

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

**NISSAN MOTOR CORPORATION
2007 NISSAN VERSA 1.8S
5-DOOR HATCHBACK**

NHTSA NUMBER: M75200

**PREPARED BY:
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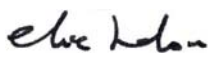
AUGUST 15, 2006

FINAL REPORT

**PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
RULEMAKING
OFFICE OF CRASHWORTHINESS STANDARDS
MAIL CODE: NVS-111
400 SEVENTH STREET, SW, ROOM 5311
WASHINGTON, D.C. 20590**

This final test report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, in response to Contract Number DTNH22-06-D-00027

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Date of Acceptance

COTR, NCAP Frontal Impact Program

Date of Acceptance

Technical Report Documentation Page

1. Report No. TR-P27001-02-NC		2. Government Accession No.		3. Recipients Catalog No.	
4. Title and Subtitle Final Report of New Car Assessment Program Testing of a 2007 Nissan Versa 1.8S 5-Door Hatchback NHTSA No. M75200				5. Report Date August 15, 2006	
				6. Performing Organization Code KAR	
7. Authors Mr. Elie Helou, Project Engineer, Karco Mr. Frank Richardson, Program Manager, Karco				8. Performing Organization Report No. TR-P27001-02-NC	
9. Performing Organization Name and Address Karco Engineering, LLC 9270 Holly Rd. Adelanto, CA, 92301				10. Work Unit No.	
				11. Contract or Grant No. DTNH22-06-D-00027	
12. Sponsoring Agency Name and Address U. S. Department of Transportation National Highway Traffic Safety Administration Rulemaking Office of Crashworthiness Standards Mail Code NVS-111 400 Seventh Street, SW, Room 5311 Washington, D.C 20590				13. Type of Report and Period Covered Final Test Report Base Year	
				14. Sponsoring Agency Code DOT/NHTSA/NRM/OCS	
15. Supplementary Notes					
16. Abstract A 35 mph (56.3 km/h) frontal barrier impact was conducted on a 2007 Nissan Versa 18S 5-Door Hatchback at Karco Engineering, LLC on 08/15/06. 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 581 mm to the left of the vehicle's centerline. The test vehicle is equipped with a 3-point continuous belt system and second generation supplemental airbags in both front outboard seating positions. With respect to FMVSS 208 "Occupant Crash Protection", the occupant injury criteria summary is as follows:					
Measurement Description		Units	Threshold	Driver ATD	Passenger ATD
Head Injury Criteria (HIC)		N/A	1000	451.9	406.1
Max. Chest Accel. (3 msec Clip)		G's	60	44.8	50.8
Left Femur Force		Newtons	10008	-3905.8	-4964.9
Right Femur Force		Newtons	10008	-3053.6	-2657.1
17. Key Words 56.3 km/h NCAP Frontal Barrier Impact Test New Car Assessment Program (NCAP) 2007 Nissan Versa 1.8S 5-Door Hatchback NHTSA No. M75200				18. Distribution of Statement Copies of this report available from: NHTSA Technical Reference Division National Highway Traffic Safety Admin. 400 Seventh St., SW, Room 5108 Washington, D.C. 20590	
19. Security Classification (this report) Unclassified		20. Security Classification (this page) Unclassified		21. No. of Pages 127	22. Price

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SECTION 1

PURPOSE AND SUMMARY OF TEST M75200

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 Nissan Versa 1.8S 5-Door Hatchback a velocity of 56.15 km/h. The test was performed at Karco Engineering, LLC on August 15, 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 also placed on the driver's and passenger's lap and shoulder belts to measure dummy torso and pelvic section loading. Also, shoulder belt spool-off was measured for the driver and passenger dummy. The driver (position 1) ATD (Serial No. 35) and the right-front passenger (position 2) ATD (Serial No. 34) were calibrated one test prior to this test.

One hundred and forty one (141) 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 581 mm to the left of 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	451.9	44.8	-34.8	-3905.8	-3053.6
Passenger	406.1	50.8	-25.8	-4964.9	-2657.1

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 Nissan Versa 1.8S 5-Door Hatchback

NHTSA No.: M75200

Test Program: 2007 NHTSA 35mph NCAP

Test Date: 8/15/06

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 Nissan Versa 1.8S 5-Door Hatchback

NHTSA No.: M75200

Test Program: 2007 NHTSA 35mph NCAP

Test Date: 8/15/06

PRIMARY IMPACT DATA

Measured Parameter	Units	Value
Velocity at Impact	km/h	56.15
Test Weight	kg	1421
Impact Angle	degrees	0
Average Rebound	mm	507
Maximum Static Crush	mm	581

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. 35	50% Male Hybrid III No. 34
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	45
Total	141

DATA SHEET NO. 2
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M75200
 Test Date: 8/15/06

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	M75200
Make	Nissan
Model	Versa 1.8S
Body Style	5-Door Hatchback
Vin No.	3N1BC13E77L354854
Color	Gray
Delivery Date	8/7/2006
Odometer (Miles)	122.0
Dealer	Victorville Nissan
Transmission	6-Speed Manual
Final Drive	Front
Type/No. Cyl.	Inline 4
Engine Disp. (L)	1.8
Engine Placement	Transverse
Roof Rack	No
Sunroof/T-Top	No
Tinted Glass	Yes
Traction Control	No
Power Brakes	Yes
Front Disc	Yes
Rear Disc	No

Anti-Lock Brakes	No
All Wheel Drive	No
Power Steering	Yes
Driver Front Airbag	Yes
Driver Side Airbag	Yes
Driver Head Airbag	No
Driver Curtain Airbag	Yes
Pass. Airbag	Yes
Pass. Side Airbag	Yes
Pass. Head Airbag	No
Pass. Curtain Airbag	Yes
Pre-Tensioners	Yes
Load Limiters	Yes
Bucket Seats	Yes
Air. Cond.	Yes
AM/FM Cassette	Yes
Tilt Steering	Yes
Automatic Door Locks	Yes
Power Windows	Yes
Power Seats	No
Other	None

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

No

DATA FROM MANUFACTURER

Manufactured By	Nissan Motor Corporation
Date of Manufacture	Jun-06

GWR (kg)	1710
GAWR Front (kg)	904
GAWR Rear (kg)	814

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

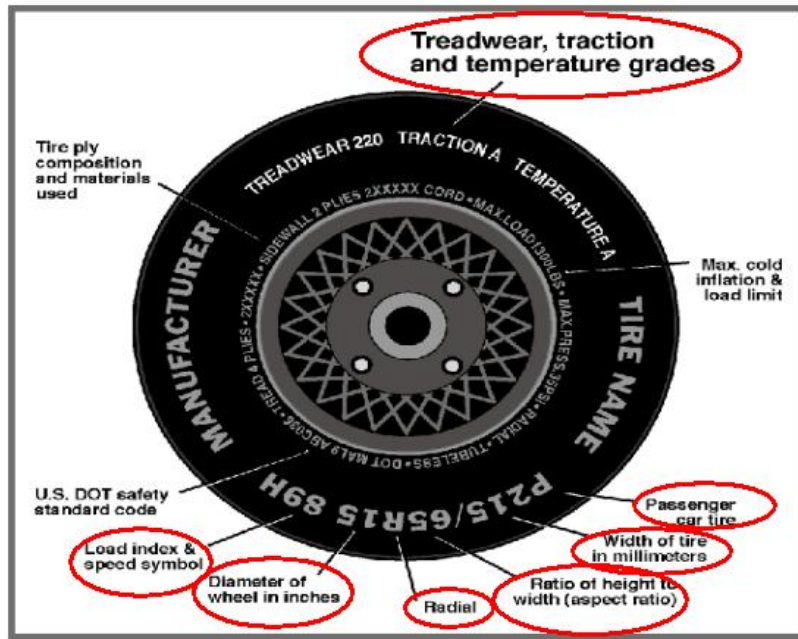
Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bucket		
Number of Occupants	2	3		5
Capacity Weight (VCW) (kg)				390
Cargo Weight (RCLW) (kg)				50

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

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M75200
 Test Date: 8/15/06

Collect year, make, model, VIN, items circled in red, and tire manufacturer and tire name.



TIRE INFORMATION

Measured Parameter	Front	Rear
Max. Tire Pressure (kpa)	280	280
Cold Pressure (kpa)	230	230
Recommended Tire Size	P185/65R15	P185/65R15
Tire Size on Vehicle	P185/65R15	P185/65R15
Tire Manufacturer	Continental	Continental
Treadwear	400	400
Traction	AA	AA
Temperature Grades	A	A
Tire Plies Sidewall	1 Polyester	1 Polyester
Tire Plies Body	1 Polyester + 2 Steel + 1 Nylon	1 Polyester + 2 Steel + 1 Nylon
Load Index/Speed Symbol	86H	86H
Tire Material	Polyester + Steel + Nylon	Polyester + Steel + Nylon
DOT Safety Code Right	LLEP 3RN 1606	LLEP 3RN 1606
DOT Safety Code Left	LLEP 3RN 1606	LLEP 3RN 1606

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

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M75200
 Test Date: 8/15/06

TEST VEHICLE WEIGHTS

	Units	As Delivered Weights (UVW)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	367	240	607	393	313	706
Right	kg	365	254	619	394	321	715
Ratio	%	59.7	40.3	100	55.4	44.6	100
Totals	kg	732	494	1226	787	634	1421

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1226
Weight of 2 P572 ATD's	kg	152
Rated Cargo/Luggage Wt. (RCLW)	kg	50
Calculated Vehicle Target Wt. (TVTW)	kg	1428

TEST VEHICLE ATTITUDE AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	690	690	696	694	1054
As Tested	mm	675	675	660	665	1166

Vehicle Wheel Base (mm) 2615

Weight of Ballast Secured in cargo area (kg) 0

Weight of Items Removed (kg) 62

Vehicle Components Removed Tail lights, rear bumper, carpet-plastic from trunk, spare tire, jack, tire change tools, rear hatch

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

FUEL SYSTEM DATA

Fuel System Capacity From Owners Manual (L) 52.50

Actual Test Volume with entire fuel System Filled (L) 42.69

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 Nissan Versa 1.8S 5-Door Hatchback

NHTSA No.: M75200

Test Program: 2007 NHTSA 35mph NCAP

Test Date: 8/15/06

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	56.13

VEHICLE STATIC CRUSH

Measured Parameter	Units	Pre-Test	Post-Test	Difference
Left Side	mm	4069	3735	-334
Center	mm	4286	3800	-486
Right Side	mm	4069	3735	-334

VEHICLE REBOUND FROM BARRIER

Measured Parameter	Units	Value
Left Side	mm	500
Center	mm	550
Right Side	mm	470
Average	mm	507

DATA SHEET NO. 4 TEST VEHICLE INFORMATION

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

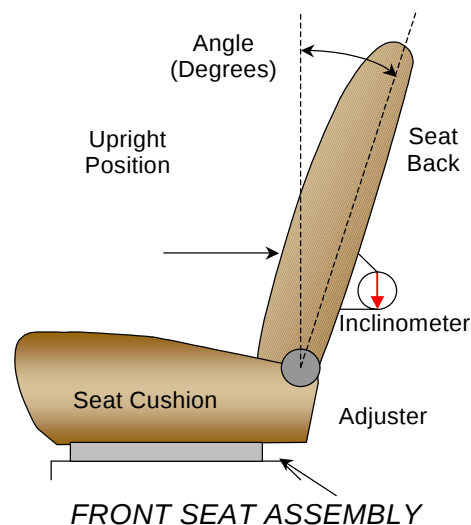
NHTSA No.: M75200
 Test Date: 8/15/06

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 headrest of the seat back using a digital inclinometer.

SEAT BACK ANGLES

	Deg.
Driver w/seated Dummy	10.8 @ headrest
Passenger w/seated Dummy	10.8 @ headrest

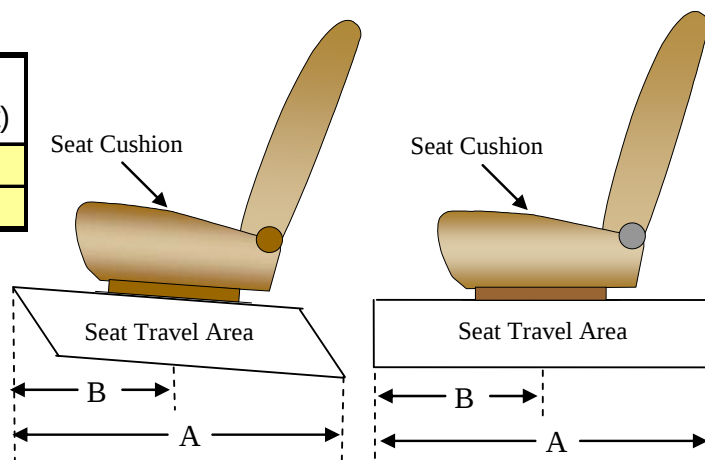


SEAT FORE/AFT POSITIONS

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 (Detent)	Placed in Position (Detent)
Driver Seat	24	13
Passenger Seat	24	13



SEAT BELT UPPER ANCHORAGE

Position number one (1) is the uppermost position.

SEAT BELT UPPER ANCHORAGE

	Total # of Positions	Placed in Position #
Driver Seat	4	1
Passenger Seat	4	1

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

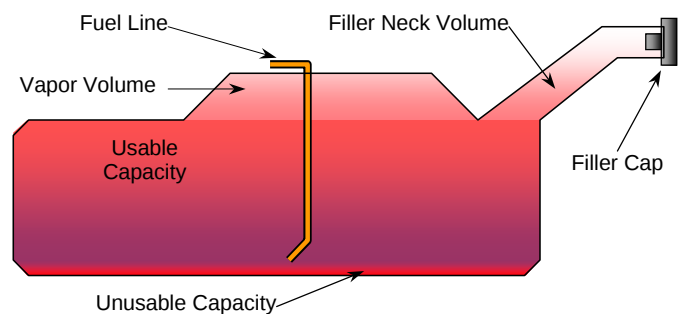
Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M75200
 Test Date: 8/15/06

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard Tank"	52.50
Usable Capacity of "Optional" Tank	
Usable Capacity used for FMVSS 301	41.37 to 42.28
Actual Amount of Solvent used	42.69

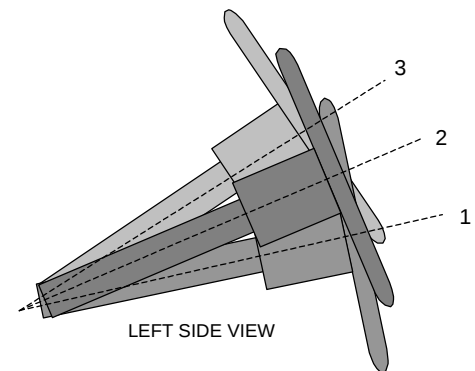
The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the right rear fender. The standard fuel tank occupies 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	25.4	
Geometric center position No. 2	27.4	
Uppermost position No. 3	29.3	

DATA SHEET NO. 5
DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M75200
Test Date: 8/15/06

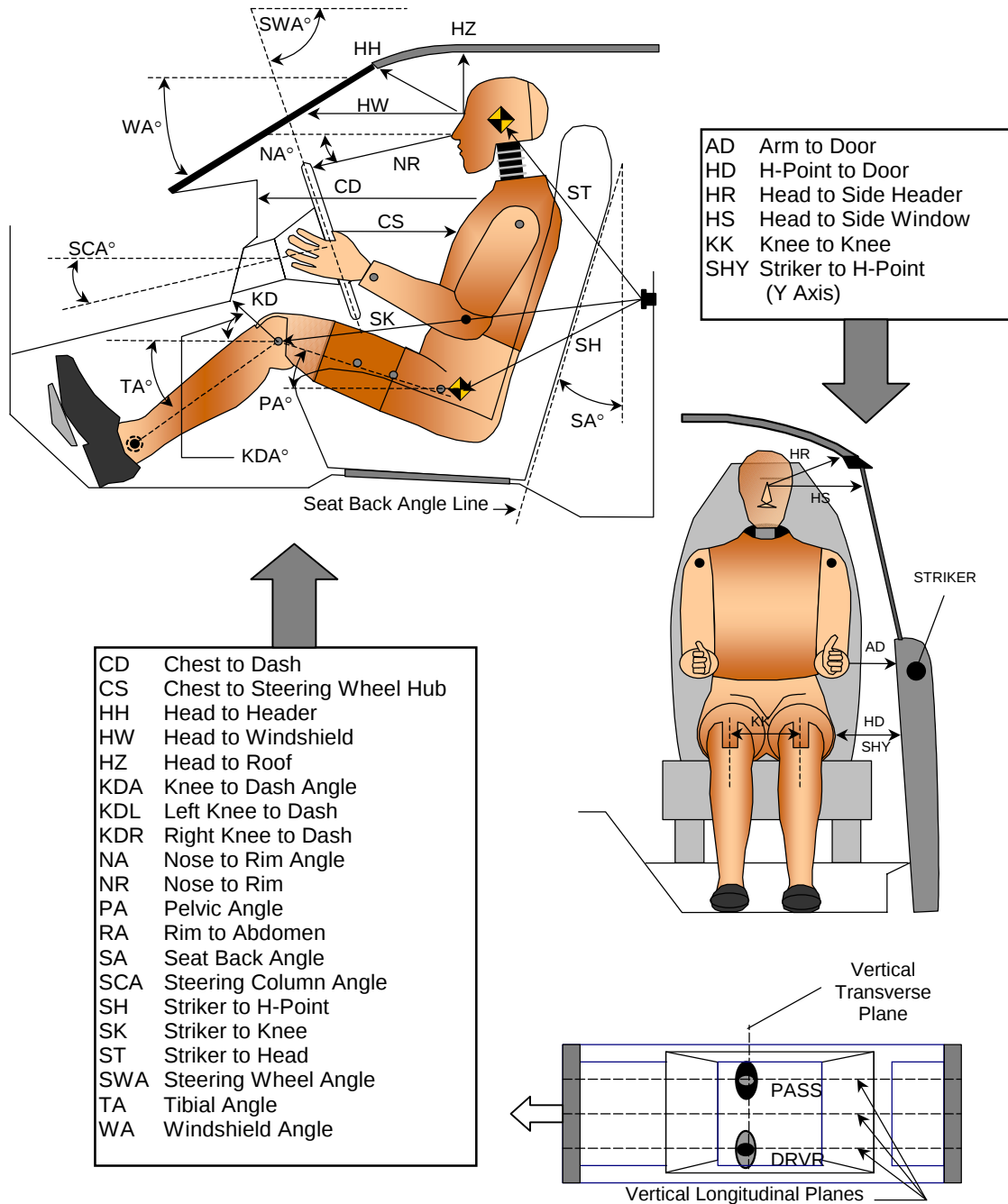
TEST DUMMY POSITION MEASUREMENTS

Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (deg)	Length (mm)	Angle (deg)
WA	Windshield Angle		25.6		
SWA	Steering Wheel Angle		62.6		
SCA	Steering Column Angle		27.4		
SA	Seat Back Angle		10.8 @ headrest		10.8 @ headrest
HZ	Head to Roof (Z)	205	90.0	202	90.0
HH	Head to Header	370		360	
HW	Head to Windshield	680		660	
HR	Head to Side Header (Y)	310		315	
NR	Nose to Rim	430	15.5		
CD	Chest to Dash	610		580	
CS	Chest to Steering Hub	295			
RA	Rim to Abdomen	182			
KDL	Left Knee to Dash	125	0.2	110	
KDR	Right Knee to Dash	130		142	0.3
PA	Pelvic Angle		24.7		24.6
TA	Tibia Angle		50.2		49.9
KK	Knee to Knee (Y)	275		270	
SK	Striker to Knee	650	2.1	680	0.6
ST	Striker to Head	560	76.1	560	77.8
SH	Striker to H-Point	270	24.4	250	22.8
SHY	Striker to H-Point (Y)	222		225	
HS	Head to Side Window	335		340	
HD	H-Point to Door (Y)	95		92	
AD	Arm to Door (Y)	115		110	

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

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M75200
 Test Date: 8/15/06



DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS

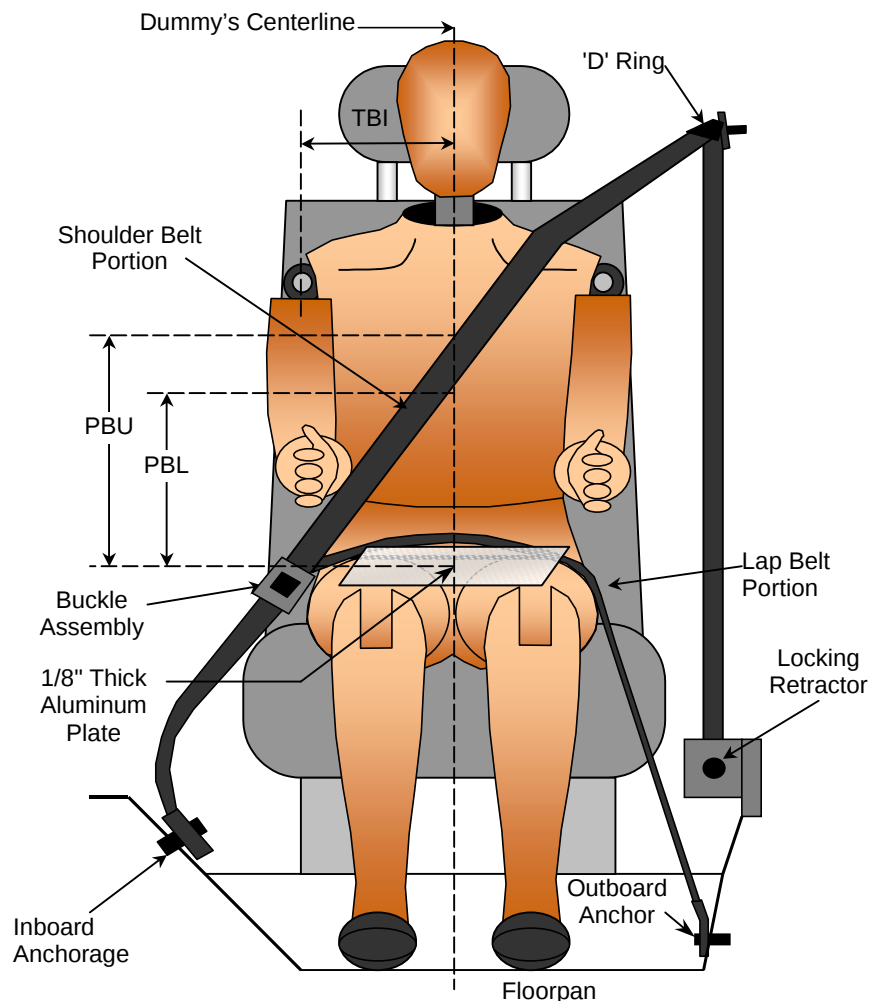
DATA SHEET NO. 6 **SEAT BELT POSITIONING DATA**

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback

NHTSA No.: M75200

Test Program: 2007 NHTSA 35mph NCAP

Test Date: 8/15/06



SEAT BELT POSITIONING MEASUREMENTS

Measured Parameter	Units	Driver	Passenger
TBI - Dummy C/L to Lap/Shoulder Belt Intersect	mm	220	220
PBU - Top Surface of reference to belt upper edge	mm	310	304
PBL - Top Surface of reference to belt lower edge	mm	240	245
Lap Belt Tension	Newtons	10	10
Shoulder Belt Tension	N/A	Retractor	Retractor

DATA SHEET NO. 7
VEHICLE ACCELEROMETER LOCATION

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback

NHTSA No.: M75200

Test Program: 2007 NHTSA 35mph NCAP

Test Date: 8/15/06

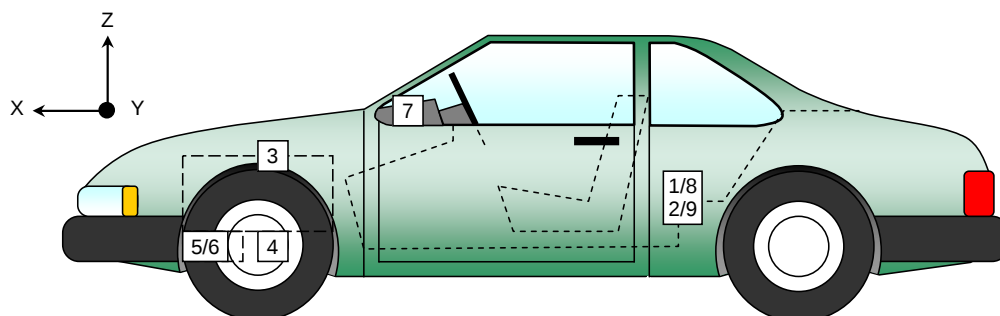
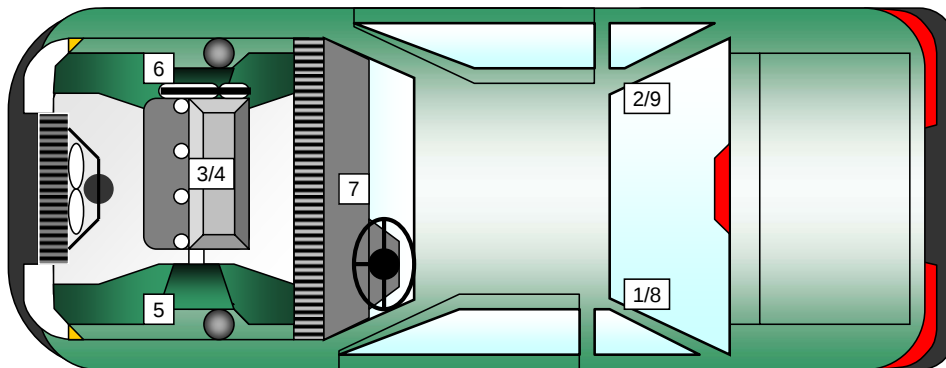
VEHICLE ACCELEROMETER PRE-TEST LOCATIONS

No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Left Rear X-Member	1610	-660	367
2	Right Rear X-Member	1610	660	367
3	Engine Top			
4	Engine Bottom	3480	195	197
5	Left Brake Caliper	3052	657	224
6	Right Brake Caliper	3052	657	224
7	Instrument Panel			
8	Left Rear X-Member (Z-Axis)	1610	-660	367
9	Right Rear X-Member (Z-Axis)	1610	660	367

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 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M75200
 Test Date: 8/15/06

SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
Retractor Reel to "D" ring	mm	1010	1010
Shoulder Belt length as measured on ATD	mm	900	880
Lap Belt length as measured on ATD	mm	800	810
Remainder of belt on reel	mm	900	630
Total belt length for continuous webbing systems	mm	3610	3330

SHOULDER BELT SPOOL-OFF DATA

Measurement Description	Units	Driver	Passenger
As determined mechanically	mm	90	80
As determined electronically	mm	216	151

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 Nissan Versa 1.8S 5-Door Hatchback

NHTSA No.: M75200

Test Program: 2007 NHTSA 35mph NCAP

Test Date: 8/15/06

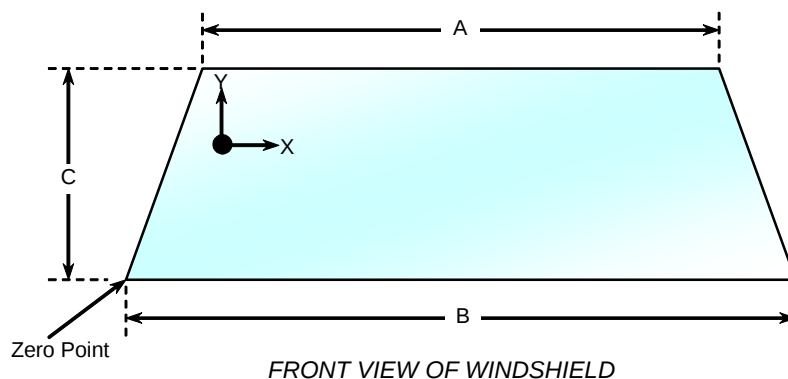
Windshield Mounting Details: Windshield glass is secured to the vehicle frame with a rubber type adhesive. No molding covers the windshield periphery at any point.

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	2100	2100	100
Right Side	2100	2100	100
Total	4200	4200	100



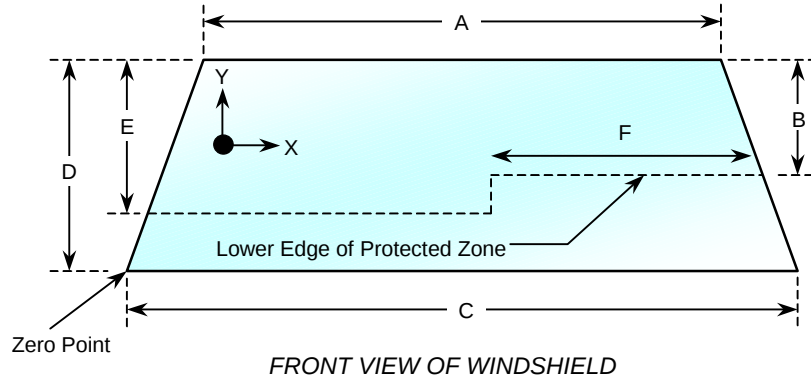
WINDSHIELD DIMENSIONS

Item	Units	Segment Length	Molding Width
A	mm	1185	16
B	mm	1355	55
C-Left	mm	830	16
C-Right	mm	830	16

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

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M75200
 Test Date: 8/15/06



**WINDSHIELD AND
PROTECTED ZONE**

Item	Units	Value
A	mm	1185
B	mm	505
C	mm	1355
D	mm	830
E	mm	535
F	mm	870

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 Nissan Versa 1.8S 5-Door Hatchback

NHTSA No.: M75200

Test Program: 2007 NHTSA 35mph NCAP

Test Date: 8/15/06

Test Time: 1:26 PM

Temperature: 33.0 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

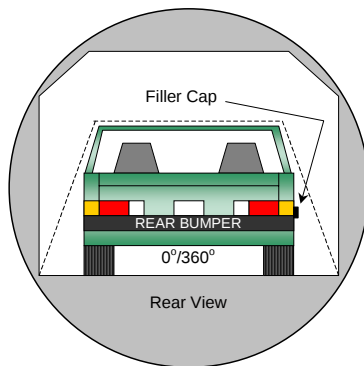
DATA SHEET NO. 12
FMVSS 301 STATIC ROLLOVER DATA

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback

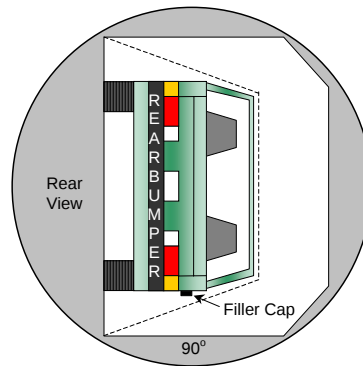
NHTSA No.: M75200

Test Program: 2007 NHTSA 35mph NCAP

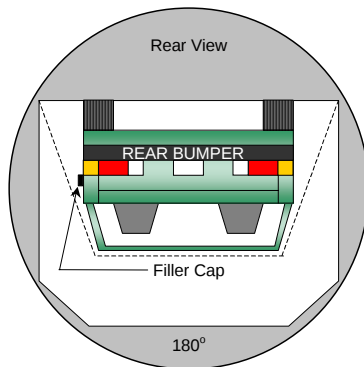
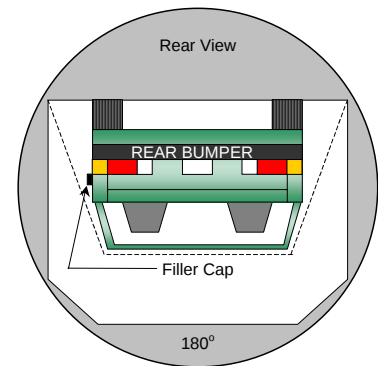
Test Date: 8/15/06



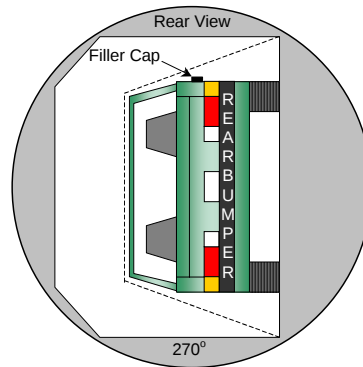
0° to 90°



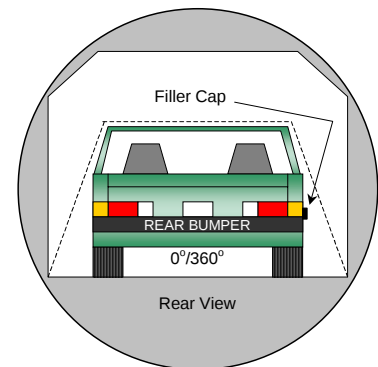
90° to 180°



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 Nissan Versa 1.8S 5-Door Hatchback

NHTSA No.: M75200

Test Program: 2007 NHTSA 35mph NCAP

Test Date: 8/15/06

SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° to 90°	83	300	383
90° to 180°	80	300	380
180° to 270°	79	300	379
270° to 360°	78	300	378

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 Nissan Versa 1.8S 5-Door Hatchback
Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M75200
Test Date: 8/15/06

VEHICLE MEASUREMENT TABLE

No.	Measurement Description	Units	Pre-Test	Post-Test	Diff.
1	Total length of vehicle at centerline	mm	4286	3780	-506
2	RSOV to front of engine	mm	3729	3367	-362
3	RSOV to firewall centerline	mm	3414	3486	72
4	RSOV to leading edge of right door	mm	2967	2961	-6
5	RSOV to leading edge of left door	mm	2967	2957	-10
6	RSOV to lower leading edge of right door	mm	2938	2930	-8
7	RSOV to lower leading edge of left door	mm	2938	2934	-4
8	RSOV to upper trailing edge of right door	mm	1855	1856	1
9	RSOV to upper trailing edge of left door	mm	1853	1855	2
10	RSOV to lower trailing edge of right door	mm	1852	1845	-7
11	RSOV to lower trailing edge of left door	mm	1854	1846	-8
12	RSOV to bottom of right 'A' pillar	mm	2921	2842	-79
13	RSOV to bottom of left 'A' pillar	mm	2921	2917	-4
14	RSOV to firewall on right side	mm	3312	3371	59
15	RSOV to firewall on left side	mm	3319	3255	-64
16	RSOV to steering column	mm	2484	2427	-57
17	Center of steering column to left 'A' pillar	mm	410	400	-10
18	Center of steering column to headlining	mm	440	450	10
19	RSOV to right side of front bumper	mm	4069	3735	-334
20	RSOV to left side of front bumper	mm	4069	3800	-269
21	Length of engine block	mm	425	425	0
RD	RSOV to right side of dash panel	mm	2733	2662	-71
CD	RSOV to center of dash panel	mm	2705	2680	-25
LD	RSOV to left side of dash panel	mm	2728	2656	-72

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

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M75200
 Test Date: 8/15/06

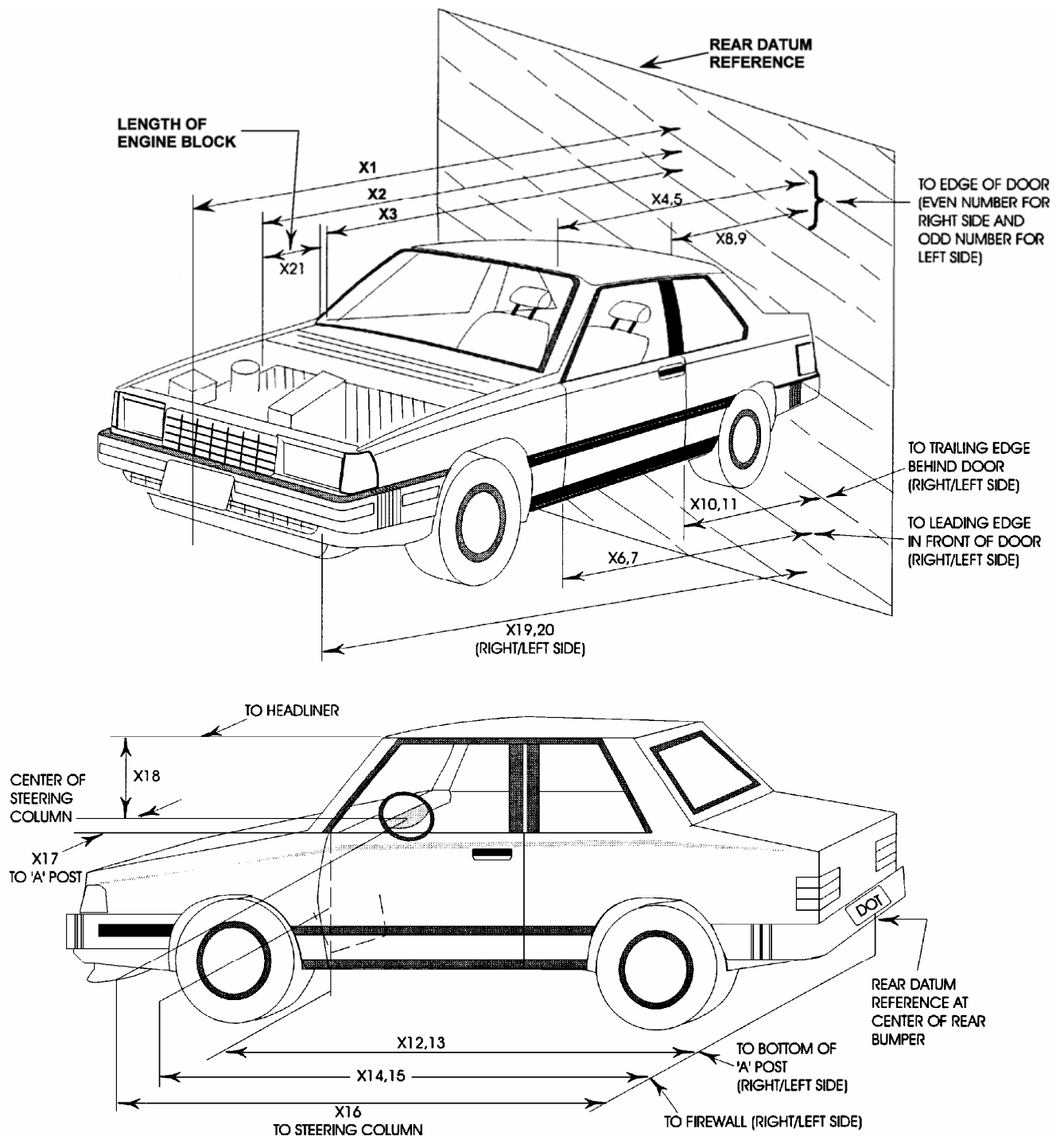
VEHICLE STRUCTURAL MEASUREMENT TABLE

No.	Measurement Description	Units	Pre-Test	Post-Test	Diff.
1	Total length	mm	4286	3780	-506
2	Total width	mm	1700	1710	10
3	Bumper top height	mm	620	646	26
4	Bumper bottom height	mm	191	488	297
5	Longitudinal member top height	mm	560	235	-325
6	Longitudinal member bottom height	mm	475	187	-288
7	Distance between longitudinal members	mm	930	720	-210
8	Longitudinal member width	mm	70	48	-22
9	Engine top height	mm	867	820	-47
10	Engine bottom height	mm	181	215	34
11	Engine and gear box width	mm	930	930	0
12	Front bumper to engine distance	mm	560	419	-141
13	Front shock absorber fixing width	mm	862	880	18
14	Bonnet leading edge height	mm	730	800	70
15	Front shock absorber fixing width	mm	1160	1155	-5
16	Front bumper to front axle distance	mm	875	402	-473
17	Front axle to 'A' pillar distance	mm	460	491	31
18	'A' pillar to 'B' pillar distance	mm	1114	1109	-5
19	'B' pillar to rear axle distance	mm	1062	1055	-7
20	'B' pillar to 'C' pillar distance	mm	967	974	7
21	Roof sill bottom height	mm	1390	1313	-77
22	Roof sill top height	mm	1500	1492	-8
23	Floor sill bottom height	mm	180	130	-50
24	Floor sill top height	mm	340	362	22

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

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M75200
 Test Date: 8/15/06



DATA SHEET NO. 14
CAMERA LOCATIONS

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M75200
Test Date: 8/15/06

VEHICLE CAMERA MEASUREMENT TABLE

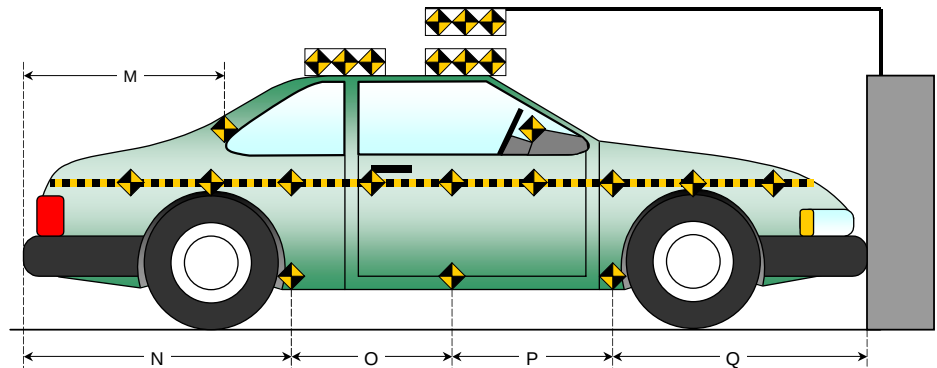
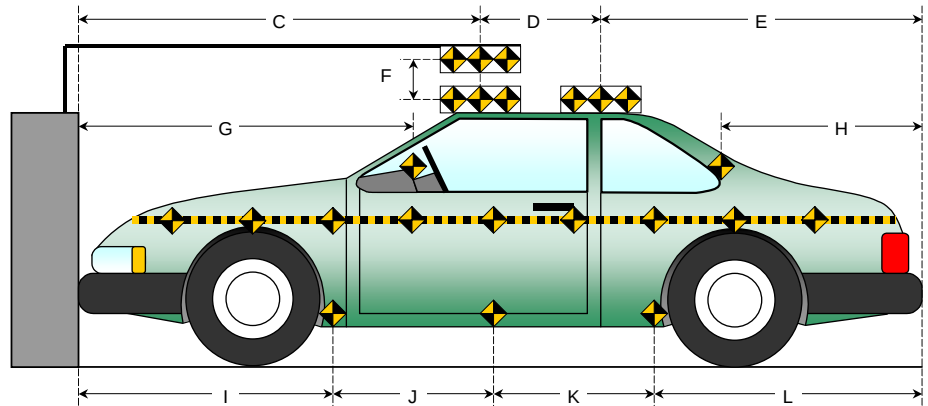
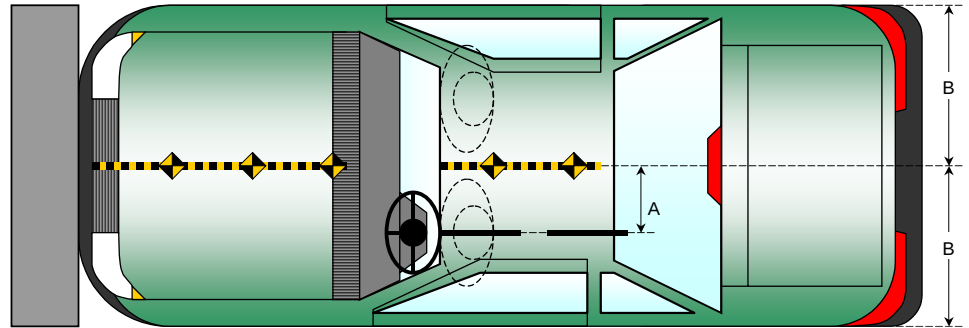
No.	Camera View	Location (mm)			Angle (deg.)	Film Plane to Head	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Real Time Camera (Panning)	-15284	-7942	-1593	0			30
2	Overall Left Side	-1805	-7191	-1134	0	6733	20mm	1000
3	Left Side View	-1524	-7124	-1167	-3	6685	50mm	1000
4	Driver and Interior View	-8696	-12562	-4511	-13	14142	ZOOM	1000
5	Steering Column (Bottom)	-1631	-8234	-2682	-13	7914	35mm	1000
6	Overall Right Side	-1663	-8153	-3078	-17	7915	35mm	1000
7	Right Side View	-2572	6864	-1104	-2	6412	20mm	1000
8	Passenger and Interior View	-2006	6524	-1245	-4	6059	50mm	1000
9	Right Side View	-5330	9365	-2407	-10	9537	ZOOM	1000
10	Windshield View	-2006	6967	-1463	-6	6508	ZOOM	1000
11	Driver Front View	-589	0	-5556	-75		24mm	1000
12	Passenger Front View	378	-286	-2438	-35		25mm	1000
13	Pit View of Engine	375	413	-2439	-35		25mm	1000
14	Pit View of Fuel Tank	-748	0	1495	90		12mm	1000
15	Real Time Camera	-3348	0	1495	90		8mm	1000
16	Real Time Camera							
17	Driver On-Board							
18	Passenger On-Board							

DATA SHEET NO. 15
PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M75200
 Test Date: 8/15/06

All Dimensions in (mm)	
Item	Value
A	300
B	1700
C	1990
D	606
E	1655
F	150
G	1520
H	800
I	1305
J	875
K	875
L	1205
M	800
N	1205
O	875
P	875
Q	1305



DATA SHEET NO. 16
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback

NHTSA No.: M75200

Test Program: 2007 NHTSA 35mph NCAP

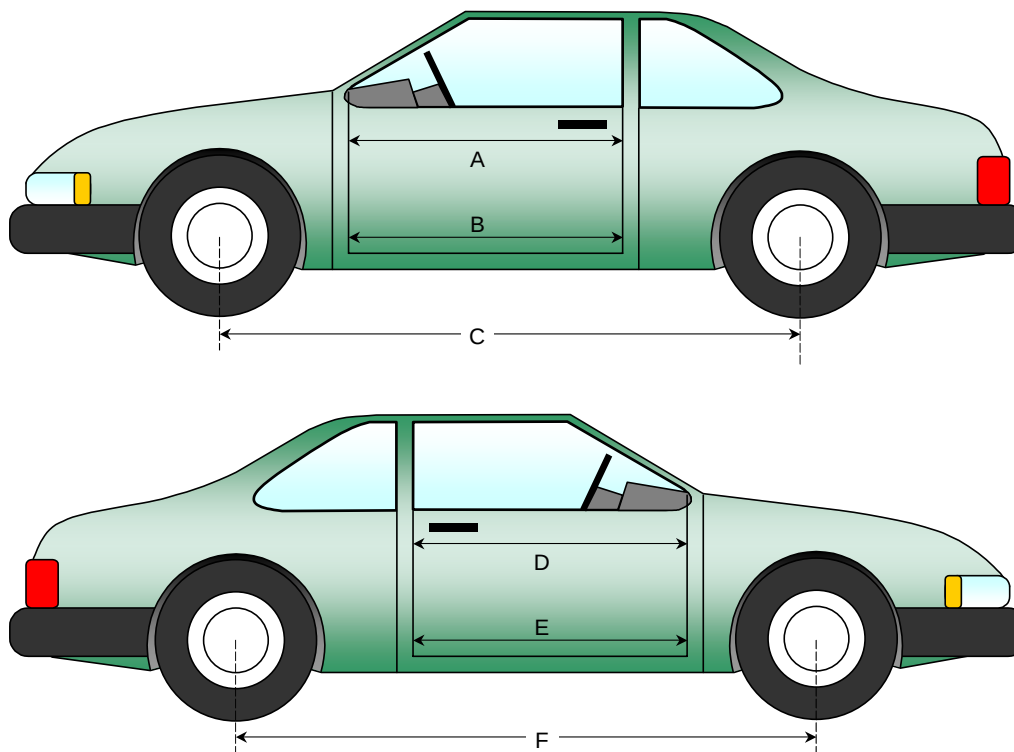
Test Date: 8/15/06

DOOR OPENING WIDTH TABLE

Item	Description	Units	Pre-Test	Post-Test	Diff.
A	Left Side Upper	mm	916	918	2
B	Left Side Lower	mm	953	956	3
D	Right Side Upper	mm	950	966	16
E	Right Side Lower	mm	936	956	20

WHEELBASE MEASUREMENT TABLE

Item	Description	Units	Pre-Test	Post-Test	Diff.
C	Left Side Wheel Base	mm	2615	3080	465
F	Right Side Wheel Base	mm	2615	3085	470



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

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback

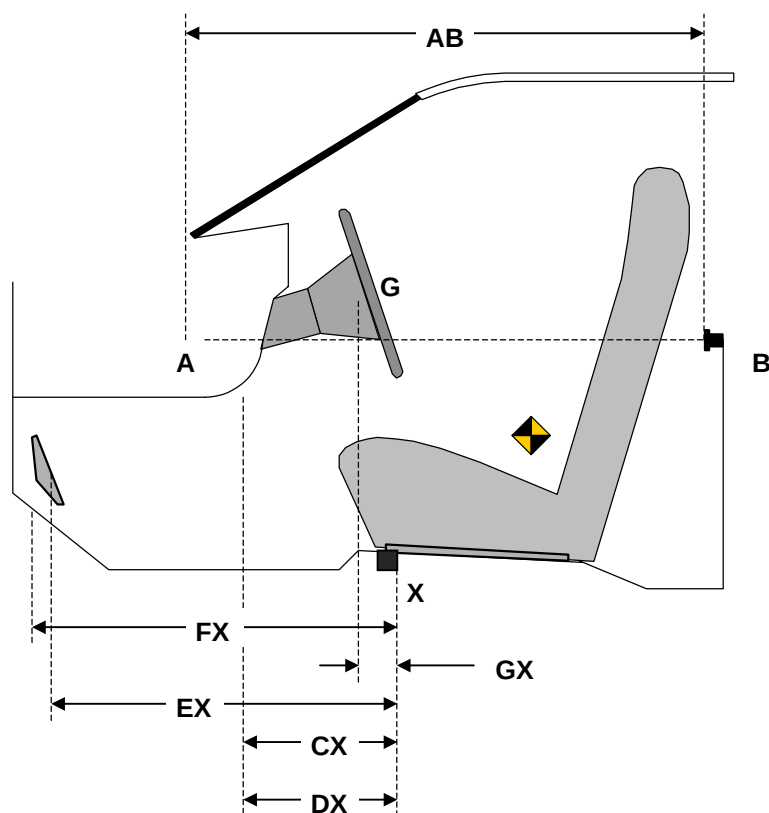
NHTSA No.: M75200

Test Program: 2007 NHTSA 35mph NCAP

Test Date: 8/15/06

DRIVER COMPARTMENT INTRUSION TABLE

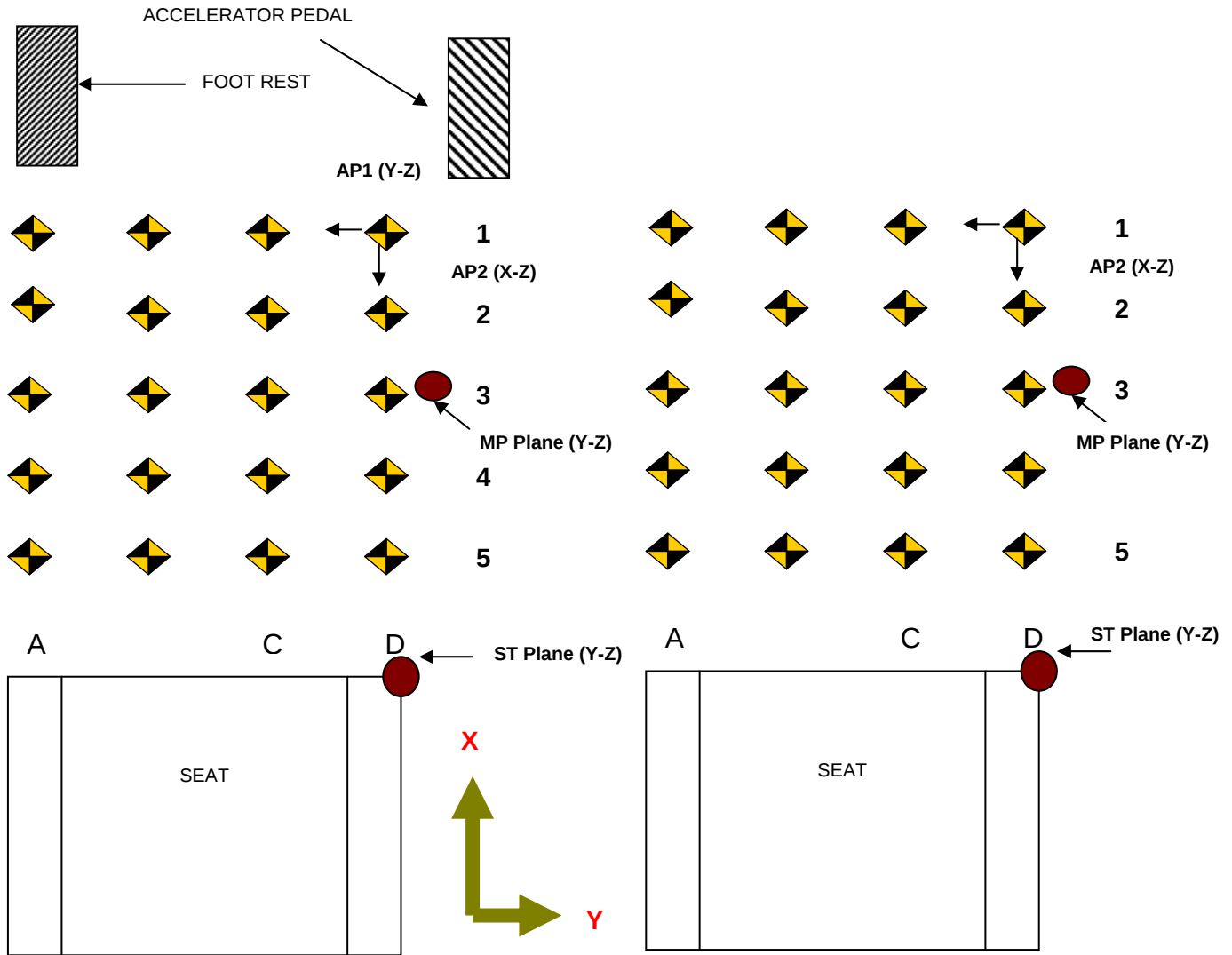
Item	Description	Units	Pre-Test	Post-Test	Diff.
AB	Door Opening (Inside window jam)	mm	916	918	2
CX	Left Knee Bolster to X	mm	234	323	89
DX	Right Knee Bolster to X	mm	294	320	26
EX	Brake Pedal to X	mm	330	515	185
FX	Foot Rest to X	mm	581	580	-1
GX	Center of Steering Wheel Hub to X	mm	120	160	40



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

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M75200
 Test Date: 8/15/06



- 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 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M75200
 Test Date: 8/15/06

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	609	682	673	593	598	644	617	604	-11	-38	-56	11
2	551	583	577	574	553	556	539	522	2	-27	-38	-52
3	500	471	472	460	480	451	453	434	-20	-20	-19	-26
4	377	353	346	340	372	335	333	319	-5	-18	-13	-21
5	232	214	211	205	220	198	199	190	-12	-16	-12	-15

DRIVER FLOOR PAN Y-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	57	204	333	453	40	193	314	435	-17	-11	-19	-18
2	56	196	325	447	35	176	303	421	-21	-20	-22	-26
3	45	196	321	439	30	167	296	415	-15	-29	-25	-24
4	34	186	312	438	8	163	285	407	-26	-23	-27	-31
5	19	180	304	426	-1	154	275	397	-20	-26	-29	-29

DRIVER FLOOR PAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	-134	-64	-67	-174	-163	-76	-83	-96	-29	-12	-16	78
2	-57	15	27	24	-78	14	19	22	-21	-1	-8	-2
3	81	43	76	60	46	53	93	84	-35	10	17	24
4	98	53	90	83	96	75	125	125	-2	22	35	42
5	122	56	87	83	79	91	137	125	-43	35	50	42

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

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M75200
 Test Date: 8/15/06

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	465	473	469	425	664	659	659	627	199	186	190	202
2	371	375	373	384	570	583	587	591	199	208	214	207
3	261	277	276	295	494	502	493	515	233	225	217	220
4	124	127	134	149	356	364	353	374	232	237	219	225
5	-24	-19	-19	-14	212	208	203	210	236	227	222	224

PASSENGER FLOOR PAN Y-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	-217	-133	-7	154	-292	-219	-164	1	-75	-86	-157	-153
2	-234	-134	8	172	-289	-215	-141	20	-55	-81	-149	-152
3	-233	-135	10	180	-288	-209	-151	13	-55	-74	-161	-167
4	-234	-136	14	179	-293	-203	-151	20	-59	-67	-165	-159
5	-233	-131	20	178	-295	-200	-146	12	-62	-69	-166	-166

PASSENGER FLOOR PAN Z-AXIS

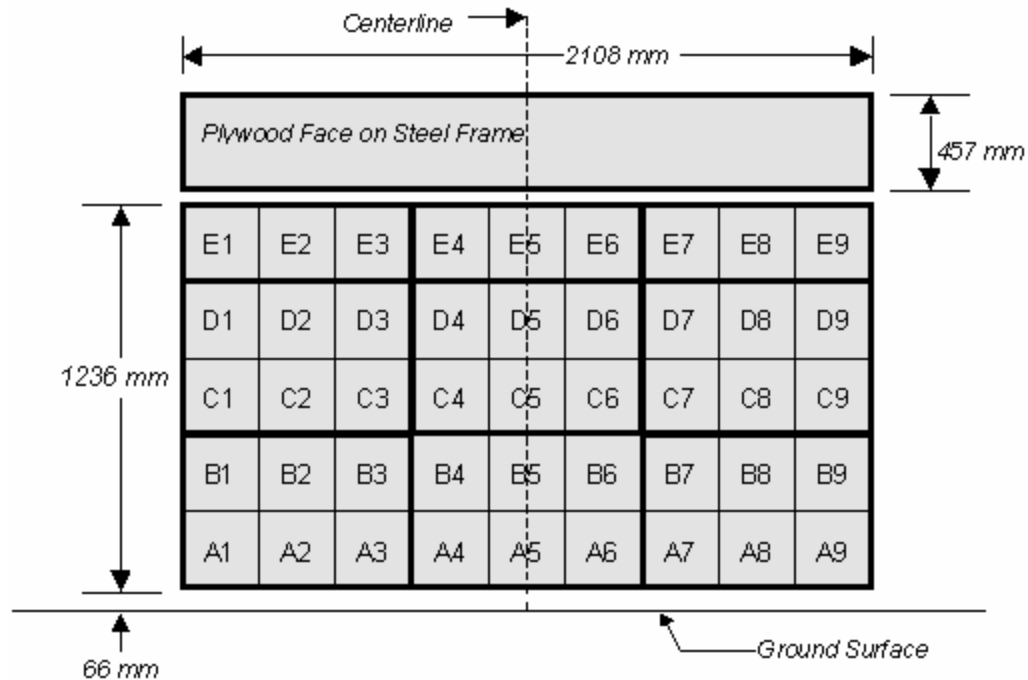
	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	-82	-80	-84	-119	-95	-98	-96	-137	-13	-18	-12	-18
2	13	12	1	0	1	6	0	-17	-12	-6	-1	-17
3	51	64	29	59	82	76	41	48	31	12	12	-11
4	81	82	44	84	124	117	71	93	43	35	27	9
5	79	80	47	107	129	138	87	97	50	58	40	-10

DATA SHEET NO. 17
FIXED BARRIER LOAD CELL LOCATIONS

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M75200
 Test Date: 8/15/06

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 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M75200
 Test Date: 8/15/06

VEHICLE INFORMATION

VIN: 3N2BC13E77L354854
 Vehicle Size Category: 5-Door

Wheel base (mm): 2615
 Test Weight (kg): 1421

ACCELEROMETER DATA

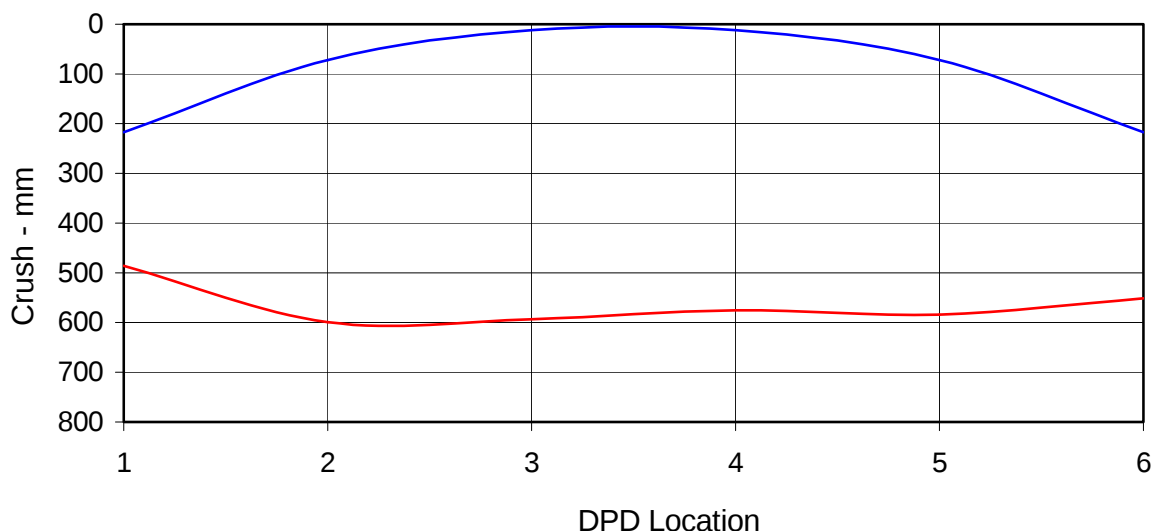
Accelerometer Location: Left rear cross member
 Cal. Procedure/Interval: 6 months / drop test
 Integration Algorithm: NHTSA Standard
 Impact Velocity (km/h): 56.15
 Velocity Change (km/h): 62.5

Linearity: Good
 Time of Separation (msec): 69.1

CRUSH PROFILE

Collision Deformation Classification: 12FDEW6 Midpoint of Damage: Vehicle Centerline
 Damage Region Length (mm): 1420 Impact Mode: Full Frontal

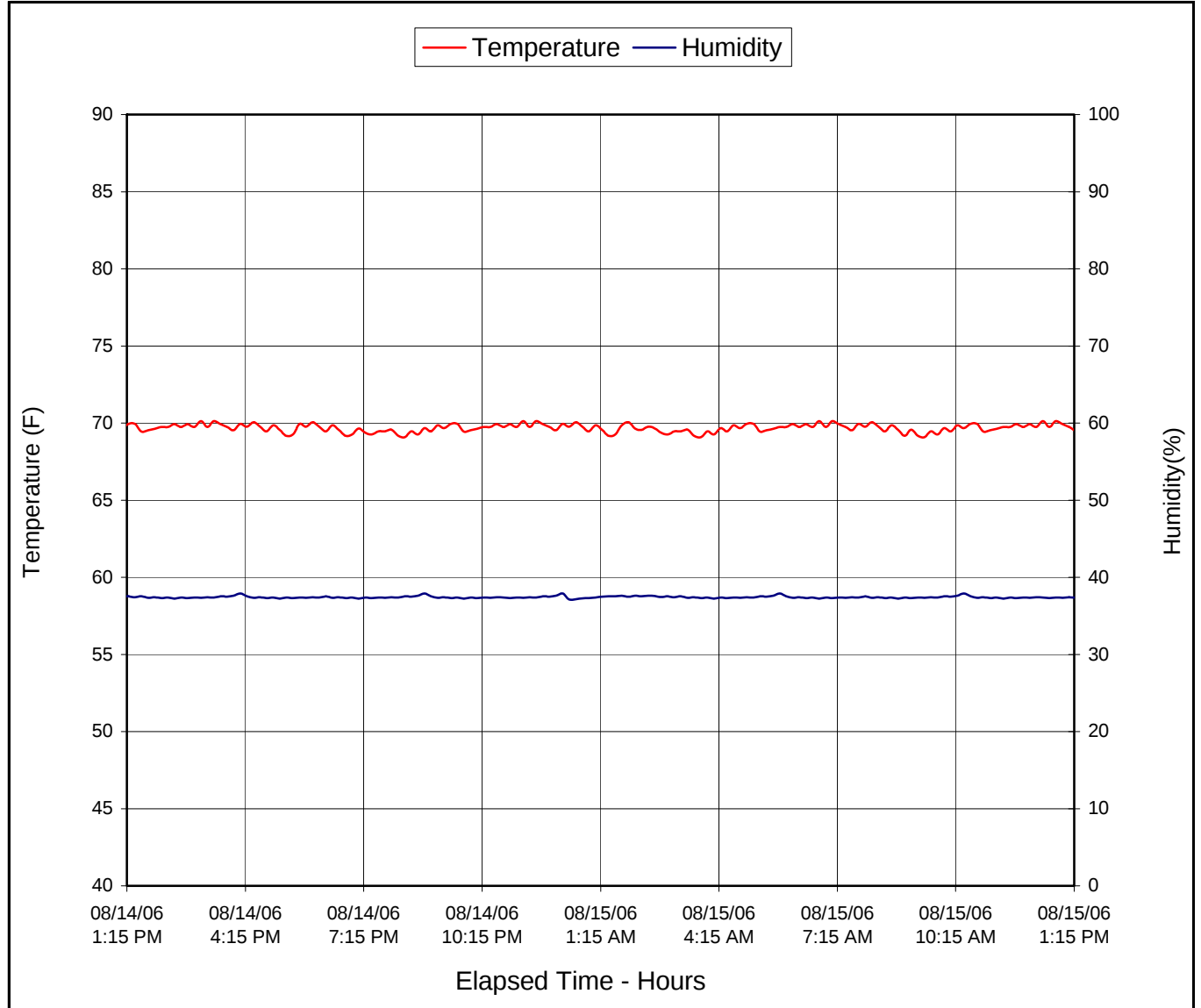
No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	217	486	-269
C2	Crush zone 2 on left side	mm	72	599	-527
C3	Crush zone 3 on left side	mm	12	593	-581
C4	Crush zone 4 on right side	mm	12	575	-563
C5	Crush zone 5 on right side	mm	72	584	-512
C6	Crush zone 6 at right side	mm	217	551	-334



DATA SHEET NO. 19
DUMMY/VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
Test Program: 2007 NHTSA 35mph NCAP

NHTSA No.: M75200
Test Date: 8/15/06



APPENDIX A
PHOTOGRAPHS

LIST OF PHOTOGRAPHS

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A-1	Load Cell Location	A-1
A-2	Manufacturer's Label	A-2
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
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A-34	Pre-Test Driver Dummy (Door Open)	A-34
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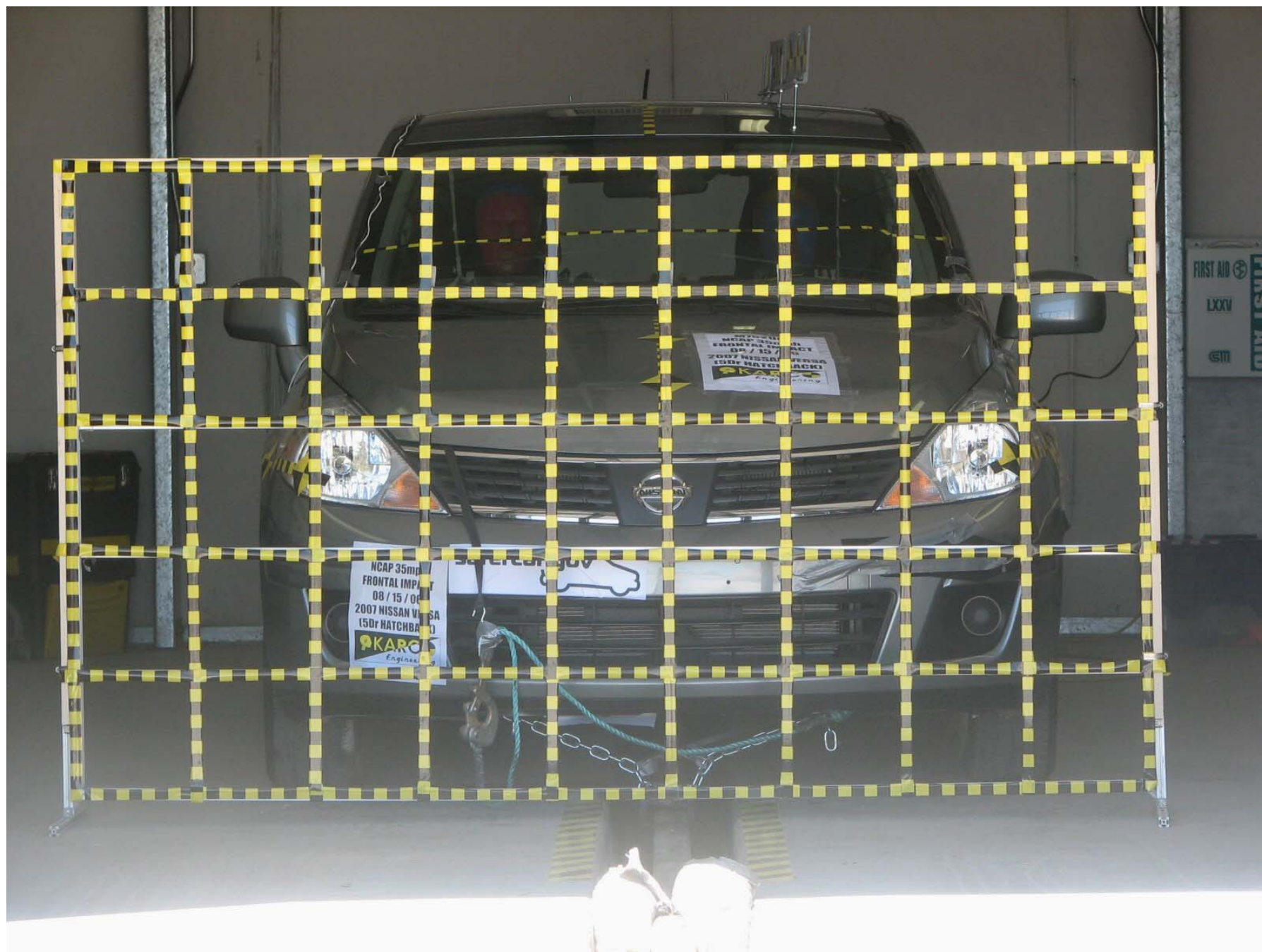


Figure A-1: Load Cell Location

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MANUFACTURED BY NISSAN MOTOR CO., LTD.
DATE: 06/06 GVWR: 3770 LBS
GAWR FR: 1993 LBS GAWR RR: 1795 LBS

THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR.
VEHICLE SAFETY, BUMPER AND THEFT PREVENTION STANDARDS
IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.
SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION.

VIN: 3N1BC13E77L354854 PASSENGER CAR.
COLOR TRIM TRANS AXLE ENGINE

K36 G RS6F94R GC39 MR18DE 1798 CC
MODEL: FDSALDY-EUA 42000



3N1BC13E77L354854

Figure A-2: Manufacturer's Label



Figure A-3: Tire Placard



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



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



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 $\frac{3}{4}$ View



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



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



Figure A-16: Post-Test Left Side $\frac{3}{4}$ View of Doors After Impact



Figure A-17: Post-Test Right Side $\frac{3}{4}$ View of Doors After Impact

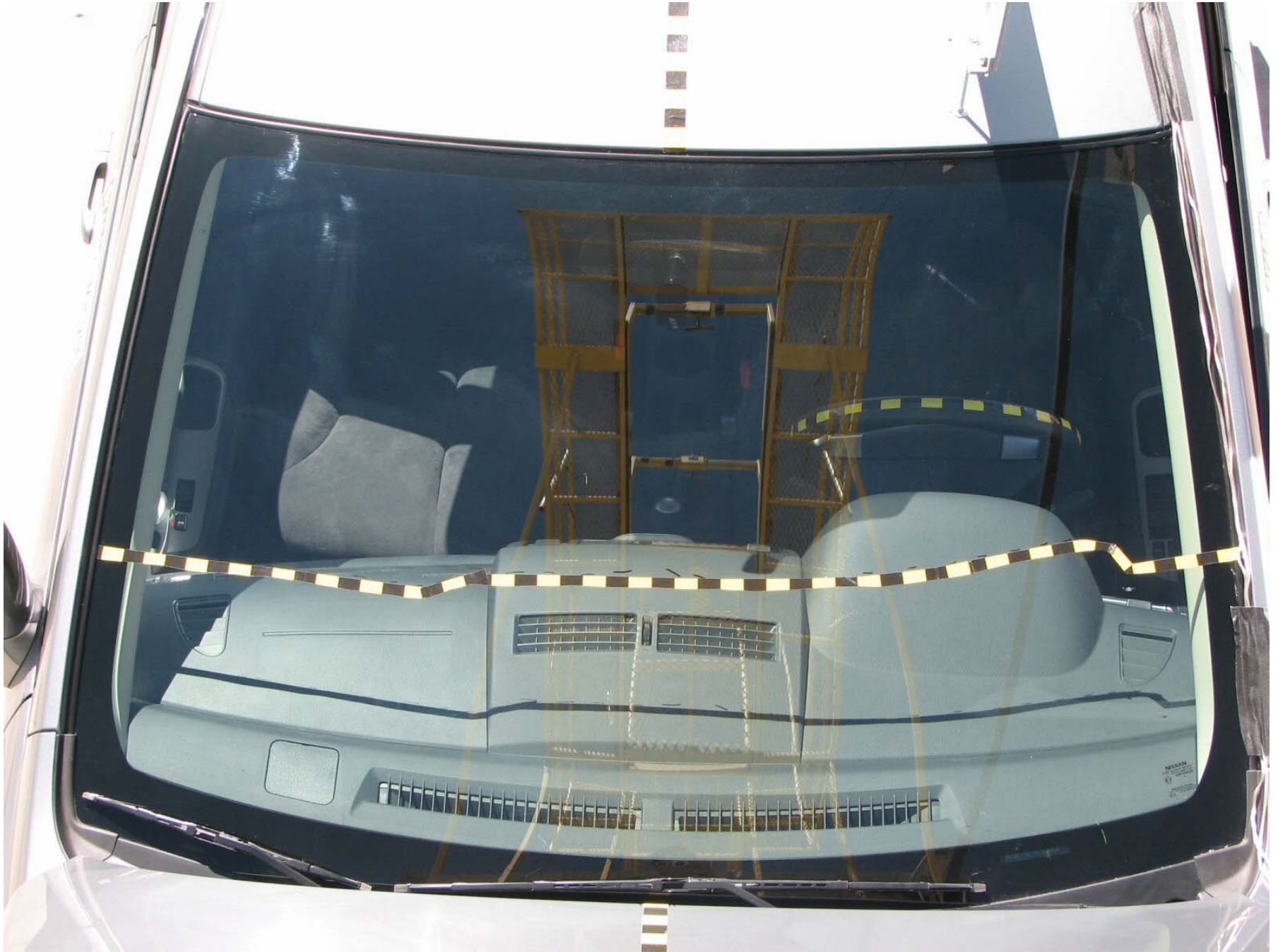


Figure A-18: Pre-Test Windshield



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

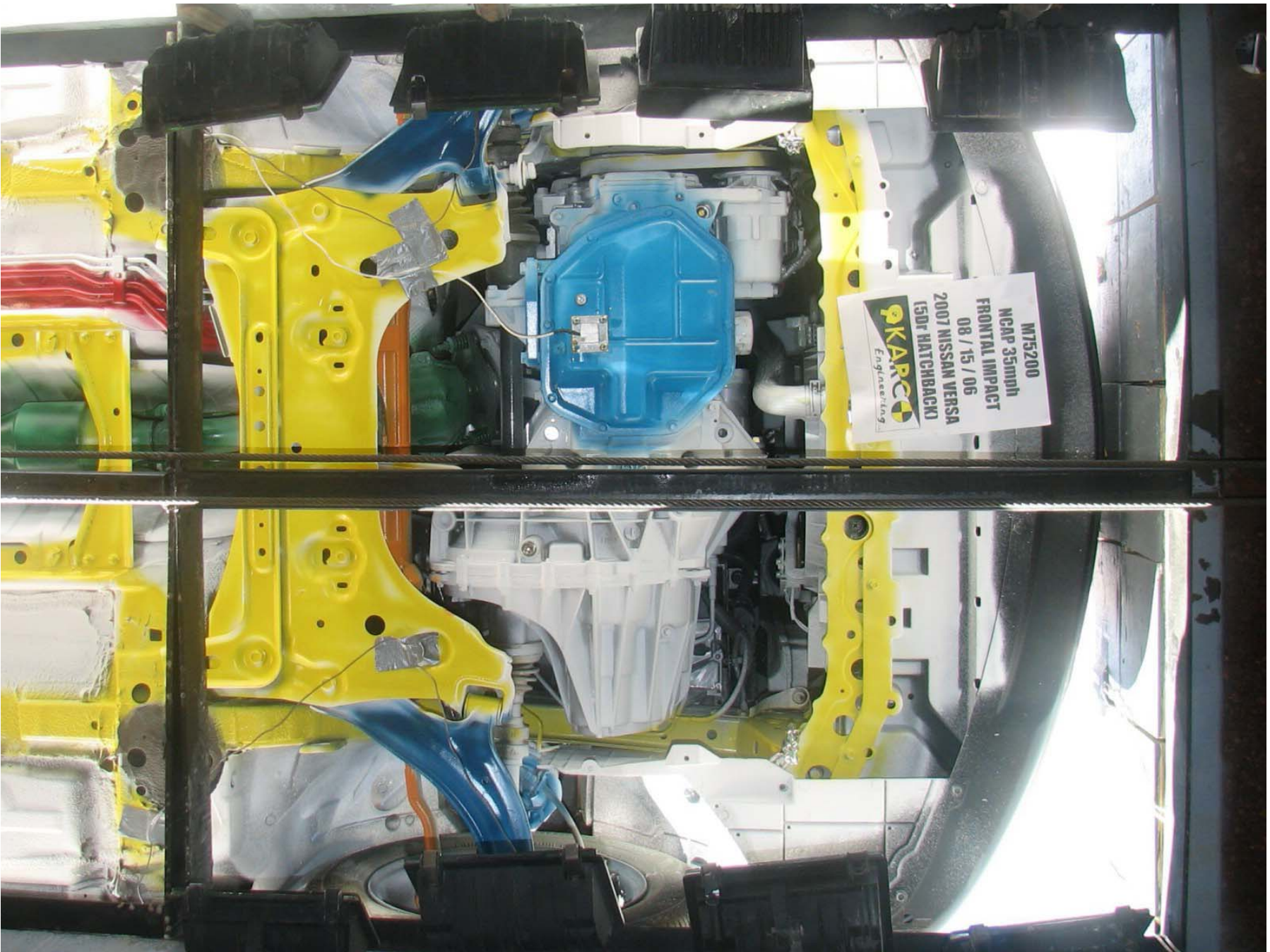


Figure A-24: Pre-Test Front Underbody

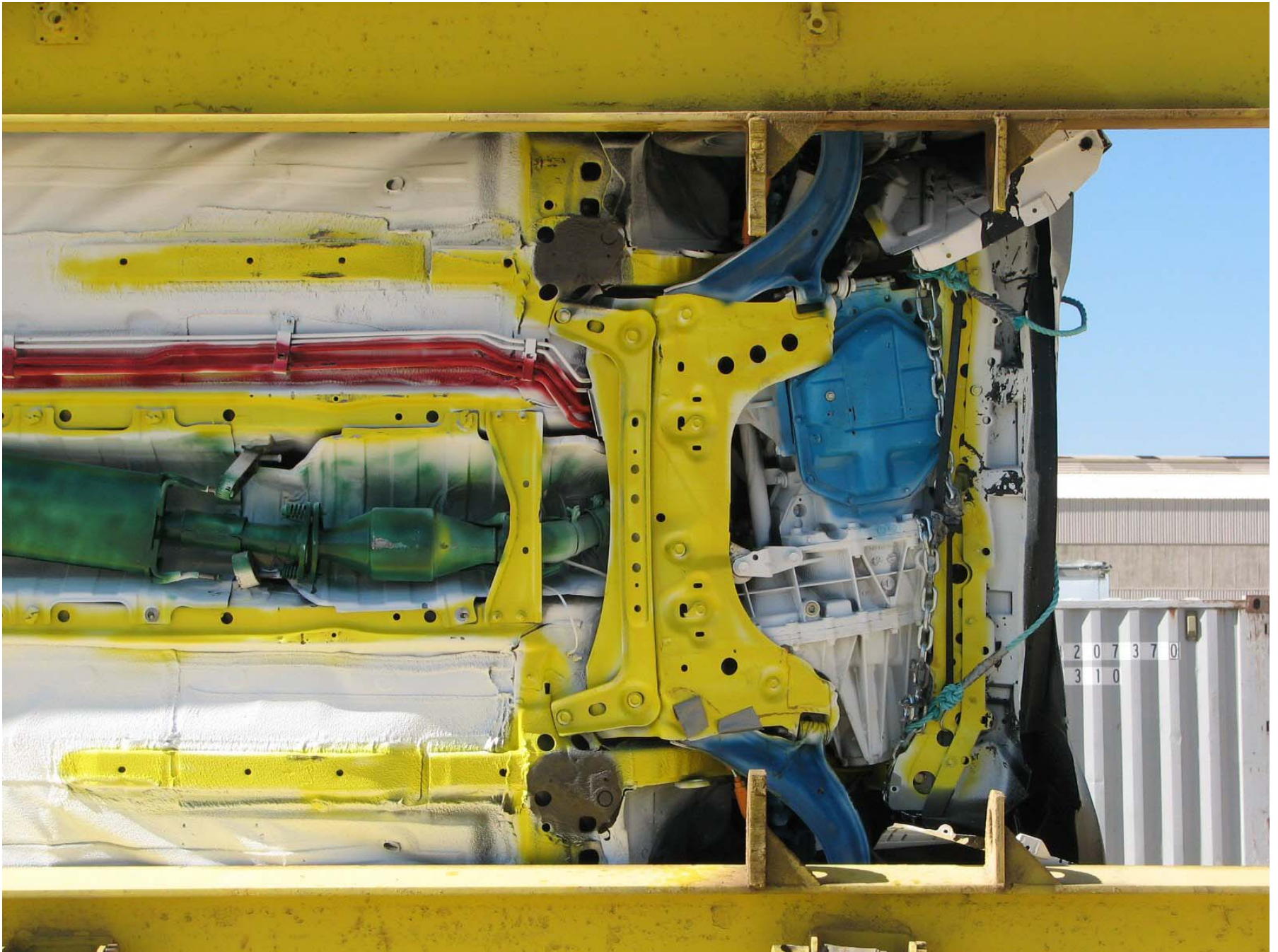


Figure A-25: Post-Test Front Underbody

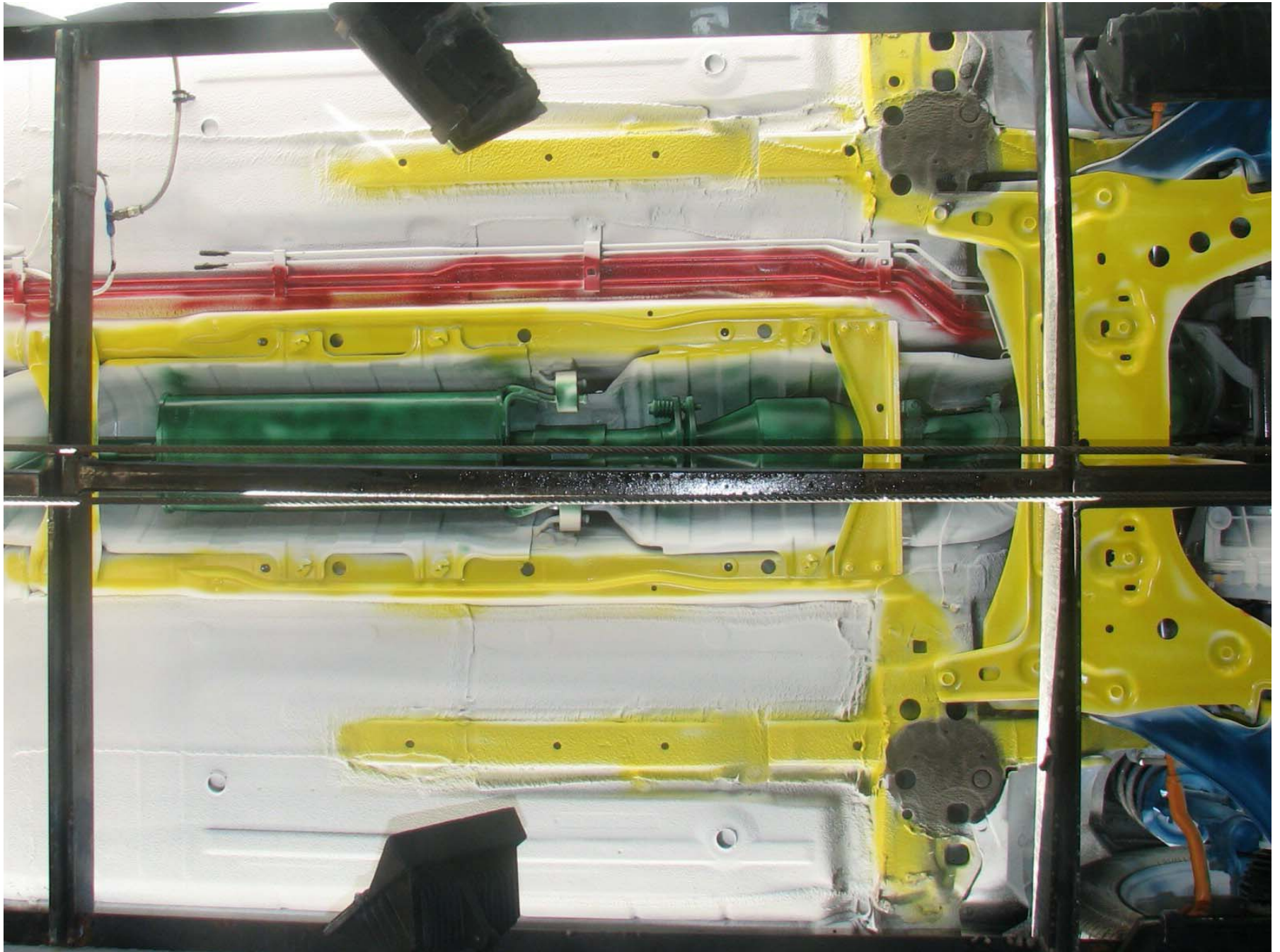


Figure A-26: Pre-Test Mid Underbody

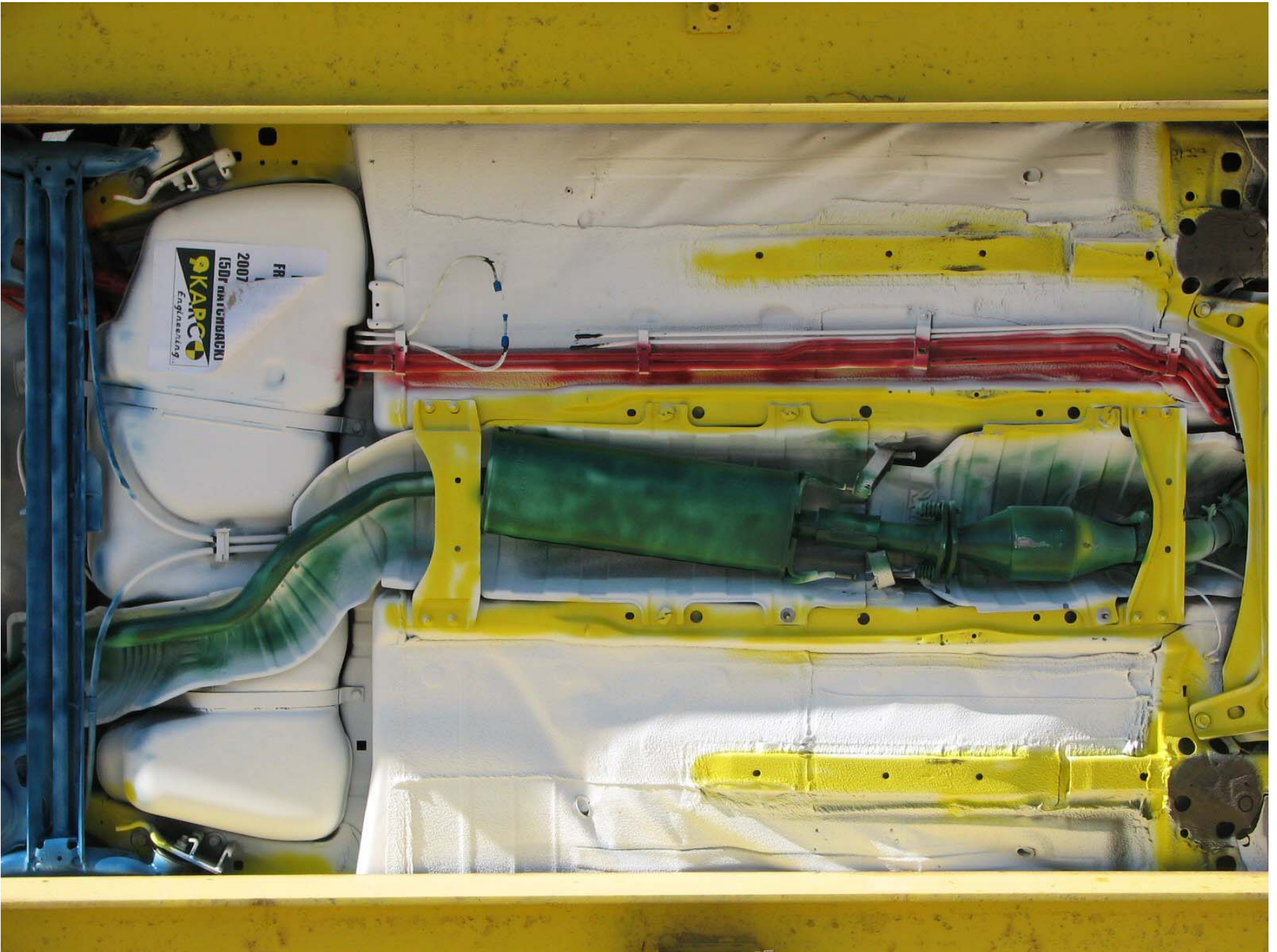


Figure A-27: Post-Test Mid Underbody

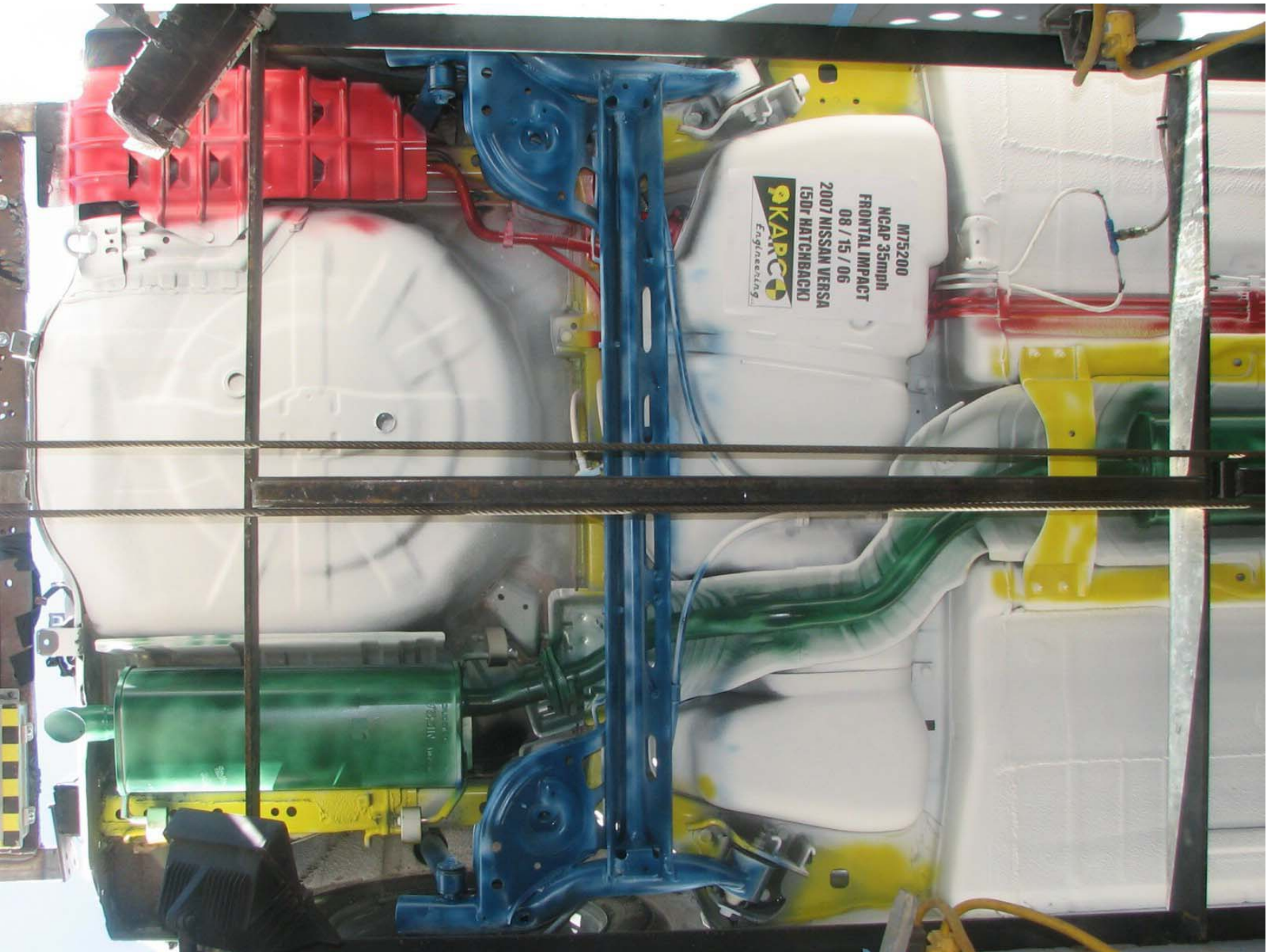


Figure A-28: Pre-Test Rear Underbody

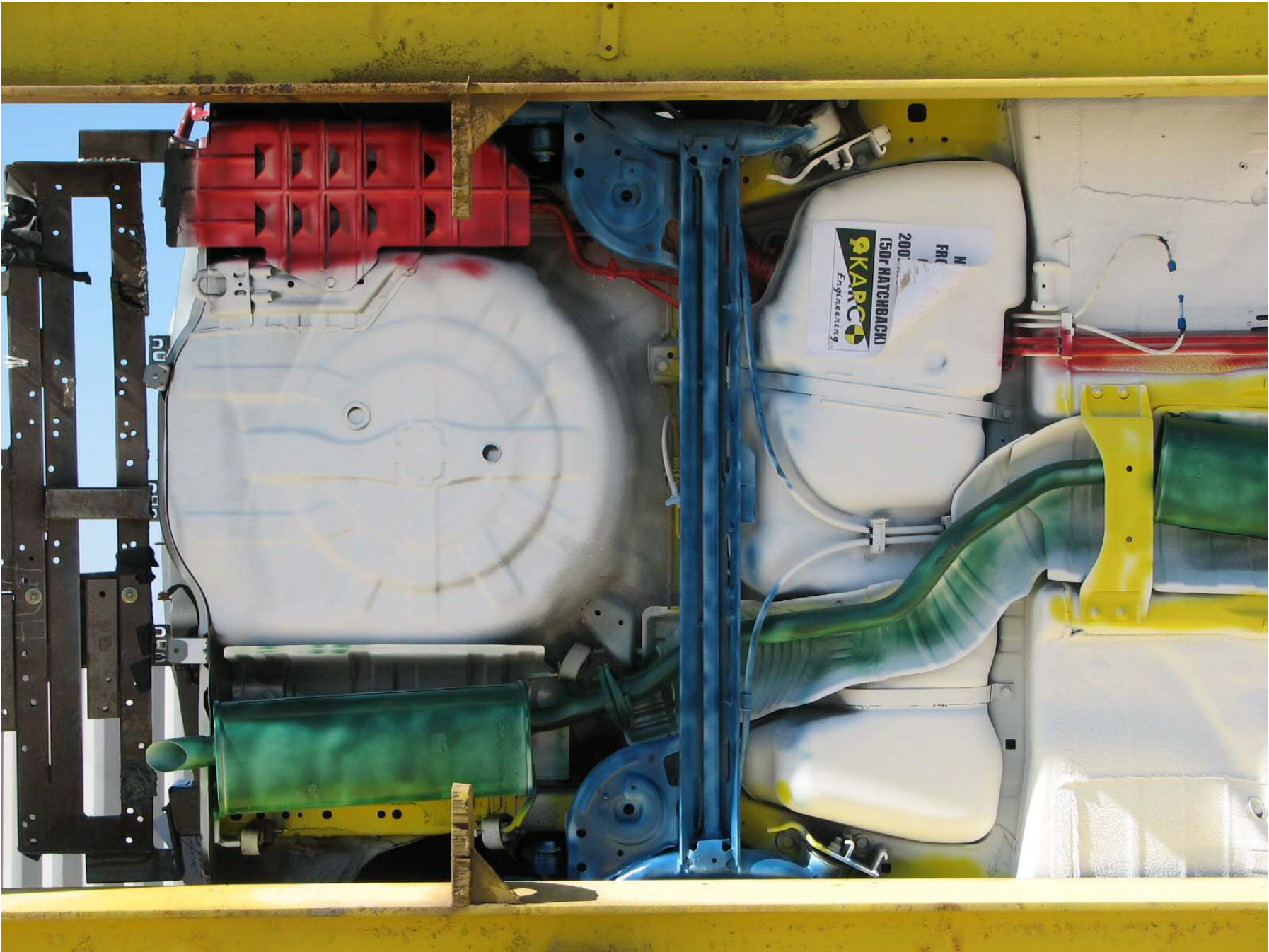


Figure A-29: Post-Test Rear Underbody



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



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)



Figure A-36: Pre-Test Driver Dummy Feet



Figure A-37: Post-Test Driver Dummy Feet



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)



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



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



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



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

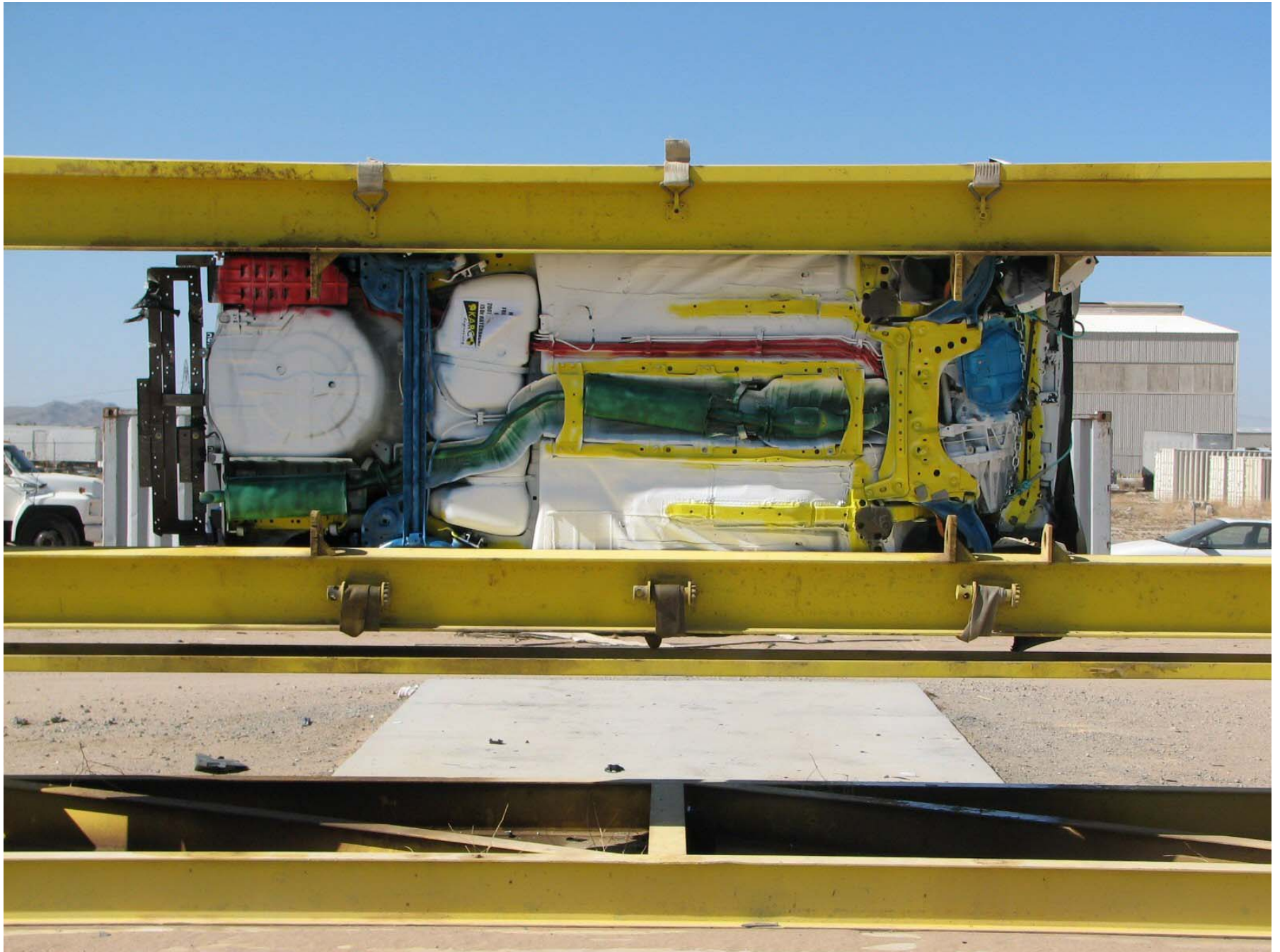


Figure A-61: Vehicle on Rollover Device (270°)



Figure A-62: Vehicle Impact

APPENDIX B

DATA PLOTS

LIST OF DATA PLOTS

Data Plot	Page
B-1	Driver Head Primary X
	Driver Head Primary Y
	Driver Head Primary Z
	Driver Head Resultant Primary
B-2	Driver Chest Primary X
	Driver Chest Primary Y
	Driver Chest Primary Z
	Driver Chest Resultant Primary
B-3	Driver Left Femur Force Z
	Driver Right Femur Force Z
B-4	Passenger Head Primary X
	Passenger Head Primary Y
	Passenger Head Primary Z
	Passenger Head Resultant Primary
B-5	Passenger Chest Primary X
	Passenger Chest Primary Y
	Passenger Chest Primary Z
	Passenger Chest Resultant Primary
B-6	Passenger Left Femur Force Z
	Passenger Right Femur Force Z

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)

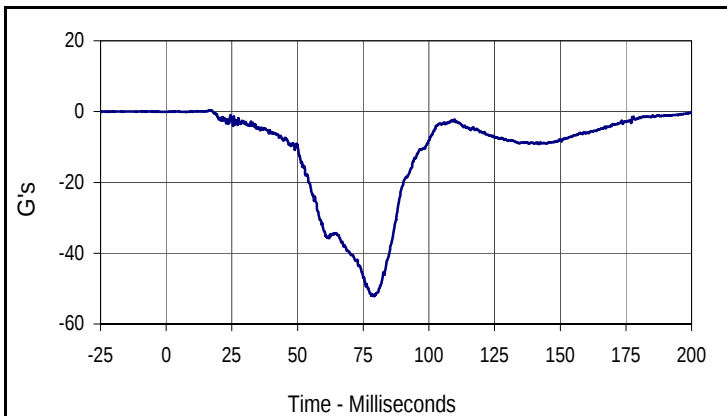
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Vehicle Right Rear X
Vehicle Right Rear X Velocity
Vehicle Right Rear X Displacement
Vehicle Engine Top
Vehicle Engine Top Velocity
Vehicle Engine Top Displacement
Vehicle Engine Bottom
Vehicle Engine Bottom Velocity
Vehicle Engine Bottom Displacement
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 Nissan Versa 1.8S 5-Door Hatchback

Test Program: 2007 NHTSA 35mph NCAP

Test Date: 8/15/06

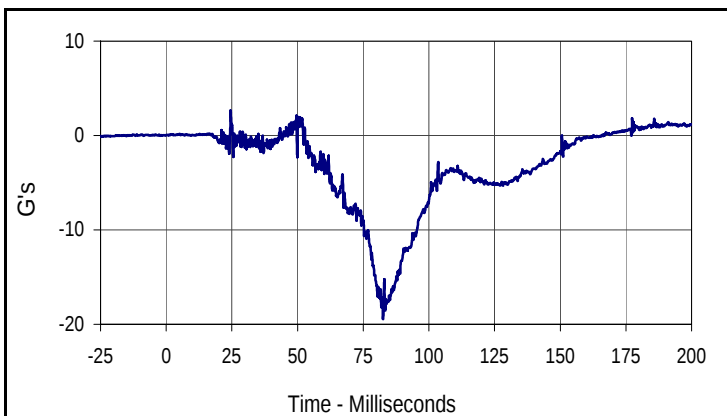
NHTSA No.: M75200



Curve Description

Driver Head Primary X

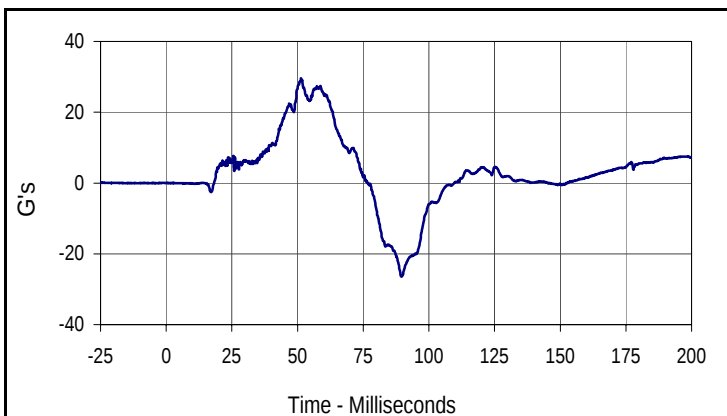
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Max	Time	Min	Time
0.4	16.8	-52.1	79.1



Curve Description

Driver Head Primary Y

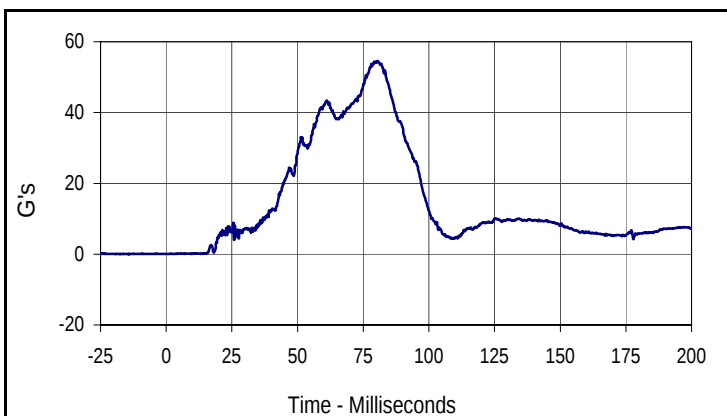
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
2.6	24.5	-19.5	82.6



Curve Description

Driver Head Primary Z

CURNO	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
29.6	51.3	-26.4	89.5



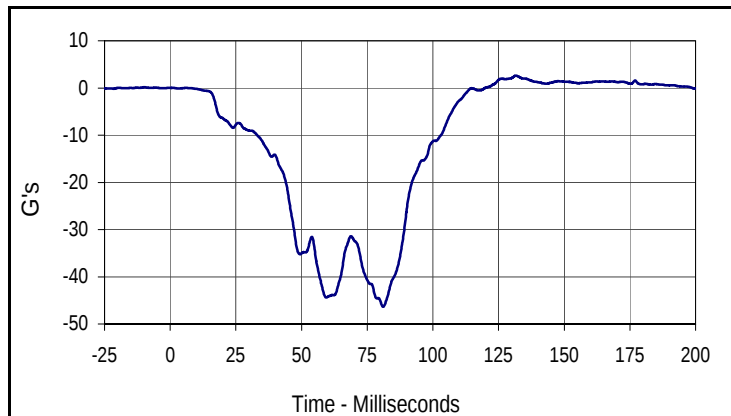
Curve Description

Driver Head Resultant Primary

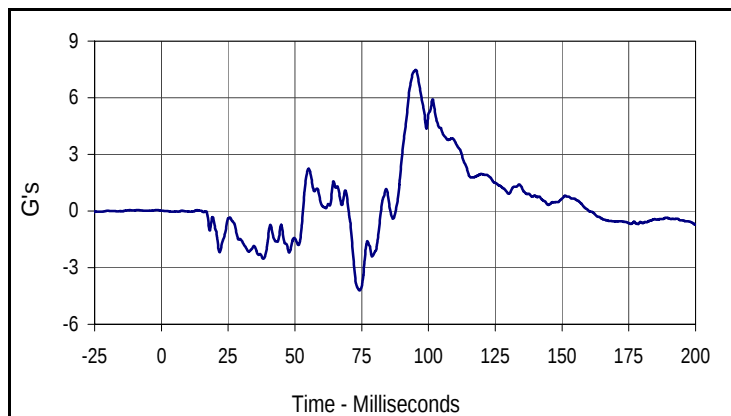
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
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Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

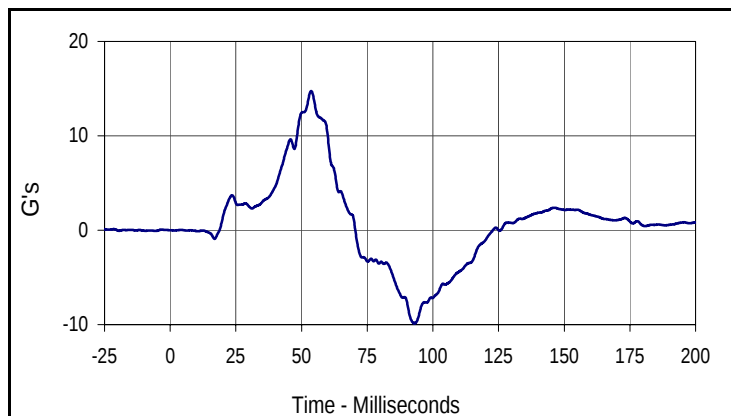
Test Date: 8/15/06
 NHTSA No.: M75200



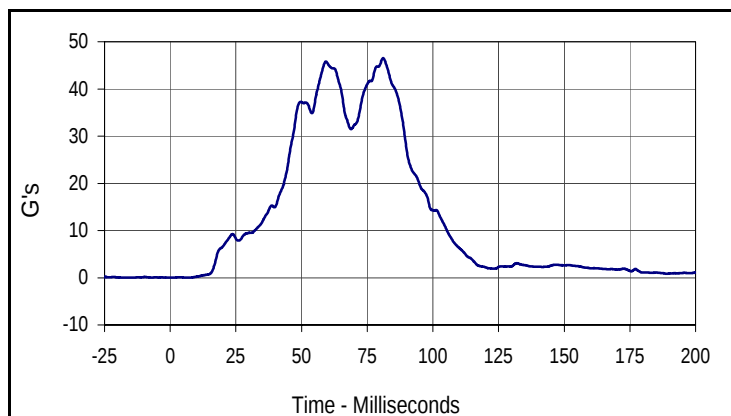
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Driver Chest Primary X			
CURNO	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
2.6	131.6	-46.4	81.0



Curve Description			
Driver Chest Primary Y			
CURNO	Type	SAE Class	Units
005	FIL	180	G's
Max	Time	Min	Time
7.5	95.2	-4.2	74.2



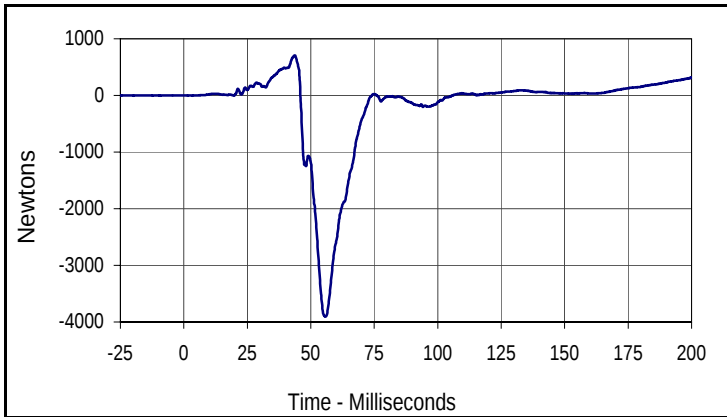
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Driver Chest Primary Z			
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006	FIL	180	G's
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14.7	53.7	-9.8	92.9



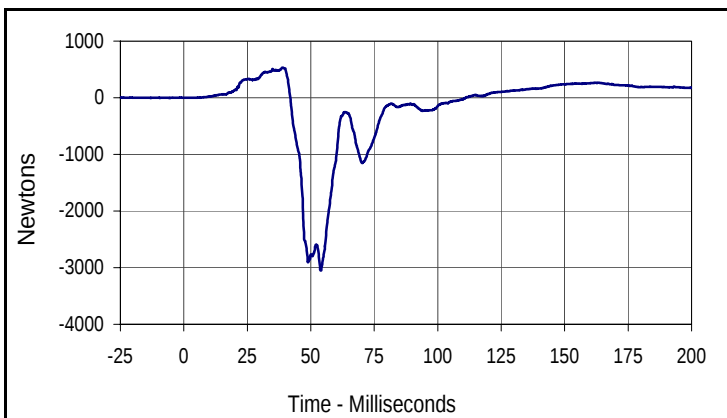
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Driver Chest Resultant Primary			
CURNO	Type	SAE Class	Units
004	RES	180	G's
Max	Time	Min	Time
46.5	81.0	0.0	0.4

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

Test Date: 8/15/06
 NHTSA No.: M75200



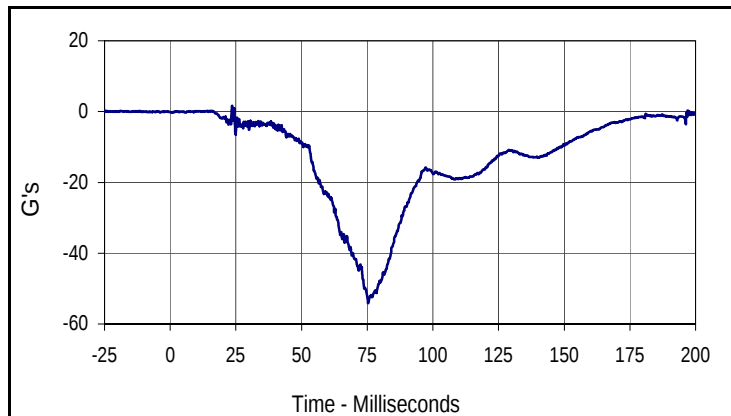
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Max	Time	Min	Time
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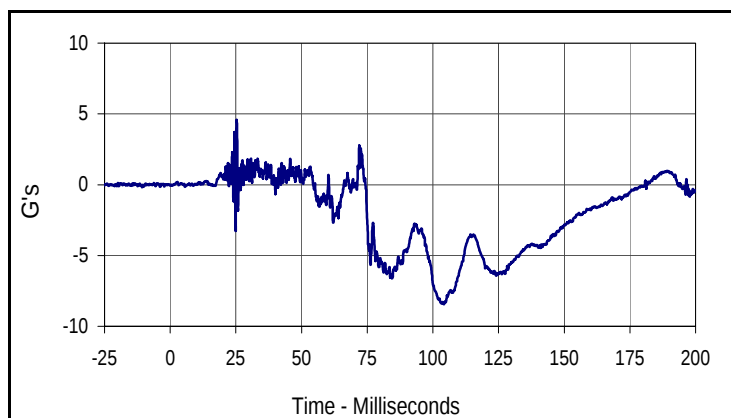
Curve Description			
Driver Right Femur Force Z			
CURNO	Type	SAE Class	Units
008	FIL	600	Newtons
Max	Time	Min	Time
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Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

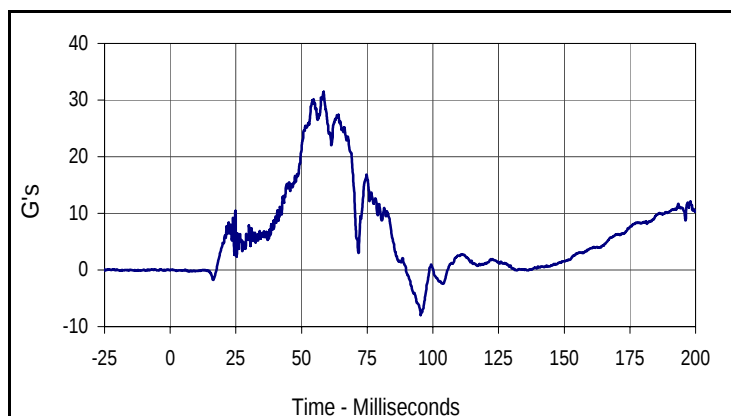
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 NHTSA No.: M75200



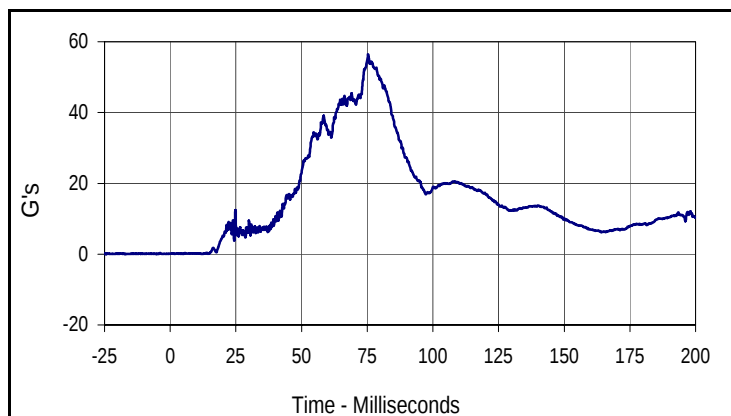
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Passenger Head Primary X			
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Max	Time	Min	Time
1.7	23.6	-54.1	75.4



Curve Description			
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010	FIL	1000	G's
Max	Time	Min	Time
4.6	25.3	-8.4	104.1



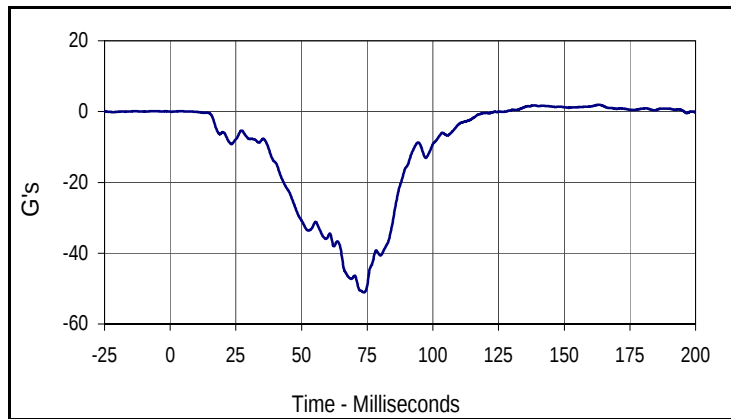
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Passenger Head Primary Z			
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011	FIL	1000	G's
Max	Time	Min	Time
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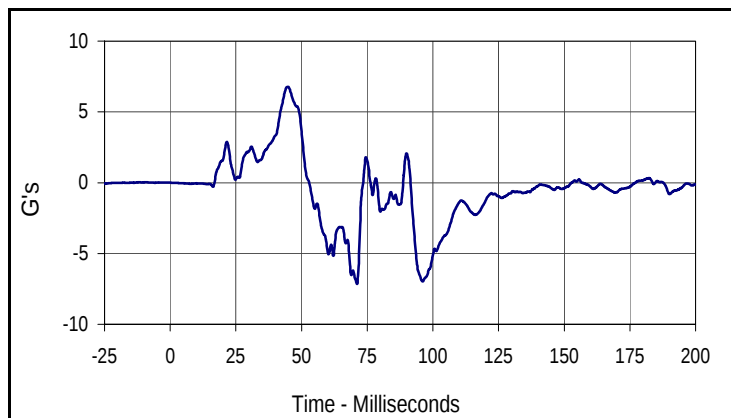
Curve Description			
Passenger Head Resultant Primary			
CURNO	Type	SAE Class	Units
009	RES	1000	G's
Max	Time	Min	Time
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Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

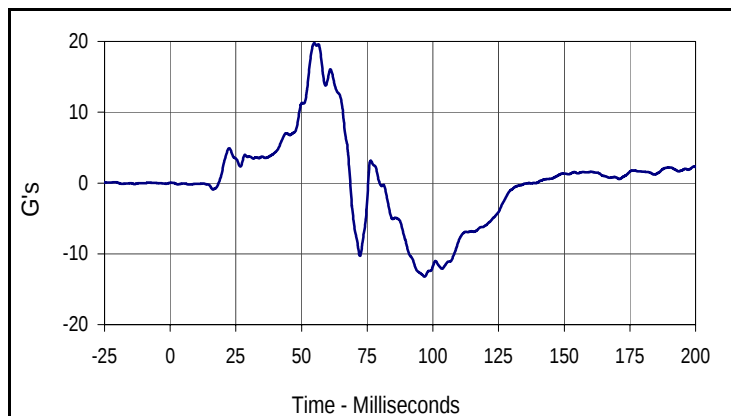
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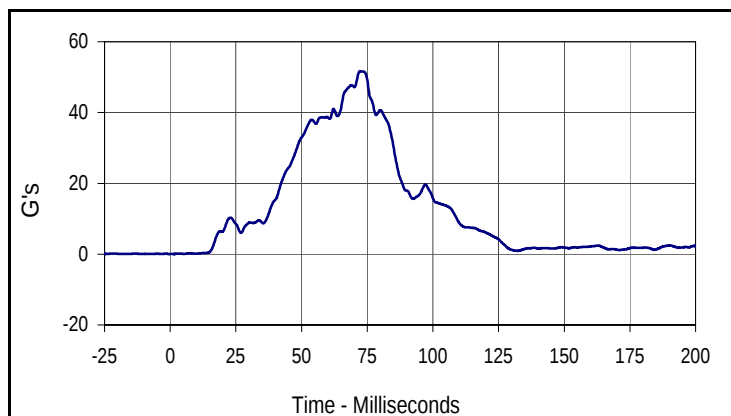
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012	FIL	180	G's
Max	Time	Min	Time
1.9	163.1	-51.1	73.7



Curve Description			
Passenger Chest Primary Y			
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013	FIL	180	G's
Max	Time	Min	Time
6.8	44.8	-7.1	71.1



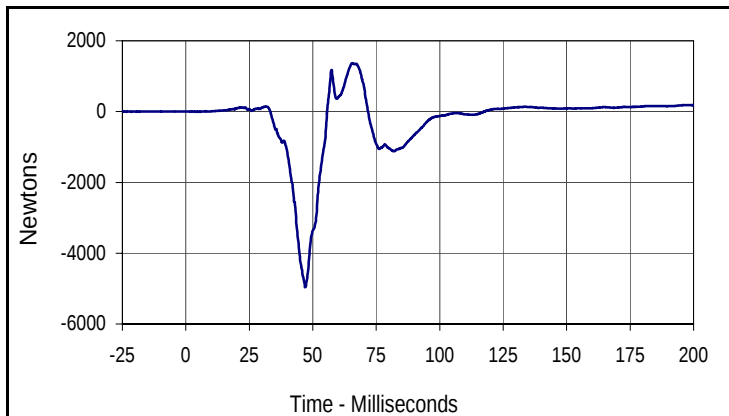
Curve Description			
Passenger Chest Primary Z			
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014	FIL	180	G's
Max	Time	Min	Time
19.8	54.8	-13.2	96.9



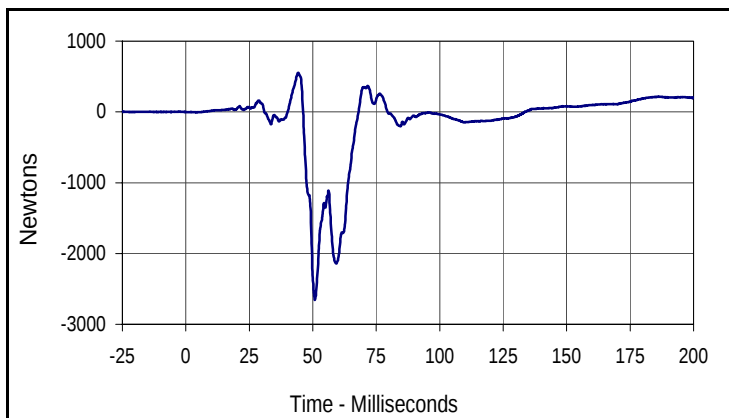
Curve Description			
Passenger Chest Resultant Primary			
CURNO	Type	SAE Class	Units
012	RES	180	G's
Max	Time	Min	Time
51.7	72.3	0.0	1.5

Test Vehicle: 2007 Nissan Versa 1.8S 5-Door Hatchback
 Test Program: 2007 NHTSA 35mph NCAP

Test Date: 8/15/06
 NHTSA No.: M75200



Curve Description			
Passenger Left Femur Force Z			
CURNO	Type	SAE Class	Units
015	FIL	600	Newtons
Max	Time	Min	Time
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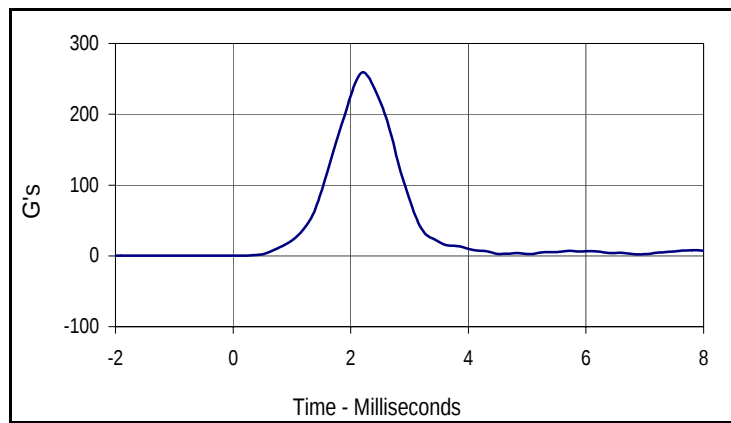


Curve Description			
Passenger Right Femur Force Z			
CURNO	Type	SAE Class	Units
016	FIL	600	Newtons
Max	Time	Min	Time
552.7	44.3	-2657.1	50.8

APPENDIX C
DUMMY CALIBRATION DATA

Test Program: Hybrid III 50th Percentile Male Head Drop TestTest Date: 8/2/06ATD Serial No.: 035Test I.D.: HD08C

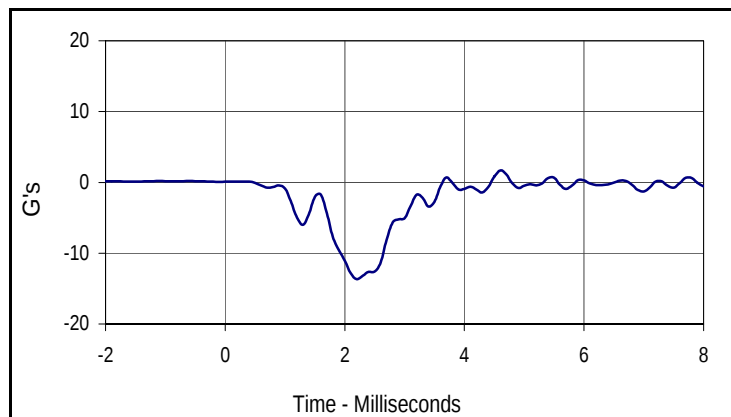
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	225.0 to 275.0	259.1	Pass
Peak Lateral Acceleration	G's	≤15.0	13.7	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results			Pass	



Curve Description

Head Resultant

CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
259.1	2.2	0.2	-1.6



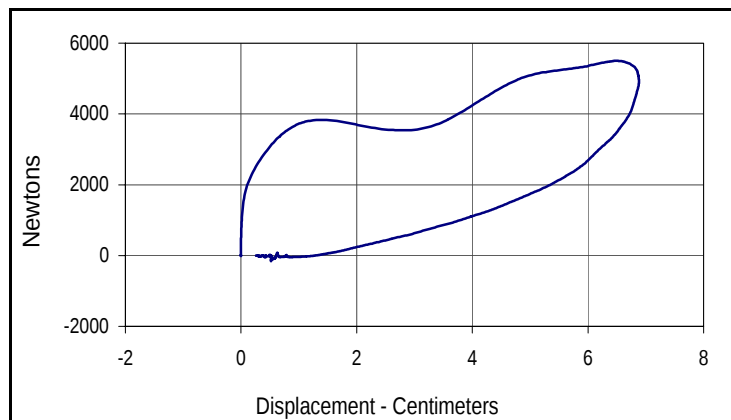
Curve Description

Head Y

CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
1.7	4.6	-13.7	2.2

Test Program: Hybrid III 50th Percentile Male Thorax Impact TestTest Date: 8/3/06ATD Serial No.: 035Test I.D.: CH08B

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	6.69	Pass
Peak Probe Force	Newtons	5159 to 5893	5500	Pass
Peak Sternum Deflection	CM	6.35 to 7.26	6.88	Pass
Internal Hysteresis	%	69 to 85	72.2	Pass
Overall Test Results				Pass



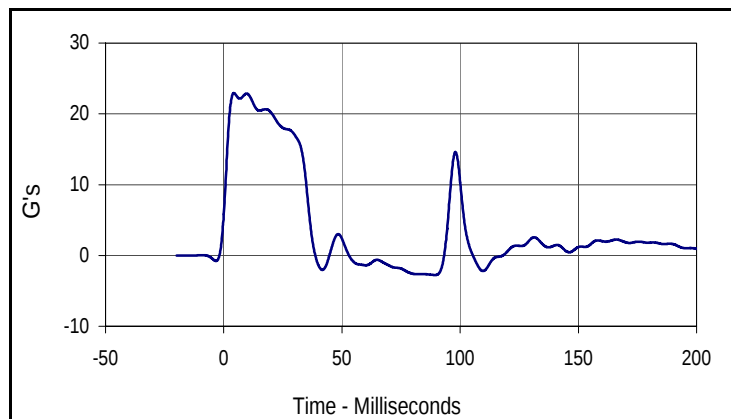
Curve Description			
Probe Force vs. Chest Deflection			
CURNO	Type	SAE Class	Hysteresis
001	FIL	180	72.2
Peak Probe Force		Peak Chest Deflection	
5500		6.88	

Test Program: Hybrid III 50th Percentile Male Neck Flexion Test
 ATD Serial No.: 035

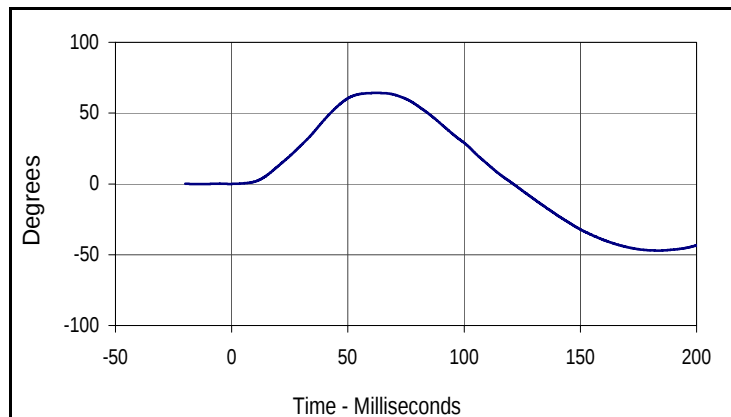
Test Date: 8/4/06
 Test I.D.: NF08D



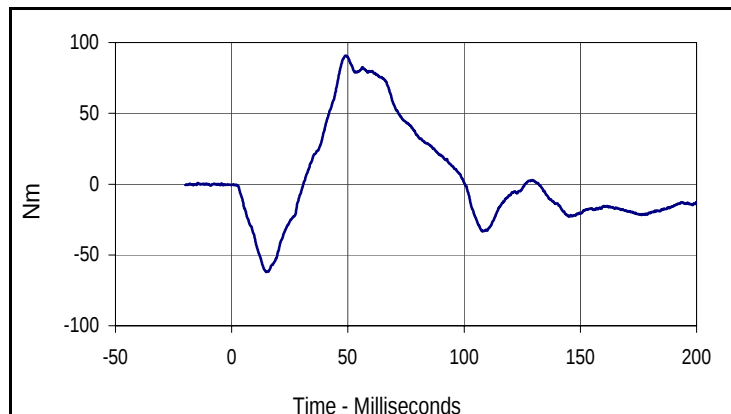
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	6.89 to 7.13	6.96	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	22.8	Pass
	20 Msec.	G's	17.6 to 22.6	20.2	Pass
	30 Msec.	G's	12.5 to 18.5	17.0	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	17.0	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	36.5	Pass
Maximum "D" Plane Rotation	Max	Degrees	64.0 to 78.0	64.2	Pass
	Time	Msec.	57.0 to 64.0	62.0	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	121.1	Pass
Moment About Occ. Condyle	Max	Nm	84.1 to 108.5	90.8	Pass
	Time	Msec.	47.0 to 58.0	48.9	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	100.3	Pass
Overall Test Results				Pass	



Curve Description			
Pendulum Deceleration			
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
22.9	4.2	-2.8	89.4



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
64.2	62.0	-47.1	183.7



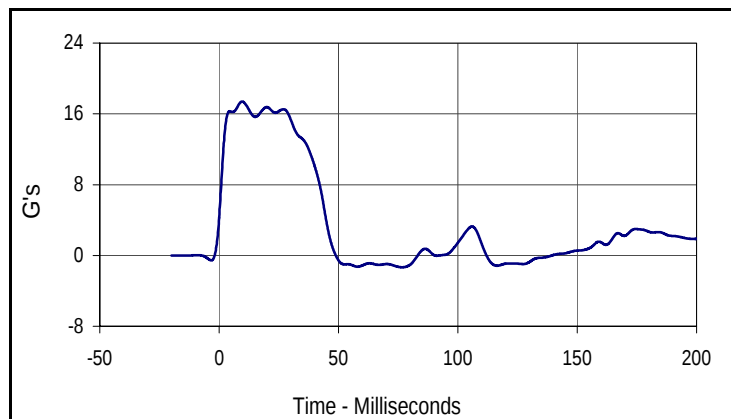
Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
90.8	48.9	-61.9	15.0

Test Program: Hybrid III 50th Percentile Male Neck Extension Test
 ATD Serial No.: 035

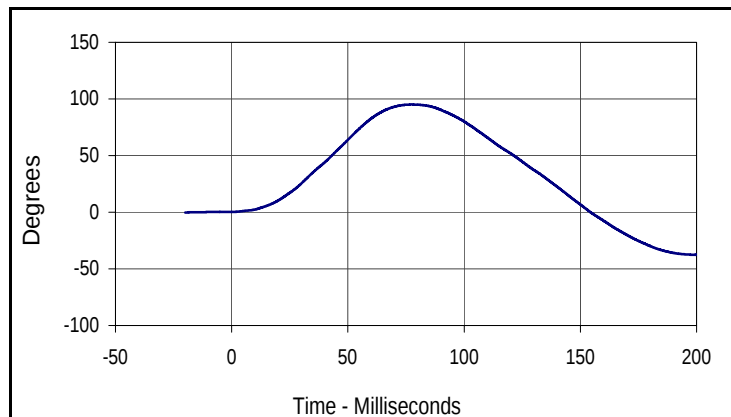
Test Date: 8/4/06
 Test I.D.: NE08D



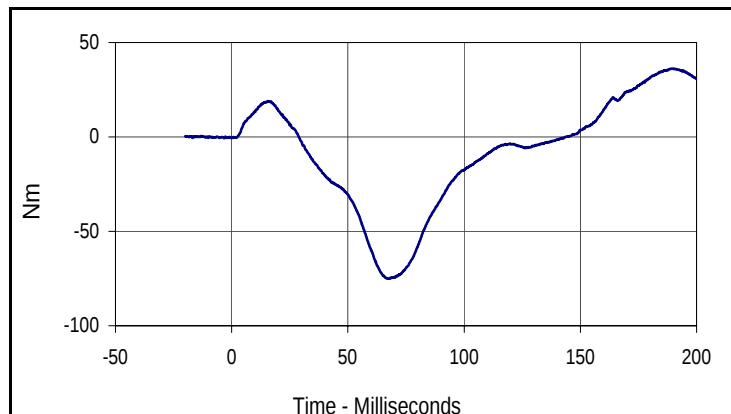
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	5.94 to 6.19	6.14	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	17.4	Pass
	20 Msec.	G's	14.0 to 19.0	16.8	Pass
	30 Msec.	G's	11.0 to 16.0	15.3	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	15.3	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	44.2	Pass
Maximum "D" Plane Rotation	Max	Degrees	81.0 to 106.0	95.1	Pass
	Time	Msec.	72.0 to 82.0	77.4	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	154.4	Pass
Moment About Occ. Condyle	Max	Nm	-52.9 to- 79.9	-75.1	Pass
	Time	Msec.	65.0 to 79.0	67.9	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	143.7	Pass
			Overall Test Results		Pass



Curve Description			
Pendulum Deceleration			
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
17.4	9.6	-1.3	76.6



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
95.1	77.4	-37.6	200.0



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
36.2	189.5	-75.1	67.9

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

Test Date: 8/2/06

ATD Serial No.: 035

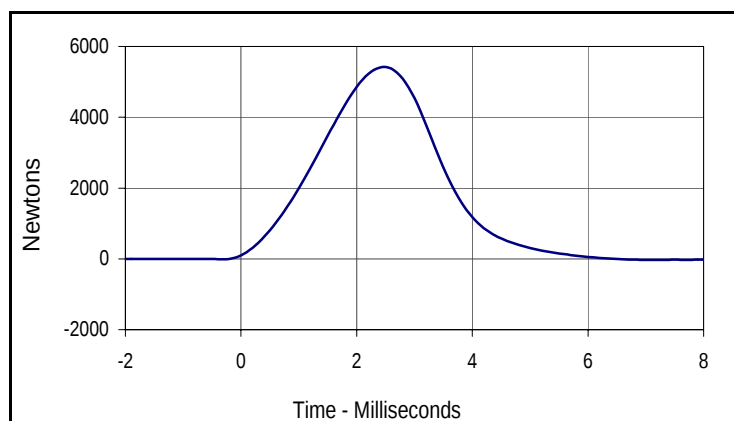
Test I.D.: LK08D , RK08E

**Left Knee**

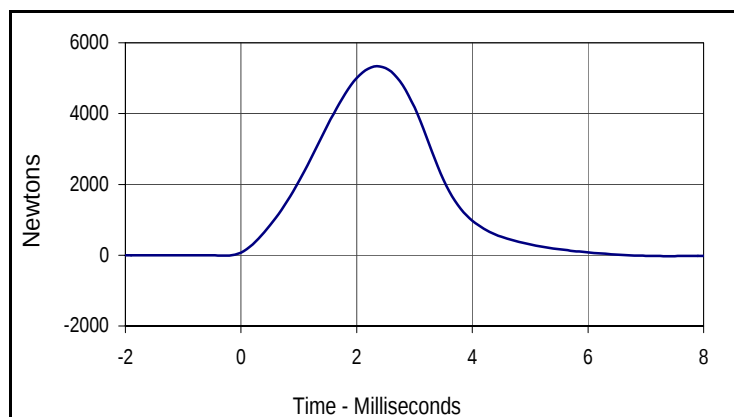
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.09	Pass
Peak Probe Force	Newtons	4715 to 5782	5418	Pass
Overall Test Results				Pass

Right Knee

Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.08	Pass
Peak Probe Force	Newtons	4715 to 5782	5335	Pass
Overall Test Results				Pass

**Curve Description****Left Knee Probe Force**

CURNO	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
5418.4	2.5	-27.2	9.5

**Curve Description****Right Knee Probe Force**

CURNO	Type	SAE Class	Units
002	FIL	600	Newtons
Max	Time	Min	Time
5335.1	2.4	-26.7	7.4

Test Program: Hybrid III 50th Percentile Male External Measurements

Test Date: 8/7/06

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	883	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	137	Pass
E - Shoulder pivot from back	mm	84 to 94	85	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	45	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	451	Pass
M - Knee pivot height	mm	485 to 500	492	Pass
N - Buttock popliteal length	mm	452 to 477	475	Pass
O - Chest depth	mm	213 to 229	229	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	105	Pass
Y - Chest circumference	mm	970 to 1001	985	Pass
Z - Waist circumference	mm	836 to 866	852	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

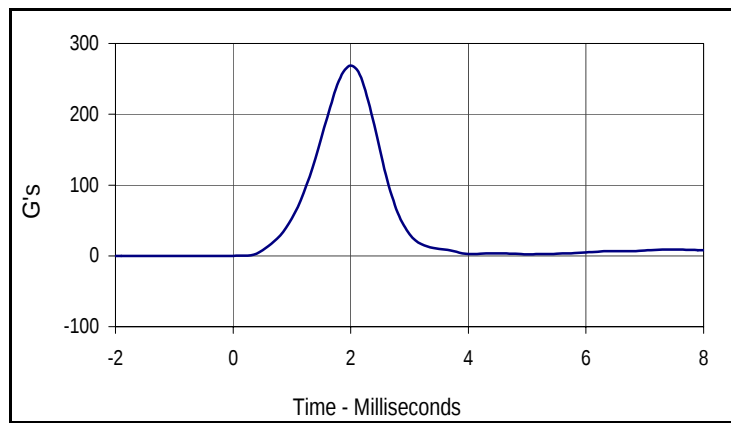
Test Date: 8/2/06

ATD Serial No.: 034

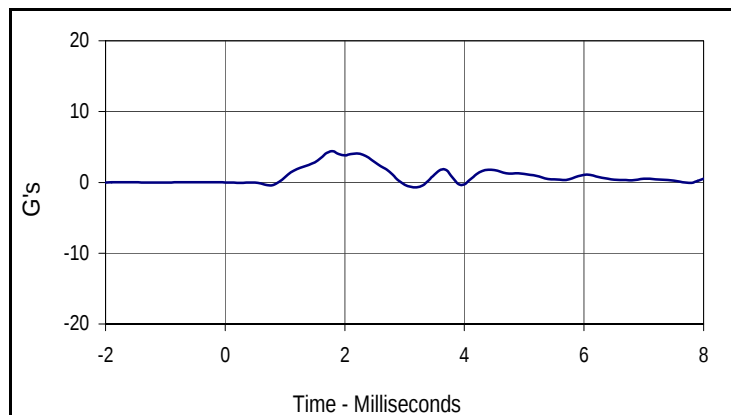
Test I.D.: HD08A



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	268.9	Pass
Peak Lateral Acceleration	G's	≤15.0	4.4	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
268.9	2.0	0.0	-0.1



Curve Description			
Head Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
4.4	1.8	-0.7	3.2

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

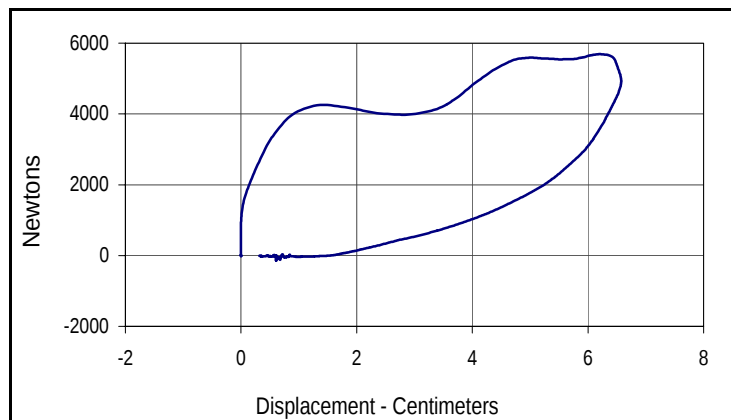
Test Date: 8/3/06

ATD Serial No.: 034

Test I.D.: CH08A



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	6.70	Pass
Peak Probe Force	Newtons	5159 to 5893	5689	Pass
Peak Sternum Deflection	CM	6.35 to 7.26	6.58	Pass
Internal Hysteresis	%	69 to 85	76.1	Pass
Overall Test Results				Pass



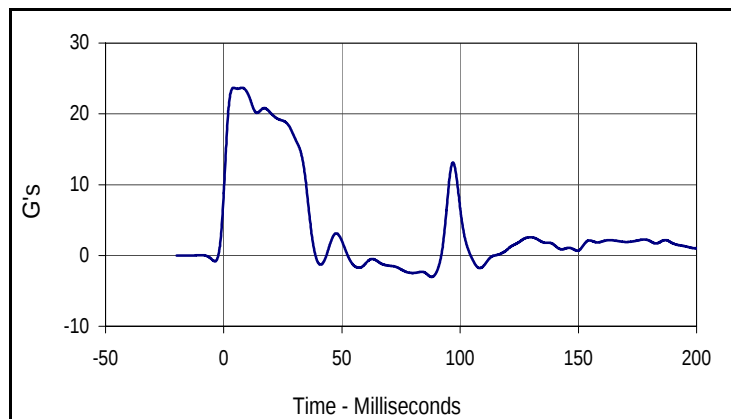
Curve Description			
Probe Force vs. Chest Deflection			
CURNO	Type	SAE Class	Hysteresis
001	FIL	180	76.1
Peak Probe Force		Peak Chest Deflection	
5689		6.58	

Test Program: Hybrid III 50th Percentile Male Neck Flexion Test
 ATD Serial No.: 034

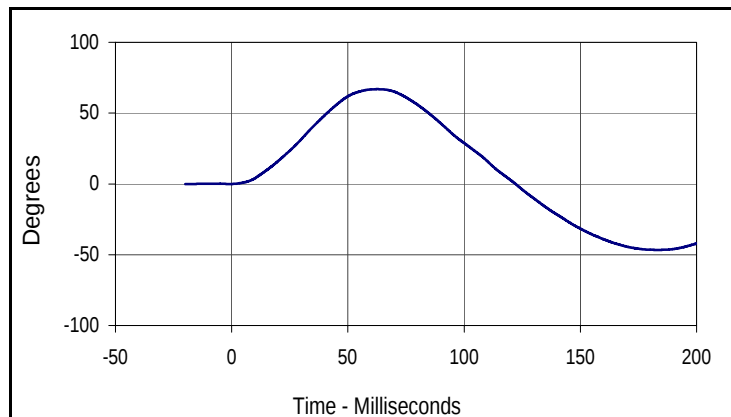
Test Date: 8/4/06
 Test I.D.: NF08A



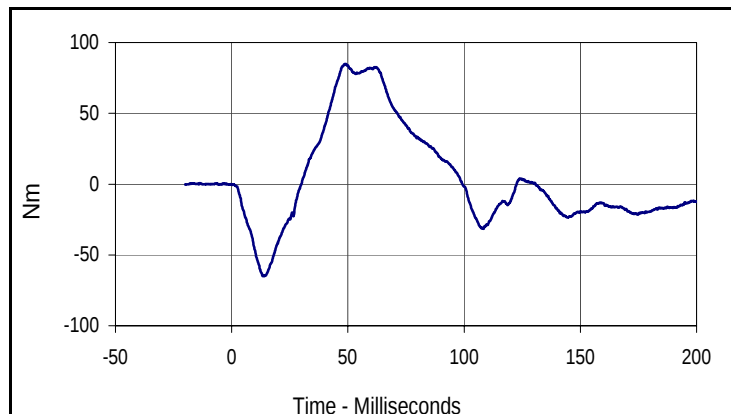
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	6.89 to 7.13	7.04	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	23.0	Pass
	20 Msec.	G's	17.6 to 22.6	20.1	Pass
	30 Msec.	G's	12.5 to 18.5	16.6	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	16.6	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	36.5	Pass
Maximum "D" Plane Rotation	Max	Degrees	64.0 to 78.0	66.9	Pass
	Time	Msec.	57.0 to 64.0	62.6	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	122.1	Pass
Moment About Occ. Condyle	Max	Nm	84.1 to 108.5	84.9	Pass
	Time	Msec.	47.0 to 58.0	48.8	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	99.3	Pass
Overall Test Results				Pass	



Curve Description			
Pendulum Deceleration			
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
23.7	7.7	-3.0	87.9



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
66.9	62.6	-46.6	183.5



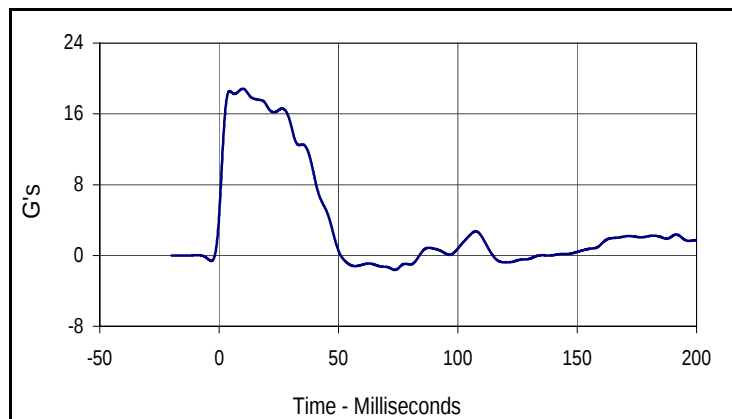
Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
84.9	48.8	-64.9	14.0

Test Program: Hybrid III 50th Percentile Male Neck Extension Test
 ATD Serial No.: 034

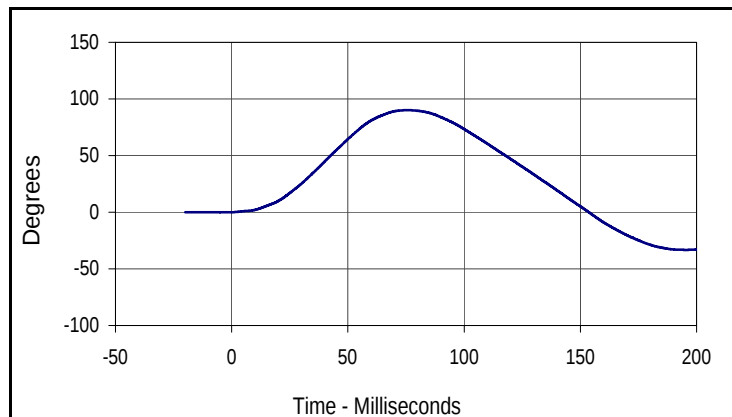
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 Test I.D.: NE08A



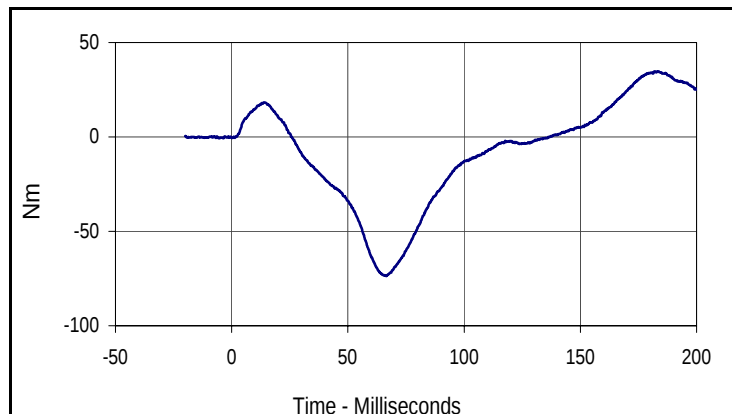
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	5.94 to 6.19	6.14	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	18.8	Pass
	20 Msec.	G's	14.0 to 19.0	16.9	Pass
	30 Msec.	G's	11.0 to 16.0	14.8	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	14.8	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	45.1	Pass
Maximum "D" Plane Rotation	Max	Degrees	81.0 to 106.0	90.1	Pass
	Time	Msec.	72.0 to 82.0	75.6	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	153.7	Pass
Moment About Occ. Condyle	Max	Nm	-52.9 to- 79.9	-73.7	Pass
	Time	Msec.	65.0 to 79.0	66.5	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	136.2	Pass
			Overall Test Results		Pass



Curve Description			
Pendulum Deceleration			
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
18.8	10.0	-1.6	73.6



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
90.1	75.6	-33.2	195.5



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
34.7	183.6	-73.7	66.5

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

Test Date: 8/2/06

ATD Serial No.: 034

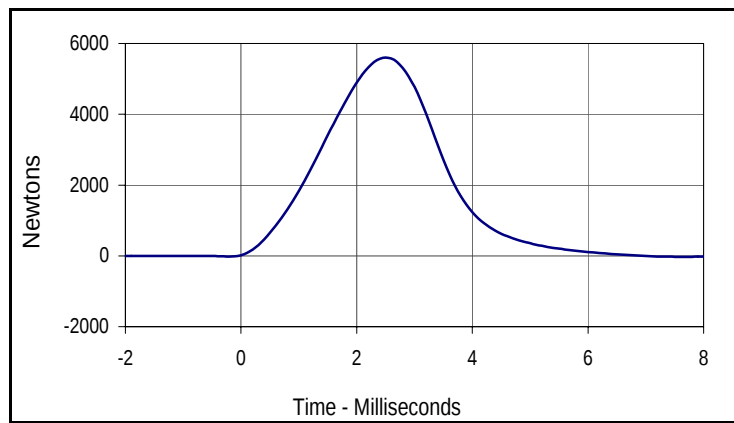
Test I.D.: LK08A , RK08B

**Left Knee**

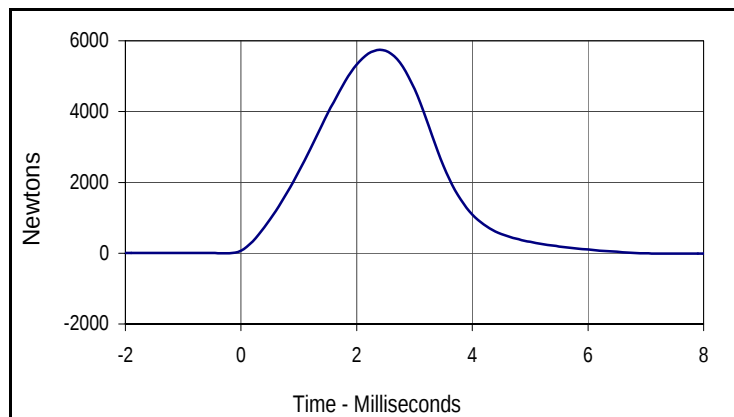
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.08	Pass
Peak Probe Force	Newtons	4715 to 5782	5602	Pass
Overall Test Results				Pass

Right Knee

Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.10	Pass
Peak Probe Force	Newtons	4715 to 5782	5743	Pass
Overall Test Results				Pass

**Curve Description****Left Knee Probe Force**

CURNO	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
5601.6	2.5	-26.0	7.6

**Curve Description****Right Knee Probe Force**

CURNO	Type	SAE Class	Units
002	FIL	600	Newtons
Max	Time	Min	Time
5743.4	2.4	-17.3	9.1

Test Program: Hybrid III 50th Percentile Male External Measurements

Test Date: 8/7/06

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	884	Pass
B - Shoulder pivot height	mm	505 to 521	512	Pass
C - "H" point height	mm	84 to 89	84	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	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	334	Pass
J - Elbow rest height	mm	190 to 211	206	Pass
K - Buttock to knee length	mm	579 to 604	600	Pass
L - Popliteal length	mm	429 to 455	451	Pass
M - Knee pivot height	mm	485 to 500	490	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	434	Pass
W - Foot breadth	mm	91 to 107	103	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	432	Pass
BB - Location for waist circumference	mm	226 to 231	231	Pass
Overall Test Results				Pass

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

Test Date: 8/7/06
 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.: 034

Test Date: 8/7/06
 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:
