

REPORT NUMBER TR-P27001-04-NC

**NEW CAR ASSESSMENT PROGRAM
FRONTAL BARRIER IMPACT TEST**

**GENERAL MOTORS OF CANADA LTD.
2007 CHEVROLET SILVERADO LT1
4-DOOR TRUCK**

NHTSA NUMBER: M70109

**PREPARED BY:
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9270 HOLLY ROAD
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NOVEMBER 09, 2006

FINAL REPORT

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

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16. Abstract A 35 mph (56.3 km/h) frontal barrier impact was conducted on a 2007 Chevrolet Silverado LT1 4-Door Truck at Karco Engineering, LLC on 11/09/06. This test was conducted to obtain data indicant of FMVSS 208, 212, 219 (partial), 301, and footwell intrusion performance. The impact velocity is 56.15 km/h. The ambient temperature at the barrier face at the time of impact is 33.0 degrees Celcius. The vehicle's maximum post-test static crush is 653 mm at the vehicle's centerline. The test vehicle is equipped with a 3-point continuous belt system and airbags in both front outboard seating positions. With respect to FMVSS 208 "Occupant Crash Protection", the occupant injury criteria summary is as follows:																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%;">Measurement Description</th> <th style="width: 15%;">Units</th> <th style="width: 15%;">Threshold</th> <th style="width: 15%;">Driver ATD</th> <th style="width: 20%;">Passenger ATD</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC)</td> <td>N/A</td> <td>1000</td> <td style="text-align: center;">418.4</td> <td style="text-align: center;">426.5</td> </tr> <tr> <td>Max. Chest Accel. (3 msec Clip)</td> <td>G's</td> <td>60</td> <td style="text-align: center;">34.3</td> <td style="text-align: center;">39.7</td> </tr> <tr> <td>Left Femur Force</td> <td>Newtons</td> <td>10008</td> <td style="text-align: center;">-1485.8</td> <td style="text-align: center;">-2345.4</td> </tr> <tr> <td>Right Femur Force</td> <td>Newtons</td> <td>10008</td> <td style="text-align: center;">-1982.0</td> <td style="text-align: center;">-3205.7</td> </tr> </tbody> </table>				Measurement Description	Units	Threshold	Driver ATD	Passenger ATD	Head Injury Criteria (HIC)	N/A	1000	418.4	426.5	Max. Chest Accel. (3 msec Clip)	G's	60	34.3	39.7	Left Femur Force	Newtons	10008	-1485.8	-2345.4	Right Femur Force	Newtons	10008	-1982.0	-3205.7
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SECTION 1
PURPOSE AND SUMMARY OF TEST M70109

1.1 PURPOSE

This 35 mph (56.3 km/h) frontal barrier impact test is part of the New Car Assessment Program (NCAP) sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-06-D-00027. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for an impact speed in excess of the current 30 mph (48.3 km/h) requirements.

The 35 mph (56.3 km/h) frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards (OCS) New Car Assessment Program (NCAP) Laboratory Indicant Test Procedure, dated July 2005. Data was obtained indicant of FMVSS 208 "Occupant Crash Protection", FMVSS 212, "Windshield Retention", FMVSS 219, "Windshield Zone Intrusion (Partial)", and FMVSS 301 "Fuel System Integrity", performance. Procedures for receiving, inspection, testing and reporting of test results are described in the test procedures and are not repeated in this report.

1.2 SUMMARY

A load cell barrier consisting of 45 load cells was impacted by a 2007 Chevrolet Silverado LT1 4-Door Truck at a velocity of 56.15 km/h. The test was performed at Karco Engineering, LLC on November 09, 2006.

Three (3) real-time and fifteen (15) 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 number 14 (page number 24) of this report.

Two Part 572E, 50th percentile male anthropomorphic test devices (ATDs), were placed in the driver and right-front passenger seating positions according to dummy placement instructions specified in the Laboratory Indicant Test Procedure.

Both ATDs were fully instrumented with head (primary and redundant), chest (primary and redundant) and pelvis triaxial accelerometers, chest displacement potentiometers, six-axis upper neck transducers, right/left femur load cells, and lower leg instrumentation. Seat belt load cells were placed on the driver's and passenger's lap and shoulder belts to measure dummy torso and pelvic section loading. Shoulder belt spool-off was measured for the driver and passenger dummy. The driver (position 1) ATD (Serial No. 34) and the right-front passenger (position 2) ATD (Serial No. 35) were calibrated two tests prior to this test.

One hundred and thirty two (132) channels of data were recorded using a TDAS data acquisition system. Appendix A contains Pre and Post-Test Photographs, Appendix B contains the Dummy Response data traces and Appendix C contains the Dummy Calibration data.

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

The maximum static crush of the vehicle was 653 mm at the vehicle's centerline and both the driver and the passenger side doors remained closed and latched during the impact event and were operable after the impact.

The driver's visible contact points were as follows: The driver ATD's head and chest contacted the airbag and the abdomen had no contact. Both knees contacted the knee bolster.

The passenger's visible contact points were as follows: The passenger ATD's head, chest and abdomen contacted the airbag. Both knees contacted the knee bolster.

Occupant injury data is contained in table below.

OCCUPANT DATA SUMMARY

ATD Position	HIC 36	Clip (g)	Chest Defl. (mm)	Left Femur (N)	Right Femur (N)
Driver	418.4	34.3	-25.6	-1485.8	-1982.0
Passenger	426.5	39.7	-33.4	-2345.4	-3205.7

Additional data plots for this test are available in the research and development section of the NHTSA website. The website can be found at: www.NHTSA.Dot.Gov

SECTION 2
OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck

NHTSA No.: M70109

Test Program: 2007 NHTSA 35mph NCAP

Test Date: 11/09/06

CONVERSION FACTORS USED IN THIS REPORT*

Quantity	Typical Application	Std Units	Metric Unit	Multiply By
Mass	Vehicle Weight	lb	kg	0.4536
Linear Velocity	Impact Velocity	miles/hr	km/hr	1.609
Length or Distance	Measurements	in	mm	25.4
Volume	Fuel Systems	gal	liter	3.785
Volume	Small Fluids	oz	mL	29.573
Pressure	Tire Pressures	lbf/in ²	kPa	7.0
Volume	Liquid	gal	liter	3.785
Temperature	General Use	°F	°C	=(tf -32)/1.8
Force	Dynamic Forces	lbf	N	4.448
Moment	Torque	lbf/ft	Nm	1.355

* Based on the Recommended Practice in SAE J916, May 85

**DATA SHEET NO. 1
CRASH TEST SUMMARY**

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck

NHTSA No.: M70109

Test Program: 2007 NHTSA 35mph NCAP

Test Date: 11/09/06

PRIMARY IMPACT DATA

Measured Parameter	Units	Value
Velocity at Impact	km/h	56.15
Test Weight	kg	2622
Impact Angle	degrees	0
Average Rebound	mm	533
Maximum Static Crush	mm	653

DOOR OPENING AND SEAT TRACK INFORMATION

Description	Driver	Passenger
Front Door opening	Remained closed and latched, opened w/o tools	Remained closed and latched, opened w/o tools
Rear Door Opening	Remained closed and latched, opened w/o tools	Remained closed and latched, opened w/o tools
Seat Track Shift (mm)	None	None
Seat Back Failure	No	No

TEST DUMMY INFORMATION

Description	Driver	Passenger
Dummy Type/ Serial No.	50% Male Hybrid III No. 34	50% Male Hybrid III No. 35
Head Contact	Airbag	Airbag
Chest Contact	Airbag	Airbag
Abdomen Contact	None	Airbag
Left Knee Contact	Knee Bolster	Knee Bolster
Right Knee Contact	Knee Bolster	Knee Bolster

MOVIE COVERAGE

Cameras	Standard	Additional
High Speed	13	2
Real Time	1	2
Total	14	4

DATA CHANNELS

Driver ATD Sensors	40
Passenger ATD Sensors	40
Belt Assessment Sensors	8
Vehicle Structure Accelerometers	8
Rigid Barrier Load Cells	36
Total	132

**DATA SHEET NO. 2
GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M70109
 Test Date: 11/09/06

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	M70109	Anti-Lock Brakes	Yes
Make	Chevrolet	All Wheel Drive	No
Model	Silverado LT1	Power Steering	Yes
Body Style	4-Door Truck	Driver Front Airbag	Yes
Vin No.	2GCEC13C971507096	Driver Side Airbag	Yes
Color	Grey	Driver Head Airbag	No
Delivery Date	10/27/2006	Driver Curtain Airbag	Yes
Odometer (Miles)	47.0	Pass. Airbag	Yes
Dealer	Crest Chevrolet	Pass. Side Airbag	Yes
Transmission	4-Speed Automatic	Pass. Head Airbag	No
Final Drive	Rear	Pass. Curtain Airbag	Yes
Type/No. Cyl.	V8	Pre-Tensioners	Yes
Engine Disp. (L)	4.8	Load Limiters	Yes
Engine Placement	Longitudinal	Bucket Seats	Yes
Roof Rack	No	Air. Cond.	Yes
Sunroof/T-Top	No	AM/FM Cassette	Yes
Tinted Glass	Yes	Tilt Steering	Yes
Traction Control	Yes	Automatic Door Locks	Yes
Power Brakes	Yes	Power Windows	No
Front Disc	Yes	Power Seats	No
Rear Disc	Yes	Other	None

Does Owners Manual provide instructions to turn off automatic door locks.

No

DATA FROM MANUFACTURER

Manufactured By	General Motors of Canada LTD.	GWR (kg)	3085
Date of Manufacture	Oct-06	GAWR Front (kg)	1656
		GAWR Rear (kg)	1792

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bucket		
Number of Occupants	3	3		6
Capacity Weight (VCW) (kg)				717
Cargo Weight (RCLW) (kg)				136

DATA SHEET NO. 2...(CONTINUED)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M70109
 Test Date: 11/09/06

TEST VEHICLE WEIGHTS

	Units	As Delivered Weights (UVW)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	695	481	1176	742	601	1343
Right	kg	677	484	1161	690	589	1279
Ratio	%	58.7	41.3	100	54.6	45.4	100
Totals	kg	1372	965	2337	1432	1190	2622

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	2337
Weight of 2 P572 ATD's	kg	152
Rated Cargo/Luggage Wt. (RCLW)	kg	136
Calculated Vehicle Target Wt. (TVTW)	kg	2625

TEST VEHICLE ATTITUDE AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	929	930	1000	1005	1513
As Tested	mm	920	926	964	970	1664

Vehicle Wheel Base (mm) 3664
 Weight of Ballast Secured in cargo area (kg) 57
 Weight of Items Removed (kg) 8
 Vehicle Components Removed Jack, tire changing tools, rear window

* Ballast weight does not include cameras, instrumentation and brake abort system.

FUEL SYSTEM DATA

Fuel System Capacity From Owners Manual (L) 98.41
 Actual Test Volume with entire fuel System Filled (L) 93.60
 Test Fluid Type: Stoddard Solvent
 Kinematic Viscosity: as per ASTM Standard D484-71 Red
 Is Vehicle Fuel Pump Electric or Mechanical? Electric
 If electric, does pump operate with ignition switch "On" & engine "OFF" Yes
 Fuel System Particulars: Electric fuel pump. Activated when electrical system is activated
Fuel pump will run for 3 seconds when ignition is in "on" position.

**DATA SHEET NO. 3
POST-TEST IMPACT DATA**

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M70109
 Test Date: 11/09/06

SPEED TRAP DATA

Measured Parameter	Units	Requirement	Value
Trap No.1 Velocity (Primary)	km/h	55.51 to 57.12	56.15
Trap No.2 Velocity (Redun.)	km/h	55.51 to 57.12	56.14

VEHICLE STATIC CRUSH

Measured Parameter	Units	Pre-Test	Post-Test	Difference
Left Side	mm	5608	5226	-382
Center	mm	5834	5181	-653
Right Side	mm	5608	5280	-328

VEHICLE REBOUND FROM BARRIER

Measured Parameter	Units	Value
Left Side	mm	510
Center	mm	580
Right Side	mm	510
Average	mm	533

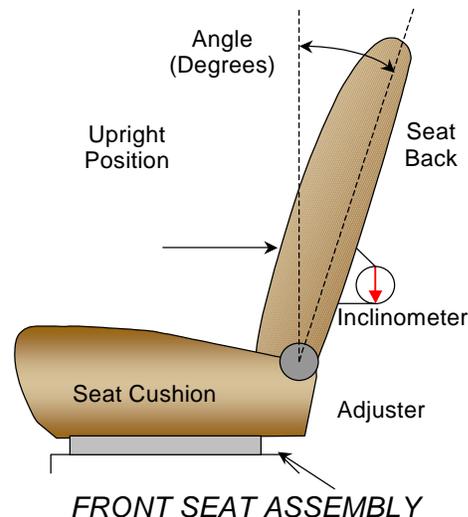
**DATA SHEET NO. 4
TEST VEHICLE INFORMATION**

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M70109
 Test Date: 11/09/06

NOMINAL DESIGN RIDING POSITION

The driver and passenger seat backs are positioned to the manufacturer's designated angle. The procedure is as follows: Seat back angle was measured at the top end of the vertical portion of the metal frame of the seat back using a digital inclinometer.



SEAT BACK ANGLES

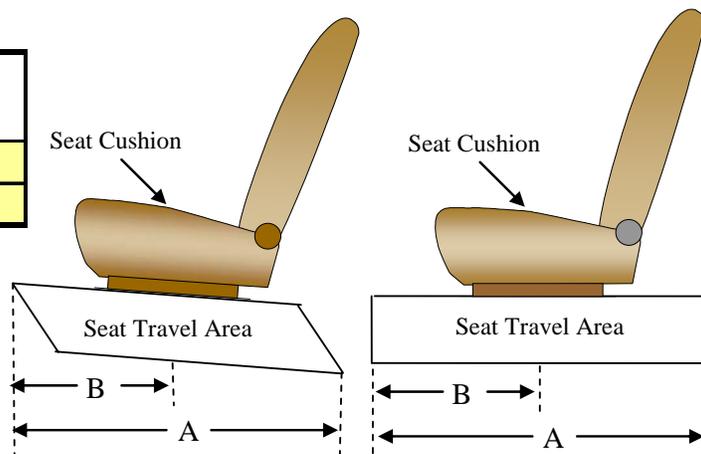
	Deg.
Driver w/seated Dummy	19.3 @ seat back
Passenger w/seated Dummy	19.3 @ seat back

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 the vertical adjustment at the lowest position obtainable for the driver and passenger.

SEAT FORE/AFT POSITIONING

	Total Fore/Aft Travel	Placed in Position
Driver Seat	240 mm	120 mm
Passenger Seat	240 mm	120 mm



SEAT BELT UPPER ANCHORAGE

Position number zero (0) is the uppermost position.

SEAT BELT UPPER ANCHORAGE

	Total # of Positions	Placed in Position #
Driver Seat	5	1
Passenger Seat	5	1

DATA SHEET NO. 4...(CONTINUED)
TEST VEHICLE INFORMATION

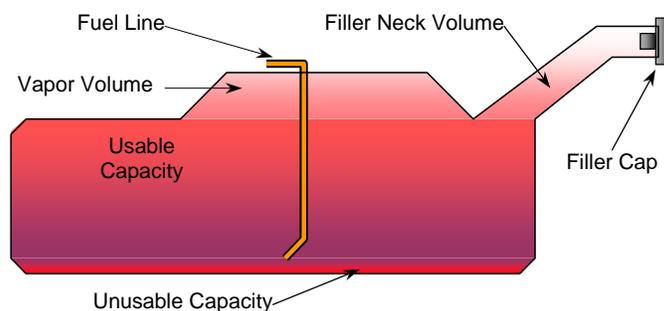
Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M70109
 Test Date: 11/09/06

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard Tank"	100.64
Usable Capacity of "Optional" Tank	
Usable Capacity used for FMVSS 301	92.58 to 94.59
Actual Amount of Solvent used	93.60

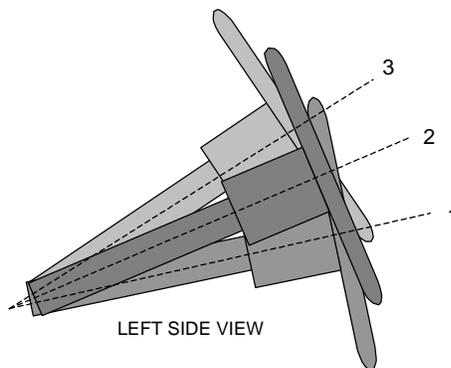
The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the left rear fender. The standard fuel tank occupies 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 No. 1	11.9	
Geometric center position No. 2	21.7	
Uppermost position No. 3	31.5	

DATA SHEET NO. 5
DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck

NHTSA No.: M70109

Test Program: 2007 NHTSA 35mph NCAP

Test Date: 11/09/06

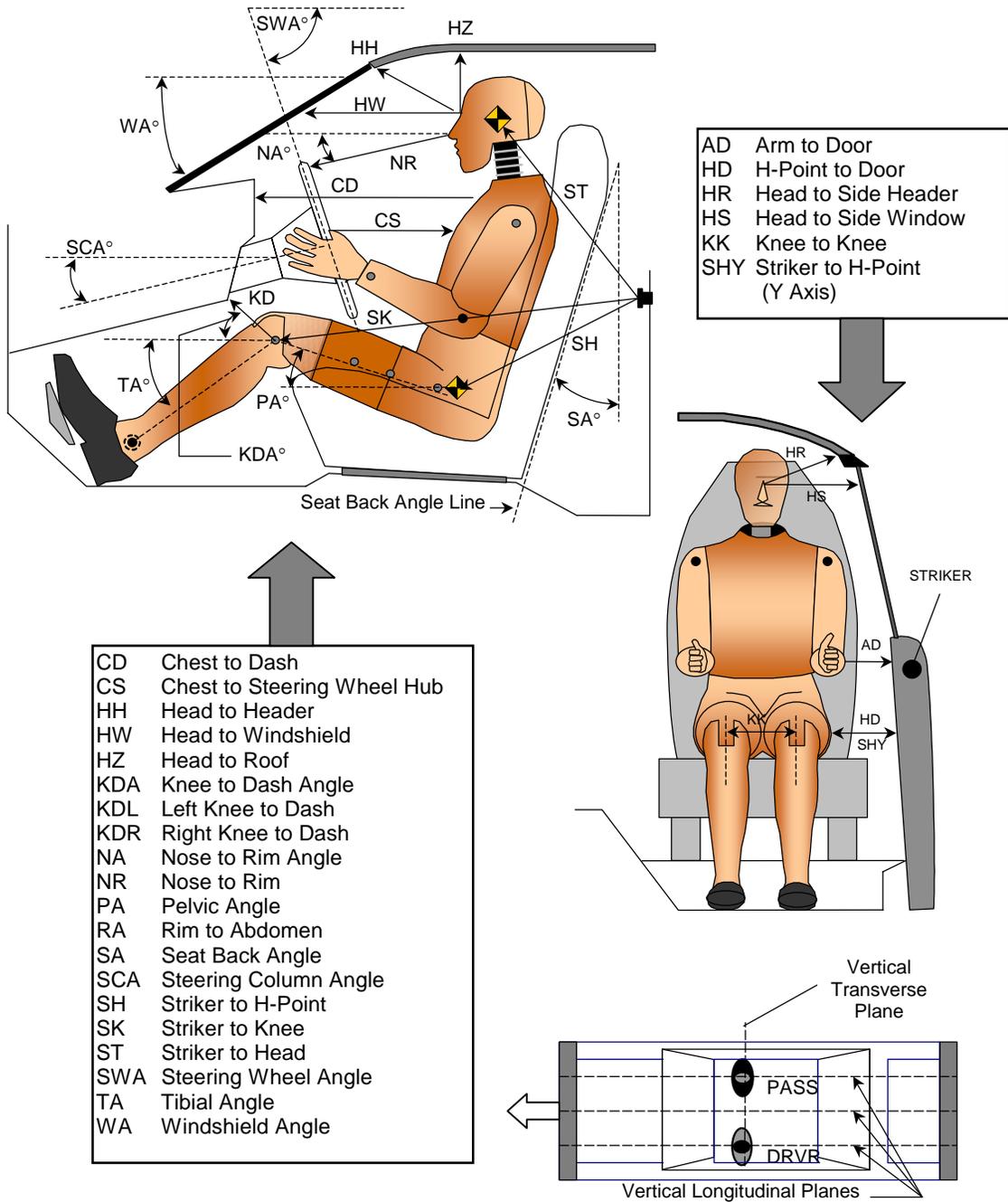
TEST DUMMY POSITION MEASUREMENTS

Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (deg)	Length (mm)	Angle (deg)
WA	Windshield Angle		54.5		
SWA	Steering Wheel Angle		21.7		
SCA	Steering Column Angle		68.3		
SA	Seat Back Angle		19.3 @ seat back		19.3 @ seat back
HZ	Head to Roof (Z)	265	90.0	250	90.0
HH	Head to Header	470		460	
HW	Head to Windshield	682		695	
HR	Head to Side Header (Y)	300		270	
NR	Nose to Rim	395	9.0		
CD	Chest to Dash	688		530	
CS	Chest to Steering Hub	342			
RA	Rim to Abdomen	220			
KDL	Left Knee to Dash	145	29.3	145	
KDR	Right Knee to Dash	128		145	23.4
PA	Pelvic Angle		23.4		24.5
TA	Tibia Angle		49.4		51.5
KK	Knee to Knee (Y)	282		270	
SK	Striker to Knee	745	6.0	725	6.5
ST	Striker to Head	700	69.0	690	76.1
SH	Striker to H-Point	320	1.5	300	1.1
SHY	Striker to H-Point (Y)	210		235	
HS	Head to Side Window	335		330	
HD	H-Point to Door (Y)	190		190	
AD	Arm to Door (Y)	158		50	

DATA SHEET NO. 5...(CONTINUED)
DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M70109
 Test Date: 11/09/06



DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS

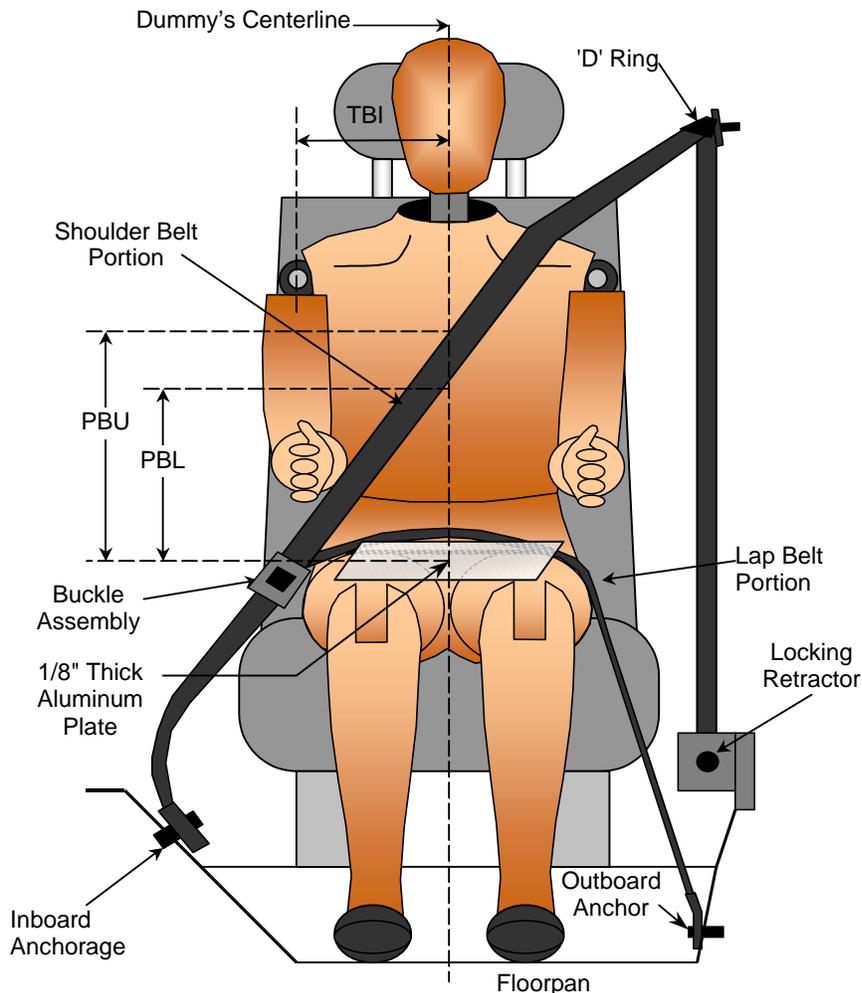
DATA SHEET NO. 6
SEAT BELT POSITIONING DATA

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck

NHTSA No.: M70109

Test Program: 2007 NHTSA 35mph NCAP

Test Date: 11/09/06



SEAT BELT POSITIONING MEASUREMENTS

Measured Parameter	Units	Driver	Passenger
TBI - Dummy C/L to Lap/Shoulder Belt Intersect	mm	272	245
PBU - Top Surface of reference to belt upper edge	mm	330	330
PBL - Top Surface of reference to belt lower edge	mm	265	170
Lap Belt Tension	Newtons	10	10
Shoulder Belt Tension	N/A	Retractor	Retractor

**DATA SHEET NO. 7
VEHICLE ACCELEROMETER LOCATION**

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck

NHTSA No.: M70109

Test Program: 2007 NHTSA 35mph NCAP

Test Date: 11/9/06

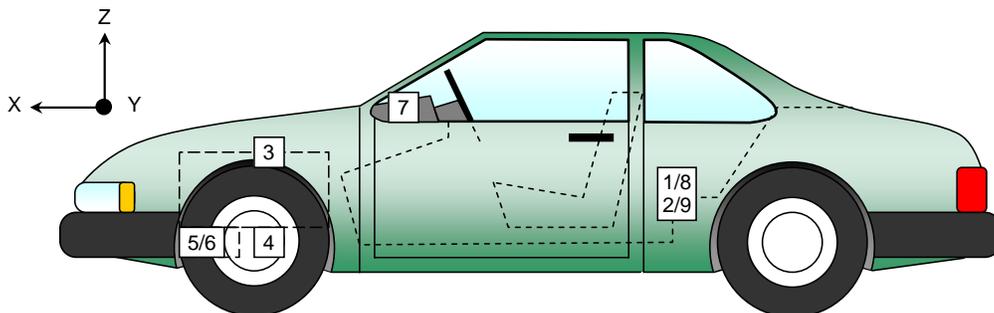
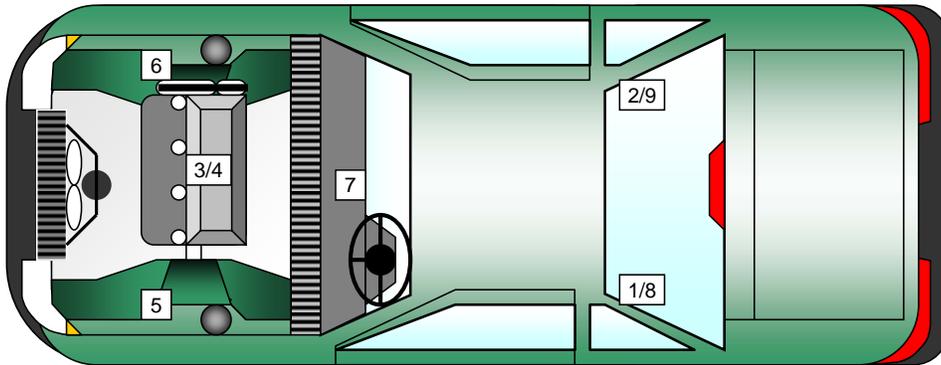
VEHICLE ACCELEROMETER PRE-TEST LOCATIONS

No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Left Rear X-Member	2655	-810	540
2	Right Rear X-Member	2655	810	540
3	Engine Top			
4	Engine Bottom	4568	0	290
5	Left Brake Caliper	4673	-785	422
6	Right Brake Caliper	4673	785	422
7	Instrument Panel			
8	Left Rear X-Member (Z-Axis)	2655	-810	540
9	Right Rear X-Member (Z-Axis)	2655	810	540

Reference Planes: X=From Rear Surface of Vehicle, Y=Vehicle Centerline, Z=Ground Plane

1.) Instrument Panel no longer used by NHTSA

2.) Not installed



DATA SHEET NO. 8
SEAT BELT ASSESSMENT TEST DATA

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M70109
 Test Date: 11/09/06

SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
Retractor Reel to "D" ring	mm	440	440
Shoulder Belt length as measured on ATD	mm	890	330
Lap Belt length as measured on ATD	mm	635	610
Remainder of belt on reel	mm	865	865
Total belt length for continuous webbing systems	mm	2830	2245

SHOULDER BELT SPOOL-OFF DATA

Measurement Description	Units	Driver	Passenger
As determined mechanically	mm	90	120
As determined electronically	mm	128	158

BELT STRETCH DATA

Measurement Description	Units	Driver	Passenger
Electronically between belt load cell and "D" ring	mm/cm	*	*
Mechanically	mm/cm		

* Not used with shoulder belt pre-tensioner systems

DATA SHEET NO. 9
SUMMARY OF FMVSS 212 DATA

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck

NHTSA No.: M70109

Test Program: 2007 NHTSA 35mph NCAP

Test Date: 11/09/06

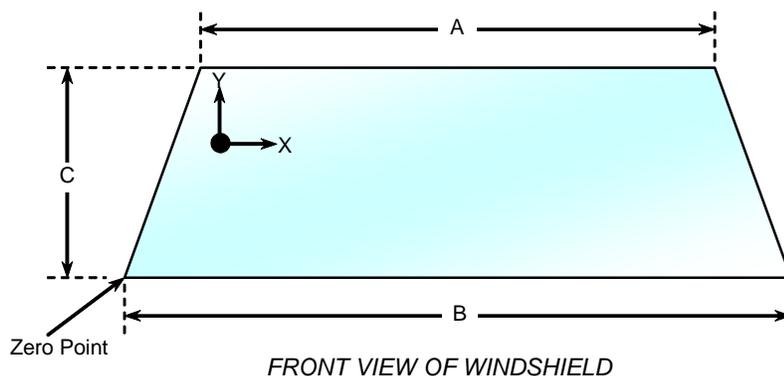
Windshield Mounting Details: Windshield glass is secured to the vehicle frame with a rubber type adhesive. No molding covers the windshield periphery at any point.

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

Temperature of windshield molding during test: 21.1 °C

WINDSHIELD PERIPHERY MEASUREMENTS

Measurement	Pre-Test(mm)	Post-Test(mm)	% of Retention
Left Side	2315	2315	100
Right Side	2315	2315	100
Total	4630	4630	100



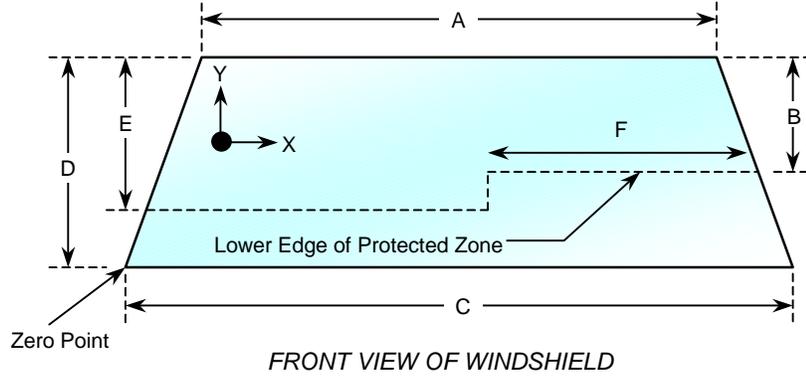
WINDSHIELD DIMENSIONS

Item	Units	Segment Length	Molding Width
A	mm	1410	0
B	mm	1740	10
C-Left	mm	740	21
C-Right	mm	740	21

DATA SHEET NO. 10
WINDSHIELD ZONE INTRUSION FMVSS 219 DATA (PARTIAL)

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M70109
 Test Date: 11/09/06



**WINDSHIELD AND
 PROTECTED ZONE**

Item	Units	Value
A	mm	1410
B	mm	404
C	mm	1740
D	mm	740
E	mm	500
F	mm	780

AREA OF PROTECTED ZONE FAILURES

A. Provide coordinates of the area that the protected zone was penetrated more than 0.25 in. 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. 11
FMVSS 301 FUEL SYSTEM INTEGRITY POST-IMPACT DATA

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck

NHTSA No.: M70109

Test Program: 2007 NHTSA 35mph NCAP

Test Date: 11/09/06

Test Time: 1:08 PM

Temperature: 19.0 Deg. C.

STODDARD SOLVENT SPILLAGE MEASUREMENTS

- A. From impact until vehicle motion ceases: 0.0 oz.
(Maximum Allowable = 1 ounce)
- B. For the 5 minute period after motion ceases: 0.0 oz.
(Maximum Allowable = 5 ounces)
- C. For the following 25 minutes: 0.0 oz.
(Maximum Allowable = 1 oz./minute)
- D. Spillage Location Details: No leakage occurred

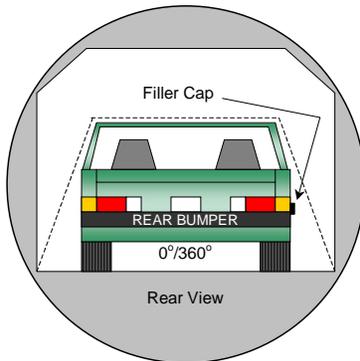
DATA SHEET NO. 12
FMVSS 301 STATIC ROLLOVER DATA

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck

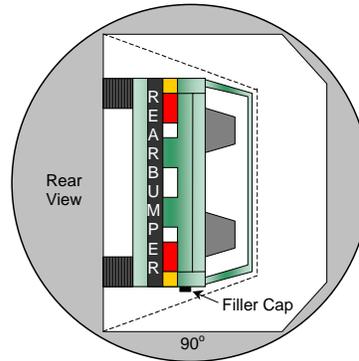
NHTSA No.: M70109

Test Program: 2007 NHTSA 35mph NCAP

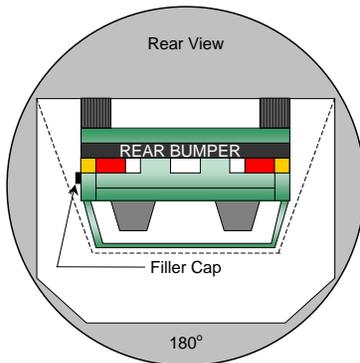
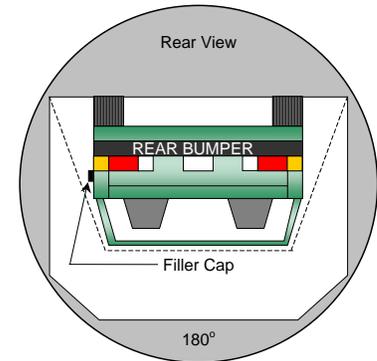
Test Date: 11/09/06



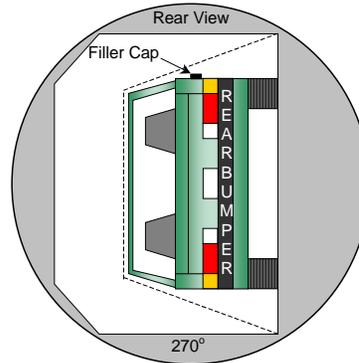
0° to 90°



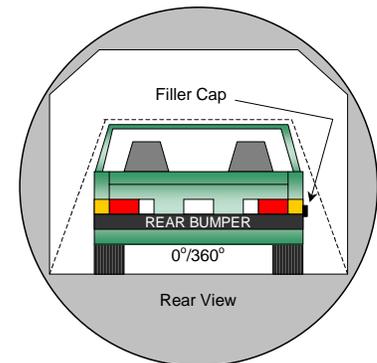
90° to 180°



180° to 270°



270° to 360°



1. The specified fixture rollover rate for each 90° of rotation is 60 to 120 seconds.
2. The position hold time at each position is 300 seconds (minimum).
3. No solvent leakage occurred during rollover.

**DATA SHEET NO. 12...(CONTINUED)
FMVSS 301 STATIC ROLLOVER DATA**

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M70109
 Test Date: 11/09/06

SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° to 90°	80	300	380
90° to 180°	80	300	380
180° to 270°	79	300	379
270° to 360°	80	300	380

FMVSS 301 SPILLAGE TABLE REQUIREMENT (oz.)

First 5 Minutes	5.0
Sixth Minute	1.0
Seventh Minute	1.0
Eighth Minute	1.0

ACTUAL TEST VEHICLE SOLVENT SPILLAGE TABLE (oz.)

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

SOLVENT SPILLAGE LOCATION TABLE

Test Phase	Spillage Location
0° to 90°	None
90° to 180°	None
180° to 270°	None
270° to 360°	None

DATA SHEET NO. 13
VEHICLE MEASUREMENTS

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck

NHTSA No.: M70109

Test Program: 2007 NHTSA 35mph NCAP

Test Date: 11/09/06

VEHICLE MEASUREMENT TABLE

No.	Measurement Description	Units	Pre-Test	Post-Test	Diff.
1	Total length of vehicle at centerline	mm	5834	5181	-653
2	RSOV to front of engine	mm	5034	4970	-64
3	RSOV to firewall centerline	mm	4644	4588	-56
4	RSOV to leading edge of right door	mm	4290	4299	9
5	RSOV to leading edge of left door	mm	4280	4299	19
6	RSOV to lower leading edge of right door	mm	4228	4222	-6
7	RSOV to lower leading edge of left door	mm	4220	4214	-6
8	RSOV to upper trailing edge of right door	mm	3105	3112	7
9	RSOV to upper trailing edge of left door	mm	3100	3114	14
10	RSOV to lower trailing edge of right door	mm	3088	3081	-7
11	RSOV to lower trailing edge of left door	mm	3080	3074	-6
12	RSOV to bottom of right 'A' pillar	mm	4238	4230	-8
13	RSOV to bottom of left 'A' pillar	mm	4246	4224	-22
14	RSOV to firewall on right side	mm	4594	4604	10
15	RSOV to firewall on left side	mm	4599	4614	15
16	RSOV to steering column	mm	3760	3867	107
17	Center of steering column to left 'A' pillar	mm	477	391	-86
18	Center of steering column to headlining	mm	457	480	23
19	RSOV to right side of front bumper	mm	5608	5280	-328
20	RSOV to left side of front bumper	mm	5608	5226	-382
21	Length of engine block	mm	600	600	0
RD	RSOV to right side of dash panel	mm	4009	4011	2
CD	RSOV to center of dash panel	mm	3890	3991	101
LD	RSOV to left side of dash panel	mm	3993	4021	28

DATA SHEET NO. 13...(CONTINUED)
VEHICLE STRUCTURAL MEASUREMENTS

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck

NHTSA No.: M70109

Test Program: 2007 NHTSA 35mph NCAP

Test Date: 11/09/06

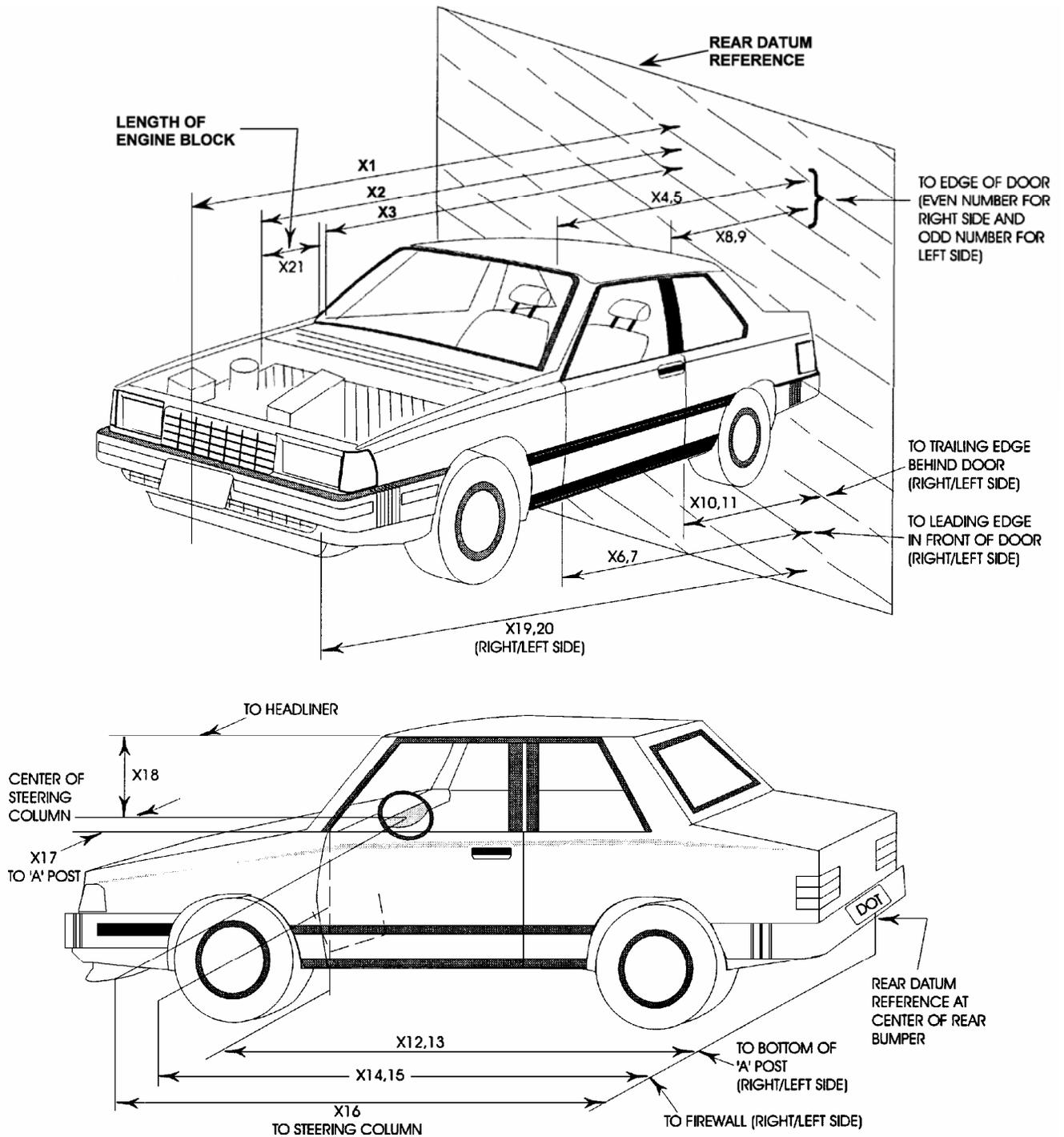
VEHICLE STRUCTURAL MEASUREMENT TABLE

No.	Measurement Description	Units	Pre-Test	Post-Test	Diff.
1	Total length	mm	5834	5181	-653
2	Total width	mm	1980	1920	-60
3	Bumper top height	mm	680	640	-40
4	Bumper bottom height	mm	308	300	-8
5	Longitudinal member top height	mm	570	581	11
6	Longitudinal member bottom height	mm	429	440	11
7	Distance between longitudinal members	mm	790	730	-60
8	Longitudinal member width	mm	90	90	0
9	Engine top height	mm	1180	1184	4
10	Engine bottom height	mm	341	282	-59
11	Engine and gear box width	mm	620	620	0
12	Front bumper to engine distance	mm	800	410	-390
13	Front shock absorber fixing width	mm	744	670	-74
14	Bonnet leading edge height	mm	1040	1070	30
15	Front shock absorber fixing width	mm	955	960	5
16	Front bumper to front axle distance	mm	1005	510	-495
17	Front axle to 'A' pillar distance	mm	580	510	-70
18	'A' pillar to 'B' pillar distance	mm	1210	1215	5
19	'B' pillar to rear axle distance	mm	1905	1913	8
20	'B' pillar to 'C' pillar distance	mm	937	940	3
21	Roof sill bottom height	mm	1710	1585	-125
22	Roof sill top height	mm	1830	1690	-140
23	Floor sill bottom height	mm	380	250	-130
24	Floor sill top height	mm	565	365	-200

DATA SHEET NO. 13...(CONTINUED)
VEHICLE MEASUREMENTS

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M70109
 Test Date: 11/09/06



DATA SHEET NO. 14
CAMERA LOCATIONS

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M70109
Test Date: 11/09/06

VEHICLE CAMERA MEASUREMENT TABLE

No.	Camera View	Location (mm)			Angle (deg.)	Film Plane to Head	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Real Time Camera (Panning)	-15284	-7942	-1593	0	N/A	N/A	30
2	Overall Left Side	-2348	-7598	-1137	0	8301	20mm	1000
3	Closeup Left Side	-1689	-7128	-1172	0	7874	50mm	1000
4	Driver and Interior View	-8696	-12562	-4511	-17	15570	ZOOM	1000
5	Steering Column (Bottom)	-1631	-8234	-2682	-13	9453	35mm	1000
6	Steering Column (Top)	-1663	-8153	-3078	-13	9549	35mm	1000
7	Overall Right Side	-2985	3981	-1123	0	4391	20mm	1000
8	Closeup Right Side	-2014	6548	-1167	0	6635	50mm	1000
9	Passenger and Interior View	-5330	9365	-2407	-10	10211	ZOOM	1000
10	Right Side View	-2006	6967	-1463	-6	7134	ZOOM	1000
11	Windshield View	-589	0	-5556	-90	N/A	24mm	1000
12	Driver Front View	378	-286	-2438	-34	N/A	25mm	1000
13	Passenger Front View	375	413	-2439	-34	N/A	25mm	1000
14	Pit View of Engine	-756	0	1495	90	N/A	12mm	1000
15	Pit View of Fuel Tank	-3568	0	1495	90	N/A	8mm	1000
16	Driver Side O.B.	-2586	387	-1249	-7	N/A	12mm	1000
17	Passenger Side O.B.	-2586	-387	-1249	-7	N/A	12mm	1000
18	Real Time Camera	1742	6528	-1104	-1	7664	N/A	30

All measurements are in relativity to point of impact.

DATA SHEET NO. 15
PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

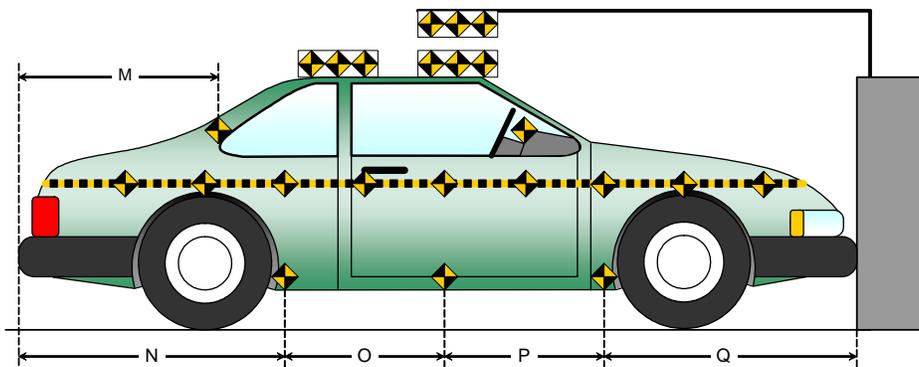
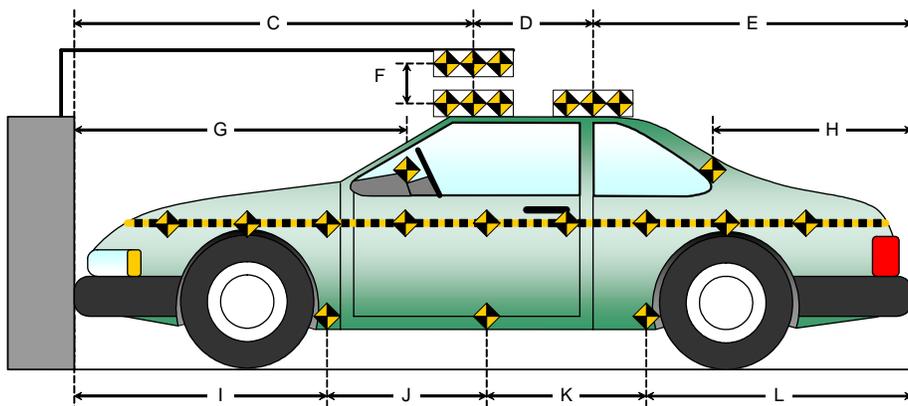
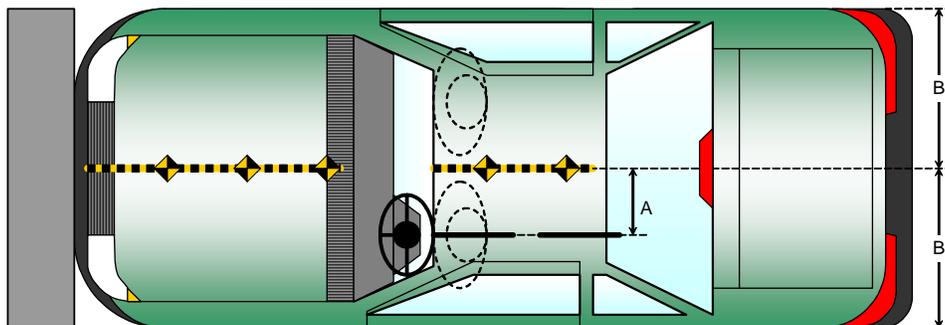
Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck

NHTSA No.: M70109

Test Program: 2007 NHTSA 35mph NCAP

Test Date: 11/09/06

All Dimensions in (mm)	
Item	Value
A	432
B	990
C	2410
D	615
E	2819
F	155
G	1994
H	2185
I	1610
J	1040
K	1040
L	2144
M	2185
N	2144
O	1040
P	1040 </td
Q	1610



DATA SHEET NO. 16
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
Test Program: 2007 NHTSA 35mph NCAP

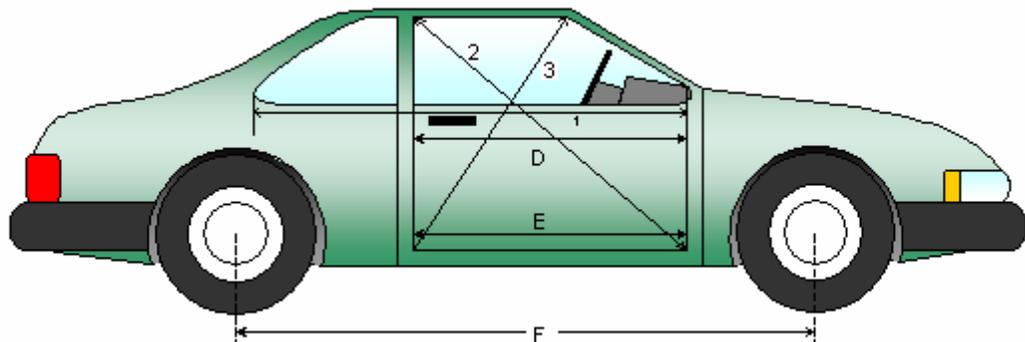
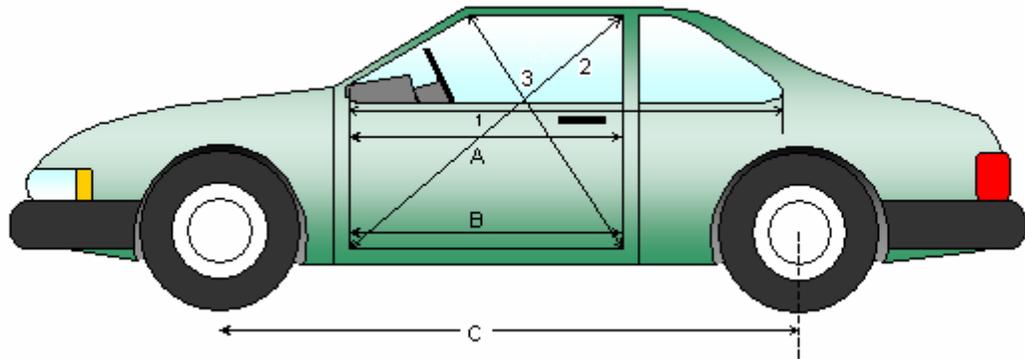
NHTSA No.: M70109
Test Date: 11/09/06

DOOR OPENING WIDTH TABLE

Item	Description	Units	Pre-Test	Post-Test	Diff.
A	Left Side Upper	mm	1109	1103	-6
B	Left Side Lower	mm	1093	1091	-2
D	Right Side Upper	mm	1113	1101	-12
E	Right Side Lower	mm	1083	1080	-3
1L	Left Side	mm	1109	1113	4
2L	Left Side (Diagonally)	mm	1535	1536	1
3L	Left Side (Diagonally)	mm	1210	1242	32
1R	Right Side	mm	1109	1113	4
2R	Right Side (Diagonally)	mm	1535	1536	1
3R	Right Side (Diagonally)	mm	1210	1242	32

WHEELBASE MEASUREMENT TABLE

Item	Description	Units	Pre-Test	Post-Test	Diff.
C	Left Side Wheel Base	mm	3664	3604	-60
F	Right Side Wheel Base	mm	3664	3612	-52



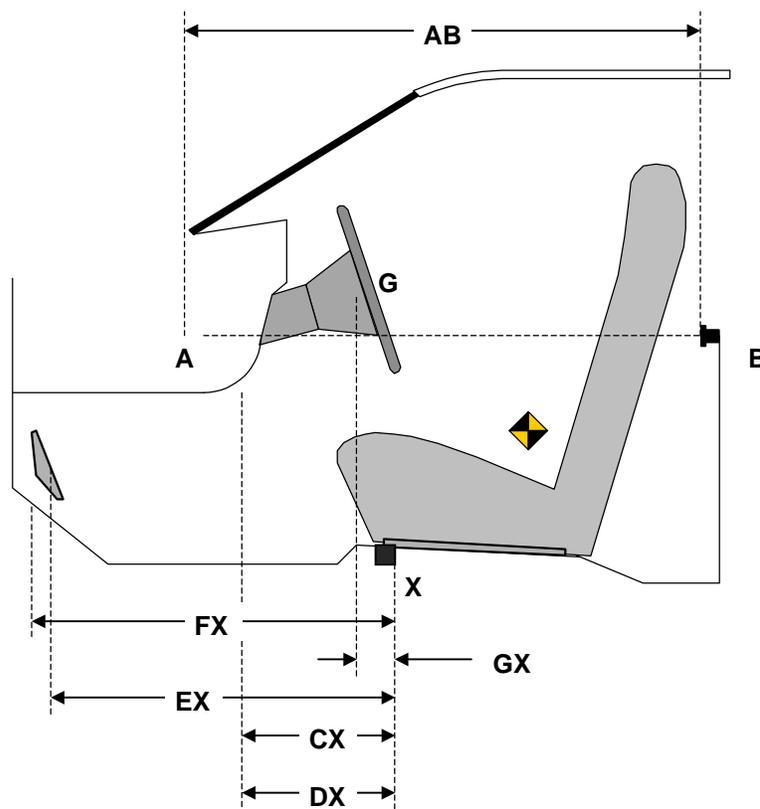
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VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M70109
 Test Date: 11/09/06

DRIVER COMPARTMENT INTRUSION TABLE

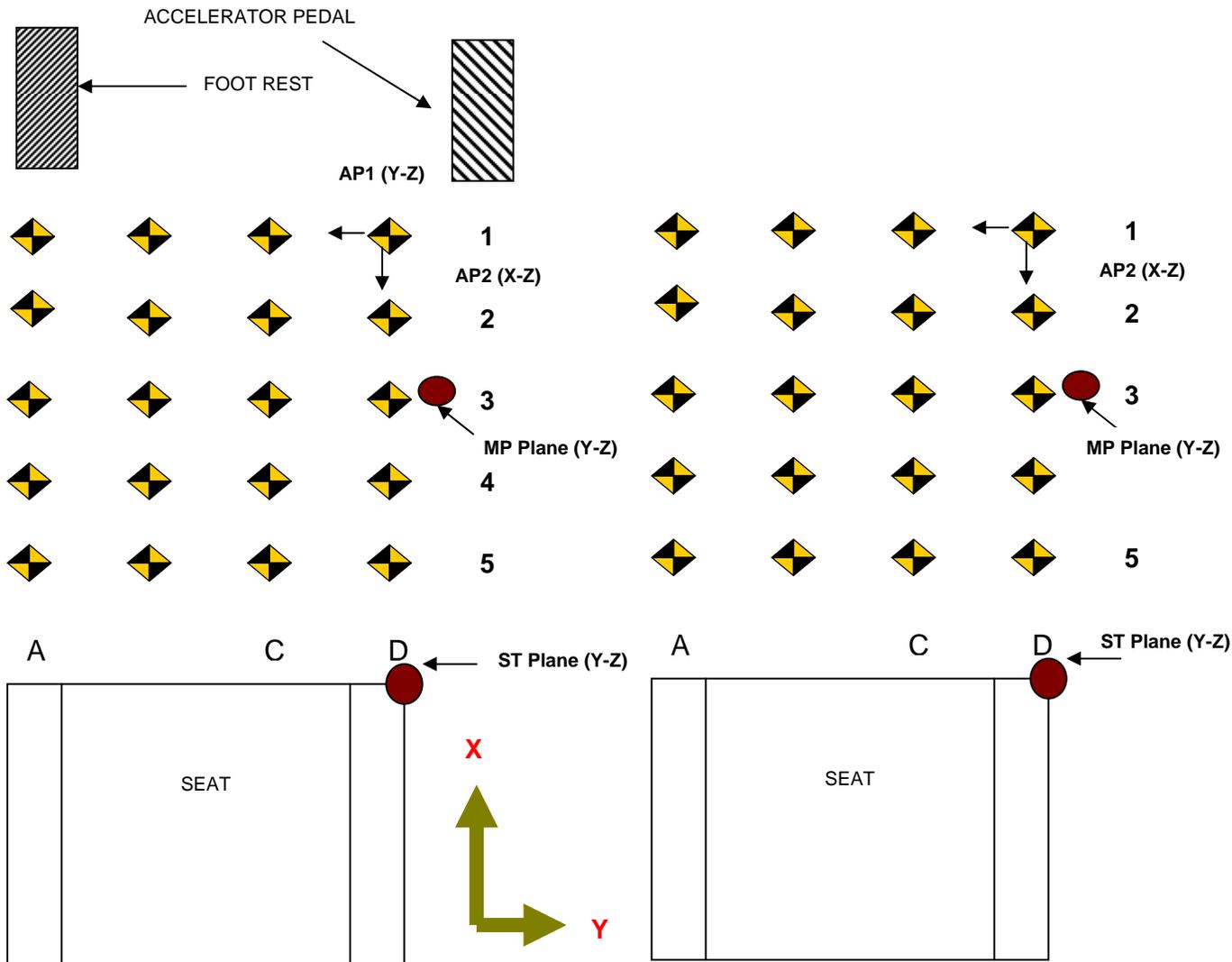
Item	Description	Units	Pre-Test	Post-Test	Diff.
AB	Door Opening (Inside window jam)	mm	1109	1103	-6
CX	Left Knee Bolster to X	mm	304	285	-19
DX	Right Knee Bolster to X	mm	305	270	-35
EX	Brake Pedal to X	mm	578	526	-52
FX	Foot Rest to X	mm	713	656	-57
GX	Center of Steering Wheel Hub to X	mm	100	190	90



DATA SHEET NO. 16...(CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M70109
 Test Date: 11/09/06



- AP1: Y-Z Plane passing through D1
- AP2: X-Z Plane passing through D1
- AP3: X-Y plane passing through D1
- MP: Y-Z plane, halfway between the ST plane and AP1 plane
- CF Plane: X-Z plane passes through center of footrest.
- BP Plane: X-Z plane passes through center of brake pedal
- TP Plane: Y-Z plane, intersection of BP Plane and the intersection of the toe pan and floorboard
- Column A: intersection of vehicle and CF plane
- Column D: Intersection of vehicle and AP2 plane
- Row 1: intersection of the vehicle and the AP3 Plane
- Row 3: intersection of the vehicle and TP plane
- Row 5: intersection of the vehicle and MP plane
- Row 2: evenly spaced between row 1 and 3
- Row 4: evenly spaced between row 3 and 5

DATA SHEET NO. 16...(CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M70109
 Test Date: 11/09/06

All measurements in mm

DRIVER FLOOR PAN X-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	722	764	765	715	726	772	775	723	4	8	10	8
2	673	671	662	649	672	677	681	678	-1	6	19	29
3	571	570	571	560	575	580	588	589	4	10	17	29
4	472	471	465	458	468	476	484	489	-4	5	19	31
5	379	370	363	353	376	376	379	380	-3	6	16	27

DRIVER FLOOR PAN Y-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	31	151	265	406	-25	92	206	340	-56	-59	-59	-66
2	28	153	262	413	-28	99	210	357	-56	-54	-52	-56
3	25	155	260	423	-21	110	216	377	-46	-45	-44	-46
4	23	154	258	422	-16	118	219	381	-39	-36	-39	-41
5	20	152	254	420	-13	122	223	389	-33	-30	-31	-31

DRIVER FLOOR PAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	-33	-6	-2	-15	-23	4	8	-13	10	10	10	2
2	56	55	58	29	71	67	63	32	15	12	5	3
3	84	86	81	77	95	97	90	82	11	11	9	5
4	83	85	81	82	90	90	87	87	7	5	6	5
5	83	80	78	76	90	85	83	82	7	5	5	6

DATA SHEET NO. 16...(CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M70109
 Test Date: 11/09/06

All measurements in mm

PASSENGER FLOOR PAN X-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	692	687	683	676	677	672	674	672	15	15	9	4
2	598	602	599	590	593	592	595	585	5	10	4	5
3	516	514	505	502	505	502	499	495	11	12	6	7
4	430	419	412	399	419	411	405	392	11	8	7	7
5	331	322	319	307	317	316	312	300	14	6	7	7

PASSENGER FLOOR PAN Y-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	311	200	105	82	302	200	104	83	9	0	1	-1
2	325	203	106	78	313	205	100	79	12	-2	6	-1
3	338	207	112	71	339	205	110	74	-1	2	2	-3
4	341	214	113	66	340	211	114	67	1	3	-1	-1
5	349	222	117	60	345	218	111	66	4	4	6	-6

PASSENGER FLOOR PAN Z-AXIS

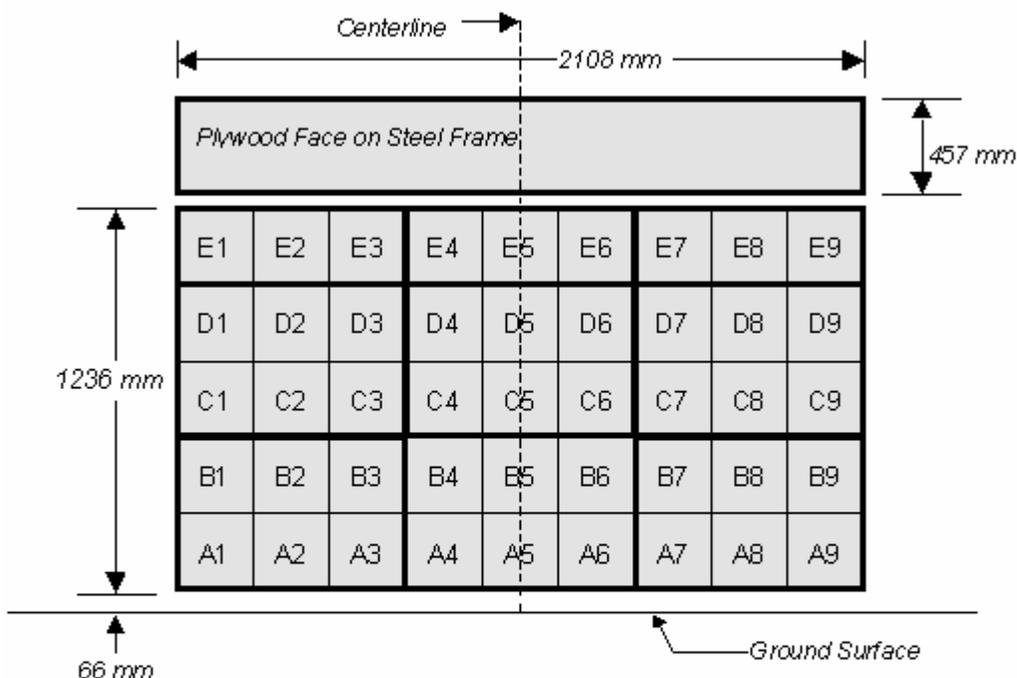
	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	14	5	4	5	7	25	22	14	7	-20	-18	-9
2	33	44	46	49	54	60	63	58	-21	-16	-17	-9
3	81	79	75	81	102	88	79	83	-21	-9	-4	-2
4	78	78	74	81	100	87	81	83	-22	-9	-7	-2
5	79	76	72	80	101	89	82	81	-22	-13	-10	-1

DATA SHEET NO. 17
FIXED BARRIER LOAD CELL LOCATIONS

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M70109
 Test Date: 11/09/06

45 Load Cell Rigid Barrier (NHTSA Standard)
Load Cell Locations on Fixed Barrier



Group 4 C1 – D3	Group 5 C4 – D6	Group 6 C7 – D9	R&D Additional Group E1 – E9
Group 1 A1 – B3	Group 2 A4 – B6	Group 3 A7 – B9	

6 Groups of 6 Load Cells Each

DATA SHEET NO. 18
ACCIDENT INVESTIGATION DIVISION DATA

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M70109
 Test Date: 11/09/06

VEHICLE INFORMATION

VIN: 2GCEC13C971507096
 Vehicle Size Category: 4-Door Truck

Wheel base (mm): 3664
 Test Weight (kg): 2622

ACCELEROMETER DATA

Accelerometer Location: Left rear cross member
 Cal. Procedure/Interval: 6 months / drop test
 Integration Algorithm: NHTSA Standard
 Impact Velocity (km/h): 56.15
 Velocity Change (km/h): 64.0

Linearity: Good

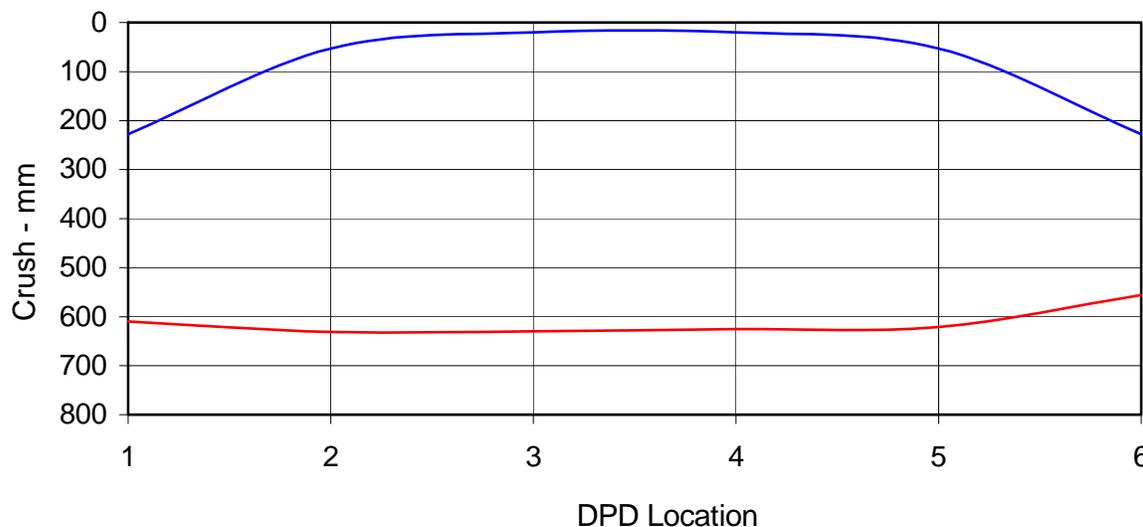
Time of Separation (msec): 76.8

CRUSH PROFILE

Collision Deformation Classification: 12FDEW6
 Damage Region Length (mm): 1800

Midpoint of Damage: Vehicle Centerline
 Impact Mode: Full Frontal

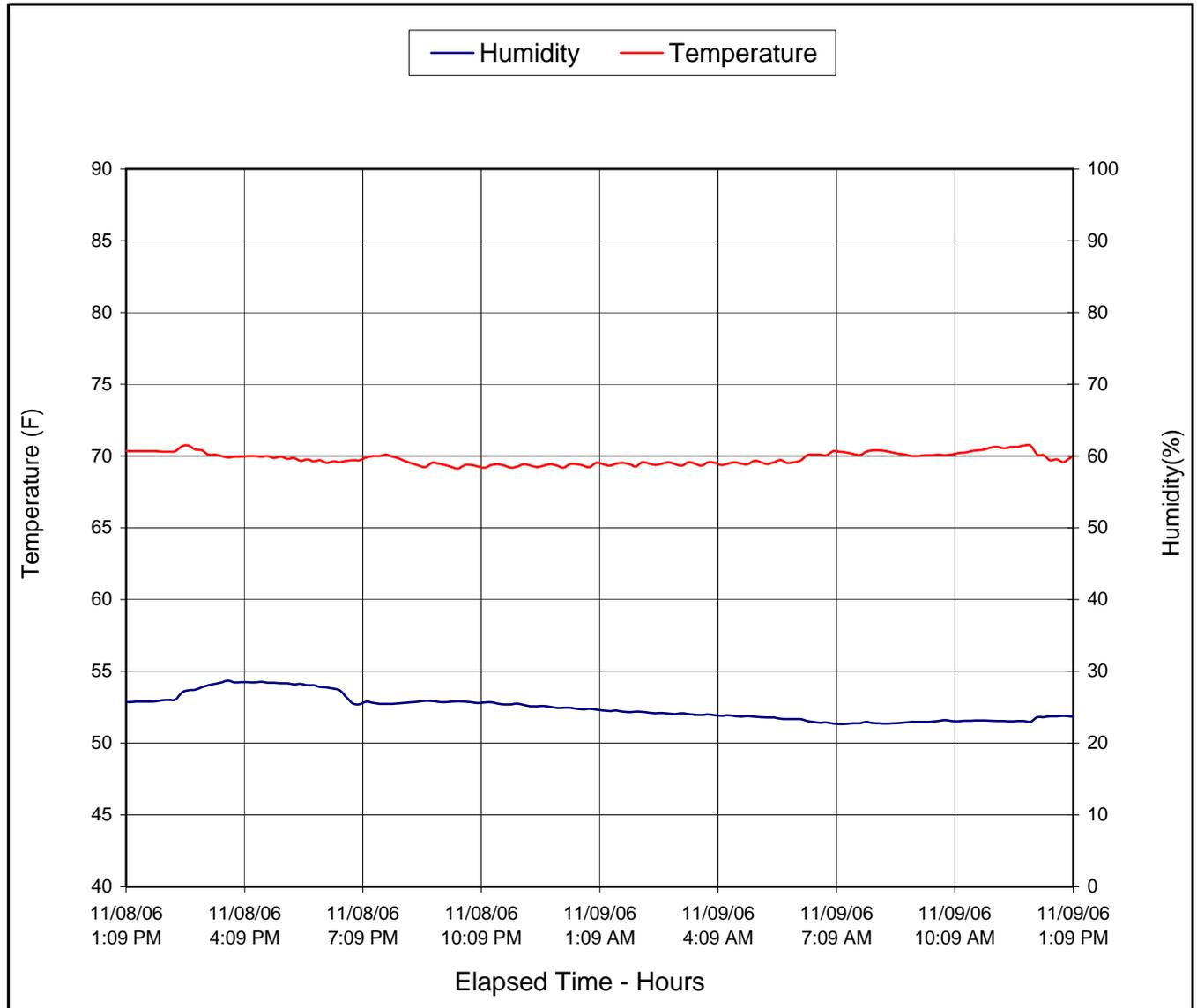
No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	228	610	-382
C2	Crush zone 2 on left side	mm	53	631	-578
C3	Crush zone 3 on left side	mm	20	630	-610
C4	Crush zone 4 on right side	mm	20	625	-605
C5	Crush zone 5 on right side	mm	53	621	-568
C6	Crush zone 6 at right side	mm	228	556	-328



DATA SHEET NO. 19
DUMMY/VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M70109
Test Date: 11/09/06



APPENDIX A
PHOTOGRAPHS

LIST OF PHOTOGRAPHS

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A-3	Tire Placard	A-3
A-4	Right Front $\frac{3}{4}$ View, As Received	A-4
A-5	Left Rear $\frac{3}{4}$ View, As Received	A-5
A-6	Pre-Test Front View	A-6
A-7	Post-Test Front View	A-7
A-8	Pre-Test Left Side View	A-8
A-9	Post-Test Left Side View	A-9
A-10	Pre-Test Right Side View	A-10
A-11	Post-Test Right Side View	A-11
A-12	Pre-Test Right Front $\frac{3}{4}$ View	A-12
A-13	Post-Test Right Front $\frac{3}{4}$ View	A-13
A-14	Pre-Test Left Rear $\frac{3}{4}$ View	A-14
A-15	Post-Test Left Rear $\frac{3}{4}$ View	A-15
A-16	Post-Test Left Side $\frac{3}{4}$ View of Doors After Impact	A-16
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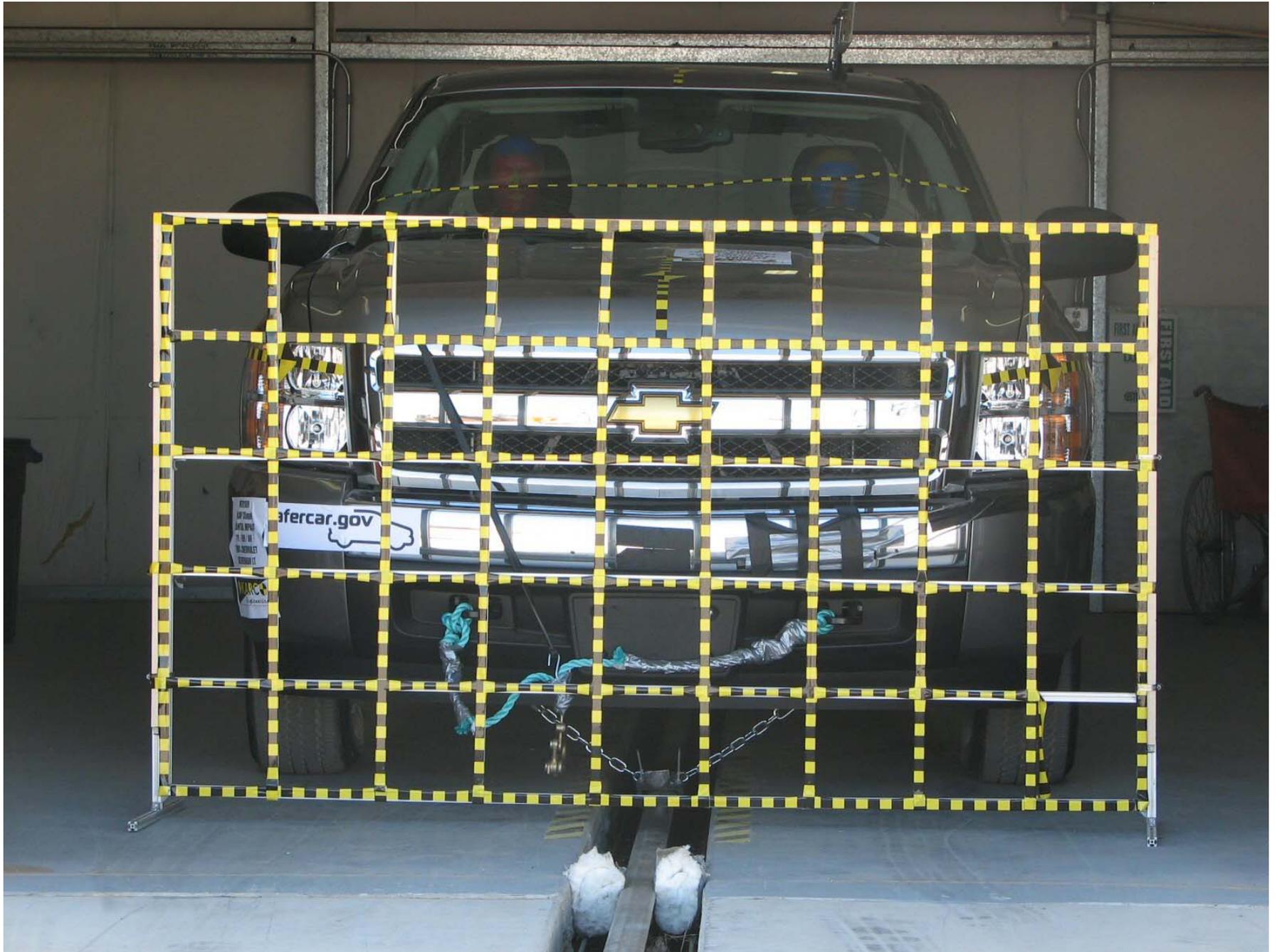


Figure A-1: Load Cell Location



MFD BY GENERAL MOTORS OF CANADA LTD.

10/06

GVWR
3085KG(6800LB)

GAWR FRT
1656KG(3650LB)

GAWR RR
1792KG(3950LB)

THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.

2GCEC13C971507096

TYPE: TRUCK

MODEL: C10543

CQR8	TIRE SIZE	SPEED RTG	RIM	COLD TIRE PRESSURE
FRT	P245/70R17	S	17X7.5J	240KPA(35PSI)
RR	P245/70R17	S	17X7.5J	240KPA(35PSI)
SPA	P245/70R17	S	17X7.5J	240KPA(35PSI)

SEE OWNER'S MANUAL  FOR MORE INFORMATION.

F 197
T 681

Figure A-2: Manufacturer's Label



TIRE AND LOADING INFORMATION

SEATING CAPACITY | TOTAL 6 | FRONT 3 | REAR 3

The combined weight of occupants and cargo should never exceed 717 kg or 1581 lbs.

TIRE	ORIGINAL SIZE		COLD TIRE PRESSURE
FRONT	P245/70R17	S	240 kPa, 35 PSI
REAR	P245/70R17	S	240 kPa, 35 PSI
SPARE	P245/70R17	S	240 kPa, 35 PSI

SEE OWNER'S
MANUAL FOR
ADDITIONAL
INFORMATION

2GCEC13C971507096

Figure A-3: Tire Placard



Figure A-4: Right Front $\frac{3}{4}$ View, As Received



A-5

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Figure A-5: Left Rear $\frac{3}{4}$ View, as Received



Figure A-6: Pre-Test Front View



Figure A-7: Post-Test Front View (Vehicle Moved)



Figure A-8: Pre-Test Left Side View



Figure A-9: Post-Test Left Side View



Figure A-10: Pre-Test Right Side View



Figure A-11: Post-Test Right Side View



Figure A-12: Pre-Test Right Front 3/4 View



Figure A-13: Post-Test Right Front ¾ View (Vehicle Moved)



Figure A-14: Pre-Test Left Rear $\frac{3}{4}$ View



A-15

TR-P27001-04-NC

Figure A-15: Post-Test Left Rear $\frac{3}{4}$ View



Figure A-16: Post-Test Left Side 3/4 View of Doors After Impact



Figure A-17: Post-Test Right Side ¾ View of Doors After Impact

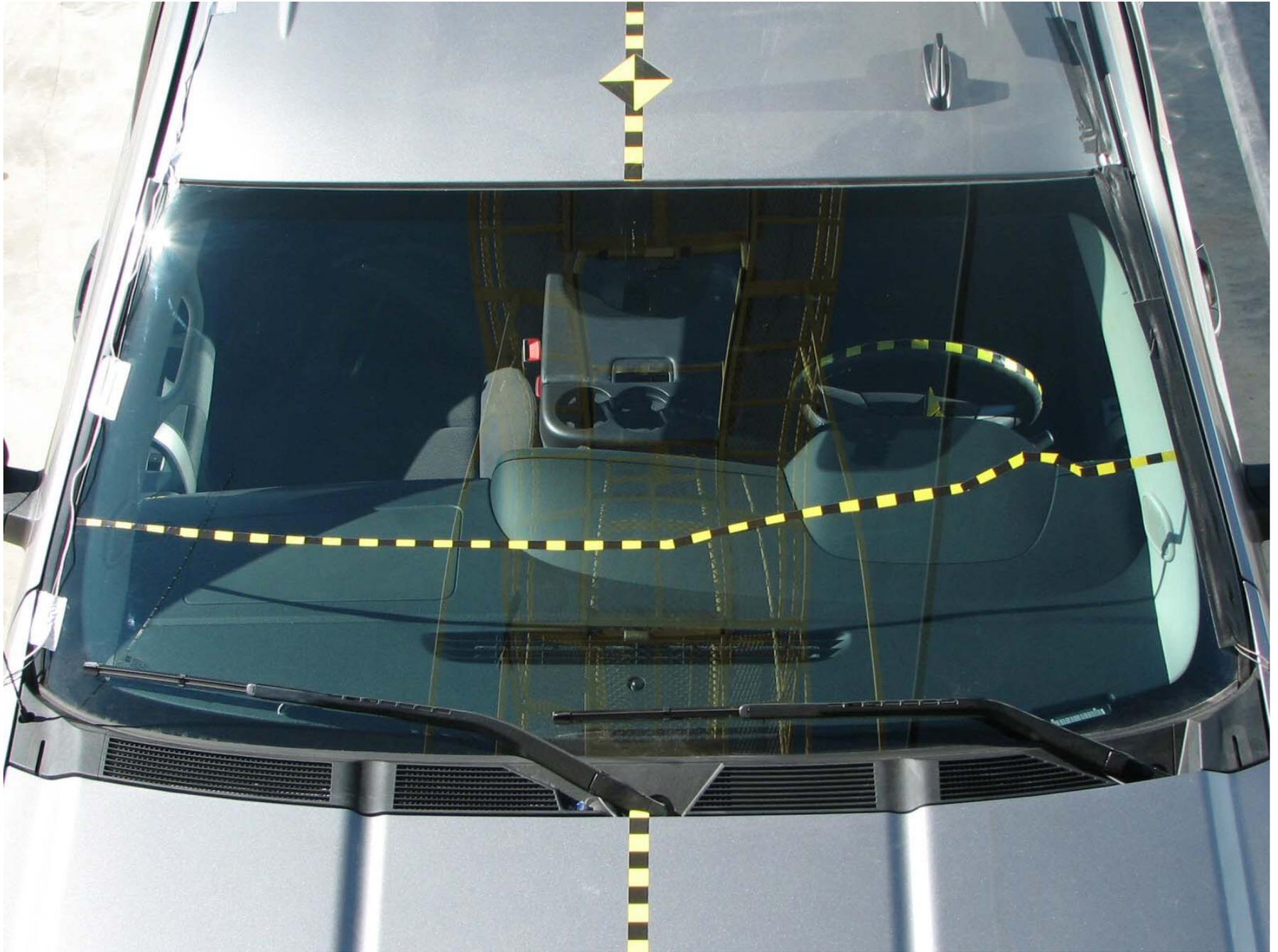


Figure A-18: Pre-Test Windshield



Figure A-19: Post-Test Windshield



Figure A-20: Pre-Test Engine Compartment



Figure A-21: Post-Test Engine Compartment (Vehicle Moved)



Figure A-22: Pre-Test Fuel Cap



Figure A-23: Post-Test Fuel Cap

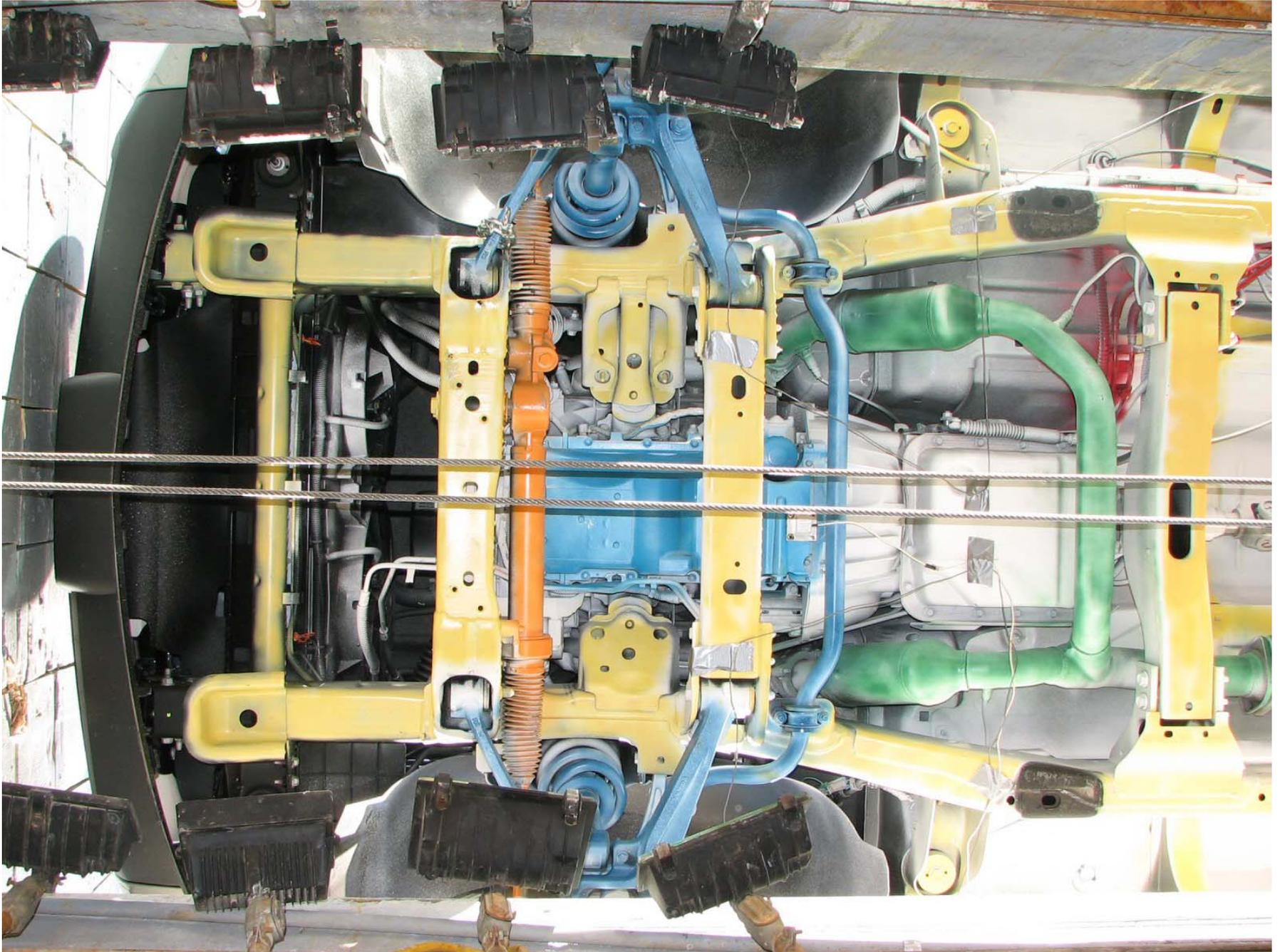


Figure A-24: Pre-Test Front Underbody

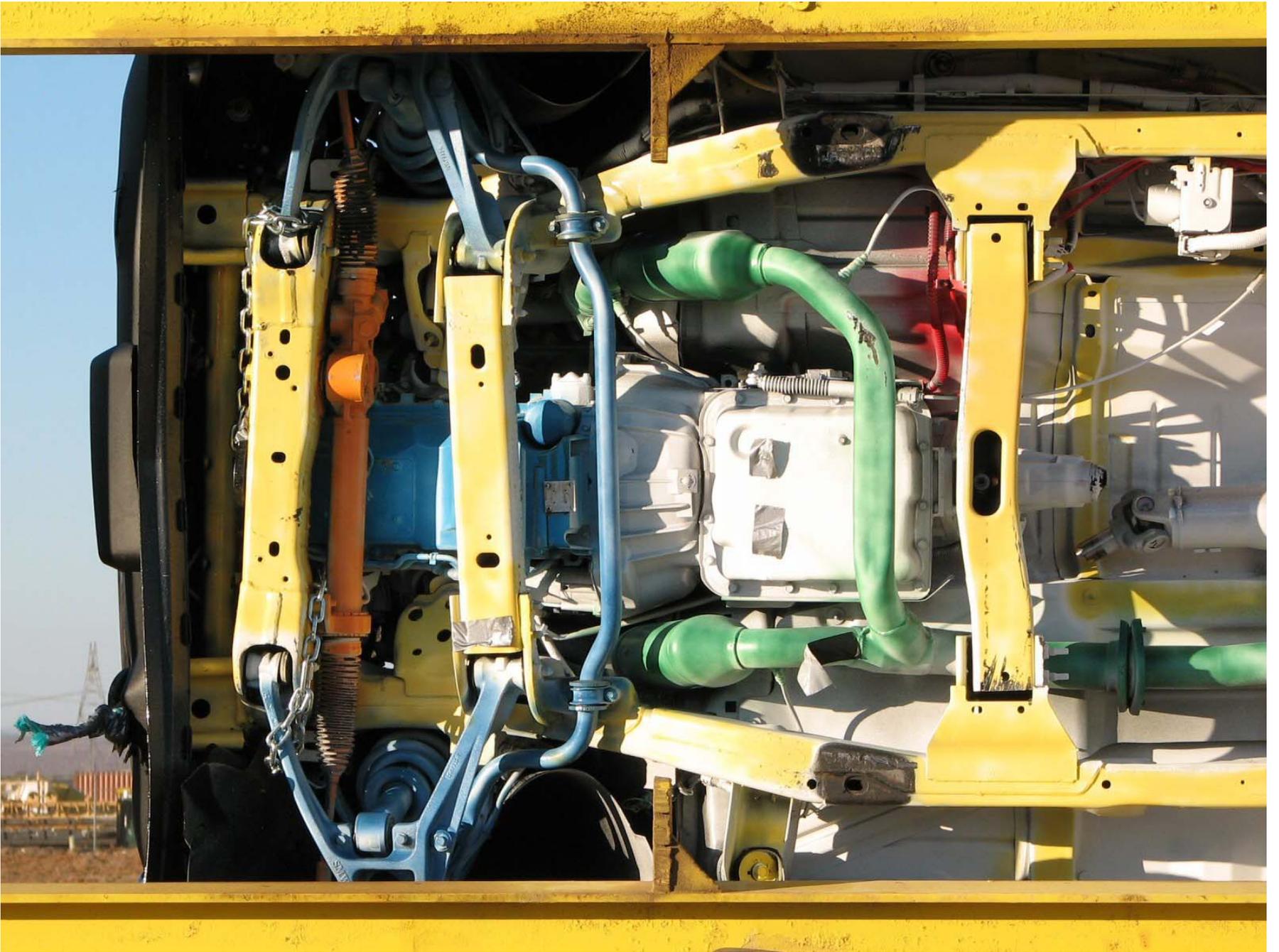


Figure A-25: Post-Test Front Underbody

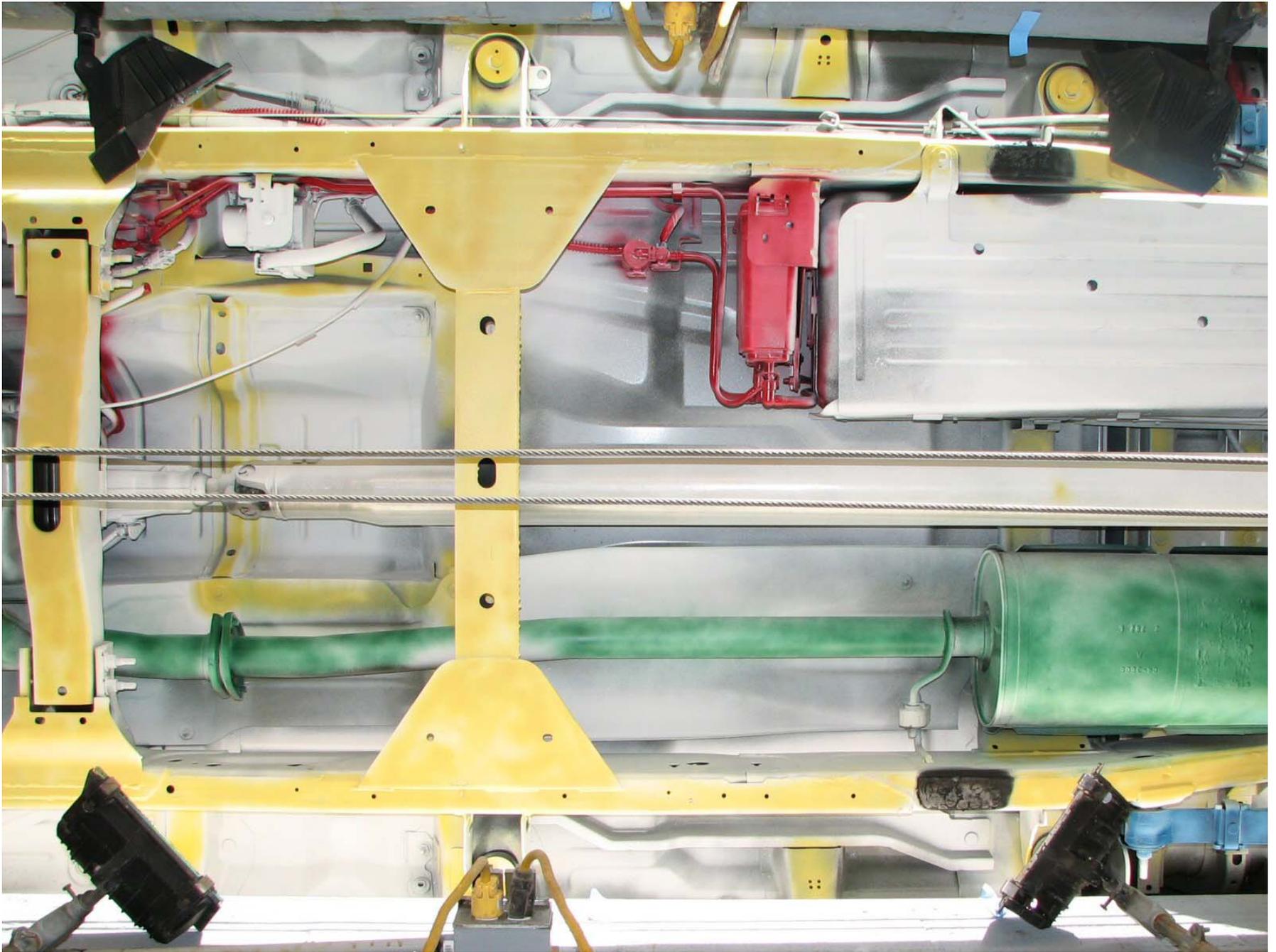


Figure A-26: Pre-Test Mid Underbody

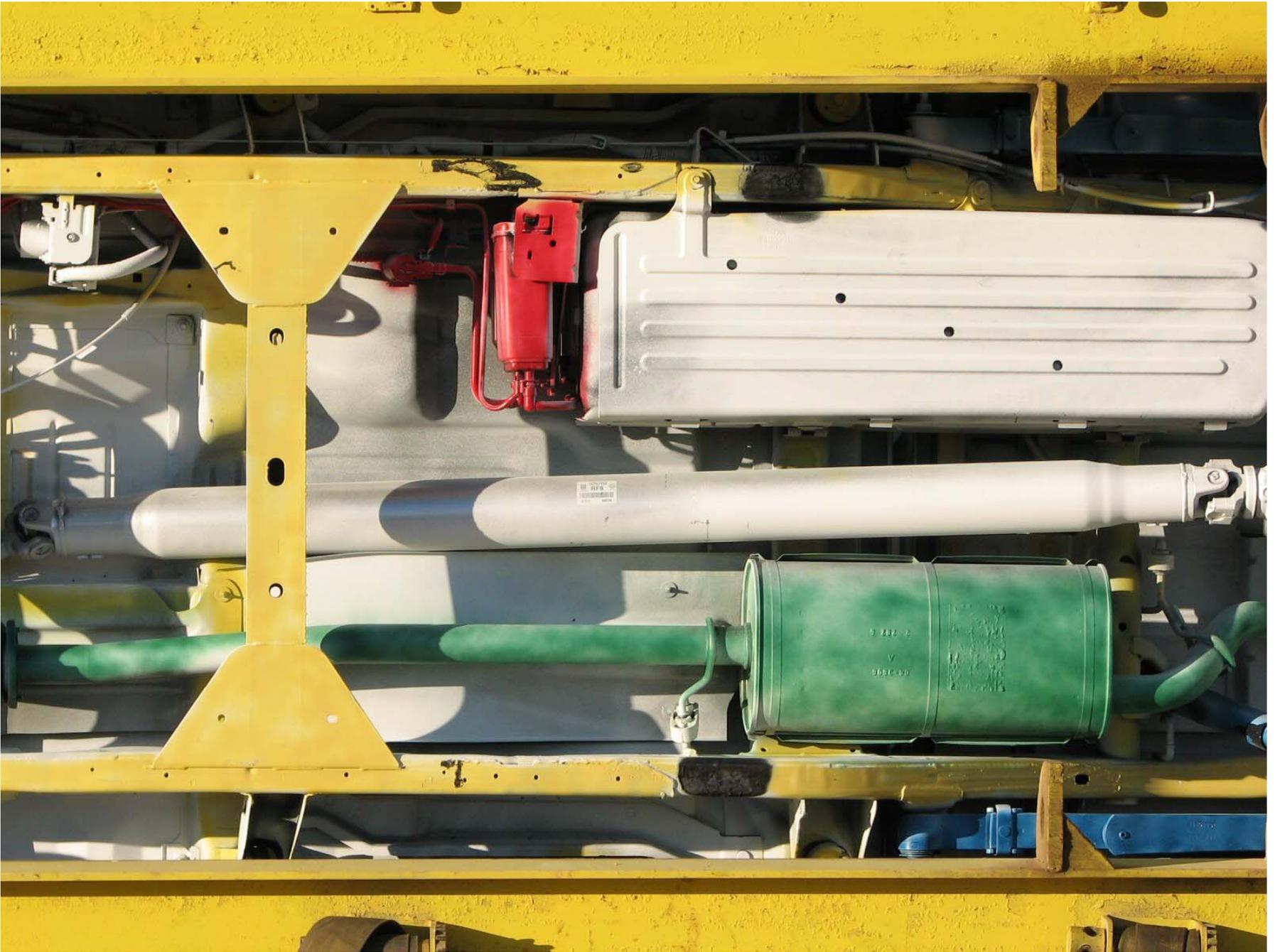


Figure A-27: Post-Test Mid Underbody



Figure A-28: Pre-Test Rear Underbody

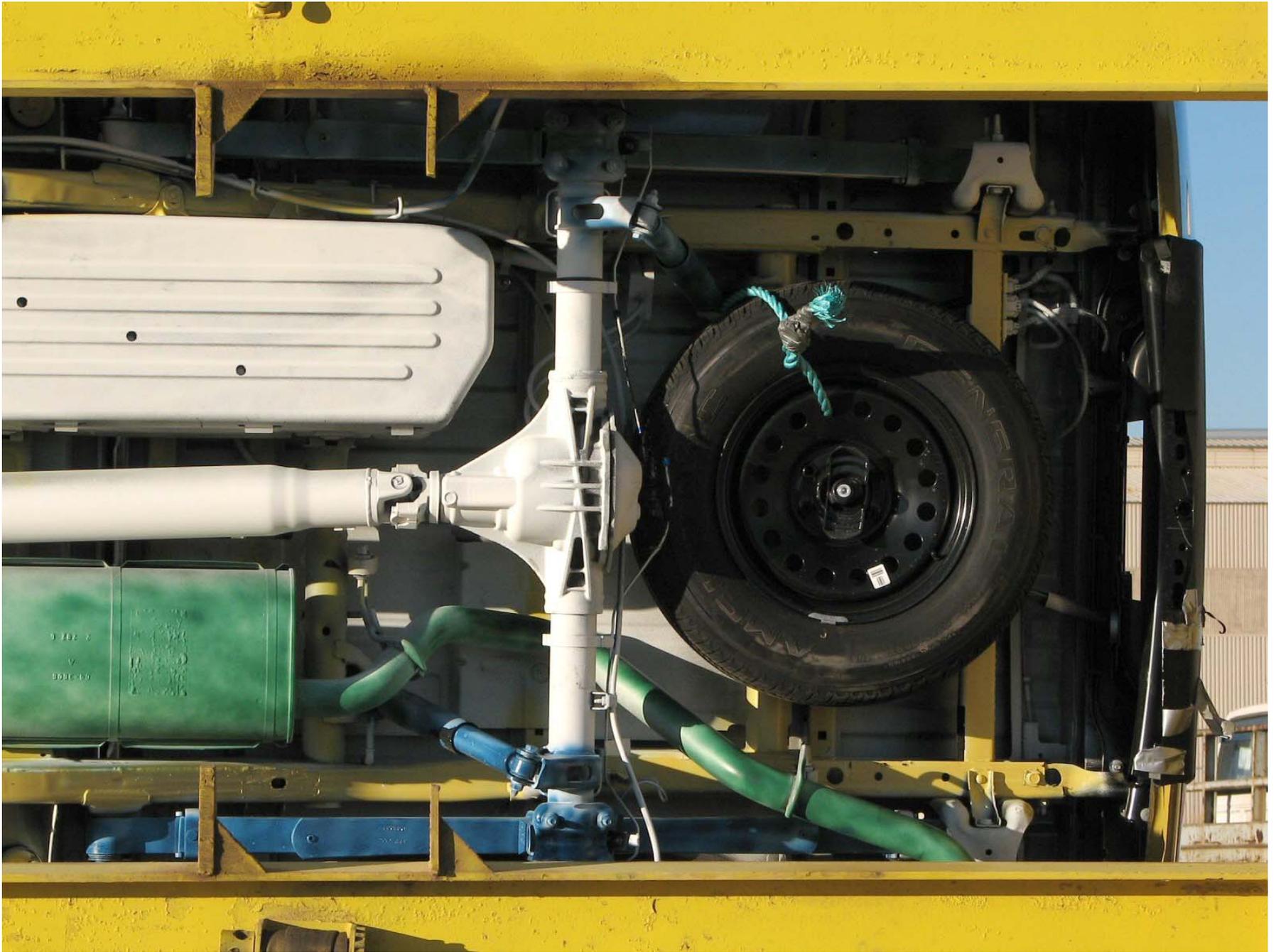


Figure A-29: Post-Test Rear Underbody



Figure A-30: Pre-Test Driver Dummy Front View (Head Position)

**Photograph Not
Available**

Figure A-31: Post-Test Driver Dummy Front View (Head Position)



Figure A-32: Pre-Test Driver Dummy (Through Window)



Figure A-33: Post-Test Driver Dummy (Through Window)



Figure A-34: Pre-Test Driver Dummy (Door Open)



Figure A-35: Post-Test Driver Dummy (Door Open)



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TR-P27001-04-NC

Figure A-36: Pre-Test Driver Dummy Feet



Figure A-37: Post-Test Driver Dummy Feet



A-38

TR-P27001-04-NC

Figure A-38: Pre-Test Driver Side Knee Bolster



Figure A-39: Post-Test Driver Side Knee Bolster

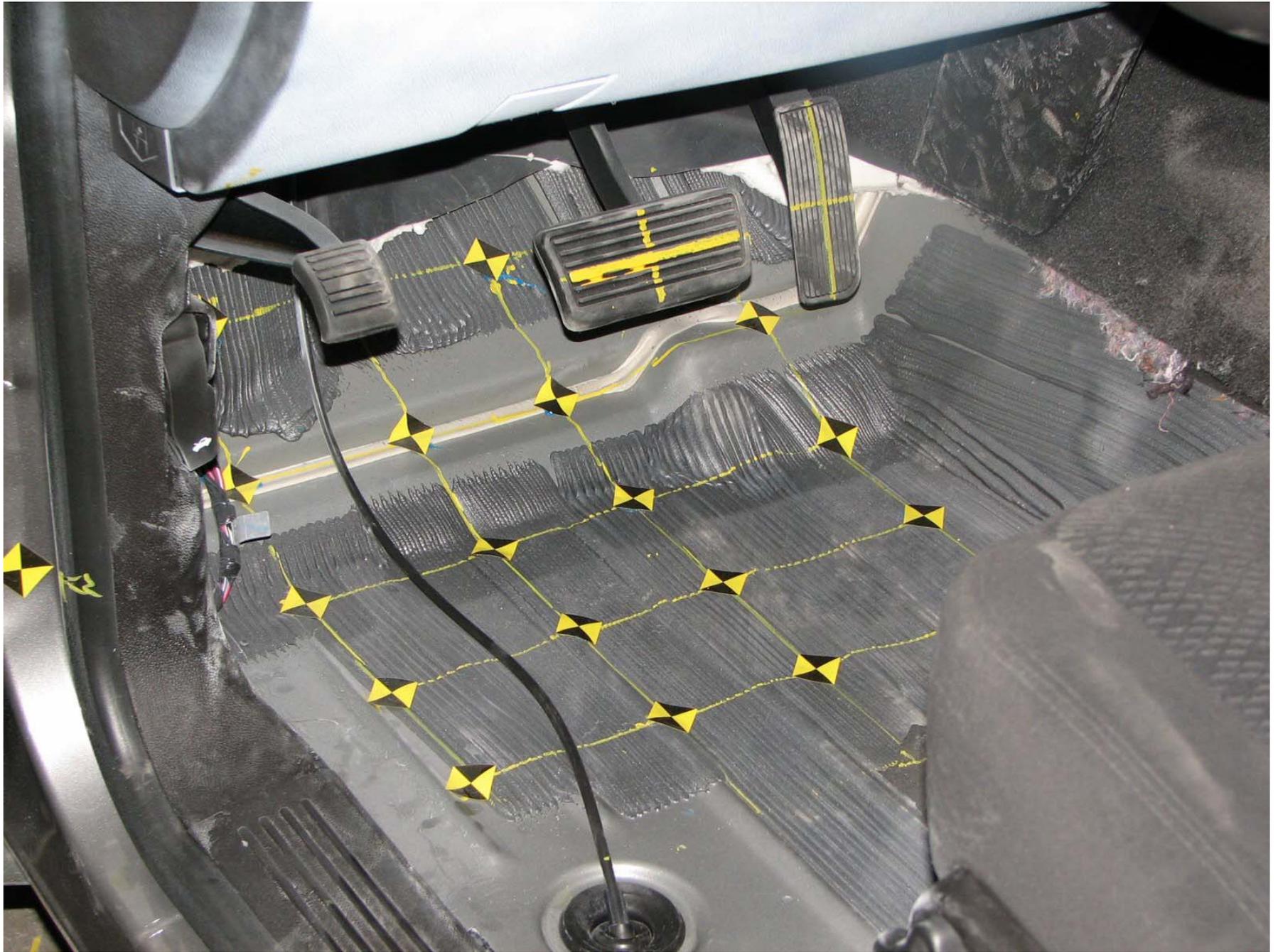


Figure A-40: Pre-Test Driver Side Floor Pan



Figure A-41: Post-Test Driver Side Floor Pan



Figure A-42: Post-Test Driver Dummy Head



Figure A-43: Post-Test Driver Dummy Airbag Contact



Figure A-44: Pre-Test Passenger Dummy Front View (Head Position)

**Photograph Not
Available**

Figure A-45: Post-Test Passenger Dummy Front View (Head Position)



Figure A-46: Pre-Test Passenger Dummy (Through Window)



Figure A-47: Post-Test Passenger Dummy (Through Window)



Figure A-48: Pre-Test Passenger Dummy (Door Open)



Figure A-49: Post-Test Passenger Dummy (Door Open)



Figure A-50: Pre-Test Passenger Dummy Feet



Figure A-51: Post-Test Passenger Dummy Feet



Figure A-52: Pre-Test Passenger Side Glove Box



Figure A-53: Post-Test Passenger Side Glove Box

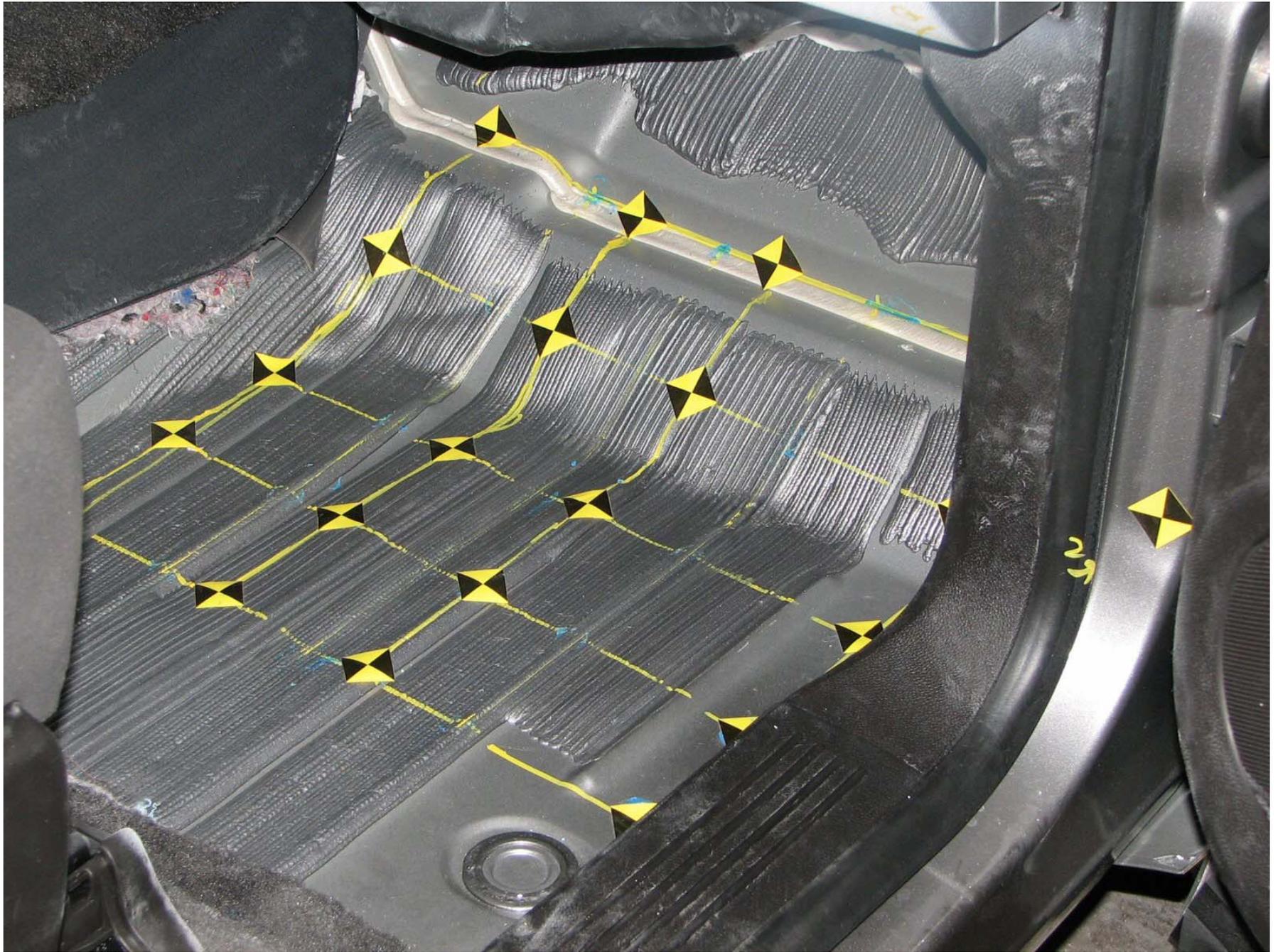


Figure A-54: Pre-Test Passenger Side Floor Pan

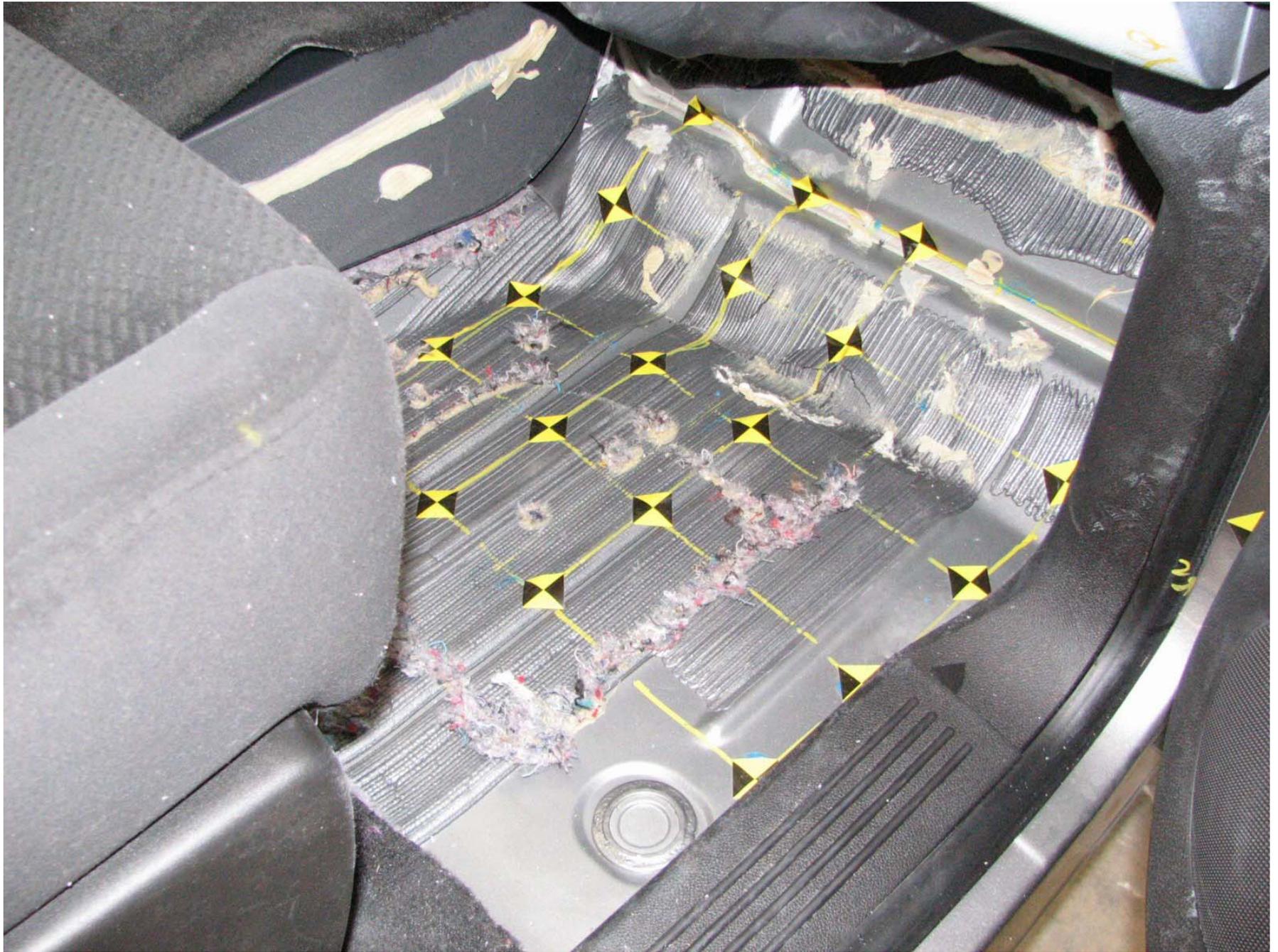


Figure A-55: Post-Test Passenger Side Floor Pan



Figure A-56: Post-Test Passenger Dummy Head

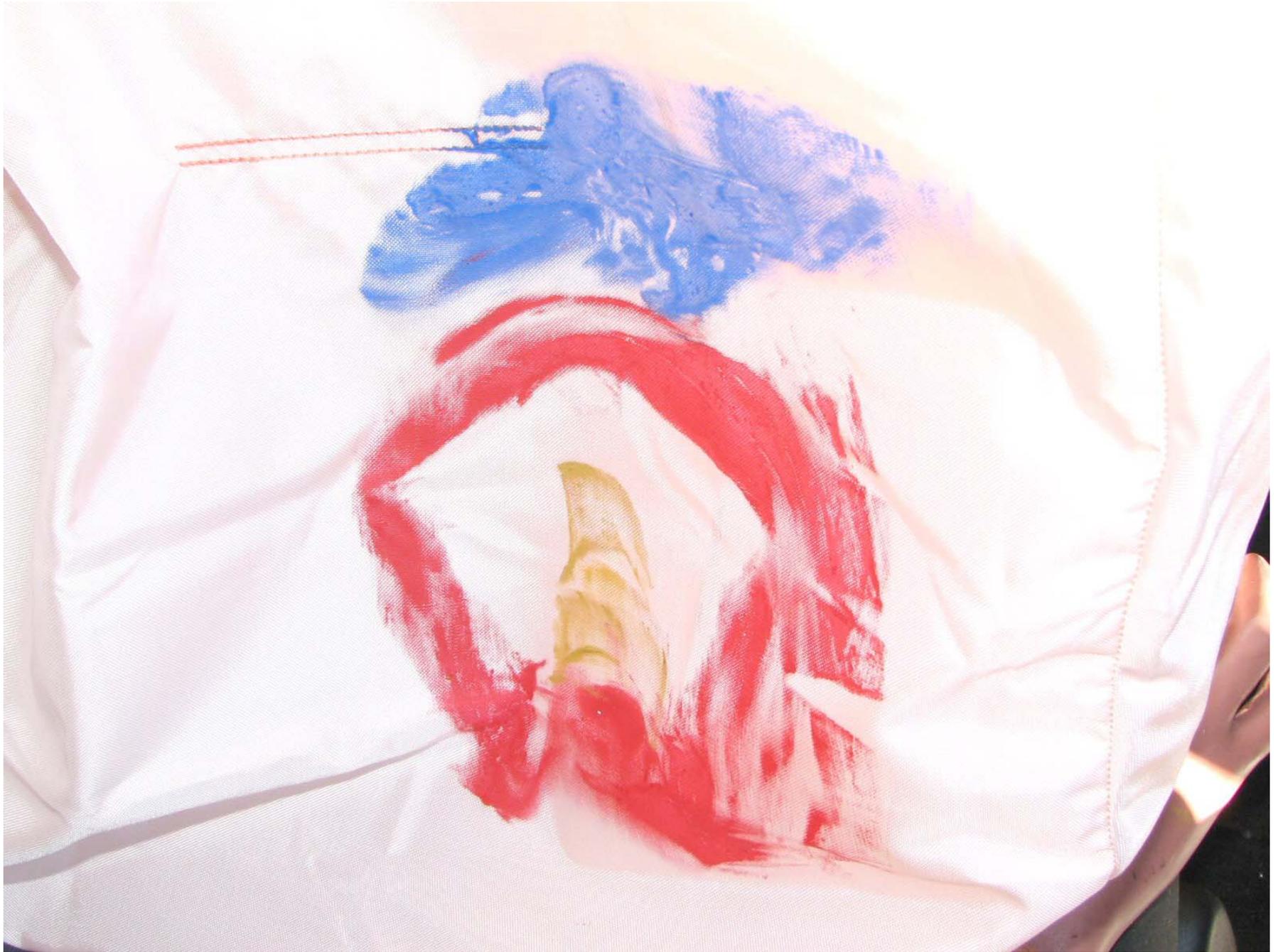


Figure A-57: Post-Test Passenger Dummy Airbag Contact



A-58

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Figure A-58: Vehicle on Rollover Device (0°)



Figure A-59: Vehicle on Rollover Device (90°)

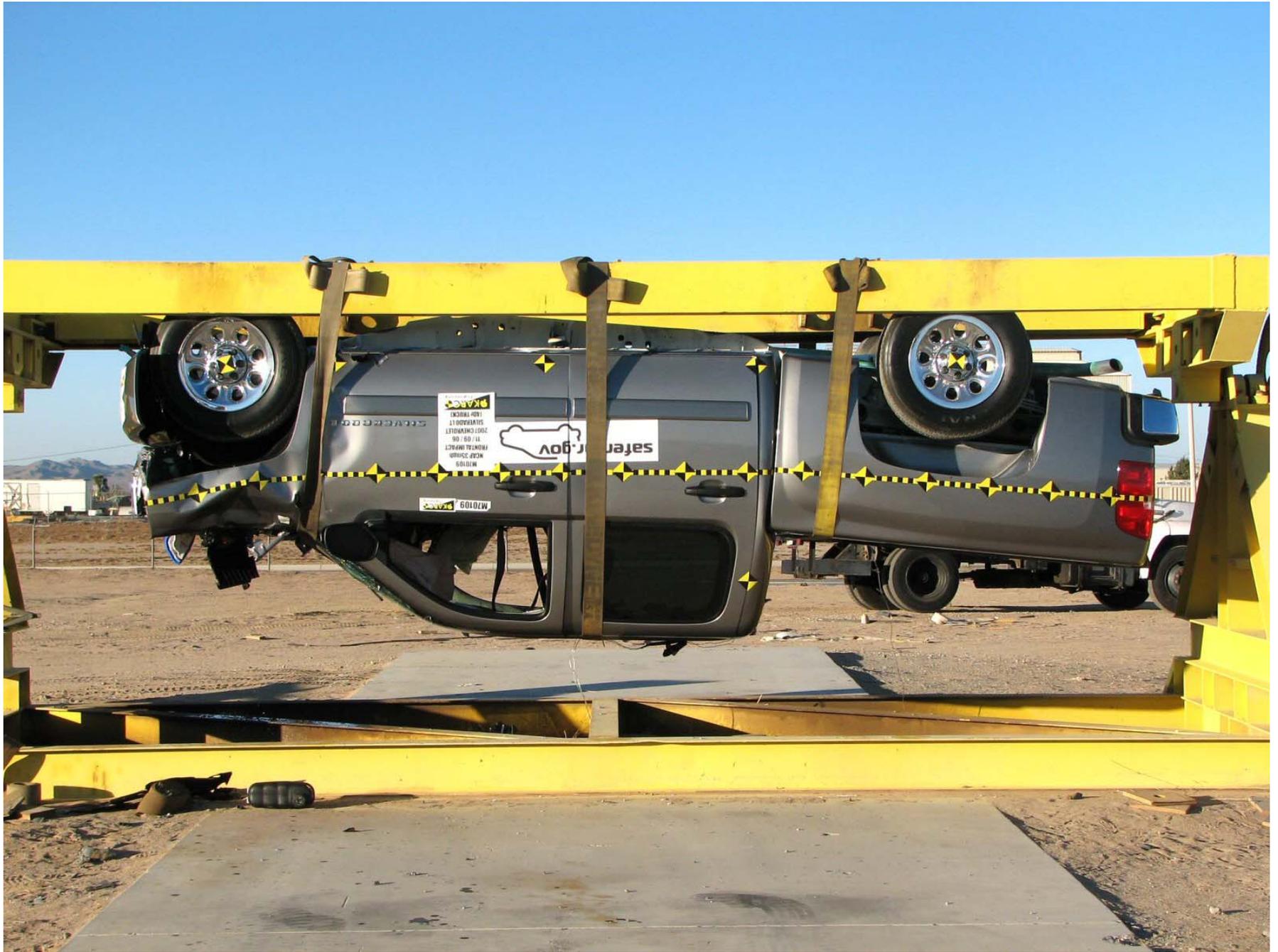


Figure A-60: Vehicle on Rollover Device (180°)

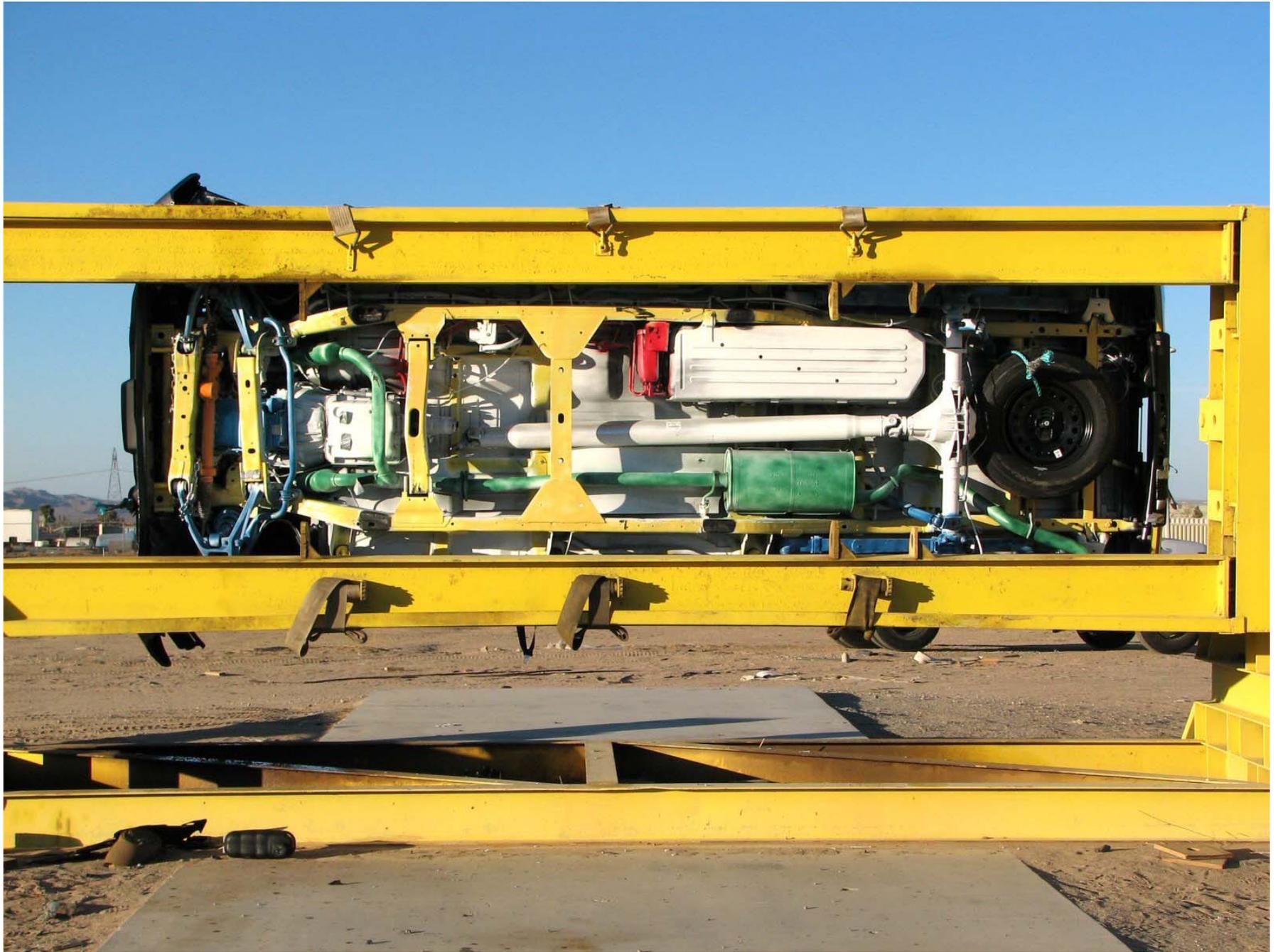


Figure A-61: Vehicle on Rollover Device (270°)

A-61

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Figure A-62: Vehicle Impact

APPENDIX B
DATA PLOTS

LIST OF DATA PLOTS

Data Plot	Page	
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	Driver Head Primary Y	B-1
	Driver Head Primary Z	B-1
	Driver Head Resultant Primary	B-1
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	Driver Chest Primary Z	B-2
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	Passenger Head Resultant Primary	B-4
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	Passenger Chest Resultant Primary	B-5
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	Passenger Right Femur Force Z	B-6

LIST OF DATA PLOTS...(CONTINUED)

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

Driver Head Primary X Velocity
Driver Head Primary X Displacement
Driver Head Redundant X
Driver Head Redundant Y
Driver Head Redundant Z
Driver Head Resultant Redundant
Driver Head Redundant X Velocity
Driver Head Redundant X Displacement
Driver Upper Neck Force X
Driver Upper Neck Force Y
Driver Upper Neck Force Z
Driver Upper Neck Force Resultant
Driver Upper Neck Moment X
Driver Upper Neck Moment Y
Driver Upper Neck Moment Z
Driver Upper Neck Moment Resultant
Driver Chest Primary X Velocity
Driver Chest Primary X Displacement
Driver Chest Redundant X
Driver Chest Redundant Y
Driver Chest Redundant Z
Driver Chest Resultant Redundant
Driver Chest Redundant X Velocity
Driver Chest Redundant X Displacement
Driver Chest Displacement
Driver Pelvis X
Driver Pelvis Y
Driver Pelvis Z
Driver Pelvis Resultant
Driver Pelvis X Velocity
Driver Pelvis X Displacement
Driver Left Upper Tibia Moment X
Driver Left Upper Tibia Moment Y
Driver Right Upper Tibia Moment X

LIST OF DATA PLOTS...(CONTINUED)

Driver Right Upper Tibia Moment Y
Driver Left Lower Tibia Moment X
Driver Left Lower Tibia Moment Y
Driver Left Lower Tibia Force Z
Driver Right Lower Tibia Moment X
Driver Right Lower Tibia Moment Y
Driver Right Lower Tibia Force Z
Driver Left Foot Aft X
Driver Left Foot Aft Z
Driver Left Foot Fore Z
Driver Right Foot Aft X
Driver Right Foot Aft Z
Driver Right Foot Fore Z
Driver Lap Belt Force
Driver Shoulder Belt Force
Driver Shoulder Belt Pullout
Driver Shoulder Belt Elongation
Passenger Head Primary X Velocity
Passenger Head Primary X Displacement
Passenger Head Redundant X
Passenger Head Redundant Y
Passenger Head Redundant Z
Passenger Head Resultant Redundant
Passenger Head Redundant X Velocity
Passenger Head Redundant X Displacement
Passenger Upper Neck Force X
Passenger Upper Neck Force Y
Passenger Upper Neck Force Z
Passenger Upper Neck Force Resultant
Passenger Upper Neck Moment X
Passenger Upper Neck Moment Y
Passenger Upper Neck Moment Z
Passenger Upper Neck Moment Resultant
Passenger Chest Primary X Velocity
Passenger Chest Primary X Displacement
Passenger Chest Redundant X

LIST OF DATA PLOTS...(CONTINUED)

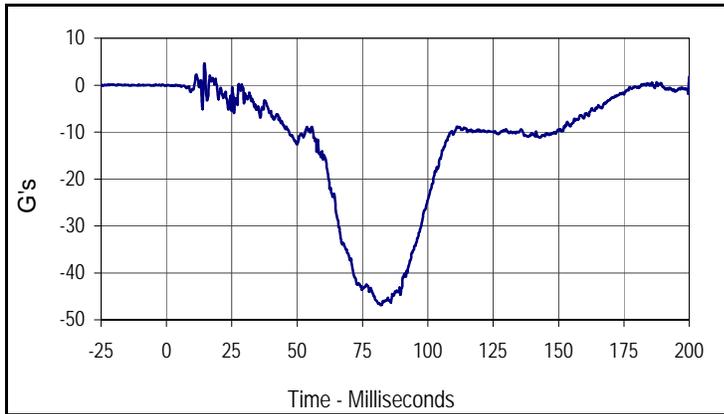
Passenger Chest Redundant Y
Passenger Chest Redundant Z
Passenger Chest Resultant Redundant
Passenger Chest Redundant X Velocity
Passenger Chest Redundant X Displacement
Passenger Chest Displacement
Passenger Pelvis X
Passenger Pelvis Y
Passenger Pelvis Z
Passenger Pelvis Resultant
Passenger Pelvis X Velocity
Passenger Pelvis X Displacement
Passenger Left Femur Force
Passenger Right Femur Force
Passenger Left Upper Tibia Moment X
Passenger Left Upper Tibia Moment Y
Passenger Right Upper Tibia Moment X
Passenger Right Upper Tibia Moment Y
Passenger Left Lower Tibia Moment X
Passenger Left Lower Tibia Moment Y
Passenger Left Lower Tibia Force Z
Passenger Right Lower Tibia Moment X
Passenger Right Lower Tibia Moment Y
Passenger Right Lower Tibia Force Z
Passenger Left Foot Aft X
Passenger Left Foot Aft Z
Passenger Left Foot Fore Z
Passenger Right Foot Aft X
Passenger Right Foot Aft Z
Passenger Right Foot Fore Z
Passenger Lap Belt Force
Passenger Shoulder Belt Force
Passenger Shoulder Belt Pullout
Passenger Shoulder Belt Elongation
Vehicle Left Rear X
Vehicle Left Rear X Velocity

LIST OF DATA PLOTS...(CONTINUED)

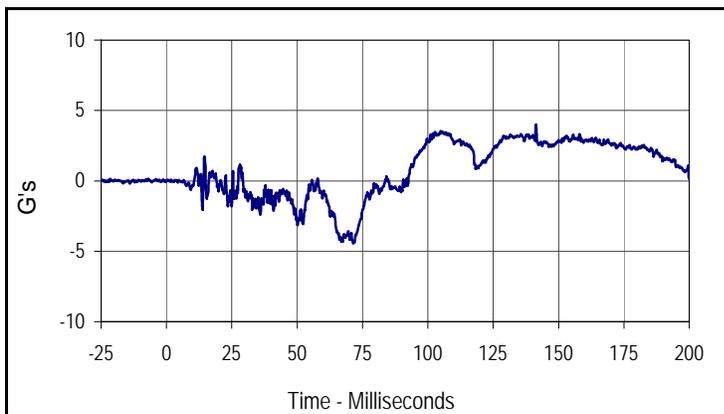
Vehicle Left Rear X Displacement
Vehicle Right Rear X
Vehicle Right Rear X Velocity
Vehicle Right Rear X Displacement
Vehicle Engine Top
Vehicle Engine Top Velocity
Vehicle Engine Top Displacement
Vehicle Engine Bottom
Vehicle Engine Bottom Velocity
Vehicle Engine Bottom Displacement
Vehicle Left Brake Caliper
Vehicle Left Brake Caliper Velocity
Vehicle Left Brake Caliper Displacement
Vehicle Right Brake Caliper
Vehicle Right Brake Caliper Velocity
Vehicle Right Brake Caliper Displacement
Vehicle Instrument Panel
Vehicle Instrument Panel Velocity
Vehicle Instrument Panel Displacement
Vehicle Left Rear Z
Vehicle Left Rear Z Velocity
Vehicle Left Rear Z Displacement
Vehicle Right Rear Z
Vehicle Right Rear Z Velocity
Vehicle Right Rear Z Displacement

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

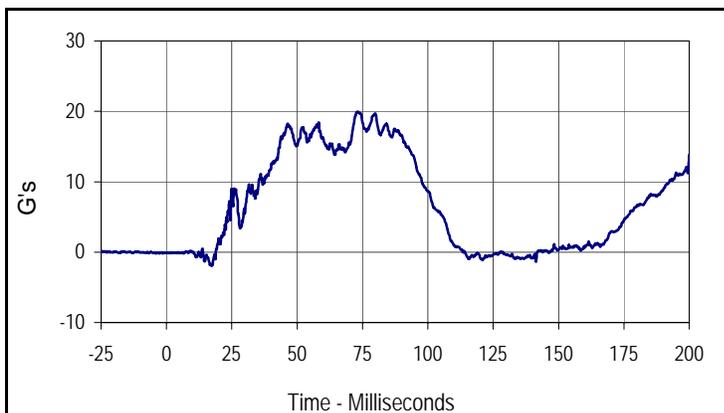
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 NHTSA No.: M70109



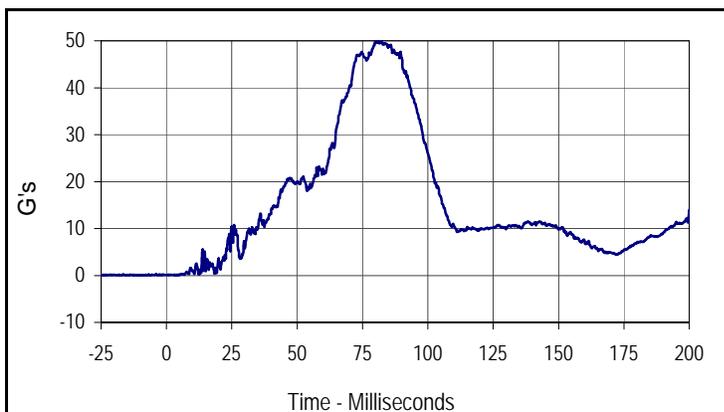
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Driver Head Primary X			
CURNO	Type	SAE Class	Units
001	FIL	1000	G's
Max	Time	Min	Time
4.7	14.6	-46.9	82.0



Curve Description			
Driver Head Primary Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
4.0	141.4	-4.4	71.4



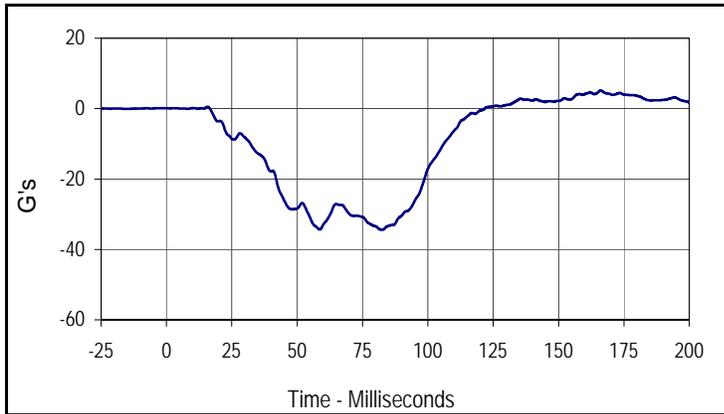
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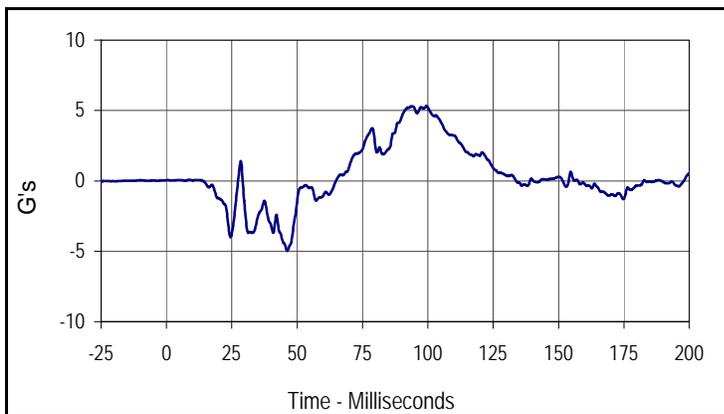
Curve Description			
Driver Head Resultant Primary			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
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49.9	80.0	0.1	3.6

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

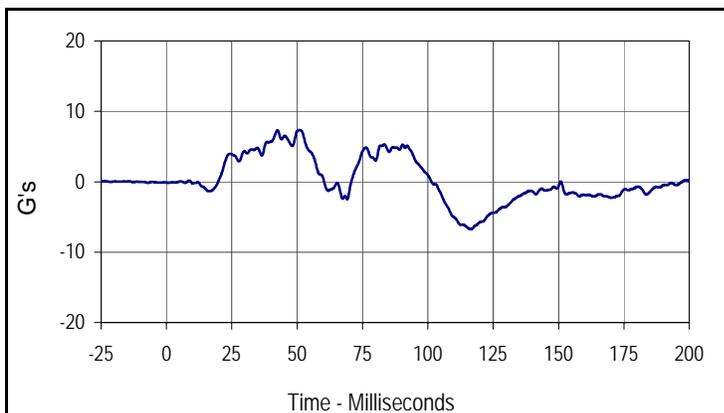
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 NHTSA No.: M70109



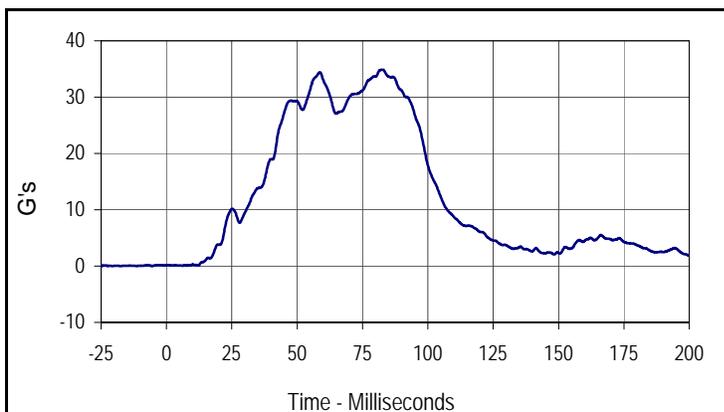
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Max	Time	Min	Time
5.2	166.1	-34.4	82.3



Curve Description			
Driver Chest Primary Y			
CURNO	Type	SAE Class	Units
005	FIL	180	G's
Max	Time	Min	Time
5.3	99.5	-5.0	46.2



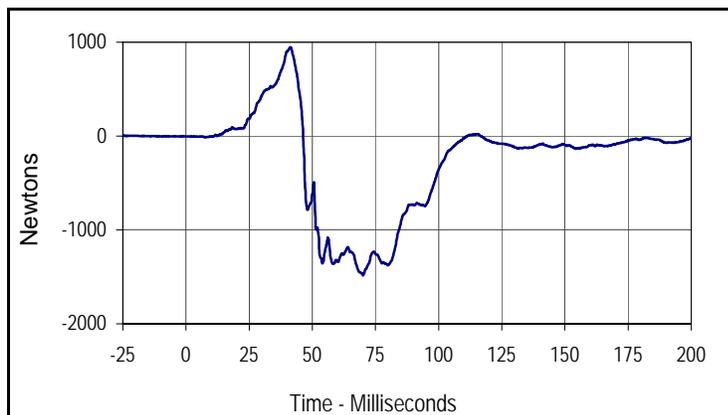
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Driver Chest Primary Z			
CURNO	Type	SAE Class	Units
006	FIL	180	G's
Max	Time	Min	Time
7.3	50.8	-6.7	116.5



Curve Description			
Driver Chest Resultant Primary			
CURNO	Type	SAE Class	Units
004	RES	180	G's
Max	Time	Min	Time
34.9	82.2	0.1	7.9

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

Test Date: 11/9/06
 NHTSA No.: M70109



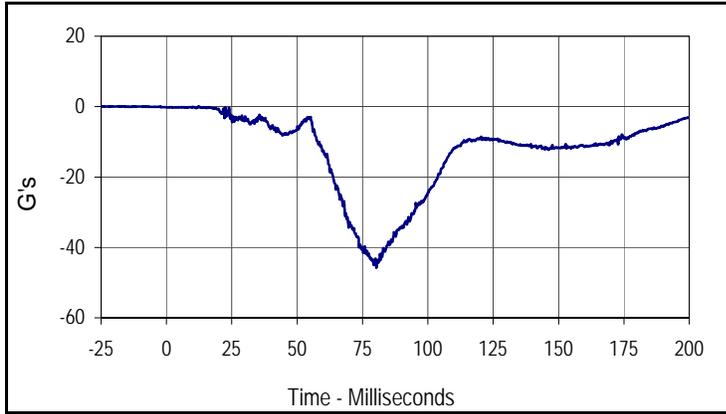
Curve Description			
Driver Left Femur Force Z			
CURNO	Type	SAE Class	Units
007	FIL	600	Newtons
Max	Time	Min	Time
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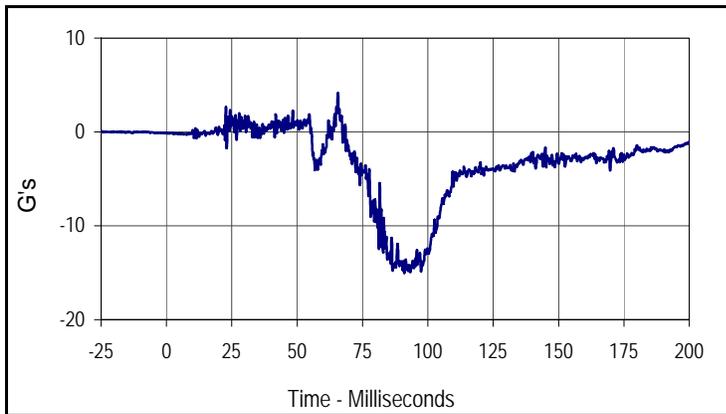
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Driver Right Femur Force Z			
CURNO	Type	SAE Class	Units
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Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

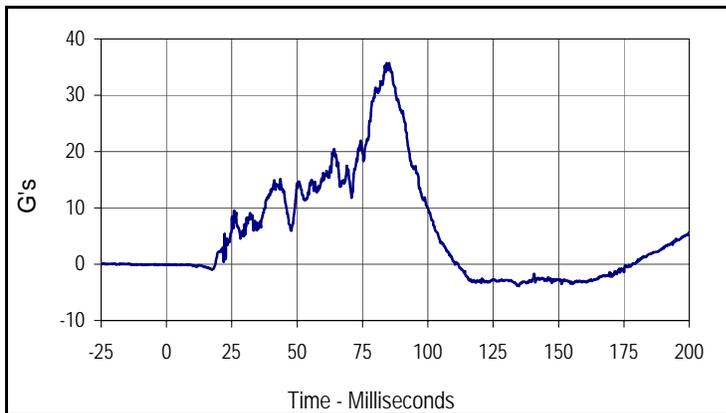
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 NHTSA No.: M70109



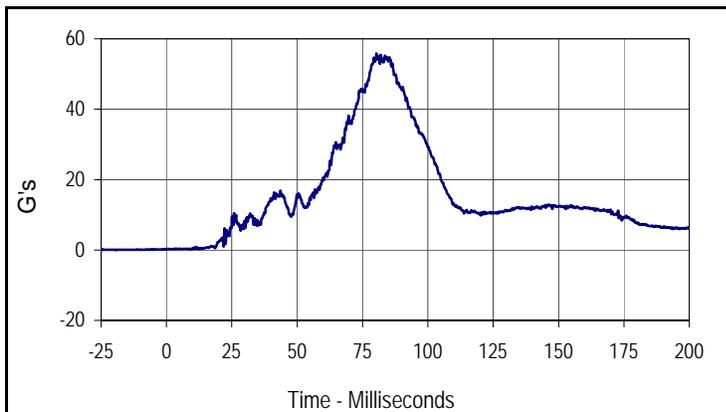
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Max	Time	Min	Time
0.0	12.5	-45.8	80.3



Curve Description			
Passenger Head Primary Y			
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010	FIL	1000	G's
Max	Time	Min	Time
4.2	65.6	-15.0	91.0



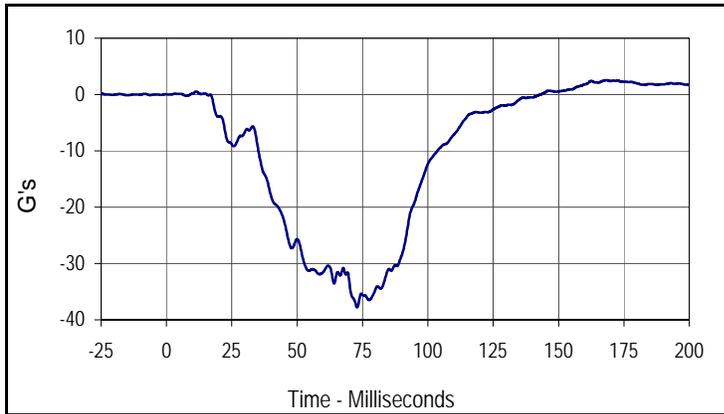
Curve Description			
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011	FIL	1000	G's
Max	Time	Min	Time
35.7	84.3	-3.9	134.8



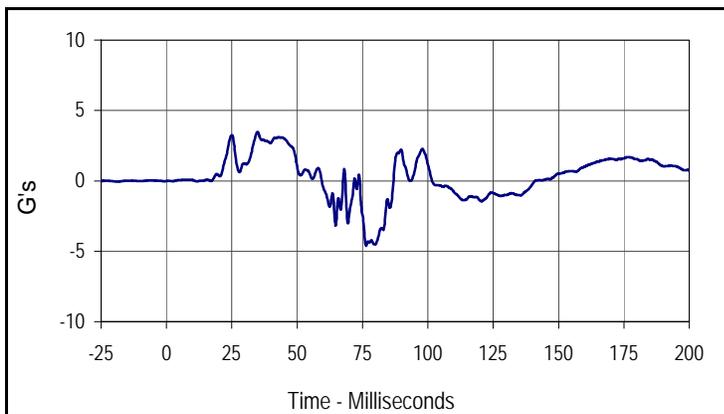
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Passenger Head Resultant Primary			
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009	RES	1000	G's
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Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

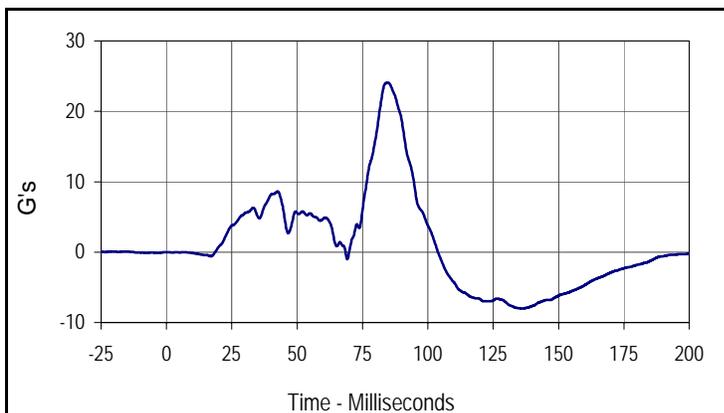
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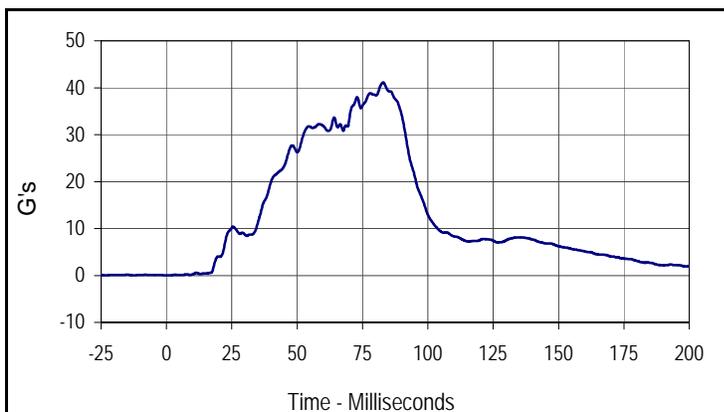
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Passenger Chest Primary X			
CURNO	Type	SAE Class	Units
012	FIL	180	G's
Max	Time	Min	Time
2.5	168.5	-37.8	72.9



Curve Description			
Passenger Chest Primary Y			
CURNO	Type	SAE Class	Units
013	FIL	180	G's
Max	Time	Min	Time
3.5	34.9	-4.6	76.4



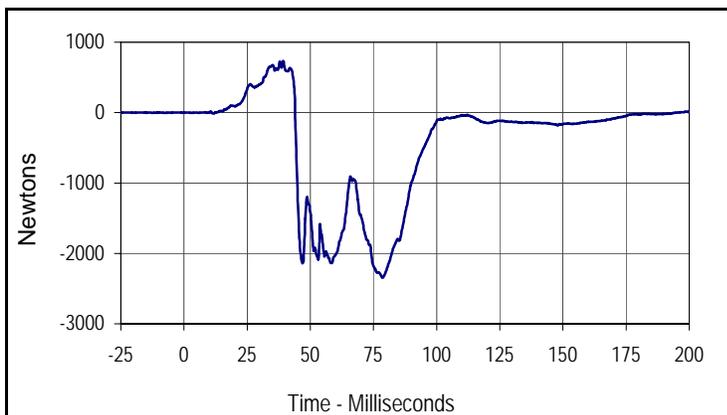
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Max	Time	Min	Time
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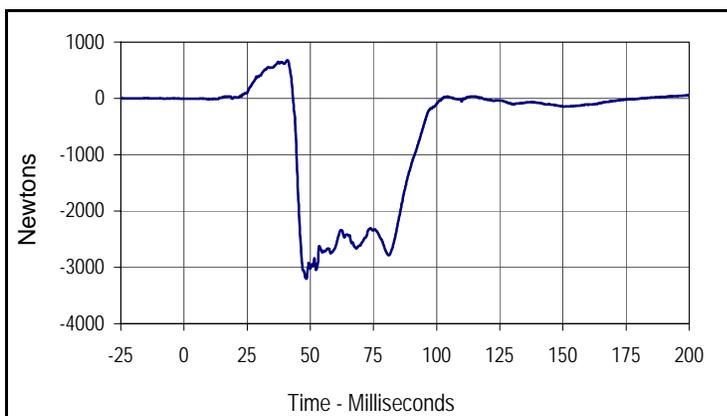
Curve Description			
Passenger Chest Resultant Primary			
CURNO	Type	SAE Class	Units
012	RES	180	G's
Max	Time	Min	Time
41.1	82.9	0.0	0.5

Test Vehicle: 2007 Chevrolet Silverado LT1 4-Door Truck
 Test Program: 2007 NHTSA 35mph NCAP

Test Date: 11/9/06
 NHTSA No.: M70109



Curve Description			
Passenger Left Femur Force Z			
CURNO	Type	SAE Class	Units
015	FIL	600	Newtons
Max	Time	Min	Time
734.0	39.2	-2345.4	78.5



Curve Description			
Passenger Right Femur Force Z			
CURNO	Type	SAE Class	Units
016	FIL	600	Newtons
Max	Time	Min	Time
677.9	40.9	-3205.7	48.4

APPENDIX C
DUMMY CALIBRATION DATA

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

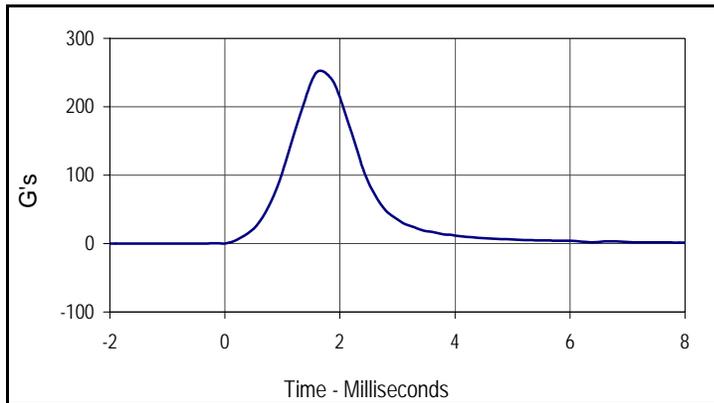
Test Date: 10/7/06



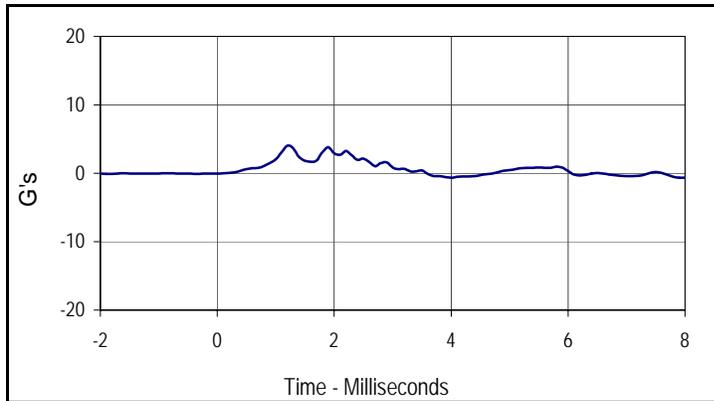
ATD Serial No.: 034

Test I.D.: HD10A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	225.0 to 275.0	251.9	Pass
Peak Lateral Acceleration	G's	≤15.0	4.1	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass



Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
251.9	1.7	0.1	-0.6

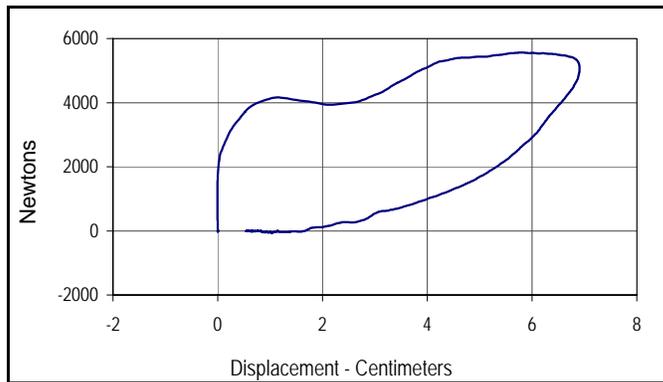


Curve Description			
Head Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
4.1	1.2	-0.6	4.0

Test Program: Hybrid III 50th Percentile Male Thorax Impact Test Test Date: 10/6/06
 ATD Serial No.: 034 Test I.D.: CH10G



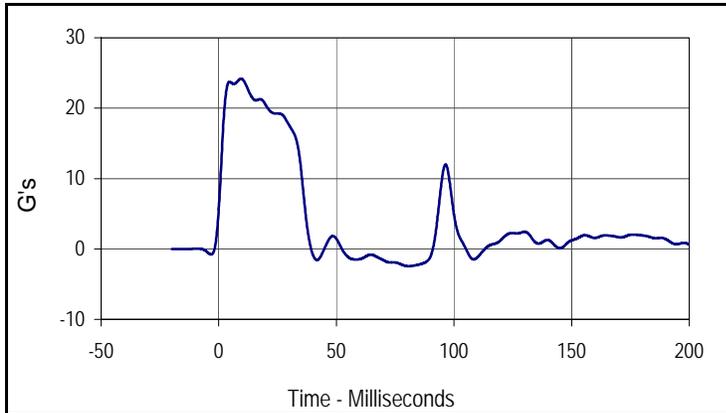
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	6.58 to 6.82	6.78	Pass
Peak Probe Force	Newtons	5159 to 5893	5563	Pass
Peak Sternum Deflection	CM	6.35 to 7.26	6.91	Pass
Internal Hysteresis	%	69 to 85	74.9	Pass
Overall Test Results				Pass



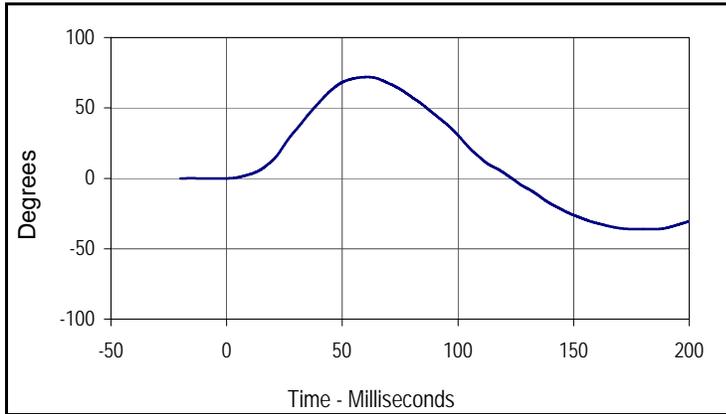
Curve Description			
Probe Force vs. Chest Deflection			
CURNO	Type	SAE Class	Hysteresis
001	FIL	180	74.9
Peak Probe Force		Peak Chest Deflection	
5563		6.91	



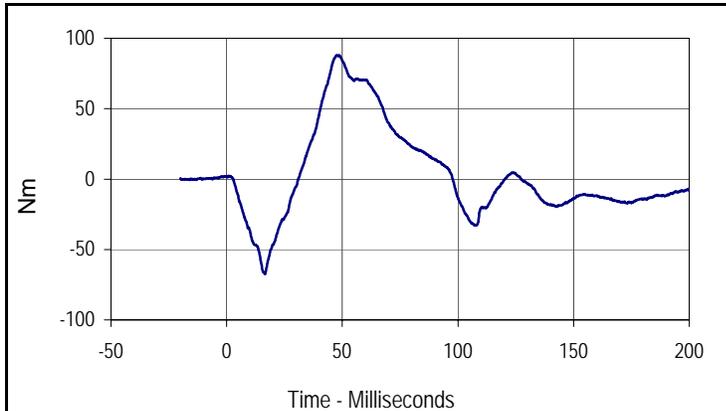
Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	20.6	Pass	
Laboratory Relative Humidity	%	10 to 70	30	Pass	
Pendulum Velocity	m/s	6.89 to 7.13	6.96	Pass	
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	24.1	Pass
	20 Msec.	G's	17.6 to 22.6	20.4	Pass
	30 Msec.	G's	12.5 to 18.5	17.5	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 29.0	17.5	Pass	
Deceleration Decay, Time to Cross 5 G's	Msec.	34.0 to 42.0	37	Pass	
Maximum "D" Plane Rotation	Max	Degrees	64.0 to 78.0	71.9	Pass
	Time	Msec.	57.0 to 64.0	60.9	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	113.0 to 128.0	123.3	Pass	
Moment About Occ. Condyle	Max	Nm	84.1 to 108.5	88.1	Pass
	Time	Msec.	47.0 to 58.0	47.7	Pass
Positive Moment Decay, Time To Zero Crossing	Msec.	97.0 to 107.0	97.8	Pass	
Overall Test Results				Pass	



Curve Description			
Pendulum Deceleration			
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
24.2	9.5	-2.4	80.8



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
71.9	60.9	-36.1	183.5



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
88.1	47.7	-67.5	16.5

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

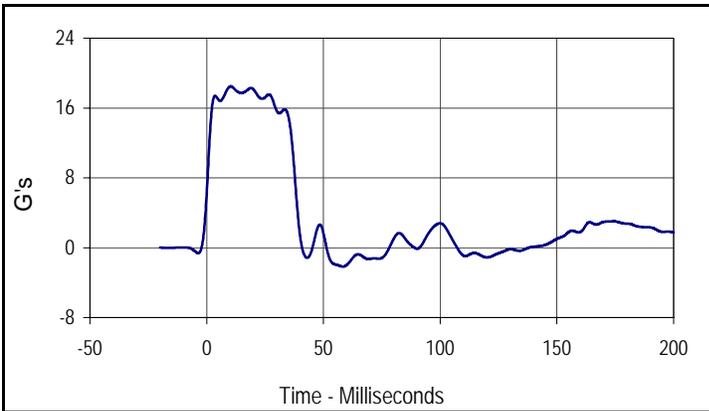
Test Date: 10/8/06

ATD Serial No.: 034

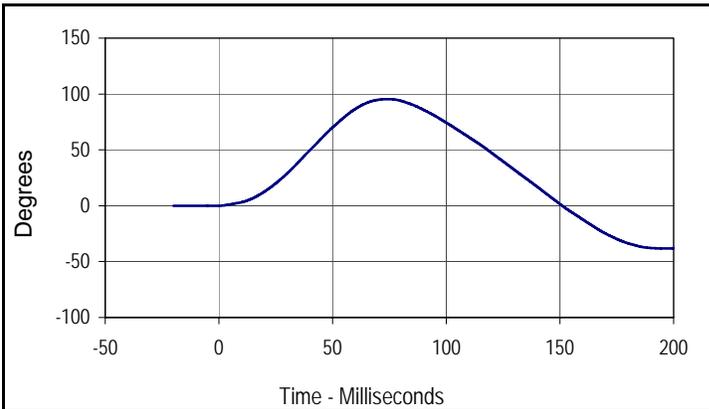
Test I.D.: NE10H



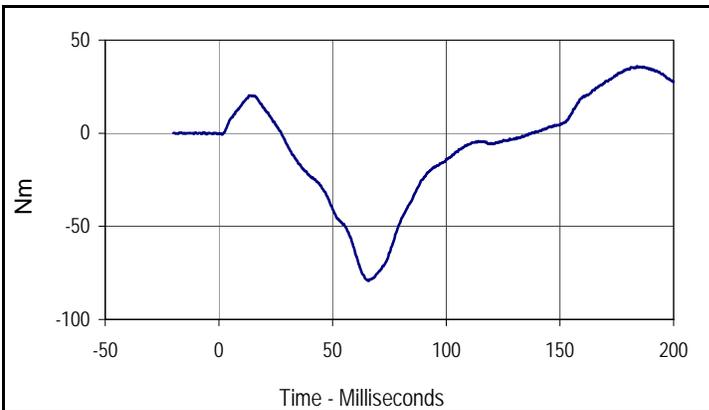
Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	30	Pass	
Pendulum Velocity	m/s	5.94 to 6.19	6.13	Pass	
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	18.5	Pass
	20 Msec.	G's	14.0 to 19.0	18.1	Pass
	30 Msec.	G's	11.0 to 16.0	15.7	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 22.0	15.9	Pass	
Deceleration Decay, Time to Cross 5 G's	Msec.	38.0 to 46.0	38.7	Pass	
Maximum "D" Plane Rotation	Max	Degrees	81.0 to 106.0	95.4	Pass
	Time	Msec.	72.0 to 82.0	74.4	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	147.0 to 174.0	151	Pass	
Moment About Occ. Condyle	Max	Nm	-52.9 to- 79.9	-79.3	Pass
	Time	Msec.	65.0 to 79.0	65.9	Pass
Positive Moment Decay, Time To Zero Crossing	Msec.	120.0 to 148.0	137.5	Pass	
Overall Test Results				Pass	



Curve Description			
Pendulum Deceleration			
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
18.5	10.3	-2.2	58.4



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
95.4	74.4	-38.2	196.2



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
36.1	183.9	-79.3	65.9

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

Test Date: 10/7/06

ATD Serial No.: 034

Test I.D.: LK10B , RK10D

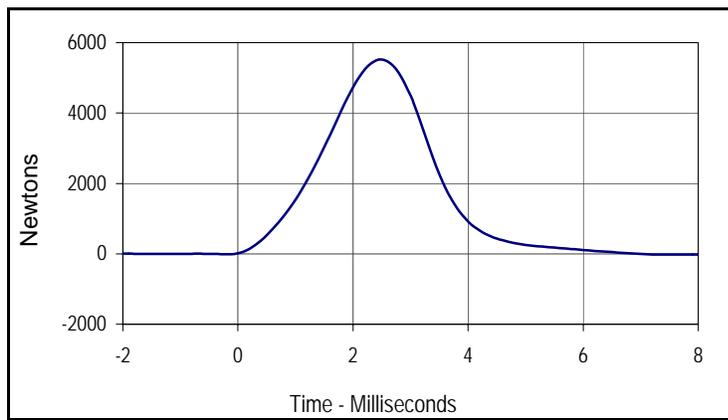


Left Knee

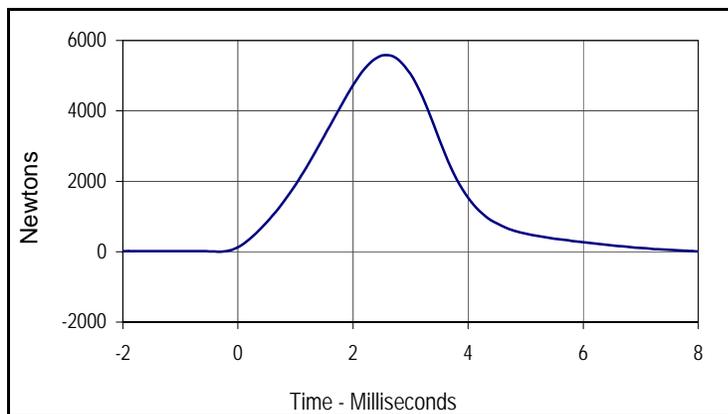
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.08	Pass
Peak Probe Force	Newtons	4715 to 5782	5517	Pass
Overall Test Results				Pass

Right Knee

Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.12	Pass
Peak Probe Force	Newtons	4715 to 5782	5588	Pass
Overall Test Results				Pass



Curve Description			
Left Knee Probe Force			
CURNO	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
5516.6	2.5	-24.0	7.7



Curve Description			
Right Knee Probe Force			
CURNO	Type	SAE Class	Units
002	FIL	600	Newtons
Max	Time	Min	Time
5588.1	2.6	-10.3	8.6

Test Program: Hybrid III 50th Percentile Male External Measurements Test Date: 10/8/06
 ATD Serial No.: 034 Test I.D.: N/A

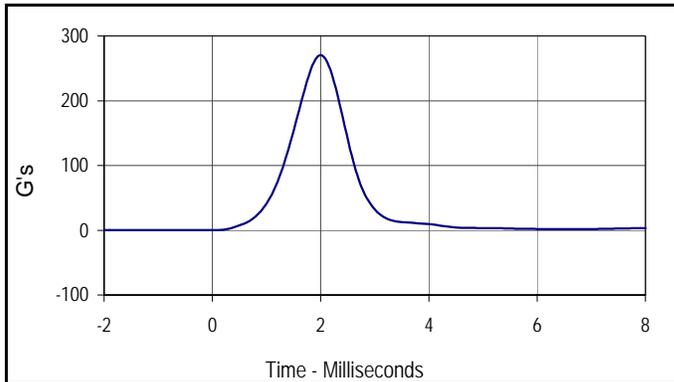


Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
A - Total sitting height	mm	879 to 889	886	Pass
B - Shoulder pivot height	mm	505 to 521	513	Pass
C - "H" point height	mm	84 to 89	86	Pass
D - "H" point from seat back	mm	135 to 140	137	Pass
E - Shoulder pivot from back	mm	84 to 94	85	Pass
F - Thigh clearance	mm	140 to 155	151	Pass
G - Elbow back to wrist pivot	mm	290 to 305	300	Pass
H - Skull cap to back line	mm	41 to 46	45	Pass
I - Shoulder to elbow length	mm	330 to 345	336	Pass
J - Elbow rest height	mm	190 to 211	207	Pass
K - Buttock to knee length	mm	579 to 604	601	Pass
L - Popliteal length	mm	429 to 455	445	Pass
M - Knee pivot height	mm	485 to 500	489	Pass
N - Buttock popliteal length	mm	452 to 477	475	Pass
O - Chest depth	mm	213 to 229	226	Pass
P - Foot length	mm	251 to 267	255	Pass
V - Shoulder breadth	mm	422 to 437	436	Pass
W - Foot breadth	mm	91 to 107	104	Pass
Y - Chest circumference	mm	970 to 1001	985	Pass
Z - Waist circumference	mm	836 to 866	851	Pass
AA - Location for chest circumference	mm	429 to 434	430	Pass
BB - Location for waist circumference	mm	226 to 231	229	Pass
Overall Test Results				Pass

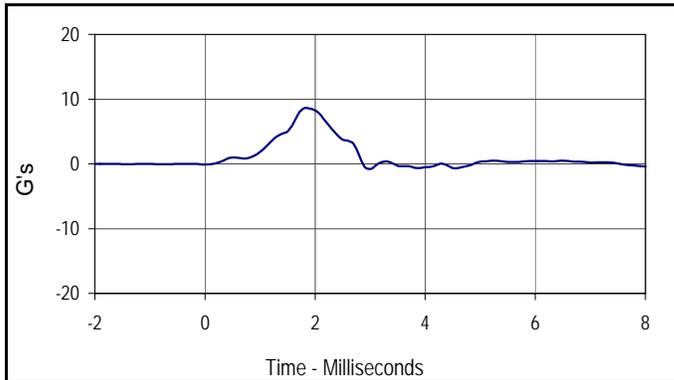
Test Program: Hybrid III 50th Percentile Male Head Drop Test Test Date: 10/7/06
 ATD Serial No.: 035 Test I.D.: HD10R



Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	225.0 to 275.0	270.6	Pass
Peak Lateral Acceleration	G's	≤15.0	8.6	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass



Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
270.6	2.0	0.0	-0.2

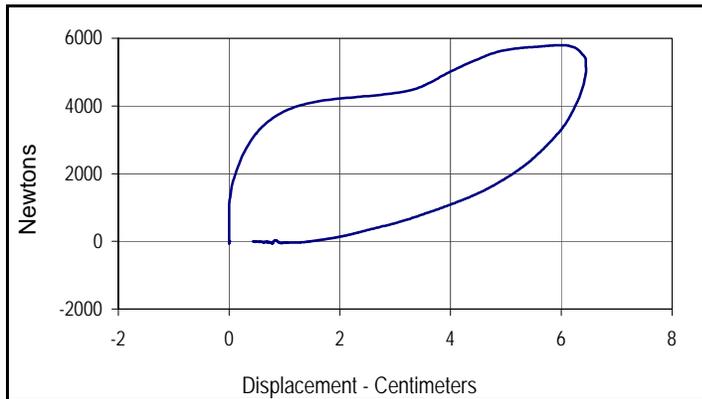


Curve Description			
Head Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
8.6	1.8	-0.8	3.0

Test Program: Hybrid III 50th Percentile Male Thorax Impact Test Test Date: 10/6/06
 ATD Serial No.: 035 Test I.D.: CH10K



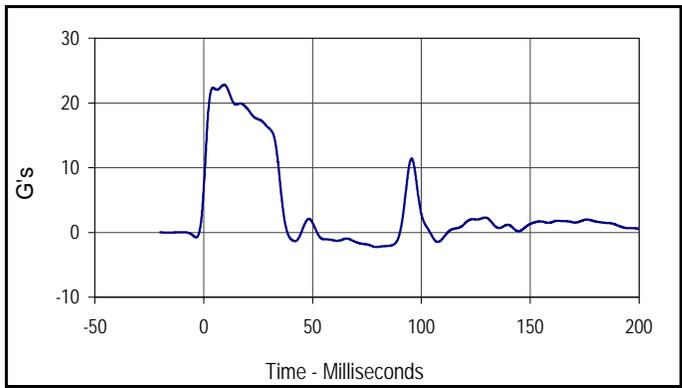
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	6.58 to 6.82	6.75	Pass
Peak Probe Force	Newtons	5159 to 5893	5796	Pass
Peak Sternum Deflection	CM	6.35 to 7.26	6.45	Pass
Internal Hysteresis	%	69 to 85	76.8	Pass
Overall Test Results			Pass	



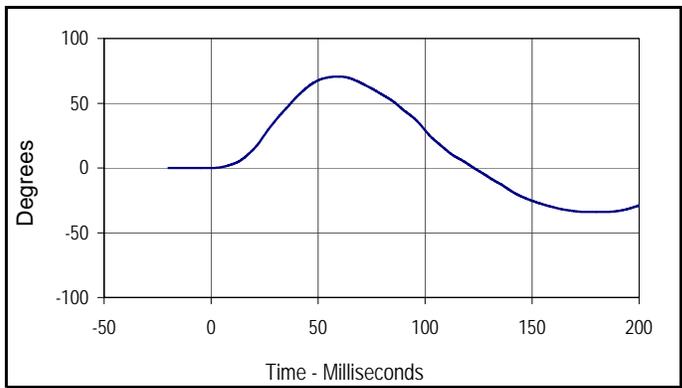
Curve Description			
Probe Force vs. Chest Deflection			
CURNO	Type	SAE Class	Hysteresis
001	FIL	600	76.8
Peak Probe Force		Peak Chest Deflection	
5796		6.45	



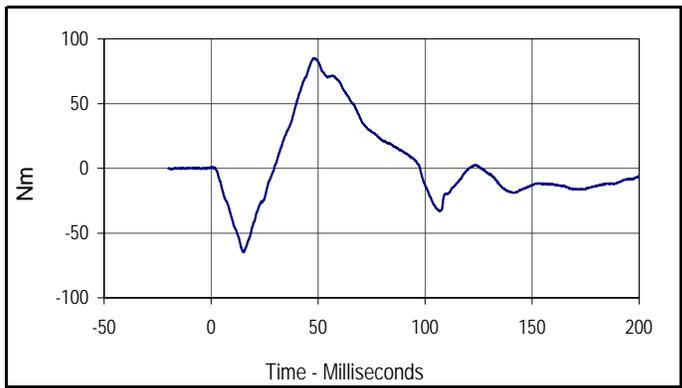
Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.9	Pass	
Laboratory Relative Humidity	%	10 to 70	30	Pass	
Pendulum Velocity	m/s	6.89 to 7.13	7.04	Pass	
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	22.7	Pass
	20 Msec.	G's	17.6 to 22.6	19.1	Pass
	30 Msec.	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	Pass	
Maximum "D" Plane Rotation	Max	Degrees	64.0 to 78.0	70.6	Pass
	Time	Msec.	57.0 to 64.0	59.4	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	113.0 to 128.0	122.8	Pass	
Moment About Occ. Condyle	Max	Nm	84.1 to 108.5	85.1	Pass
	Time	Msec.	47.0 to 58.0	48.0	Pass
Positive Moment Decay, Time To Zero Crossing	Msec.	97.0 to 107.0	97.6	Pass	
Overall Test Results				Pass	



Curve Description			
Pendulum Deceleration			
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
22.8	9.3	-2.3	79.4



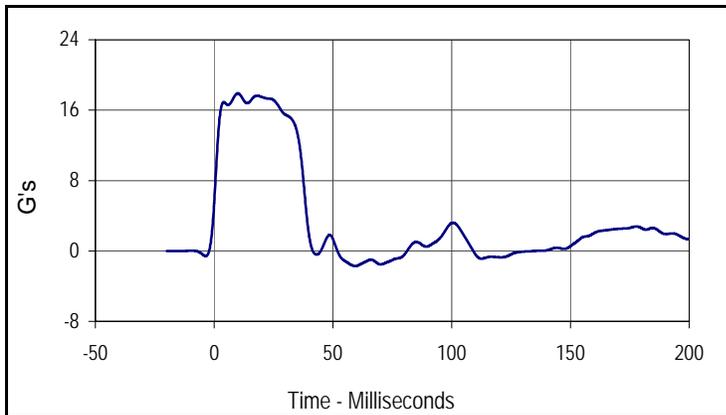
Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
70.6	59.4	-34.0	177.0



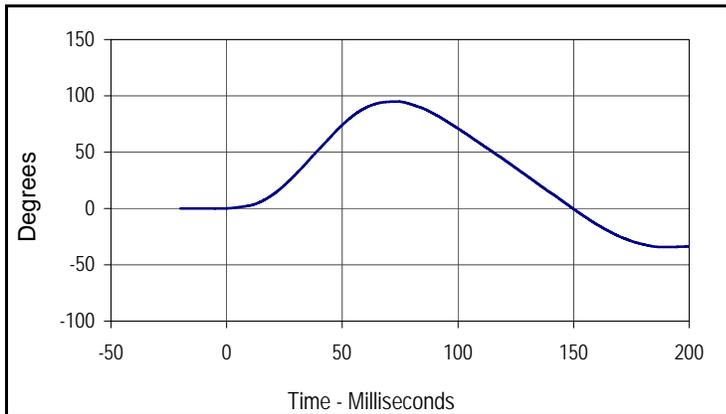
Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
85.1	48.0	-64.9	15.2



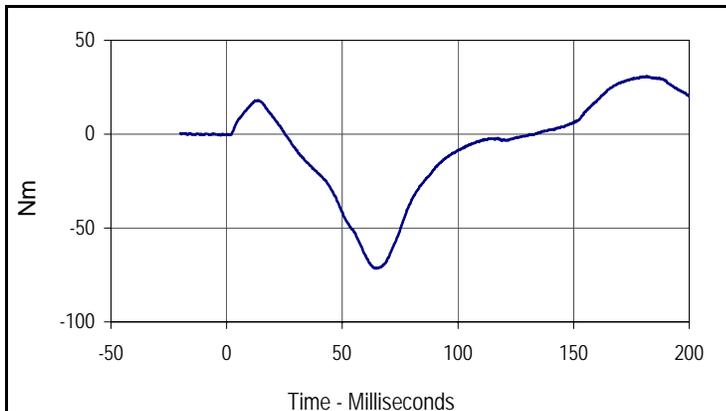
Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	30	Pass	
Pendulum Velocity	m/s	5.94 to 6.19	6.13	Pass	
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	17.9	Pass
	20 Msec.	G's	14.0 to 19.0	17.5	Pass
	30 Msec.	G's	11.0 to 16.0	15.5	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 22.0	15.5	Pass	
Deceleration Decay, Time to Cross 5 G's	Msec.	38.0 to 46.0	38.6	Pass	
Maximum "D" Plane Rotation	Max	Degrees	81.0 to 106.0	95.0	Pass
	Time	Msec.	72.0 to 82.0	73.5	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	147.0 to 174.0	149.7	Pass	
Moment About Occ. Condyle	Max	Nm	-52.9 to- 79.9	-71.6	Pass
	Time	Msec.	65.0 to 79.0	65.0	Pass
Positive Moment Decay, Time To Zero Crossing	Msec.	120.0 to 148.0	133.1	Pass	
Overall Test Results				Pass	



Curve Description			
Pendulum Deceleration			
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
17.9	10.0	-1.7	59.3



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
95.0	73.5	-34.2	189.0



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
31.0	181.6	-71.6	65.0

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

Test Date: 10/7/06

ATD Serial No.: 035

Test I.D.: LK10E , RK10G

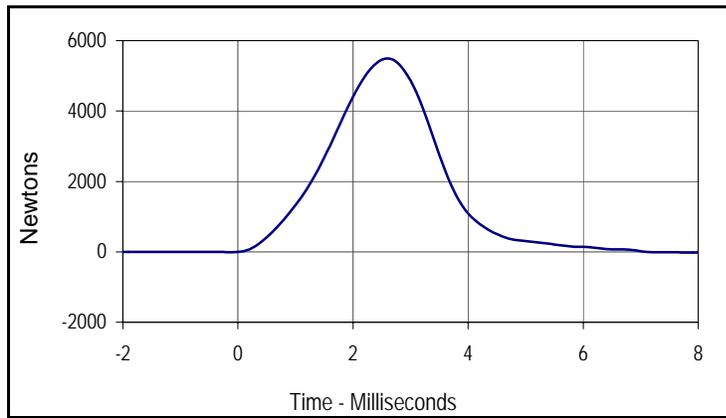


Left Knee

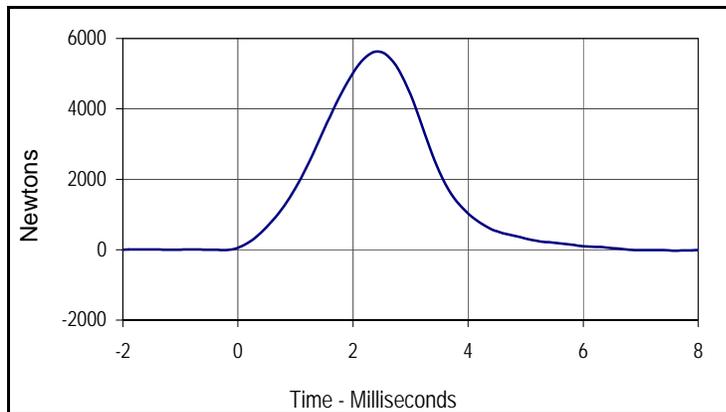
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.10	Pass
Peak Probe Force	Newtons	4715 to 5782	5498	Pass
Overall Test Results				Pass

Right Knee

Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.12	Pass
Peak Probe Force	Newtons	4715 to 5782	5625	Pass
Overall Test Results				Pass



Curve Description			
Left Knee Probe Force			
CURNO	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
5497.9	2.6	-28.9	9.6



Curve Description			
Right Knee Probe Force			
CURNO	Type	SAE Class	Units
002	FIL	600	Newtons
Max	Time	Min	Time
5625.1	2.4	-25.4	7.6

Test Program: Hybrid III 50th Percentile Male External Measurements Test Date: 10/8/06
 ATD Serial No.: 035 Test I.D.: N/A



Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
A - Total sitting height	mm	879 to 889	884	Pass
B - Shoulder pivot height	mm	505 to 521	511	Pass
C - "H" point height	mm	84 to 89	85	Pass
D - "H" point from seat back	mm	135 to 140	139	Pass
E - Shoulder pivot from back	mm	84 to 94	86	Pass
F - Thigh clearance	mm	140 to 155	150	Pass
G - Elbow back to wrist pivot	mm	290 to 305	300	Pass
H - Skull cap to back line	mm	41 to 46	44	Pass
I - Shoulder to elbow length	mm	330 to 345	335	Pass
J - Elbow rest height	mm	190 to 211	205	Pass
K - Buttock to knee length	mm	579 to 604	600	Pass
L - Popliteal length	mm	429 to 455	450	Pass
M - Knee pivot height	mm	485 to 500	489	Pass
N - Buttock popliteal length	mm	452 to 477	475	Pass
O - Chest depth	mm	213 to 229	225	Pass
P - Foot length	mm	251 to 267	255	Pass
V - Shoulder breadth	mm	422 to 437	435	Pass
W - Foot breadth	mm	91 to 107	102	Pass
Y - Chest circumference	mm	970 to 1001	985	Pass
Z - Waist circumference	mm	836 to 866	850	Pass
AA - Location for chest circumference	mm	429 to 434	431	Pass
BB - Location for waist circumference	mm	226 to 231	230	Pass
Overall Test Results				Pass

Test Program: Dummy Damage Checklist
 ATD Serial No.: 034

Test Date: 10/8/06
 Test I.D.: N/A



GENERAL	DAMAGED	OK
Outer skin on entire dummy		X
Head ballast secure		X
Gashes, rips, general appearance, etc.		X
Neck-Broken or cracks in rubber		X
Check that upper neck bracket is firmly attached to lwr neck bracket		X
Three rubber bumpers in place		X
Spine- Broken or cracks in rubber		X
Check for looseness at the condyle joint		X
Nodding blocks- cracked or out of position		X
Ribs- Check all ribs and rib supports for damage (bent or broken)		X
Check damping material or separation or cracks		X
OTHER		
CHEST DISPLACEMENT ASSEMBLY		
Bent shaft		X
Slider arm riding correctly, in track		X
TRANSDUCER LEADS		
Torn cables		X
ACCELEROMETER MOUNTINGS		
Check for secure mounting		X
KNEES		
Check outer skin, insert and casting (without removing insert)		X
Knee sliders - Wires intact		X
Knee sliders- Rubber returned to "at rest position"		X
LIMBS		
Check for normal movement and adjustment		X
PELVIS		
Inspect for breakage, especially at iliac crest		X

Comments on repair or replacement parts:

Test Program: Dummy Damage Checklist
 ATD Serial No.: 035

Test Date: 10/8/06
 Test I.D.: N/A



GENERAL	DAMAGED	OK
Outer skin on entire dummy		X
Head ballast secure		X
Gashes, rips, general appearance, etc.		X
Neck-Broken or cracks in rubber		X
Check that upper neck bracket is firmly attached to lwr neck bracket		X
Three rubber bumpers in place		X
Spine- Broken or cracks in rubber		X
Check for looseness at the condyle joint		X
Nodding blocks- cracked or out of position		X
Ribs- Check all ribs and rib supports for damage (bent or broken)		X
Check damping material or separation or cracks		X
OTHER		
CHEST DISPLACEMENT ASSEMBLY		
Bent shaft		X
Slider arm riding correctly, in track		X
TRANSDUCER LEADS		
Torn cables		X
ACCELEROMETER MOUNTINGS		
Check for secure mounting		X
KNEES		
Check outer skin, insert and casting (without removing insert)		X
Knee sliders - Wires intact		X
Knee sliders- Rubber returned to "at rest position"		X
LIMBS		
Check for normal movement and adjustment		X
PELVIS		
Inspect for breakage, especially at iliac crest		X

Comments on repair or replacement parts:
