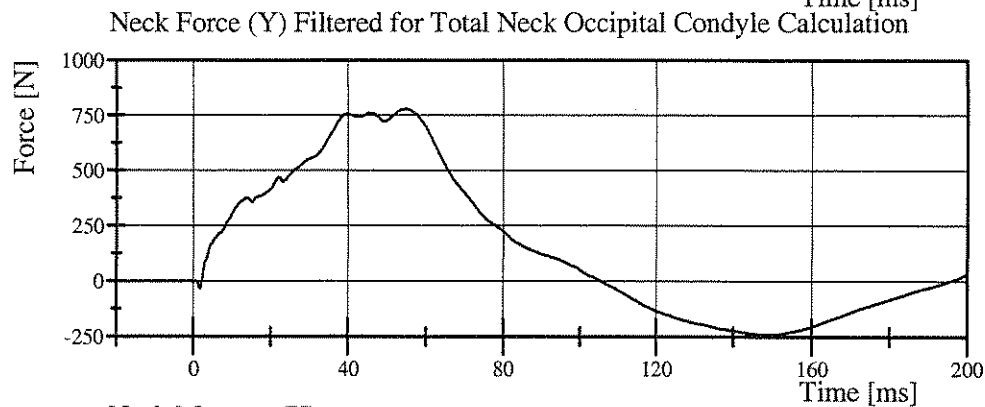
Test Date: 10/02/2006



Filter Class: CFC_1000

Max: 781.2 N at 54.6 ms

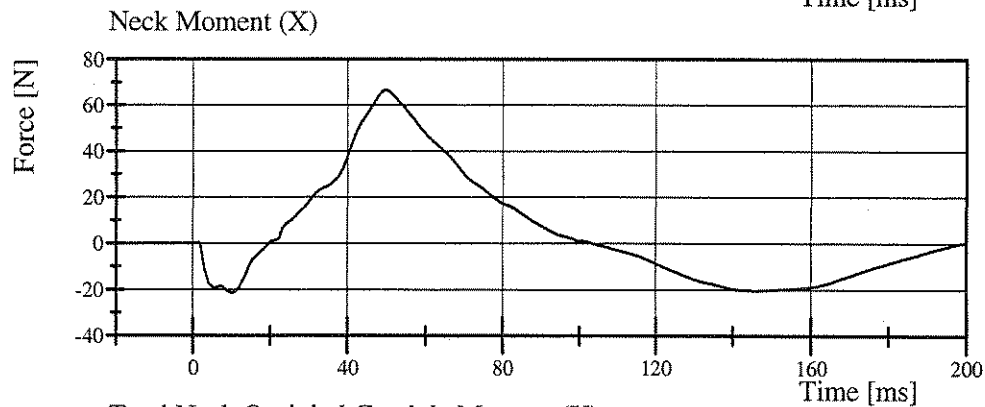
Min: -241.8 N at 150.1 ms



Filter Class: CFC_600

Max: 780.5 N at 54.6 ms

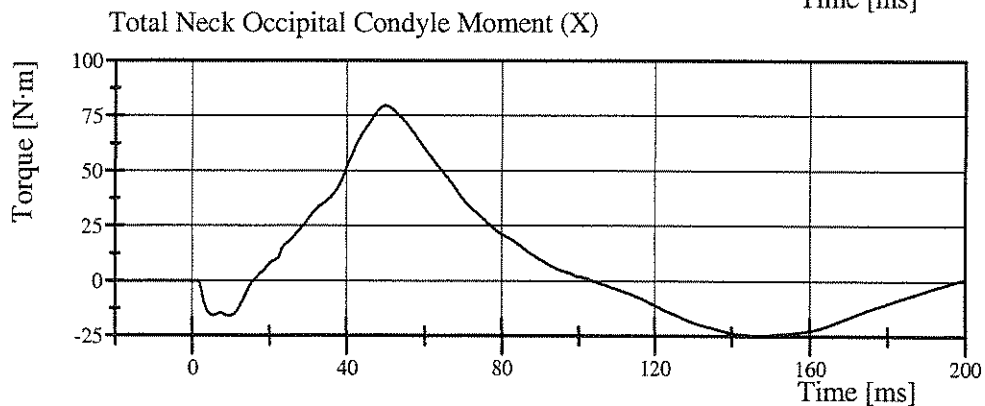
Min: -240.2 N at 149.2 ms



Filter Class: CFC_600

Max: 66.7 N at 49.7 ms

Min: -21.4 N at 10.2 ms



Filter Class: CFC_600

Max: 79.6 N·m at 49.8 ms

Min: -24.6 N·m at 146.2 ms

Transportation Research Center Inc.

Left Lateral Thorax

SID-HIII Serial No. 059 Certification No. 17-2

Test Date: 10/04/2006

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	59 %	Yes
Impactor Velocity	4.27 - 4.33 m/s	4.290 m/s	Yes
Upper Rib Lateral Acceleration	37 - 46 g	41.7 g	Yes
Lower Rib Lateral Acceleration	37 - 46 g	38.9 g	Yes
Lower Spine Lateral Acceleration	15 - 22 g	18.4 g	Yes

Test meets specifications.

Comments:

Technician

Ron Baumbach

Approved

Ron Stoner

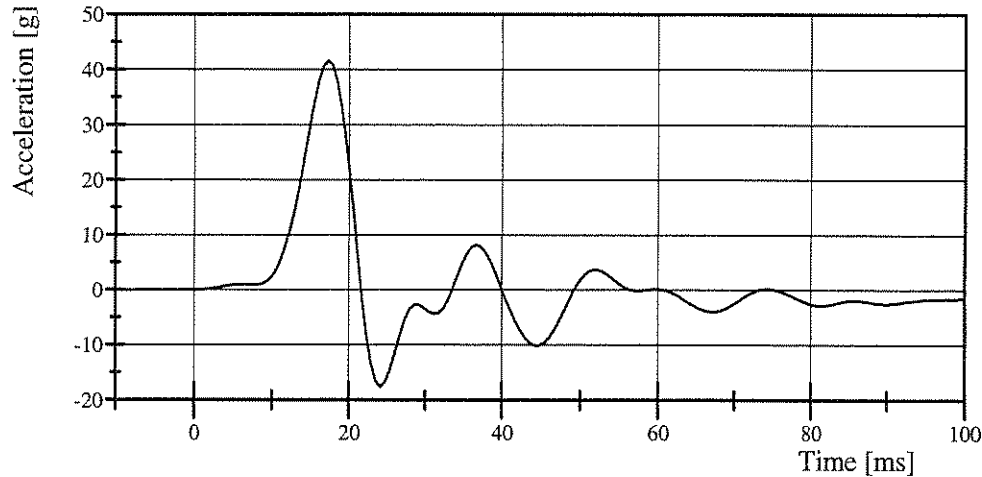
Transportation Research Center Inc.

Left Lateral Thorax

SID-HIII Serial No. 059 Certification No. 17-2

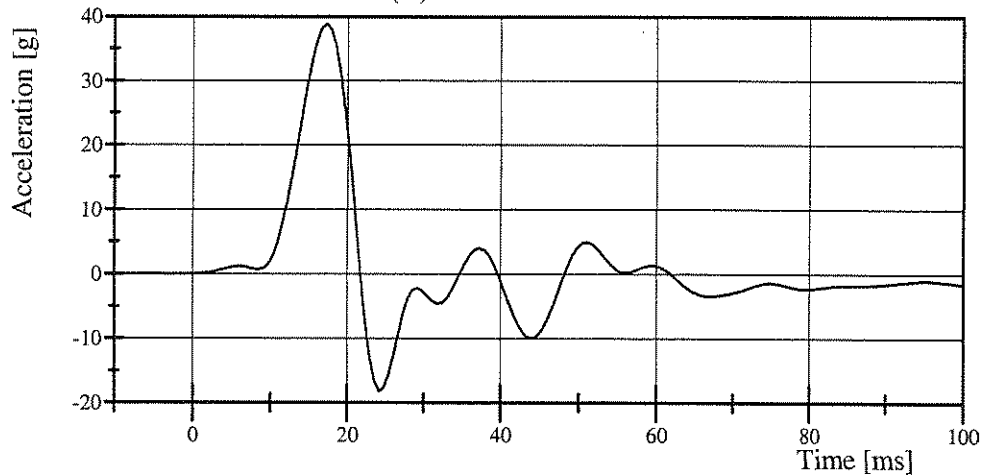
Test Date: 10/04/2006

Upper Rib Acceleration (Y)



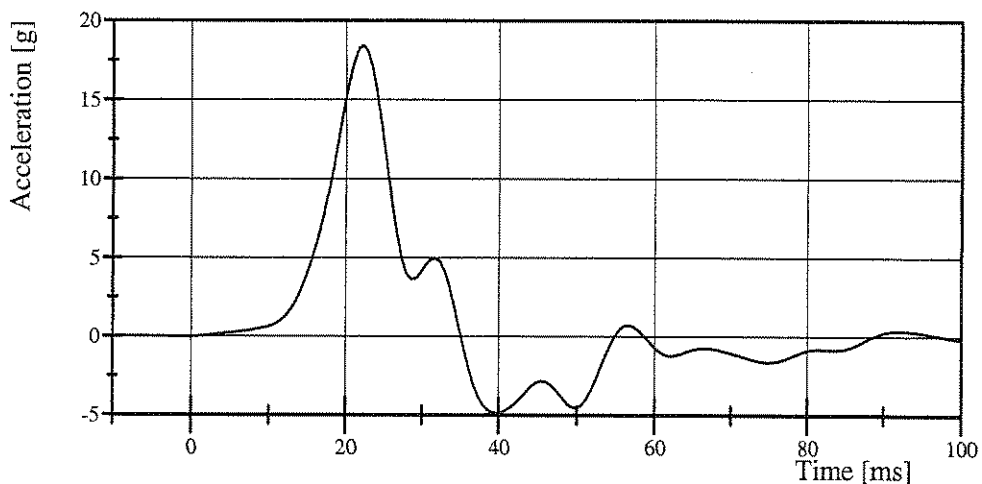
Filter Class: FIR_100
Max: 41.7 g at 17.3 ms
Min: -17.6 g at 24.2 ms

Lower Rib Acceleration (Y)



Filter Class: FIR_100
Max: 38.9 g at 17.3 ms
Min: -18.2 g at 24.2 ms

Lower Spine Acceleration (Y)



Filter Class: FIR_100
Max: 18.4 g at 22.2 ms
Min: -4.9 g at 39.8 ms

TRANSPORTATION RESEARCH CENTER INC.

LUMBAR FLEXION TEST

SID PART 572B

CAL DATE: 04-Oct-06

TRC, INC.

TEST NO: LUFL-01

572B SN 059 TORSO FLEX CAL 17

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6° C	21.4 C
RELATIVE HUMIDITY	10 – 70 %	59 %
FORCE AT 0 DEG. FLEXION	-27 – 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 – 151 N	133.45 N
FORCE AT 30 DEG OF FLEXION	151 – 205 N	191.27 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	257.99 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	2.0 °

TEST MEETS SPECIFICATIONS

TECHNICIAN Rowt Band

Transportation Research Center Inc.

Abdomen Compression

SID-HIII Serial No. 059 Certification No. 17-1

Test Date: 10/04/2006

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	59 %	Yes
Probe Force within Corridor	Yes	No	No
Probe Velocity	6.35 - 8.89 mm/s	8.068 mm/s	Yes

Test does not meet specifications.

Comments:

Technician



Approved

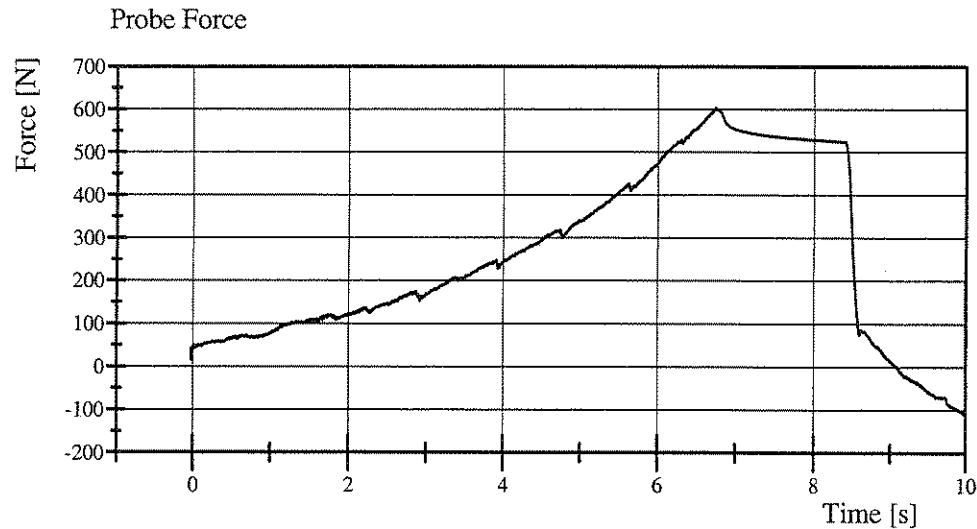


Transportation Research Center Inc.

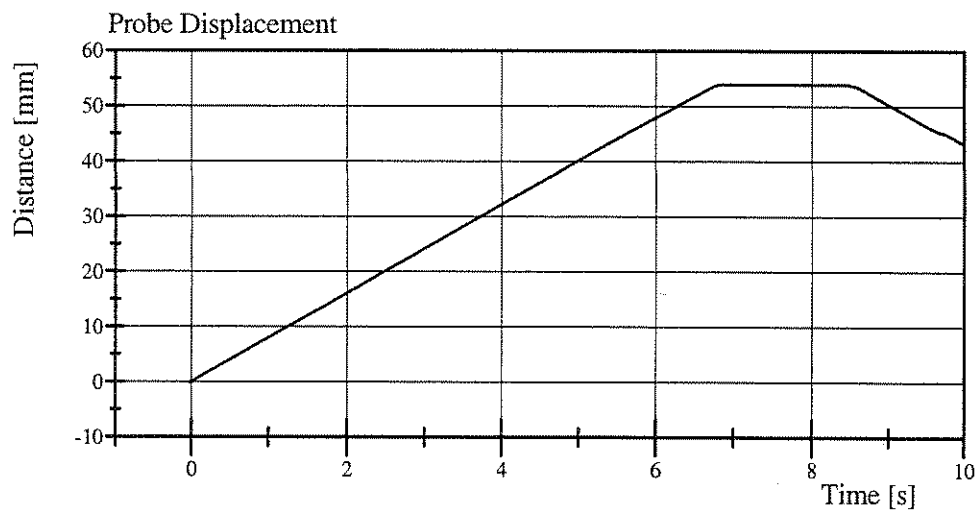
Abdomen Compression

SID-HIII Serial No. 059 Certification No. 17-1

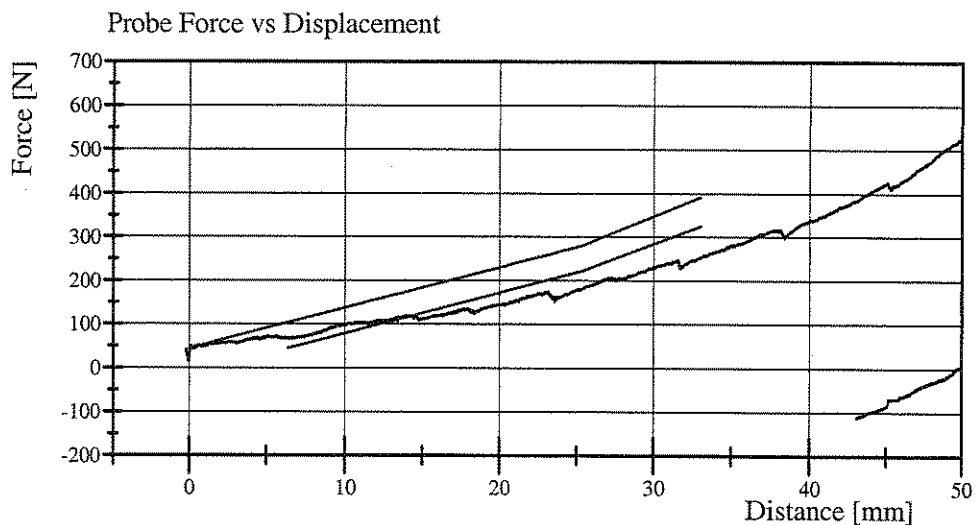
Test Date: 10/04/2006



Filter Class: CFC_600
Max: 603.2 N at 6.7 s
Min: -109.6 N at 10.0 s



Filter Class: CFC_180
Max: 54.0 mm at 8.2 s
Min: -0.2 mm at -0.0 s



Filter Class: CFC_600
Max: 603.2 N at 53.7 mm
Min: -112.1 N at 43.1 mm



Transportation Research Center Inc.

Left Lateral Pelvis

SID-HIII Serial No. 059 Certification No. 17-1

Test Date: 10/04/2006

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	57 %	Yes
Impactor Velocity	4.27 - 4.33 m/s	4.287 m/s	Yes
Pelvis Lateral Acceleration Duration above 20g	3 - 7 ms	6.3 ms	Yes
Pelvis Lateral Acceleration	40 - 60 g	42.1 g	Yes
Is Acceleration Curve Unimodal Above 20g?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Rust Brunel

Approved

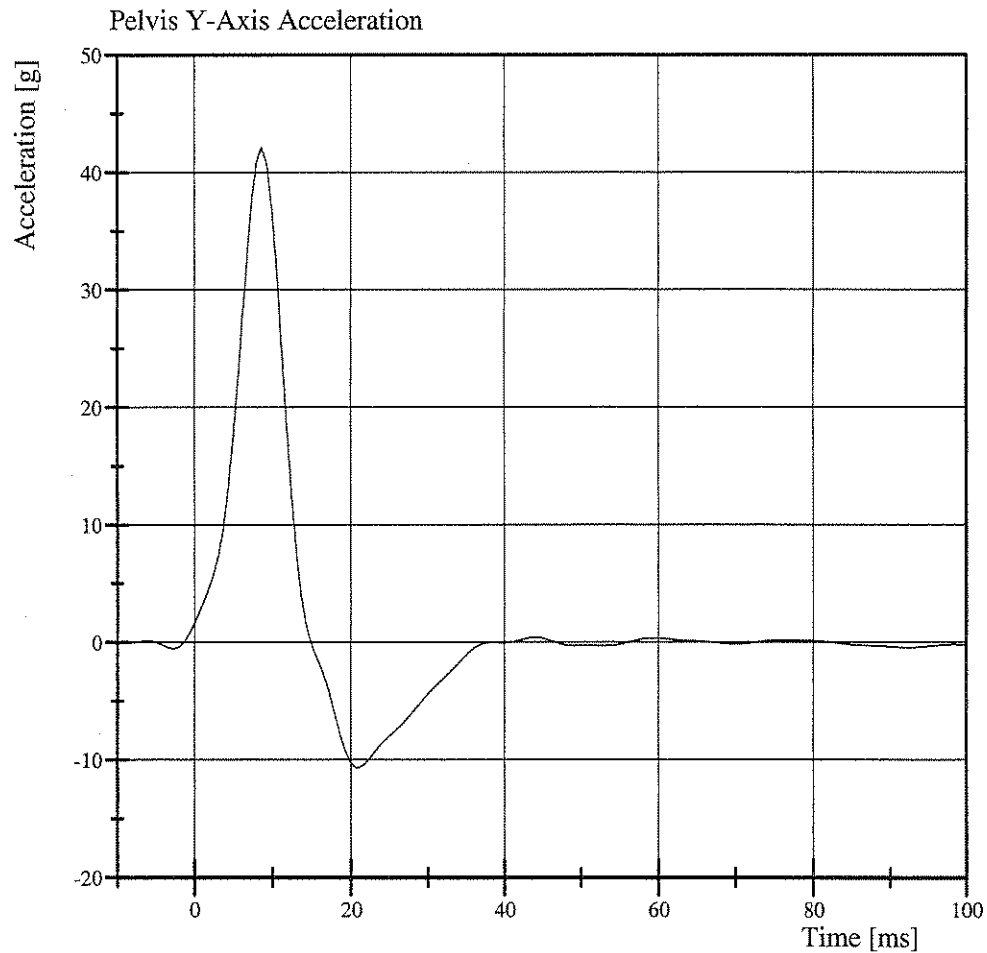
Ron Storer

Transportation Research Center Inc.

Left Lateral Pelvis

SID-HIII Serial No. 059 Certification No. 17-1

Test Date: 10/04/2006



Filter Class: FIR_100
Max: 42.1 g at 8.6 ms
Min: -10.7 g at 21.1 ms

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