

REPORT NUMBER TR-P25001-15-NC

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

**NISSAN MOTOR COMPANY
2005 NISSAN XTERRA 5-DOOR MPV**

NHTSA NUMBER: M55208

**PREPARED BY:
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MARCH 16, 2005

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 DTNH22-01-D-02005.

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Technical Report Documentation Page

1. Report No. TR-P25001-15-NC	2. Government Accession No.	3. Recipients Catalog No.			
4. Title and Subtitle Final Report of New Car Assessment Program 2005 Nissan Xterra 5-Door MPV NHTSA No. M55208		5. Report Date March 16, 2005			
		6. Performing Organization Code KAR			
7. Authors Mr. Yednesh Parnaik, Project Engineer, Karco Mr. Frank Richardson, Program Manager, Karco		8. Performing Organization Report No. TR-P25001-15-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. DTNH22-01-D-02005			
12. Sponsoring Agency Name and Address U. S. Department of Transportation National Highway Traffic Safety Administration Rulemaking Office of Crashworthiness Standards Mail Code NPS-111 400 Seventh Street, SW, Room 5311 Washington, D.C 20590		13. Type of Report and Period Covered Final Test Report Option Year 1			
		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 2005 Nissan Xterra 5-Door MPV at Karco Engineering, LLC on March 16, 2005. This test was conducted to obtain data indicant of FMVSS 208, 212, 219 (partial), 301, and footwell intrusion performance. The impact velocity was 56.15 km/h. The ambient temperature at the barrier face at the time of impact was 22.2 degrees Celcius. The vehicle's maximum post-test static crush was 422 mm near the center of the vehicle. The test vehicle was 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 ₃₆)		N/A	1000	663.9	671.9
Max. Chest Accel. (3 msec Clip)		G's	60	48.3	42.8
Left Femur Force		Newtons	10008	-8215.7	-2681.2
Right Femur Force		Newtons	10008	-3461.3	-2630.9
17. Key Words 56.3 km/h NCAP Frontal Barrier Impact Test New Car Assessment Program (NCAP) 2005 Nissan Xterra 5-Door MPV NHTSA No. M55208				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 174		22. Price	

Form DOT F1700.7 (8-72)

TR-P25001-15-NC

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SECTION 1

PURPOSE AND SUMMARY OF TEST M55208

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. DTNH22-01-D-02005. 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.

This 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 December 1999. 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 36 load cells was impacted by a 2005 Nissan Xterra 5-Door MPV at a velocity of 56.15 km/h. The test was performed at Karco Engineering, LLC on March 16, 2005.

Three (3) real-time and fourteen (14) 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 15 (page number: 27) 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 pelvic 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 prior to this test.

Ninety seven (97) channels of data were recorded using an on-board data acquisition system. Appendix A contains Pre and Post-Test Photographs, Appendix B contains the vehicle and dummy response data traces. Appendix C contains Load Cell Barrier information. Appendix D contains the Instrumentation Data Channel assignments, Appendix E contains the Dummy Calibration data, and Appendix F contains the Child Restraint System (CRS) report.

There was 100 percent windshield retention and 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 422 mm and both the driver and the passenger side doors remained closed during the impact event and were operable after the impact.

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

The passenger's visible contact points were as follows: The passenger ATD head, chest and abdomen contacted the airbag, and both knees contacted the glove box.

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)	Belt Spool (mm)
Driver	663.9	48.3	-30.2	-8215.7	-3461.3	164.3
Passenger	671.9	42.8	-27.2	-2681.2	-2630.9	202.9

SECTION 2
OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

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	mile/h	km/h	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: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

PRIMARY IMPACT DATA

Measured Parameter	Units	Value
Velocity at Impact	km/h	56.15
Test Weight	kg	2167
Impact Angle	degrees	0
Average Rebound	mm	690
Maximum Static Crush	mm	422

DOOR OPENING AND SEAT TRACK INFORMATION

Description	Driver	Passenger
Front Door Opening	Remained closed, opened w/o tools	Remained closed, opened w/o tools
Rear Door Opening	Remained closed, opened w/o tools	Remained closed, opened w/o tools
Seat Track Shift (mm)	0	0
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	Airbag	Airbag
Left Knee Contact	Knee Bolster	Glove Box
Right Knee Contact	Knee Bolster	Glove Box

MOVIE COVERAGE

Cameras	Standard	Additional
High Speed	14	0
Real Time	1	2
Total	15	2

DATA CHANNELS

Driver ATD Sensors	40
Passenger ATD Sensors	40
Belt Assessment Sensors	8
Vehicle Structure Accelerometers	9
Rigid Barrier Load Cells	36
Total	133

DATA SHEET NO. 2
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	M55208	Anti-Lock Brakes	Yes
Make	Nissan	All Wheel Drive	No
Model	Xterra	Power Steering	Yes
Body Style	5-Door MPV	Driver Front Airbag	Yes
Vin No.	5N1AN08U95C606301	Driver Side Airbag	Yes
Color	White	Driver Head Airbag	No
Delivery Date	3/11/2005	Driver Curtain Airbag	Yes
Odometer	79	Pass. Airbag	Yes
Dealer	Performance Nissan	Pass. Side Airbag	Yes
Transmission	5 Speed Automatic	Pass. Head Airbag	No
Final Drive	Rear	Pass. Curtain Airbag	Yes
Type/No. Cyl.	V6	Pre-Tensioners	Yes
Engine Disp. (L)	4.0	Load Limiters	Yes
Engine Placement	Longitudinal	Bucket Seats	Yes
Roof Rack	Yes	Air Cond.	Yes
Sunroof/T-Top	No	AM/FM Cassette	Yes
Tinted Glass	Yes	Tilt Steering	Yes
Traction Control	Yes	Power Door Locks	Yes
Power Brakes	Yes	Power Windows	Yes
Front Disc	Yes	Power Seats	No
Rear Disc	Yes	Other	Active Headrest

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

☐

DATA FROM CERTIFICATION LABEL

Manufactured By	Nissan Motor Co., Ltd	GVWR (kg)	2359
Date of Manufacture	Feb-05	GAWR Front (kg)	1214
		GAWR Rear (kg)	1344

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)				450
Cargo Weight (RCLW) (kg)				110

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

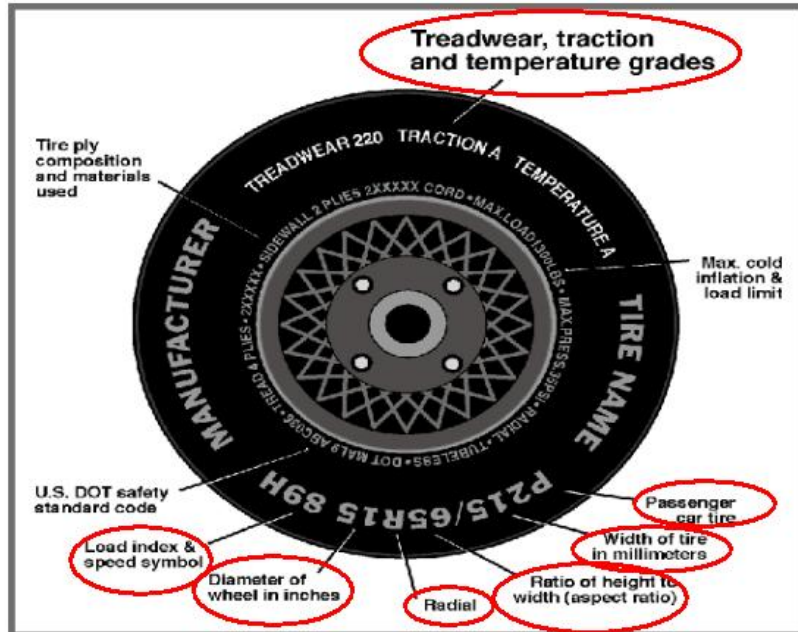
Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

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)	240	240
Cold Pressure (kpa)	240	240
Recommended Tire Size	P265/70R16	P265/70R16
Tire Size on Vehicle	P265/70R16	P265/70R16
Tire Manufacturer	BFGoodrich	BFGoodrich
Treadwear	440	440
Traction	B	B
Temperature Grades	B	B
Tire Plies Sidewall	2 Polyester	2 Polyester
Tire Plies Body	2 Polyester + 2 Steel + 1 Nylon	2 Polyester + 2 Steel + 1 Nylon
Load Index/Speed Symbol	11T M+S	11T M+S
Tire Material	Polyester + Steel + Nylon	Polyester + Steel + Nylon
DOT Safety Code Right	AP72 FB21 0505	AP72 FB21 0505
DOT Safety Code Left	AP72 FB21 0505	AP72 FB21 0505

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

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

TEST VEHICLE WEIGHTS

	Units	As Delivered Weights (UVW)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	494	466		513	565	
Right	kg	488	461		519	570	
Ratio	%	51.4	48.6		47.6	52.4	
Totals	kg	982	927	1909	1032	1135	2167

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1909
Weight of 2 P572 ATD's	kg	152
Rated Cargo/Luggage Wt. (RCLW)	kg	110
Calculated Vehicle Target Wt. (TVTW)	kg	2171

TEST VEHICLE ATTITUDE AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	860	861	869	870	1313
As Tested	mm	847	840	836	837	1416

Vehicle Wheel Base (mm) 2704

Weight of Ballast Secured in cargo area (kg) 0

Weight of Items Removed (kg) 71

Vehicle Components Removed Rear bumper, rear door panels, spare tire and tools

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

FUEL SYSTEM DATA

Fuel System Capacity From Owners Manual (L) 80.0

Test Volume Range - 92 to 94% of Usable Capacity (L) 73.6 to 75.2

Actual Test Volume of Stoddard Solvent Filled (L) 59.8

Test Fluid Type: Stoddard Solvent

Kinematic Viscosity: as per ASTM Standard D484-71 Purple

Is Vehicle Fuel Pump Electric or Mechanical? Electric

If electric, does pump operate with ignition switch "On" & engine "OFF" Yes

Fuel System Particulars: None

DATA SHEET NO. 3
POST-TEST IMPACT DATA

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

SPEED TRAP DATA

Measured Parameter	Units	Requirement	Value
Trap No.1 Velocity (Primary)	km/h	55.51 to 57.12	56.15
Trap No. 1 Entry Distance	mm	<1524	1524
Trap No.1 Exit Distance	mm	<1524	305
Trap No.2 Velocity (Redun.)	km/h	55.51 to 57.12	56.12
Trap No.2 Entry Distance	mm	<1524	1524
Trap No.2 Exit Distance	mm	<1524	305

VEHICLE STATIC CRUSH

Measured Parameter	Units	Pre-Test	Post-Test	Difference
Left Side	mm	4280	4114	-166
Center	mm	4533	4116	-417
Right Side	mm	4279	4040	-239

VEHICLE REBOUND FROM BARRIER

Measured Parameter	Units	Value
Left Side	mm	650
Center	mm	665
Right Side	mm	756
Average	mm	690

DATA SHEET NO. 4
TEST VEHICLE INFORMATION

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

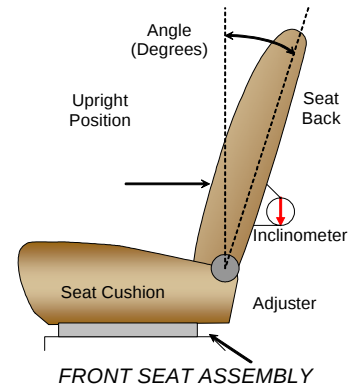
Test Date: 3/16/05

NOMINAL DESIGN RIDING POSITION

The driver and passenger seat backs are positioned to the manufacturers 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	11.0
Passenger w/seated Dummy	13.0

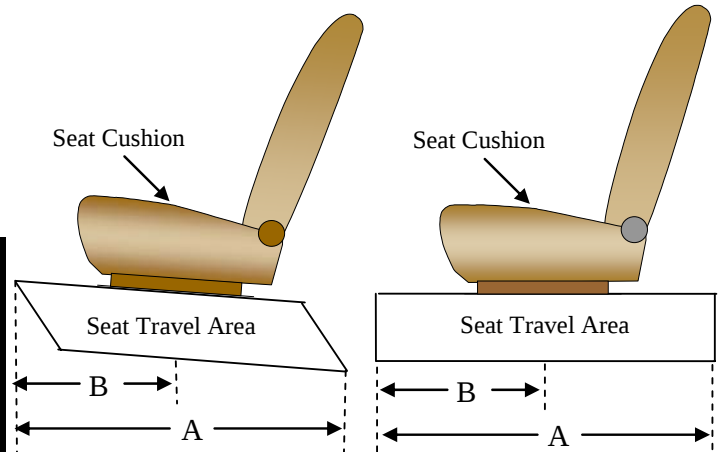


SEAT FORE/AFT POSITIONS

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	21	11
Passenger Seat	21	11



SEAT BELT UPPER ANCHORAGE

Position number one (1) is the uppermost position.

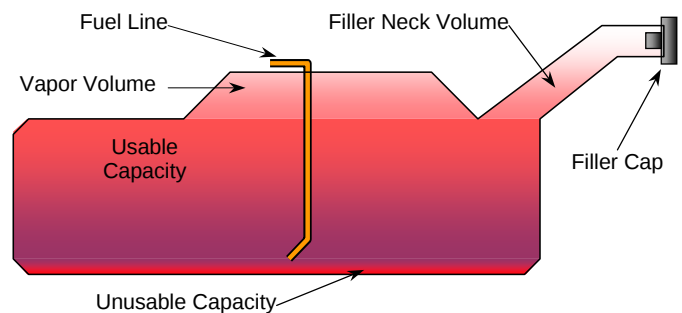
SEAT BELT UPPER ANCHORAGE

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

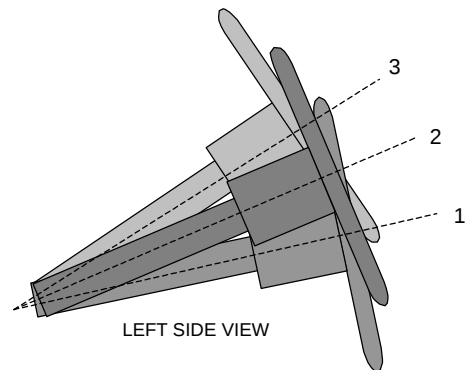
DATA SHEET NO. 4...(CONTINUED)**TEST VEHICLE INFORMATION**Test Vehicle: 2005 Nissan Xterra 5-Door MPVNHTSA No.: M55208Test Program: 2005 NHTSA 35mph NCAPTest Date: 3/16/05**FUEL TANK CAPACITY**

	Liters
Usable Capacity of "Standard Tank"	80.0
Usable Capacity of "Optional" Tank	
Usable Capacity used for FMVSS 301	73.6 to 75.2
Actual Amount of Solvent used	59.8
1/3 of Usable Capacity	

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**

	Fore/Aft Positon (mm)	Degrees
Lowermost positon No. 1		15.3
Geometric center position No. 2		24.5
Uppermost position No. 3		33.3

DATA SHEET NO. 5
DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

TEST DUMMY POSITION MEASUREMENTS

Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (deg)	Length (mm)	Angle (deg)
WA	Windshield Angle		32.0		
SWA	Steering Wheel Angle		65.5		
SCA	Steering Column Angle		24.5		
SA	Seat Back Angle		11.0		13.0
HZ	Head to Roof (Z)	150	90.0	160	90.0
HH	Head to Header	345		380	
HW	Head to Windshield	600		655	
HR	Head to Side Header (Y)	255		270	
NR	Nose to Rim	375	16.2		
CD	Chest to Dash	525		580	
CS	Chest to Steering Hub	270			
RA	Rim to Abdomen	160			
KDL	Left Knee to Dash	115	12.0	110	
KDR	Right Knee to Dash	110		110	11.5
PA	Pelvic Angle		24.4		23.6
TA	Tibia Angle		44.3		46.8
KK	Knee to Knee (Y)	350		270	
SK	Striker to Knee	660	1.5	665	1.0
ST	Striker to Head	615	76.0	600	80.4
SH	Striker to H-Point	245	15.0	235	19.0
SHY	Striker to H-Point (Y)	225		220	
HS	Head to Side Window	320		330	
HD	H-Point to Door (Y)	145		150	
AD	Arm to Door (Y)	80		20	

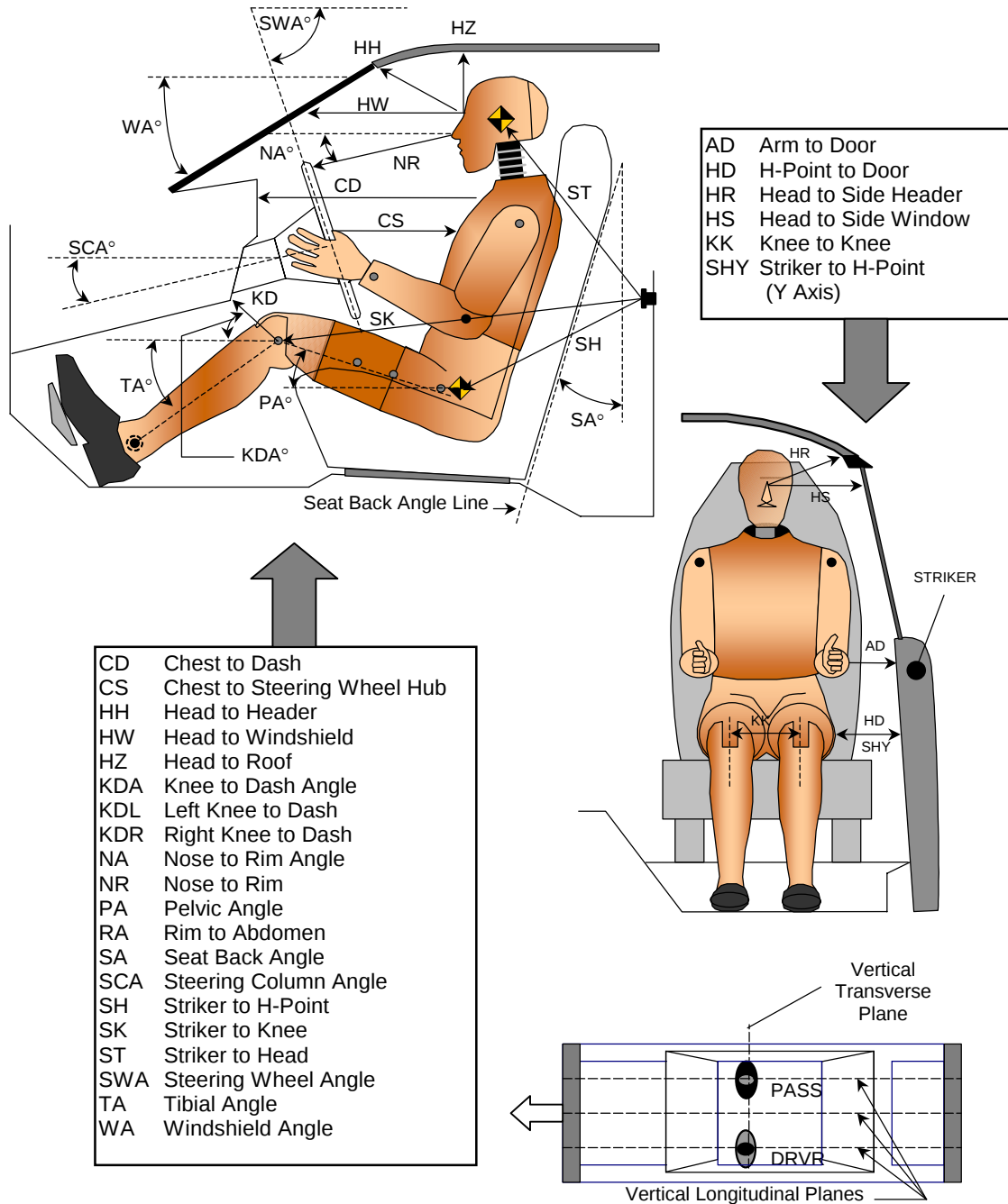
DATA SHEET NO. 5...(CONTINUED)
DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05



DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS

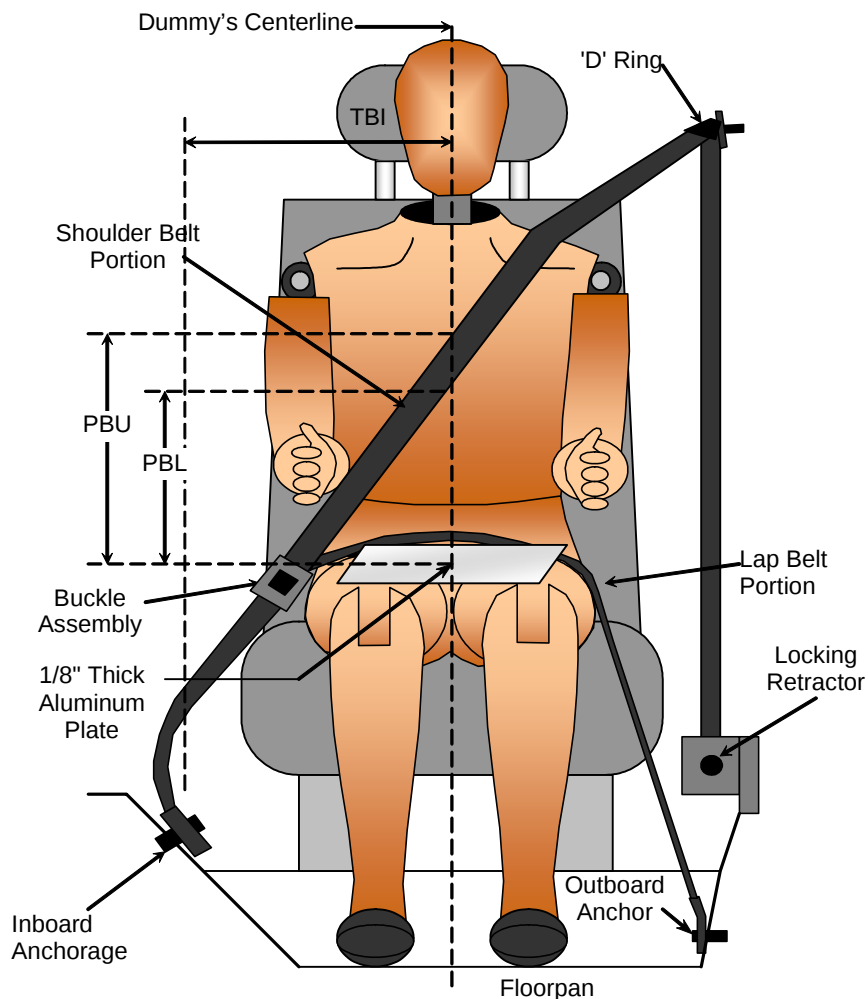
DATA SHEET NO. 6
SEAT BELT POSITIONING DATA

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05



SEAT BELT POSITIONING MEASUREMENTS

Measured Parameter	Units	Driver	Passenger
TBI -Dummy C/L to Lap/Shoulder Belt Intersect	mm	225	220
PBU - Top Surface of reference to belt upper edge	mm	370	390
PBL - Top Surface of reference to belt lower edge	mm	300	310
Lap Belt Tension	Newtons	10	10
Shoulder Belt Tension	N/A	Retractor	Retractor

DATA SHEET NO. 7 - VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

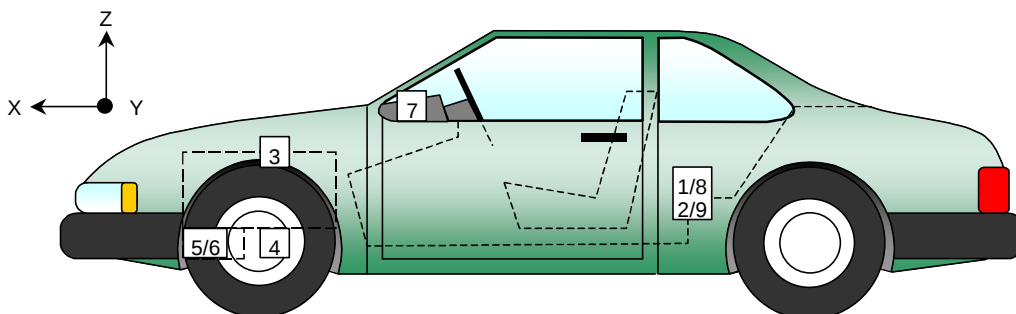
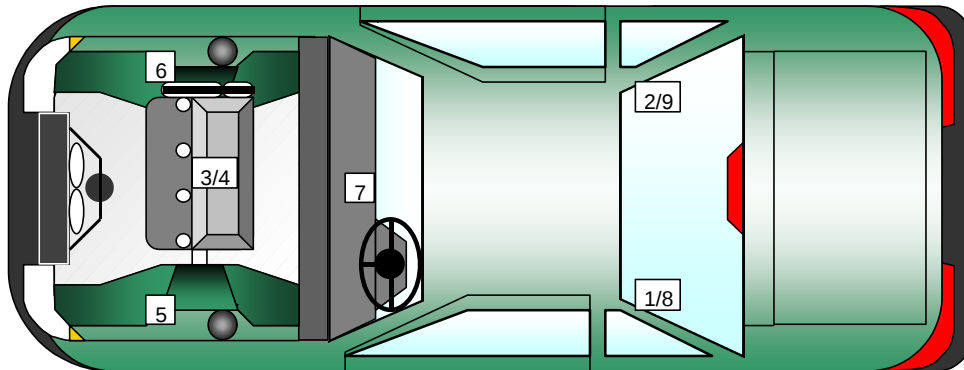
Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

VEHICLE ACCELEROMETER PEAK DATA AND PRE-TEST LOCATIONS

No.	Accelerometer Location	Measurements (mm)			Peak Values				
		X	Y	Z	Units	Max	Time	Min	Time
1	Left Rear X-Member	1860	-700	440	G's	4.6	99.8	-42.5	35.3
2	Right Rear X-Member	1860	700	440	G's	4.9	92.9	-39.6	41.2
3	Engine Top	3745	165	1150	G's	30.1	44.5	-117.0	31.0
4	Engine Bottom	3660	100	220	G's	18.1	43.6	-110.2	34.9
5	Left Brake Caliper	3650	-770	290	G's	41.8	52.6	-137.8	37.1
6	Right Brake Caliper	3650	770	290	G's	34.1	50.3	-116.1	35.4
7	Instrument Panel	2960	0	1230	G's	30.8	81.9	-115.6	35.5
8	Left Rear X-Member (Z-Axis)	1780	-700	440	G's	11.3	16.1	-17.2	24.6
9	Right Rear X-Member (Z-Axis)	1780	700	440	G's	16.4	19.3	-15.1	24.5

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



DATA SHEET NO. 8 - HYBRID III ATD INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	2.4	200.0	-68.7	68.6	30.1	194.9	-64.3	71.9
Head CG	Y	G's	2.3	164.3	-19.3	75.5	7.9	195.2	-16.9	82.5
Head CG	Z	G's	26.1	45.8	-8.9	89.8	30.2	55.4	-14.8	93.1
Head CG Resultant	N/A	G's	71.1	68.6			67.6	71.9		

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	2.9	115.2	-49.7	63.2	2.0	138.1	-44.5	62.3
Chest CG	Y	G's	6.0	87.7	-3.4	44.1	2.8	44.3	-8.6	79.2
Chest CG	Z	G's	14.3	44.2	-14.2	90.6	12.8	46.4	-13.7	95.3
Chest CG Resultant	N/A	G's	49.8	63.2			44.6	62.3		

FEMUR PEAK FORCES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Femur	Z	Newtons	271.3	135.9	-8215.7	37.0	124.1	27.4	-2681.2	44.8
Right Femur	Z	Newtons	500.1	30.2	-3461.3	40.8	197.2	26.8	-2630.9	43.2

SEAT BELT SENSOR PEAK VALUES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Shoulder Belt Pullout	N/A	MM	164.3	87.9	-11.3	48.3	202.9	91.1	-11.6	46.2
Shoulder Belt Stretch	N/A	MM/CM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lap Belt Force	N/A	Newtons	7487.4	46.4	-21.5	200.0	8974.6	47.6	-20.8	102.6
Shoulder Belt Force	N/A	Newtons	7500.5	46.8	-68.0	195.9	6452.6	42.5	-62.4	125.6

1.) Not used with pre-tensioners

PRIMARY HEAD INJURY CRITERIA (HIC36)

Location	Driver				Passenger			
	HIC	T ¹	T ²	Avg G	HIC	T ¹	T ²	Avg G
Head CG Primary	663.9	52.4	82.3	54.7	671.9	54.1	90.1	51.0

PRIMARY CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Primary	48.3	61.7	64.7	42.8	61.9	64.9

DATA SHEET NO. 8...(CONTINUED)

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	6.7	88.8	-78.8	37.4	8.8	100.2	-66.1	44.1
Pelvis	Y	G's	7.5	84.5	-9.8	38.7	6.6	50.0	-10.1	75.2
Pelvis	Z	G's	4.1	32.6	-25.3	55.0	3.6	32.4	-24.3	63.8
Pelvis Resultant	N/A	G's	79.9	37.4			67.3	44.1		

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	229.8	64.3	-409.3	130.5	82.0	199.9	-517.8	70.4
Neck Force	Y	Newtons	189.0	70.1	-309.9	98.3	49.9	63.7	-224.2	133.1
Neck Force	Z	Newtons	2348.0	60.1	-276.6	90.2	1564.5	55.3	-417.1	103.3
Neck Force Resultant	N/A	Newtons	2352.0	60.1			1576.4	55.3		
Neck Moment	X	Nm	10.8	149.8	-29.4	80.2	30.2	71.4	-17.0	137.7
Neck Moment	Y	Nm	40.2	125.3	-22.7	48.6	19.2	147.9	-51.9	70.3
Neck Moment	Z	Nm	23.3	90.2	-10.5	134.9	21.8	93.5	-12.8	153.2
Neck Moment Resultant	N/A	Nm	42.1	124.3			61.0	70.4		

FOOT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Foot Aft	X	G's	9.0	93.2	-120.8	38.1	21.1	49.3	-96.0	36.2
Left Foot Aft	Z	G's	4.1	58.0	-55.1	43.0	14.4	57.3	-73.2	42.8
Left Foot Fore	Z	G's	25.1	26.3	-95.9	38.0	32.7	57.1	-97.0	42.7
Right Foot Aft	X	G's	21.2	95.9	-215.2	41.8	15.6	60.3	-137.4	41.1
Right Foot Aft	Z	G's	59.6	55.8	-89.9	42.3	2.9	130.2	-52.5	42.9
Right Foot Fore	Z	G's	0.0	0.0	0.0	0.0	32.6	28.8	-92.9	40.9

1.) Driver channel failed, no data

UPPER AND LOWER TIBIA PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Upper Moment	X	Nm	17.7	119.9	-93.4	40.7	14.8	33.9	-30.8	65.9
Left Upper Moment	Y	Nm	363.6	37.8	-29.7	27.7	83.5	40.7	-56.0	28.5
Right Upper Moment	X	Nm	103.6	40.2	-18.1	72.6	18.7	103.4	-65.5	44.2
Right Upper Moment	Y	Nm	184.5	42.0	-12.3	70.5	102.5	36.1	-45.3	68.0
Left Lower Moment	X	Nm	9.8	58.7	-35.5	38.1	21.0	56.8	-11.9	41.5
Left Lower Moment	Y	Nm	150.0	38.1	-14.4	31.7	43.7	49.6	-24.1	29.2
Left Lower Force	Z	Newtons	201.7	63.1	-1751.7	37.0	169.4	132.6	-2700.0	36.7
Right Lower Moment	X	Nm	29.7	39.4	-69.4	45.5	45.9	77.2	-34.0	43.2
Right Lower Moment	Y	Nm	132.0	46.9	-11.8	29.6	40.7	72.5	-9.3	32.6
Right Lower Force	Z	Newtons	49.1	114.2	-5042.4	45.2	27.3	1.6	-2931.8	41.8

DATA SHEET NO. 8...(CONTINUED)

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

CHEST PEAK DEFLECTIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest	X	MM	0.0	5.2	-30.2	73.4	0.0	14.6	-27.2	76.5

HEAD REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	2.5	200.0	-68.9	68.7	30.3	194.9	-63.6	70.9
Head CG	Y	G's	2.7	163.6	-19.6	75.2	7.8	195.7	-17.3	82.5
Head CG	Z	G's	26.4	45.8	-9.9	88.9	29.9	55.4	-15.0	93.3
Head CG Resultant	N/A	G's	71.2	68.7			66.8	70.9		

CHEST REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	2.8	112.6	-49.2	63.2	2.3	136.7	-44.3	62.3
Chest CG	Y	G's	6.0	87.6	-3.9	44.0	2.8	44.2	-8.9	79.1
Chest CG	Z	G's	14.1	44.3	-13.9	90.6	13.1	46.5	-13.7	100.3
Chest CG Resultant	N/A	G's	49.2	63.2			44.7	64.1		

REDUNDANT HEAD INJURY CRITERIA (HIC36)

Location	Driver				Passenger			
	HIC	T ¹	T ²	Avg G	HIC	T ¹	T ²	Avg G
Head CG Redundant	667.0	52.5	82.3	54.9	667.1	54.2	90.2	50.9

REDUNDANT CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Redundant	47.9	61.6	64.6	42.9	61.9	64.9

DATA SHEET NO. 9
SEAT BELT ASSESSMENT TEST DATA

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
Retractor Reel to "D" ring	mm	840	840
Shoulder Belt length as measured on ATD	mm	865	860
Lap Belt length as measured on ATD	mm	830	810
Remainder of belt on reel	mm	870	800
Total belt length for continuous webbing systems	mm	3405	3310

SHOULDER BELT SPOOL-OFF DATA

Measurement Description	Units	Driver	Passenger
As determined mechanically	mm	85	105
As determined electronically	mm	164	203

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. 10
SUMMARY OF FMVSS 212 DATA

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

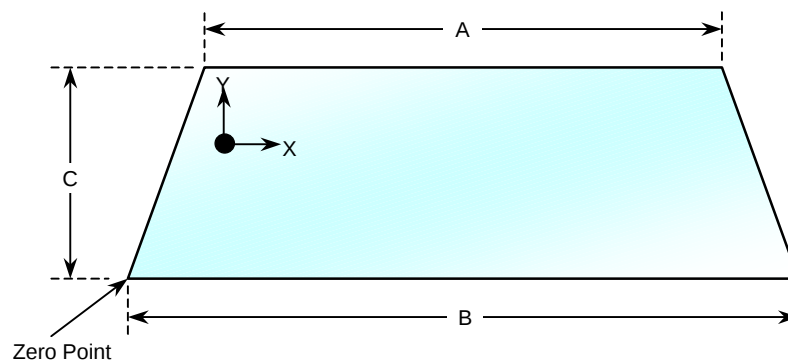
Windshield Mounting Details: Windshield glass is secured to the vehicle frame with a rubber type adhesive. No molding covers the windshield periphery at any point.

The standard requires that the post-test retention measurement be a minimum of 75 percent of the pre-test 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: 22.0 °C

WINDSHIELD PERIPHERY MEASUREMENTS

Measurement	Pre-Test(mm)	Post-Test(mm)	% of Retention
Left Side	2150	2150	100
Right Side	2150	2150	100
Total	4300	4300	100



WINDSHIELD DIMENSIONS

Item	Units	Segment Length	Molding Width
A	mm	1200	10
B	mm	1550	85
C-Left	mm	775	10
C-Right	mm	775	10

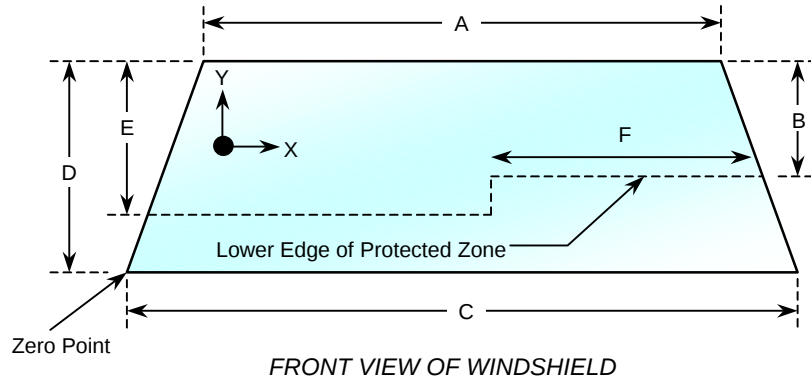
DATA SHEET NO. 11
WINDSHIELD ZONE INTRUSION FMVSS 219 DATA (PARTIAL)

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05



**WINDSHIELD AND
PROTECTED ZONE**

Item	Units	Value
A	mm	1200
B	mm	520
C	mm	1550
D	mm	775
E	mm	480
F	mm	370

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. 12
FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Test Vehicle: 2005 Nissan Xterra 5-Door MPV NHTSA No.: M55208
Test Program: 2005 NHTSA 35mph NCAP Test Date: 3/16/05

Test Time: 12:53 PM Temperature: 22.2 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

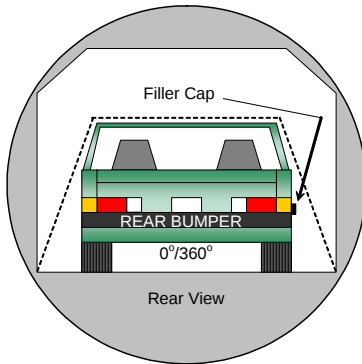
DATA SHEET NO. 13
FMVSS 301 STATIC ROLLOVER DATA

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

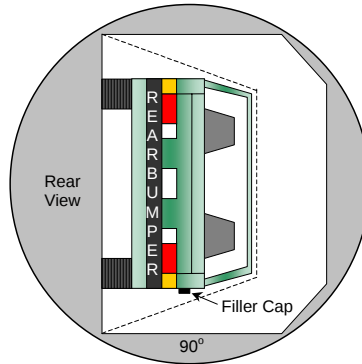
NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

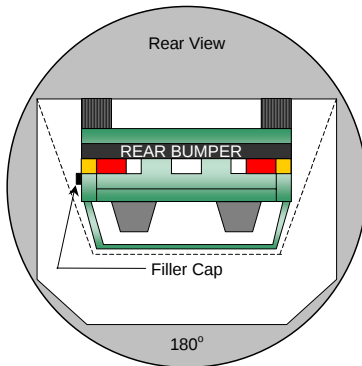
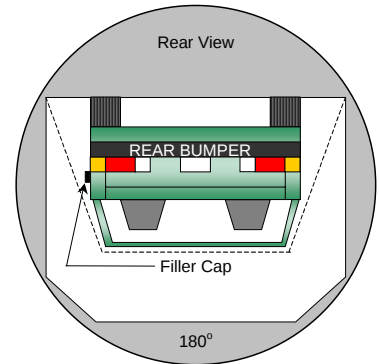
Test Date: 3/16/05



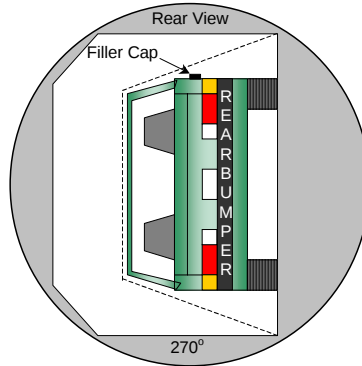
0° to 90°



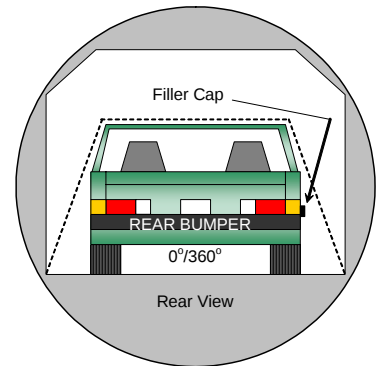
90° to 180°



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. 13...(CONTINUED)
FMVSS 301 STATIC ROLLOVER DATA

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° to 90°	79	300	379
90° to 180°	80	300	380
180° to 270°	81	300	381
270° to 360°	77	300	377

FMVSS 301 SPILLAGE TABLE REQUIREMENT (oz.)

First 5 Minutes	5
Sixth Minute	1
Seventh Minute	1
Eighth Minute	1

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. 14
VEHICLE MEASUREMENTS

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

VEHICLE MEASUREMENT TABLE

No.	Measurement Description	Units	Pre-Test	Post-Test	Diff.
1	Total length of vehicle at centerline	mm	4533	4116	-417
2	RSOV to front of engine	mm	3941	3833	-108
3	RSOV to firewall centerline	mm	3431	3422	-9
4	RSOV to leading edge of right door	mm	3148	3155	7
5	RSOV to leading edge of left door	mm	3150	3160	10
6	RSOV to lower leading edge of right door	mm	3045	3010	-35
7	RSOV to lower leading edge of left door	mm	3053	3023	-30
8	RSOV to upper trailing edge of right door	mm	2044	2055	11
9	RSOV to upper trailing edge of left door	mm	2047	2062	15
10	RSOV to lower trailing edge of right door	mm	2012	1970	-42
11	RSOV to lower trailing edge of left door	mm	2015	1985	-30
12	RSOV to bottom of right 'A' pillar	mm	3128	3121	-7
13	RSOV to bottom of left 'A' pillar	mm	3121	3133	12
14	RSOV to firewall on right side	mm	3483	3478	-5
15	RSOV to firewall on left side	mm	3503	3508	5
16	RSOV to steering column	mm	2705	2740	35
17	Center of steering column to left 'A' pillar	mm	390	378	-12
18	Center of steering column to headlining	mm	434	430	-4
19	RSOV to right side of front bumper	mm	4279	4040	-239
20	RSOV to left side of front bumper	mm	4280	4114	-166
21	Length of engine block	mm	505	505	0
RD	RSOV to right side of dash panel	mm	2898	2911	13
CD	RSOV to center of dash panel	mm	2870	2910	40
LD	RSOV to left side of dash panel	mm	2898	2914	16

All measurements are in millimeters

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

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

VEHICLE STRUCTURAL MEASUREMENT TABLE

No.	Measurement Description	Units	Pre-Test	Post-Test	Diff.
1	Total length	mm	4533	4116	-417
2	Total width	mm	1840	1840	0
3	Bumper top height	mm	815	734	-81
4	Bumper bottom height	mm	340	280	-60
5	Longitudinal member top height	mm	560	607	47
6	Longitudinal member bottom height	mm	435	485	50
7	Distance between longitudinal members	mm	950	845	-105
8	Longitudinal member width	mm	125	125	0
9	Engine top height	mm	960	1015	55
10	Engine bottom height	mm	250	266	16
11	Engine and gear box width	mm	300	300	0
12	Front bumper to engine distance	mm	592	290	-302
13	Front shock absorber height	mm	690	820	130
14	Bonnet leading edge height	mm	997	1070	73
15	Distance between front shock absorbers	mm	1150	1150	0
16	Front bumper to front axle distance	mm	790	556	-234
17	Front axle to 'A' pillar distance	mm	605	520	-85
18	'A' pillar to 'B' pillar distance	mm	1124	1115	-9
19	'B' pillar to rear axle distance	mm	965	985	20
20	'B' pillar to 'C' pillar distance	mm	910	905	0
21	Roof sill bottom height	mm	1540	1490	-50
22	Roof sill top height	mm	1705	1655	-50
23	Floor sill bottom height	mm	370	380	10
24	Floor sill top height	mm	500	505	5

All measurements are in millimeters

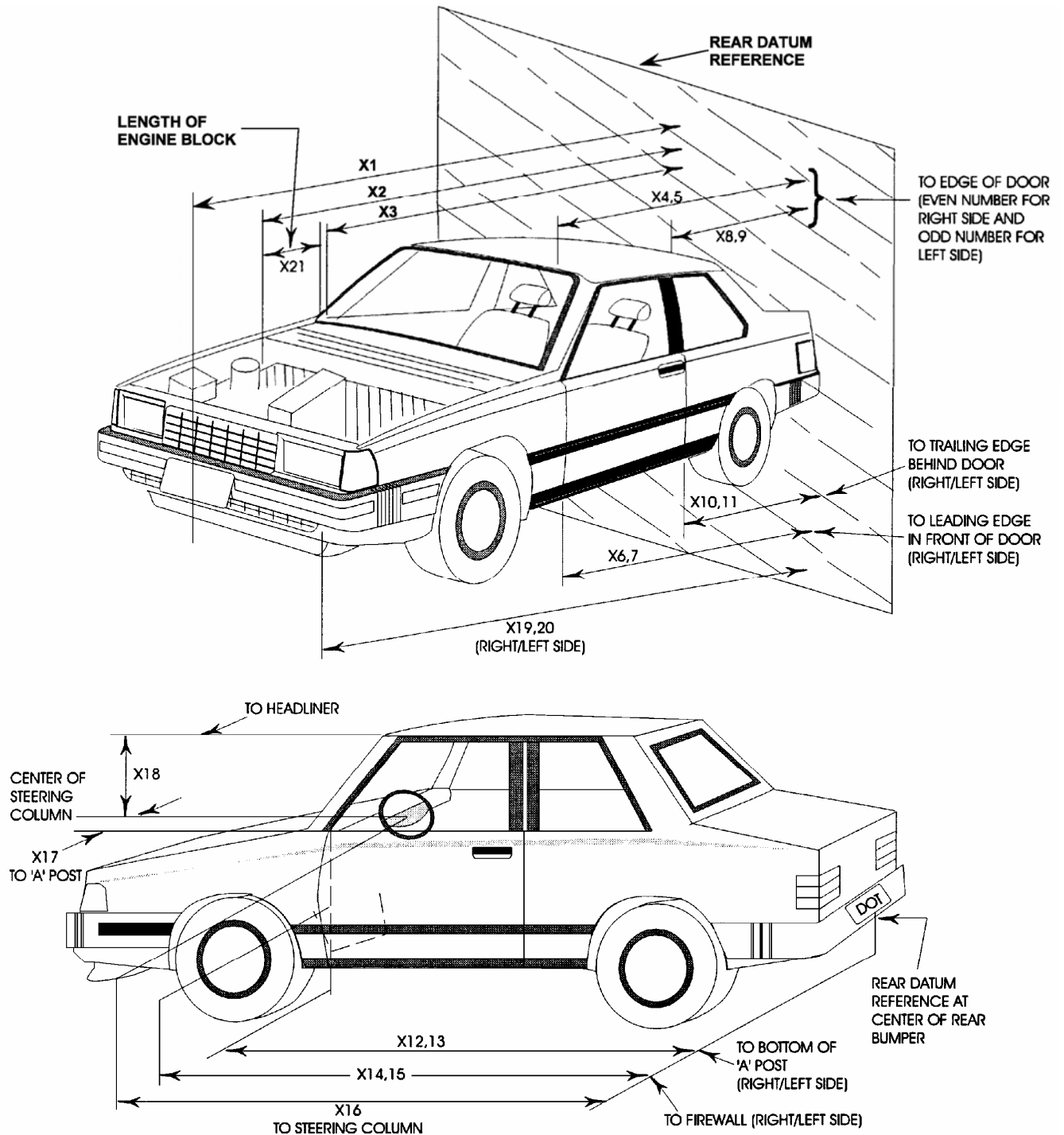
DATA SHEET NO. 14...(CONTINUED)
VEHICLE MEASUREMENTS

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05



DATA SHEET NO. 15
CAMERA LOCATIONS

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

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)	-12192	-6096	-1651	-10		Zoom	30
2	Overall Left Side	-2489	-8280	-1143	-4	7755	24	1000
3	Left Side View	-1677	-7620	-1329	-4	7111	50	1000
4	Driver and Interior View	-6477	-10185	-4748	-13	11045	80	995
5	Steering Column (Bottom)	-2134	-8230	-2997	-16	7857	19	990
6	Steering Column (Top)	-2134	-8230	-3404	-20	7949	19	1015
7	Overall Right Side	-2083	8230	-1270	-6	7700	13	1060
8	Right Side View	-1677	7316	-1422	-4	6808	50	1000
9	Passenger and Interior View	-6781	9144	-2997	-9	6796	28	1020
10	Right Side View	-1829	7316	-1422	-4	6796	25	1000
11	Windshield	-610	0	-5944	-90		13	1040
12	Driver Front View	610	-432	-2667	-40		13	1090
13	Passenger Front View	610	432	-2667	-40		13	NTM
14	Pit View of Engine	-914	0	1499	90		9	1015
15	Pit View of Fuel Tank	-2438	0	1499	90		6	1580

ADDITIONAL CAMERAS

1	Real-Time Camera	-1219	-8585	-1372	0	8119	Zoom	30
2	Real-Time Camera	-1067	7976	-991	0	7550	Zoom	30

X = Barrier Face Y = Monorail Centerline Z = Ground DNR = Did Not Run NTM = No Timing Marks

DATA SHEET NO. 16
PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

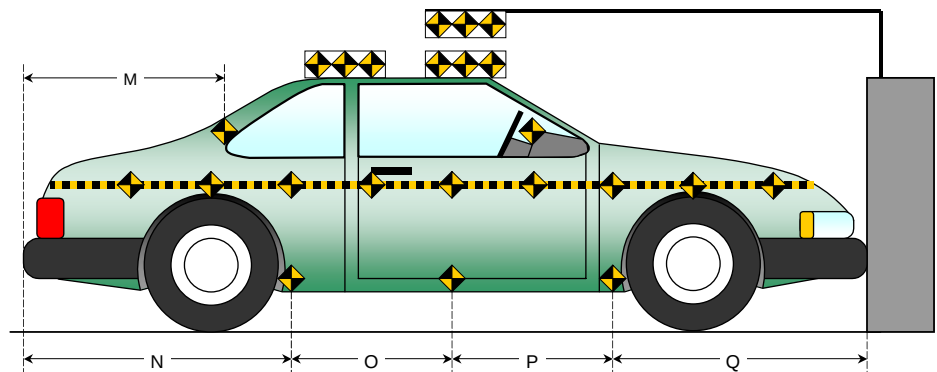
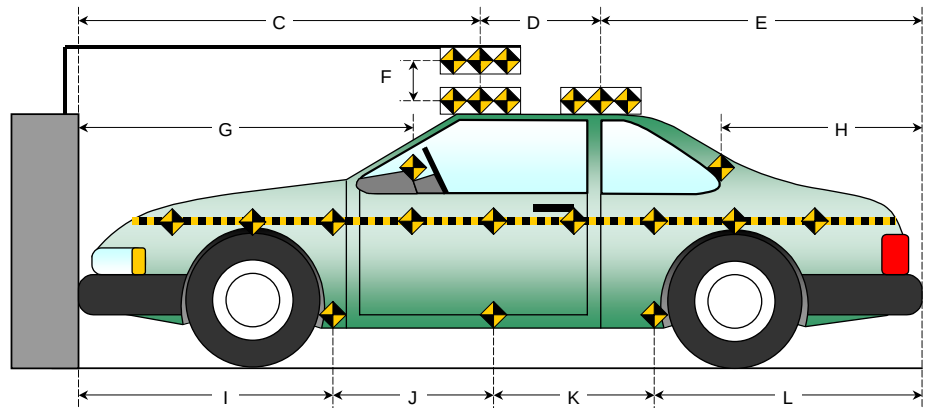
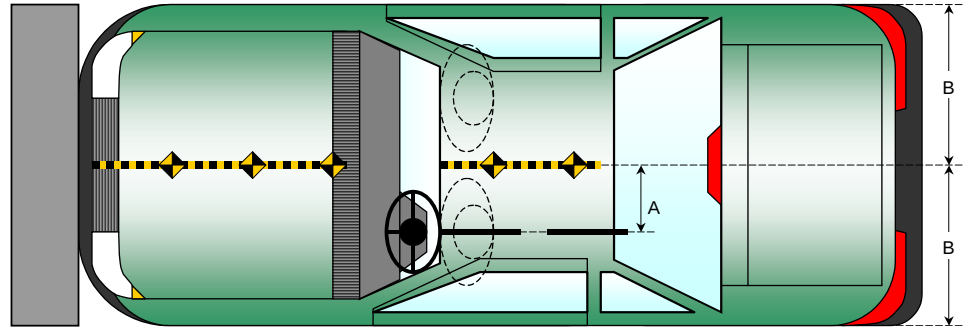
Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

All Dimensions in (mm)	
Item	Value
A	480
B	920
C	2515
D	610
E	1433
F	155
G	1675
H	1086
I	1327
J	820
K	820
L	1575
M	1086
N	1575
O	820
P	820
Q	1327



DATA SHEET NO. 17
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

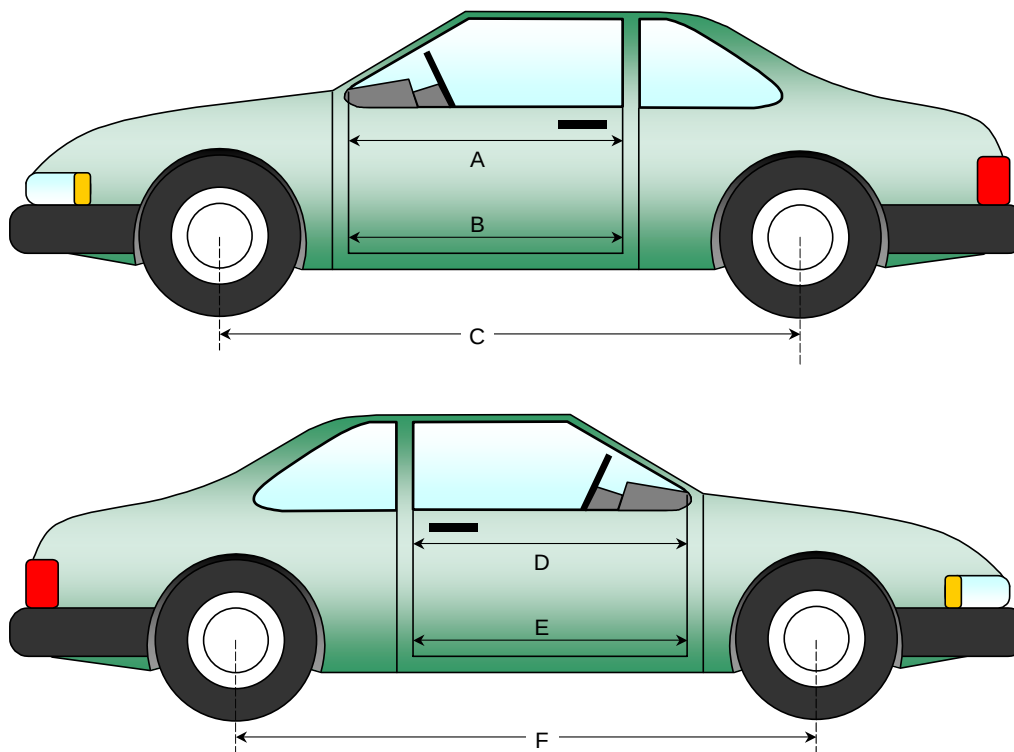
Test Date: 3/16/05

DOOR OPENING WIDTH TABLE

Item	Description	Units	Pre-Test	Post-Test	Diff.
A	Left Side Upper	mm	1010	1005	-5
B	Left Side Lower	mm	950	947	-3
D	Right Side Upper	mm	1010	1010	0
E	Right Side Lower	mm	950	940	-10

WHEELBASE MEASUREMENT TABLE

Item	Description	Units	Pre-Test	Post-Test	Diff.
C	Left Side Wheel Base	mm	2704	2629	-75
F	Right Side Wheel Base	mm	2704	2640	-64



DATA SHEET NO. 17...(CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

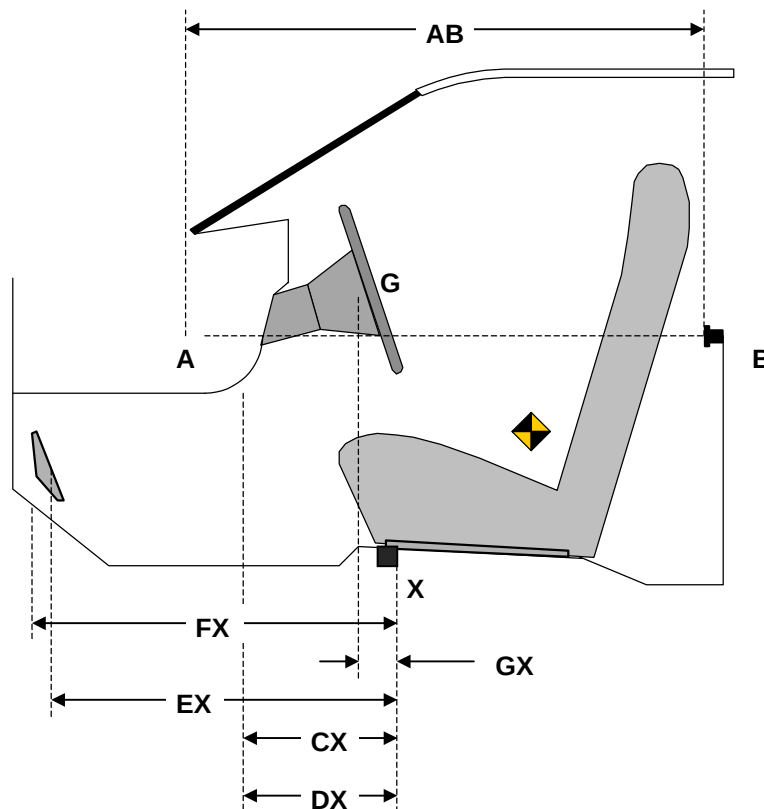
Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

DRIVER COMPARTMENT INTRUSION TABLE

Item	Description	Units	Pre-Test	Post-Test	Diff.
AB	Door Opening (Inside window jam)	mm	1010	1005	-5
CX	Left Knee Bolster to X	mm	250	300	50
DX	Right Knee Bolster to X	mm	245	260	15
EX	Brake Pedal to X	mm	530	601	71
FX	Foot Rest to X	mm	550	558	8
GX	Center of Steering Wheel Hub to X	mm	0	60	60

X = Left Front Seat Outboard Anchor Bolt Head



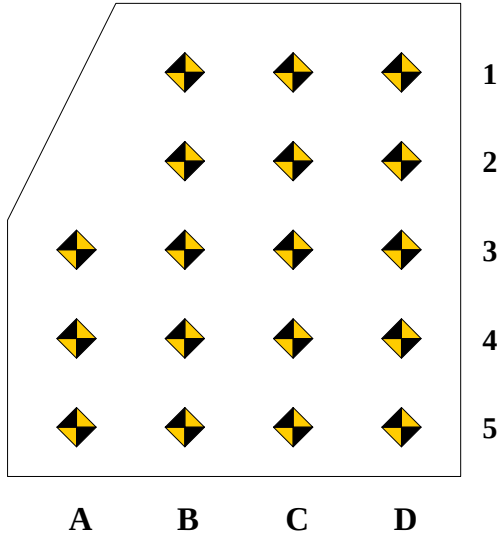
DATA SHEET NO. 17...(CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05



Measurement reference point for X and Z-axis is the forward outboard seat mounting bolt.

Columns A through D are evenly spaced.

Rows 1 and 2 are on the toe kick portion of the floor pan. Rows 3, 4 and 5 are located on the most level portion of the floor pan.

Row 3 will be at the intersection of the toe kick and the level sections of the floor pan.

DRIVER FLOOR PAN X-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1		643	639	637		626	607	595		-17	-32	-42
2		545	541	539		534	527	522		-11	-14	-17
3	445	445	442	440	435	437	442	440	-10	-8	0	0
4	345	345	342	340	360	346	352	342	15	1	10	2
5	245	245	242	240	250	245	247	248	5	0	5	8

DRIVER FLOOR PAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1		0	-15	-20		-4	-85	-7		-4	-70	13
2		35	40	45		45	17	74		10	-23	29
3	45	55	65	60	74	66	57	91	29	11	-8	31
4	55	50	60	60	66	64	54	71	11	14	-6	11
5	50	70	55	50	60	62	52	66	10	-8	-3	16

DATA SHEET NO. 17...(CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

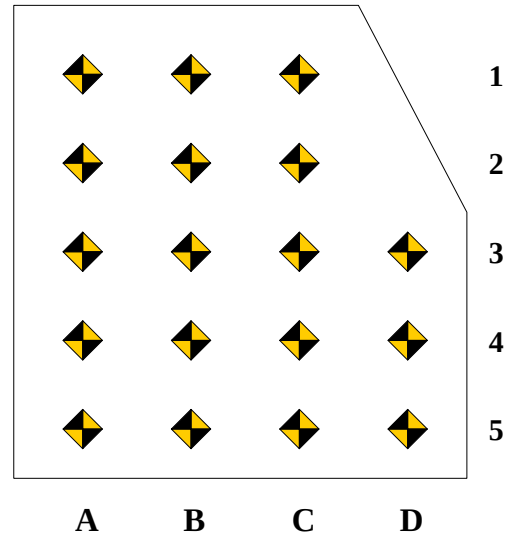
Test Date: 3/16/05

Measurement reference point for X and Z axis is the forward outboard seat mounting bolt.

Columns A through D are evenly spaced.

Rows 1 and 2 are on the toe kick portion of the floor pan. Rows 3, 4 and 5 are located on the most level portion of the floor pan.

Row 3 will be at the intersection of the toe kick and the level sections of the floor pan.



PASSENGER FLOOR PAN X-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	623	634	629		596	612	615		-27	-22	-14	
2	527	534	529		523	529	534		-4	-5	5	
3	427	432	427	425	435	437	437	428	8	5	10	3
4	325	330	325	320	333	337	328	325	8	7	3	5
5	225	230	225	225	244	238	229	231	19	8	4	6

PASSENGER FLOOR PAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	-4	-15	10		0	2	14		4	17	4	
2	41	45	45		28	32	45		-13	-13	0	
3	66	55	50	60	66	75	62	65	0	20	12	5
4	52	55	50	50	50	65	58	58	-2	10	8	8
5	30	50	50	55	22	58	58	58	-8	8	8	3

DATA SHEET NO. 18
FIXED BARRIER LOAD CELL LOCATIONS

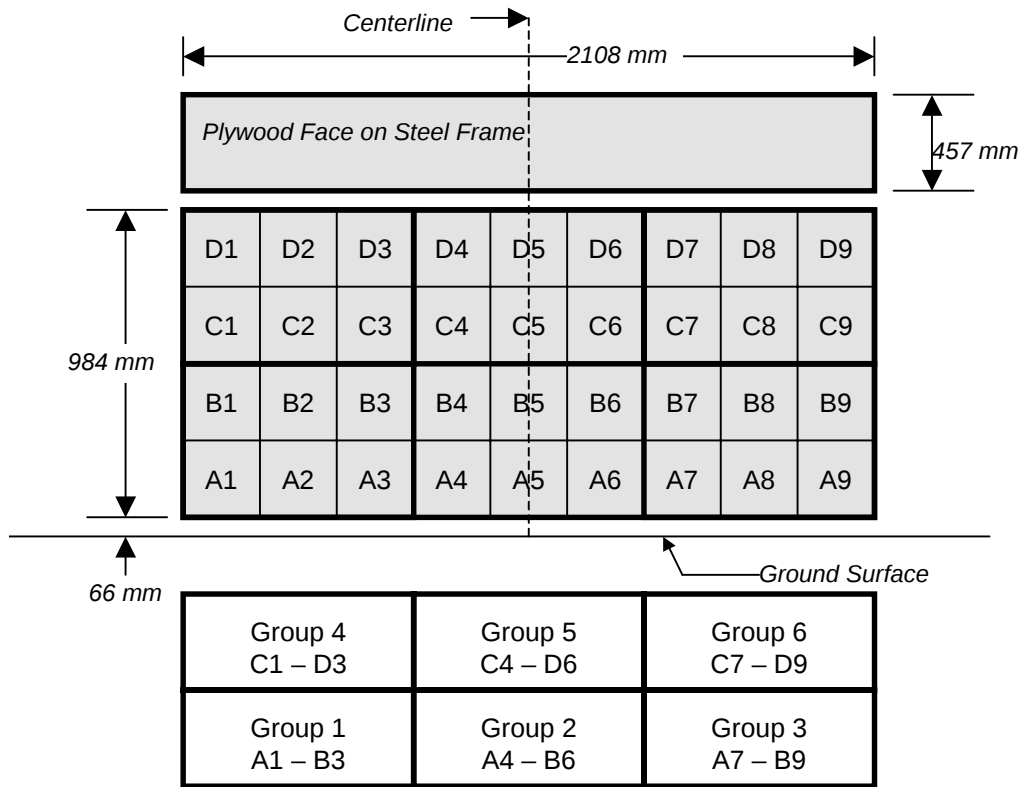
Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

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



6 Groups of 6 Load Cells Each

The Data is presented in Appendix C with the following requirements:

- 1.) Data from 36 individual load cells
- 2.) Sum data from 6 groupings shown above (6 cells/group)
- 3.) Total or sum of all 36 individual load cells
- 4.) Sum of all 36 individual load cells vs. vehicle dynamic crush

DATA SHEET NO. 19
POST-TEST AIRBAG DATA

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

POST-TEST AIRBAG DATA

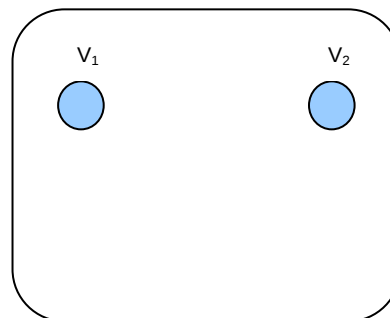
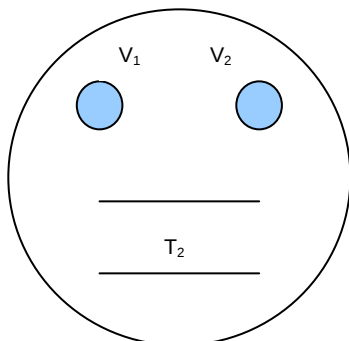
	DRIVER	PASSENGER
No. of vent holes	2	2
Size of vent holes (mm ²)	1589	2826
Total vent area (mm ²)	3179	5652

Deflated Airbag Length and Width Dimensions or, If Round, Diameter (mm)		
Length	550	870
Width	460	400
Depth or Diameter	250	450

Tethering Information		
Is the airbag tethered?	Yes	Yes
Record length of tether (mm)	220	450

Airbag Manufacturing Information		
Manufacturer	Airbag label was melted after impact. Could not obtain information	Airbag label was melted after impact. Could not obtain information
Part No.	P603262600CC09	P603396100B06
Gas Generator	NNL S18 3K AHE	NES S16 3C CAV

Sketch the airbag showing the location of the vent holes, how the bag is tethered, and where the bag is tethered. Also describe how the tethers are attached to the bag and the steering wheel:



DATA SHEET NO. 20
ACCIDENT INVESTIGATION DIVISION DATA

Test Vehicle: 2005 Nissan Xterra 5-Door MPV NHTSA No.: M55208
 Test Program: 2005 NHTSA 35mph NCAP Test Date: 3/16/05

VEHICLE INFORMATION

VIN: 5N1AN08U95C606301 Wheel base (mm): 2704
 Vehicle Size Category: 5-Door MPV Test Weight (kg): 2167

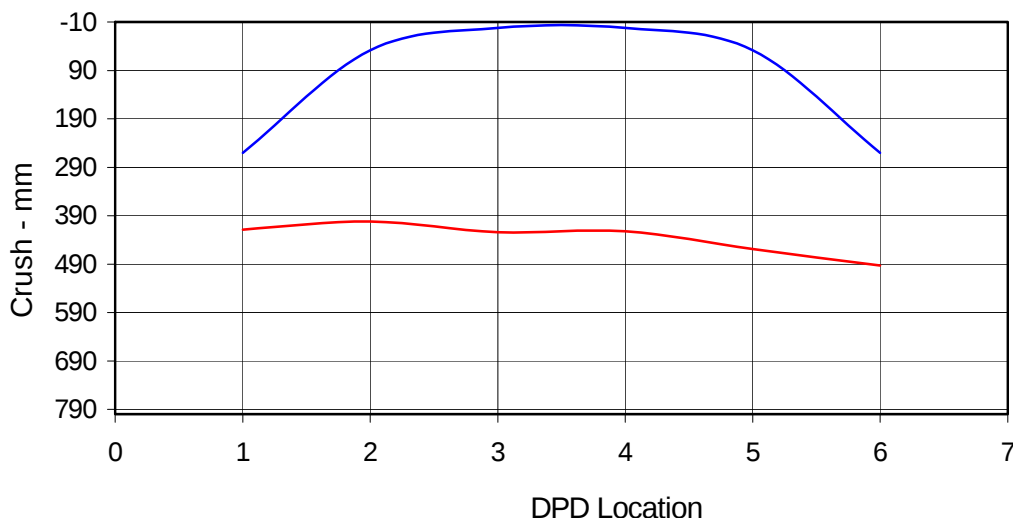
ACCELEROMETER DATA

Accelerometer Location: Left rear sill
 Cal. Procedure/Interval: 6 months / drop test
 Integration Algorithm: NHTSA Standard Linearity: Good
 Impact Velocity (km/h): 56.15
 Velocity Change (km/h): 62.91 Time of Separation (msec): 60.0

CRUSH PROFILE

Collision Deformation Classification: 12FDEW6 Midpoint of Damage: Vehicle Centerline
 Damage Region Length (mm): 1782 Impact Mode: Full Frontal

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	260	419	-159
C2	Crush zone 2 on left side	mm	48	402	-354
C3	Crush zone 3 on left side	mm	2	424	-422
C4	Crush zone 4 on right side	mm	2	422	-420
C5	Crush zone 5 on right side	mm	48	459	-411
C6	Crush zone 6 at right side	mm	260	493	-233



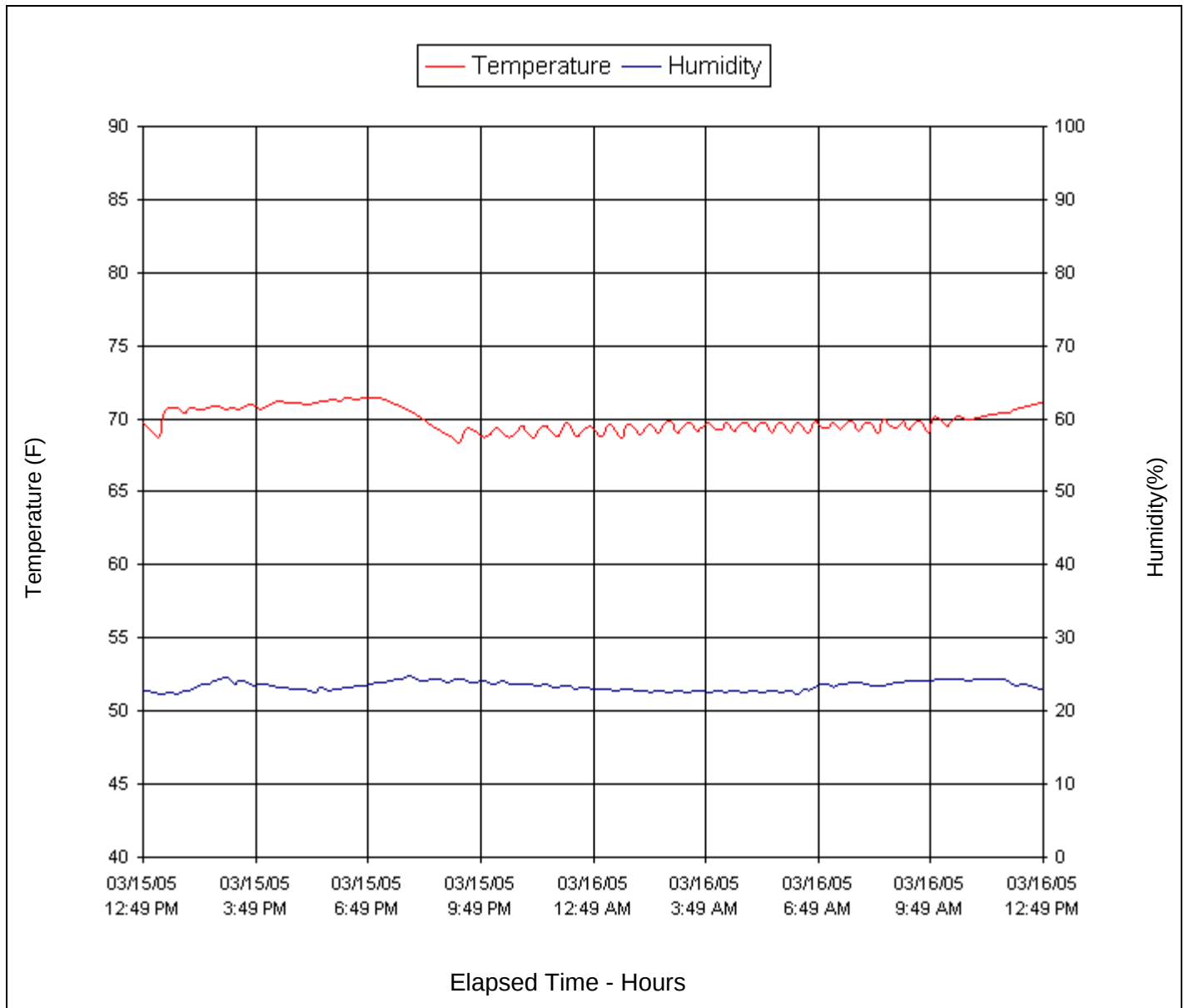
DATA SHEET NO. 21
DUMMY/VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05



APPENDIX A
PHOTOGRAPHS

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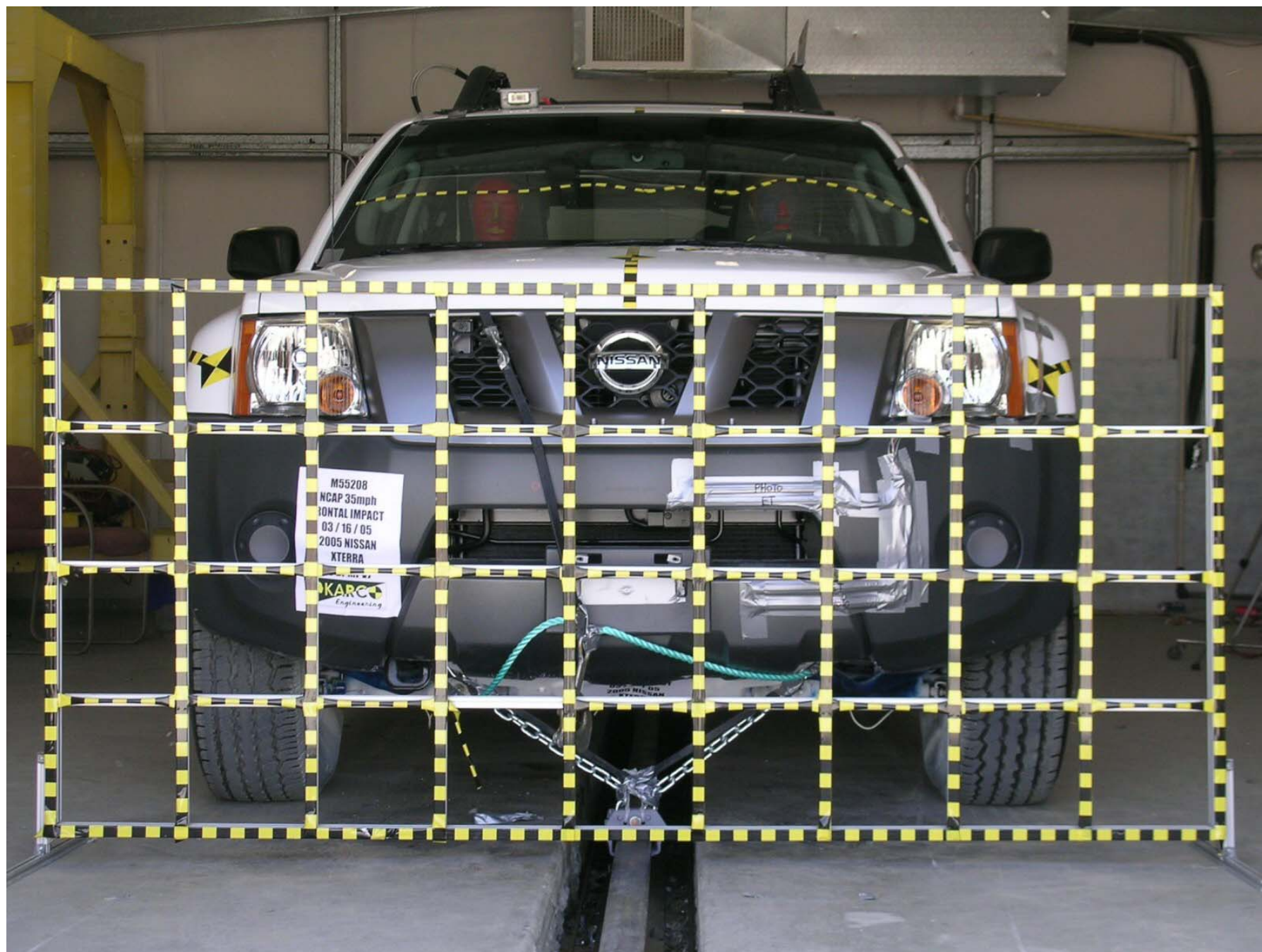


Figure A-1: Load Cell Location

MFD BY NISSAN MOTOR CO., LTD.

DATE 02/05
GVWR 5200 LB
GAWR FR. 2676 LB
WITH P265/70R16 TIRES
16X7.0 RIMS AT 35 PSI
COLD SINGLE
GAWR RR. 2963 LB
WITH P265/70R16 TIRES
16X7.0 RIMS AT 35 PSI
COLD SINGLE

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

5N1AN08U95C 606301

MPV 213
MODEL: TCKULRN-EUA 0Z000

COLOR	TRIM	TRANS
-------	------	-------

OM1	I P	RE5R05A
-----	-----	---------

AXLE	ENGINE
------	--------

CA29	I VQ40DE 3954CC
------	-----------------



Figure A-2: Manufacturer's Label

RECOMMENDED COLD TIRE INFLATION PRESSURE
PRESSION DE GONFLAGE RECOMMANDEE DES PNEUS FROIDS

TIRE SIZE DIMENSIONS		kPa (psi)
P235/75R15	P245/75R16	FRONT: 240 (35)
P265/70R16	P265/75R16	
P265/65R17		REAR: 240 (35)

99090 EA00A

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

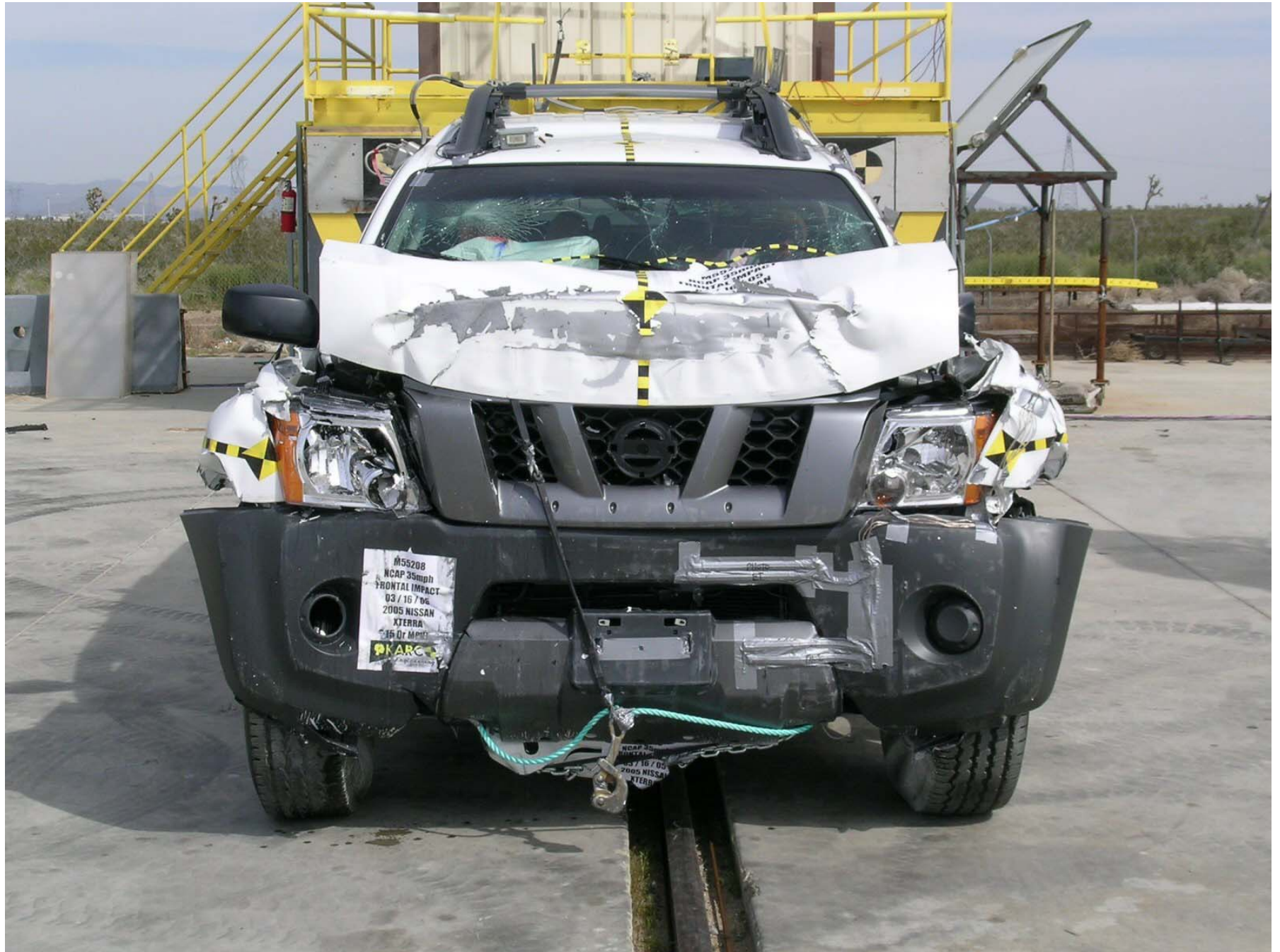


Figure A-7: Post-Test Front View (Vehicle Moved)



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 ¾ View



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



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



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

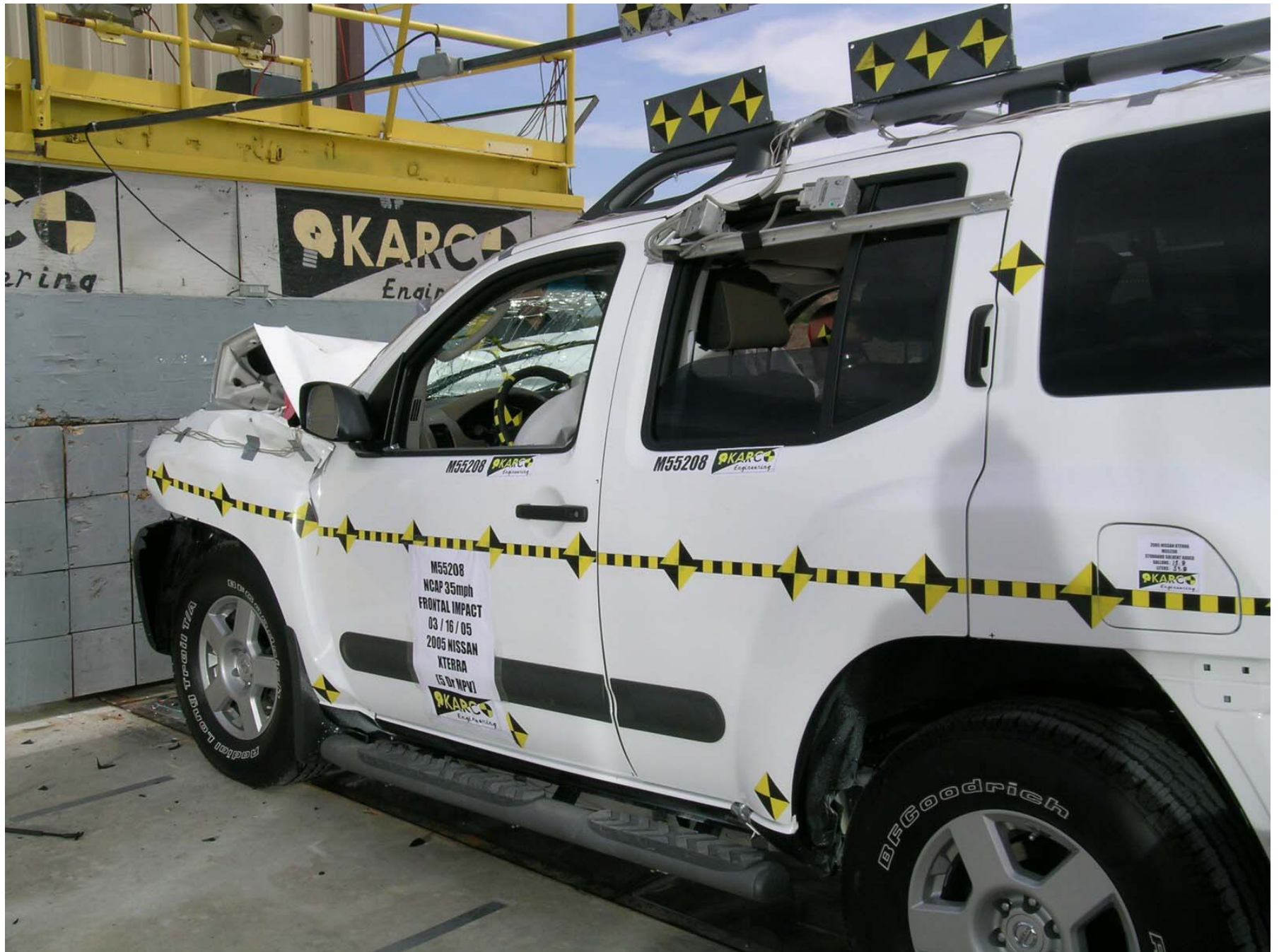


Figure A-16: Post-Test Left Side $\frac{3}{4}$ View of Doors After Impact

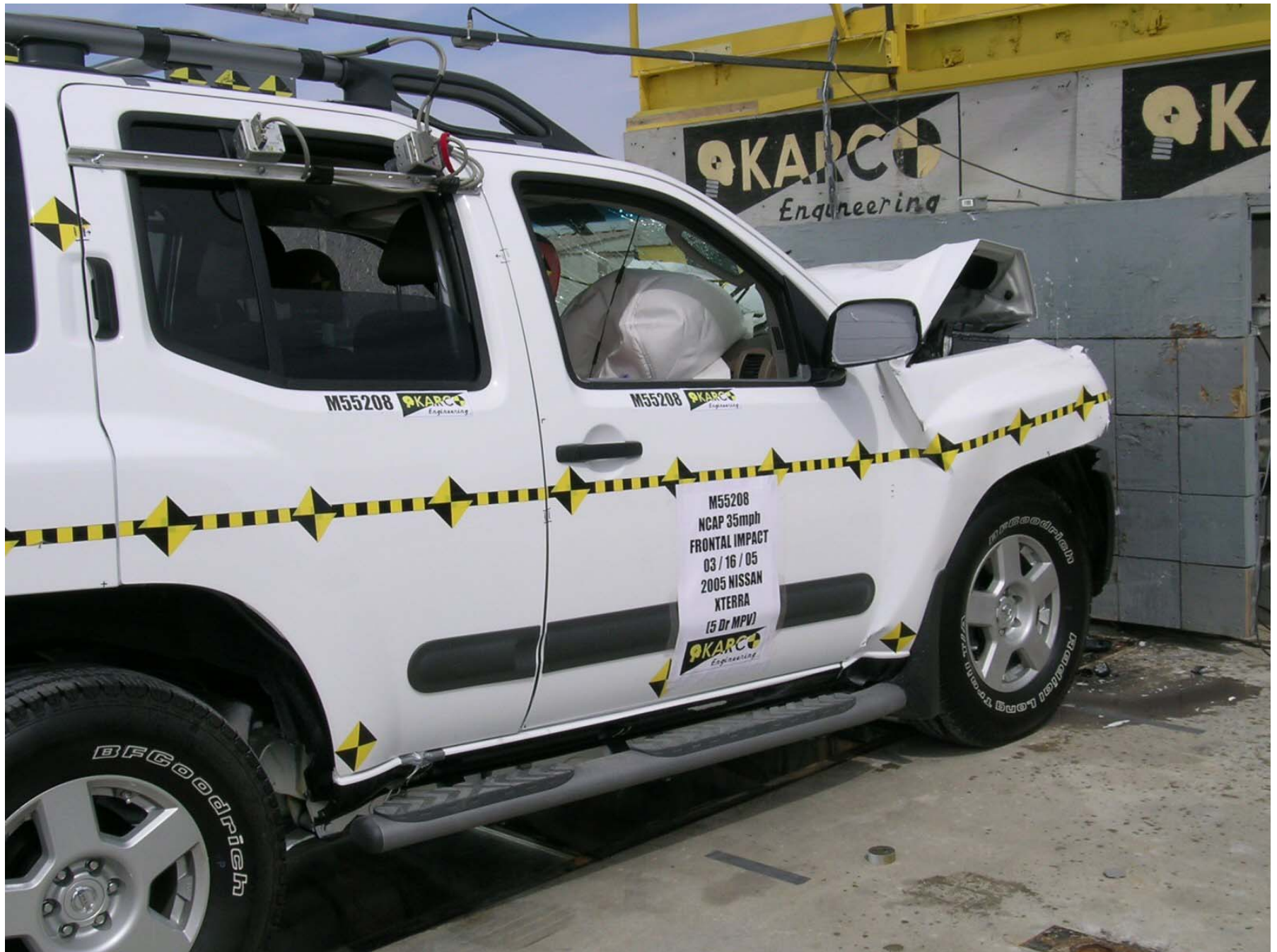


Figure A-17: Post-Test Right Side $\frac{3}{4}$ View of Doors After Impact

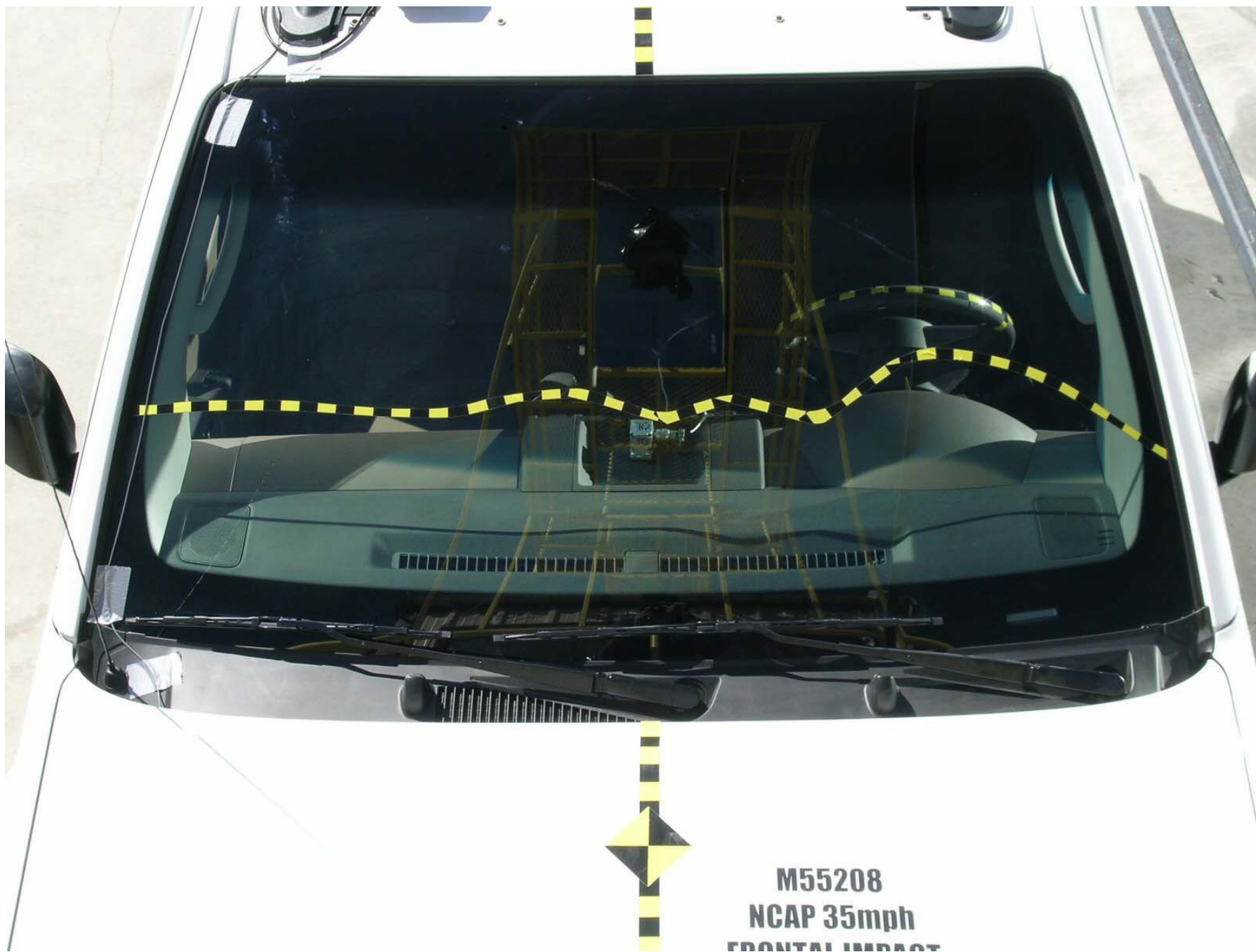


Figure A-18: Pre-Test Windshield



Figure A-19: Post-Test Windshield



Figure A-20: Pre-Test Engine Compartment

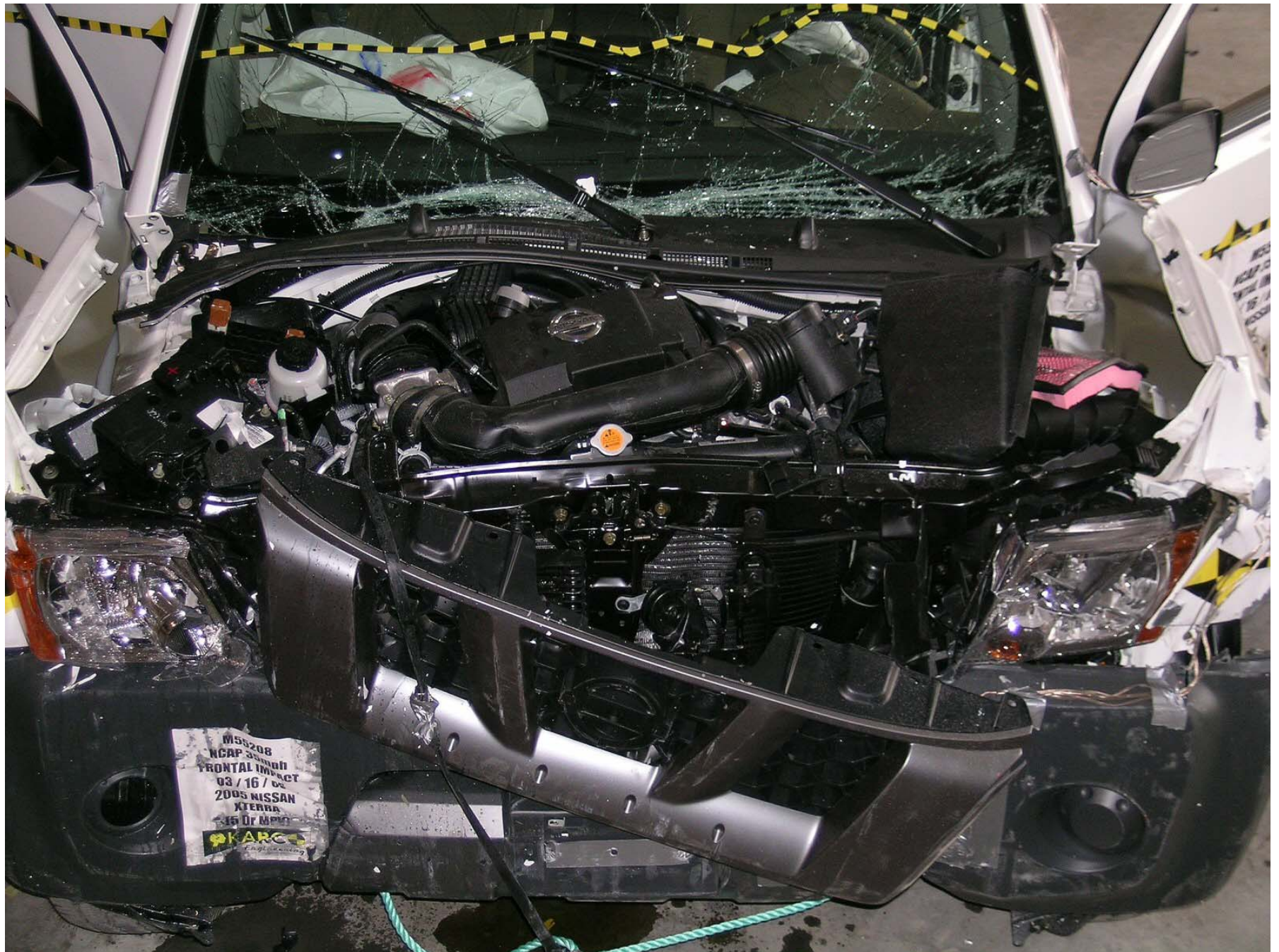


Figure A-21: Post-Test Engine Compartment (Vehicle Moved)



Figure A-22: Pre-Test Fuel Cap



Figure A-23: Post-Test Fuel Cap

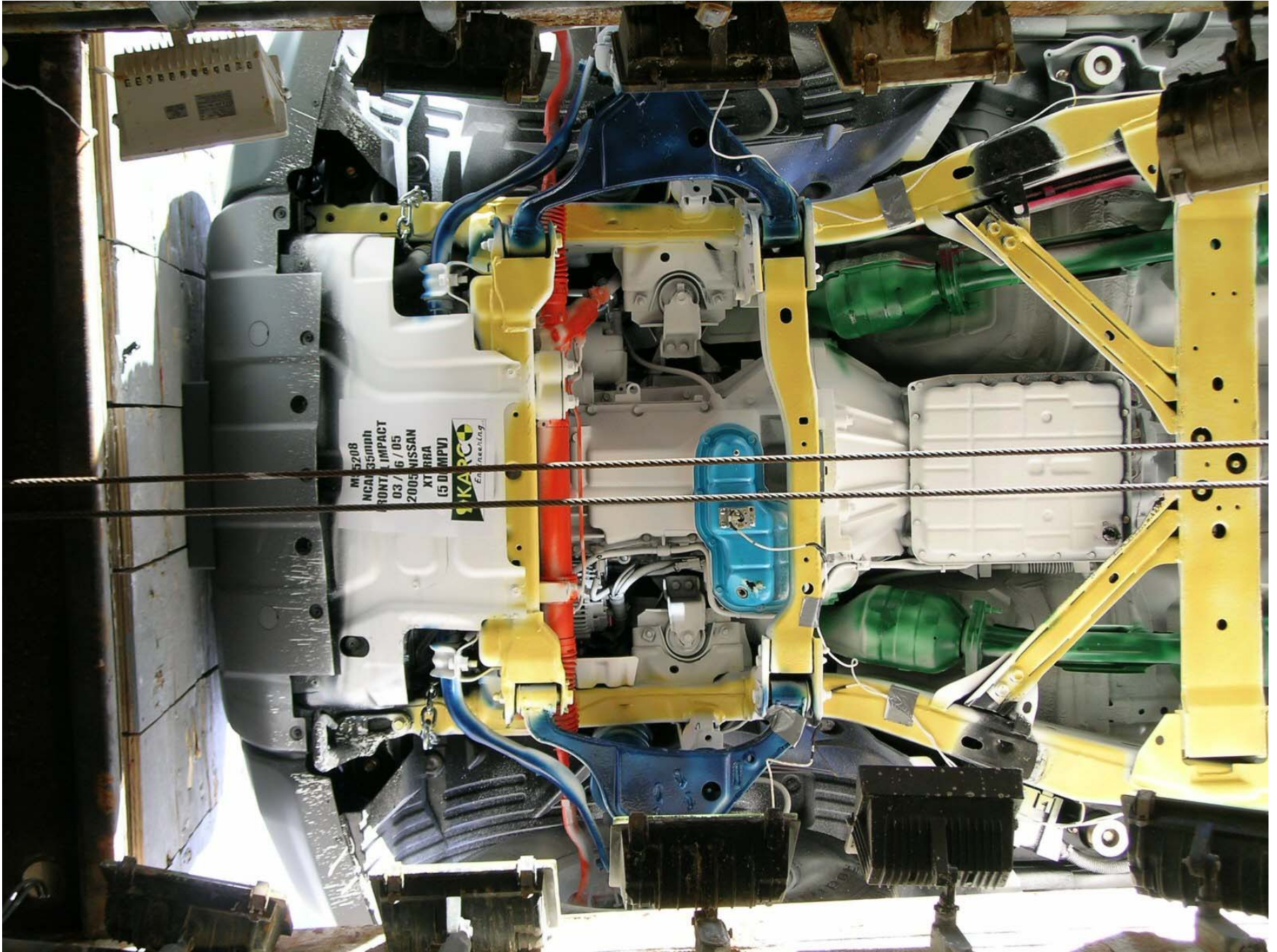


Figure A-24: Pre-Test Front Underbody

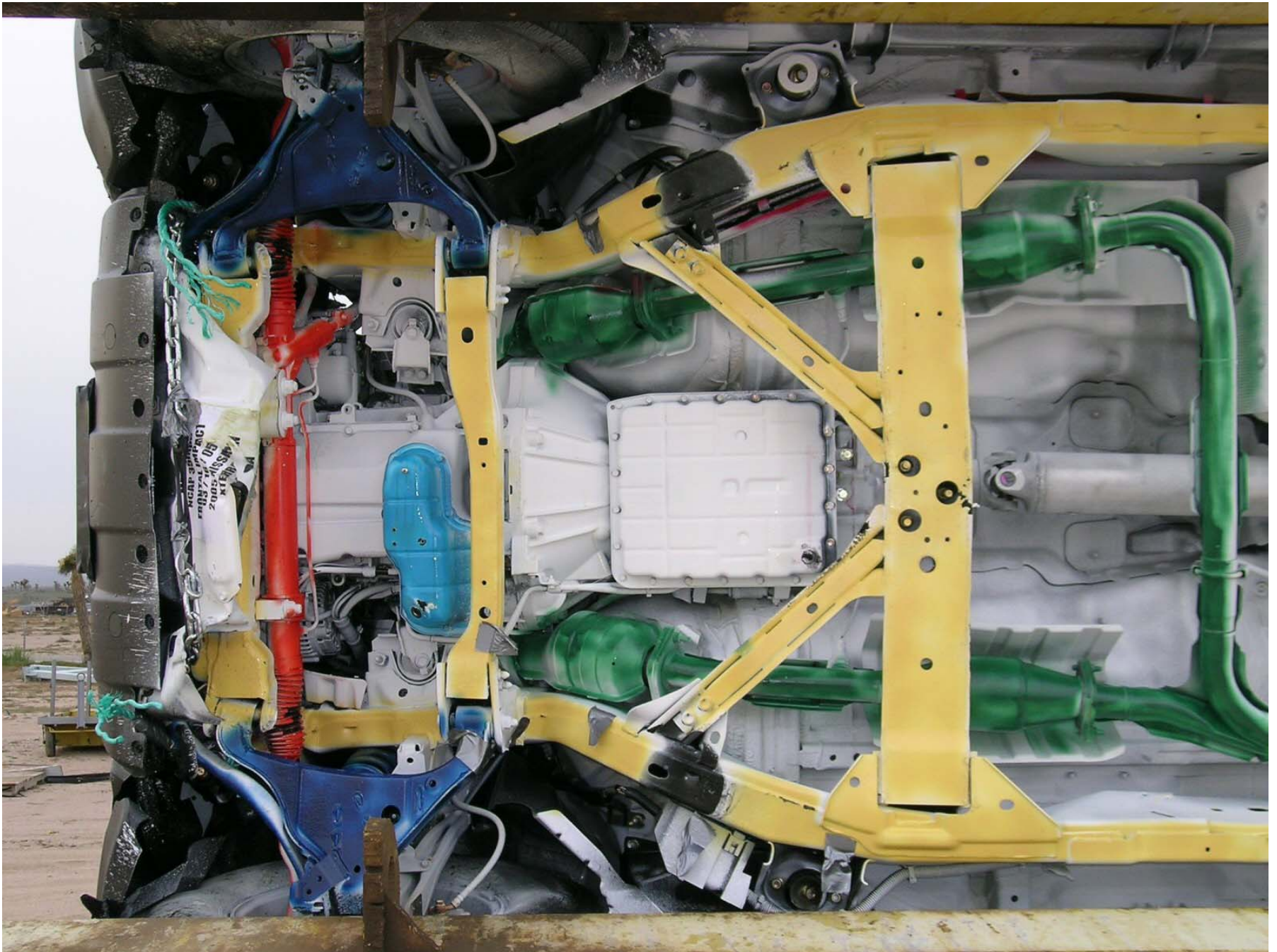


Figure A-25: Post-Test Front Underbody

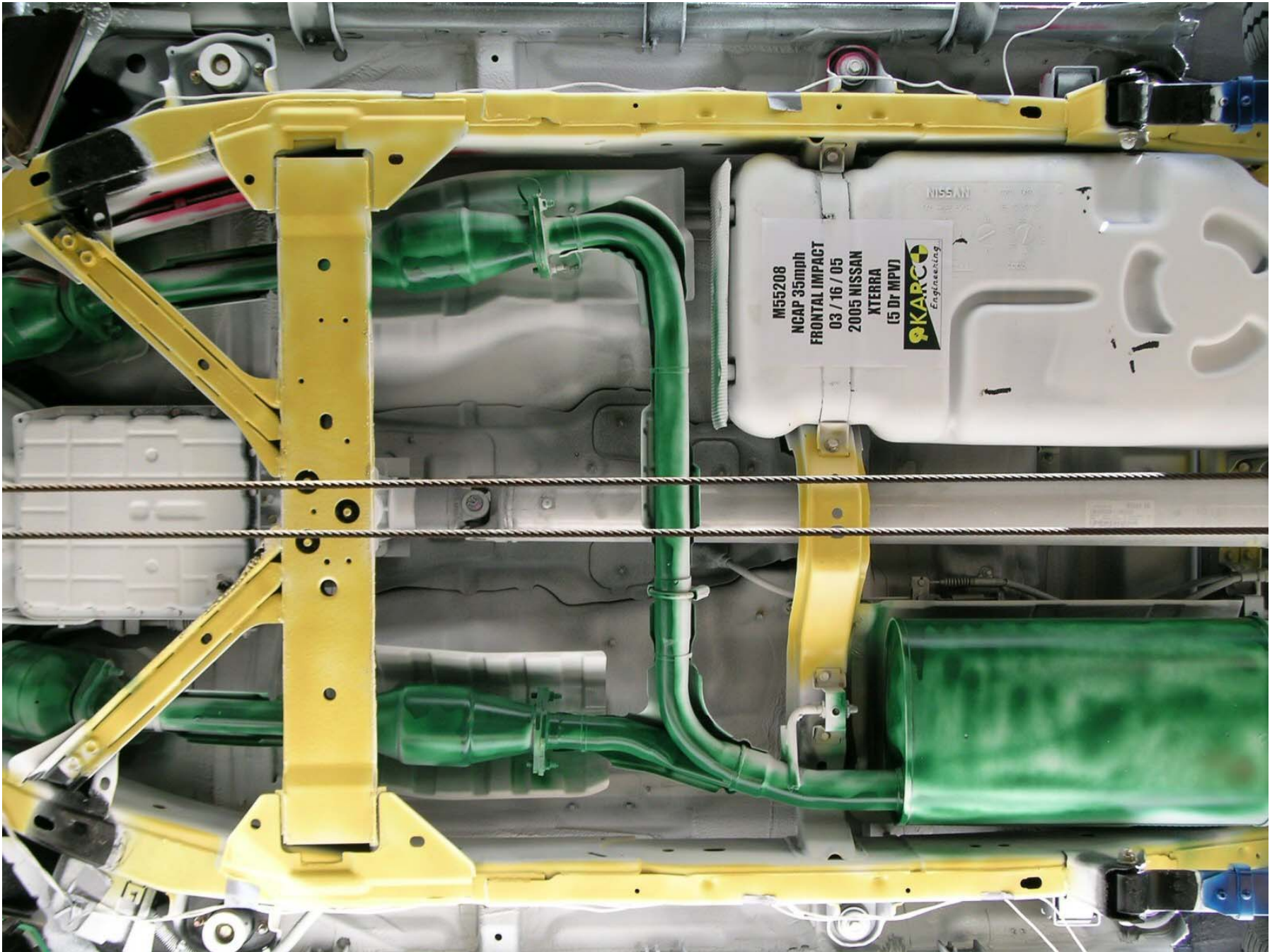


Figure A-26: Pre-Test Mid Underbody



Figure A-27: Post-Test Mid Underbody

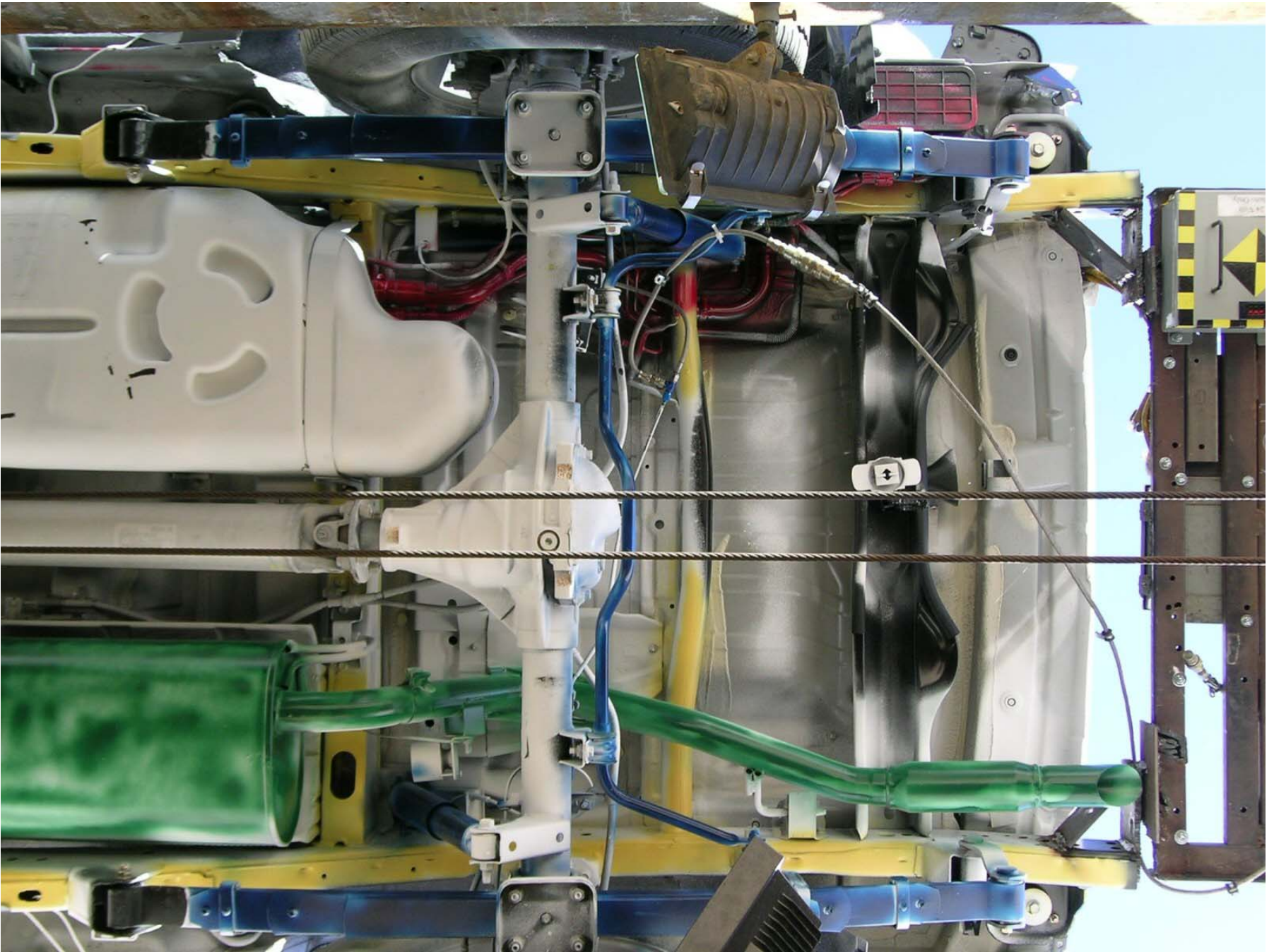


Figure A-28: Pre-Test Rear Underbody

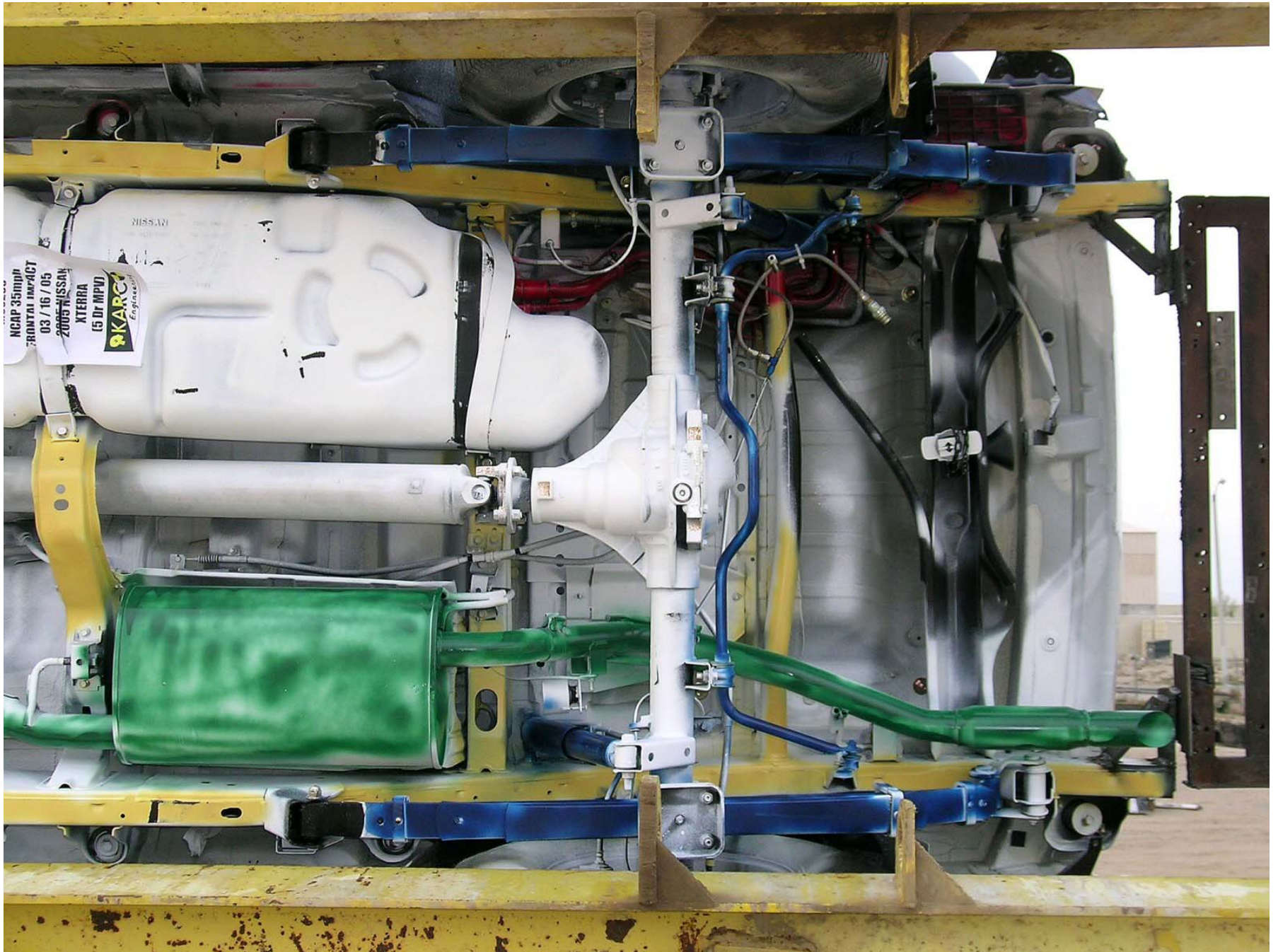


Figure A-29: Post-Test Rear Underbody



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

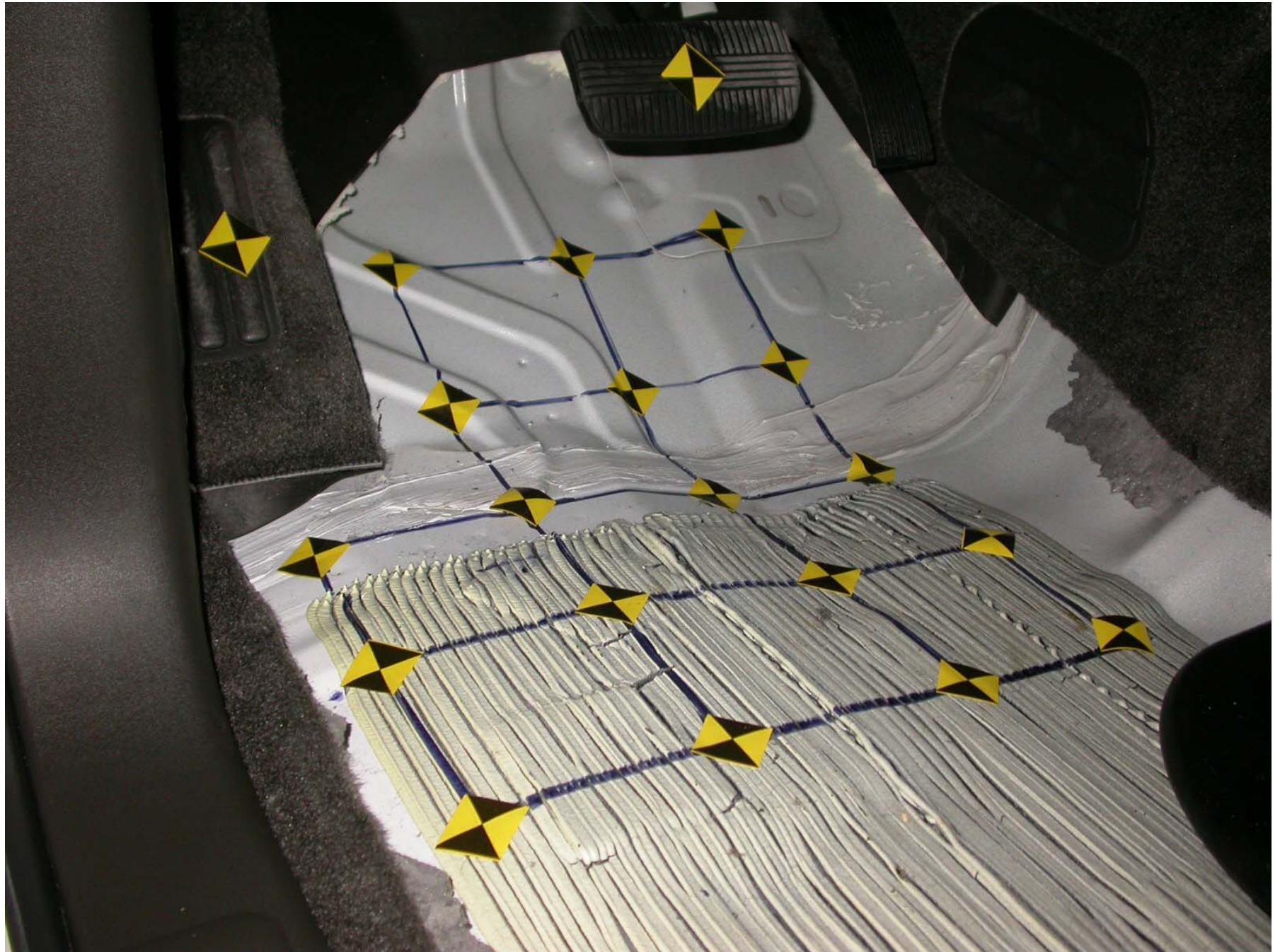


Figure A-40: Pre-Test Driver Side Floor Pan



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

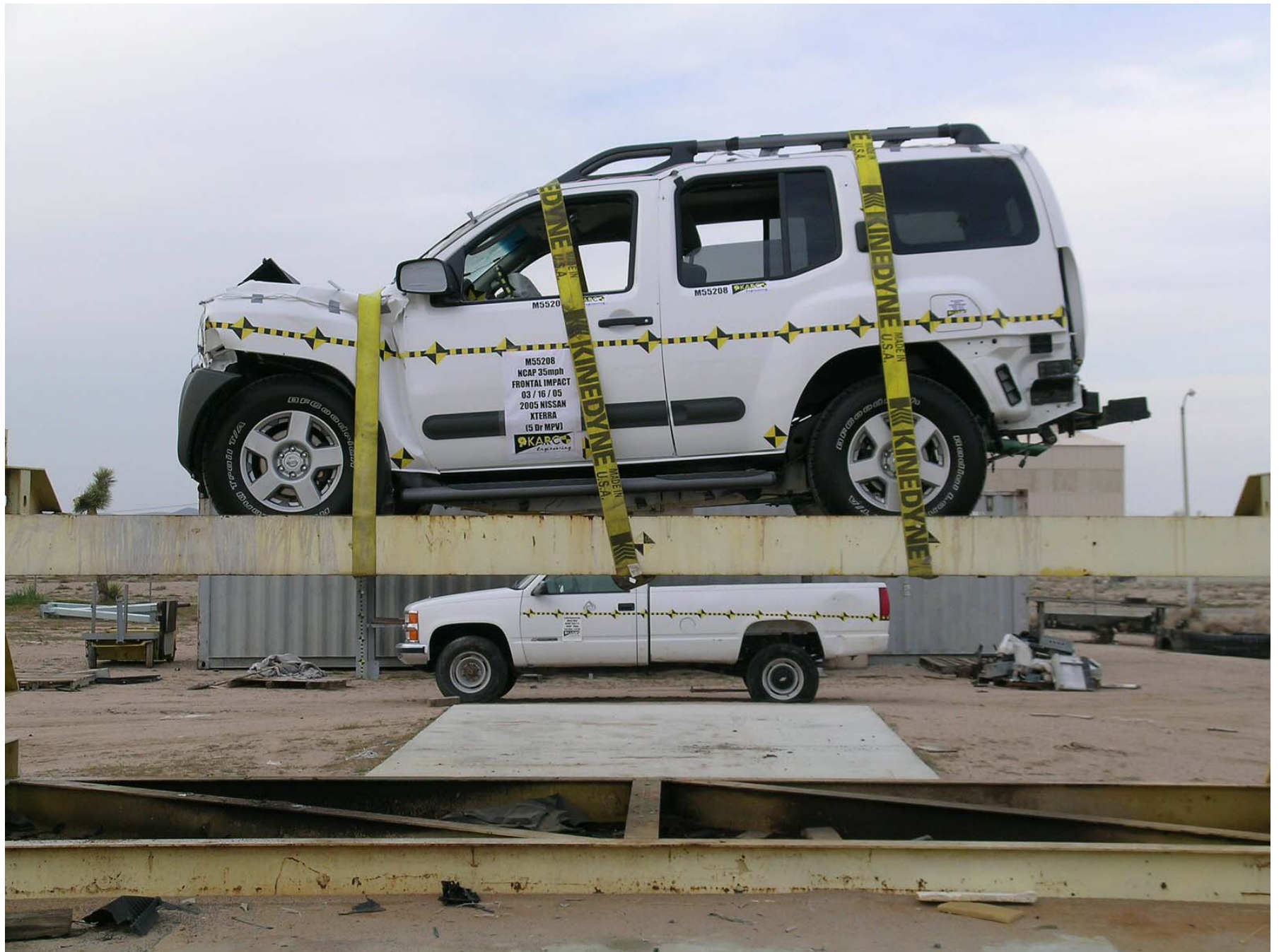


Figure A-58: Vehicle on Rollover Device (0°)



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

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	Driver Head Primary X Displacement	B-2
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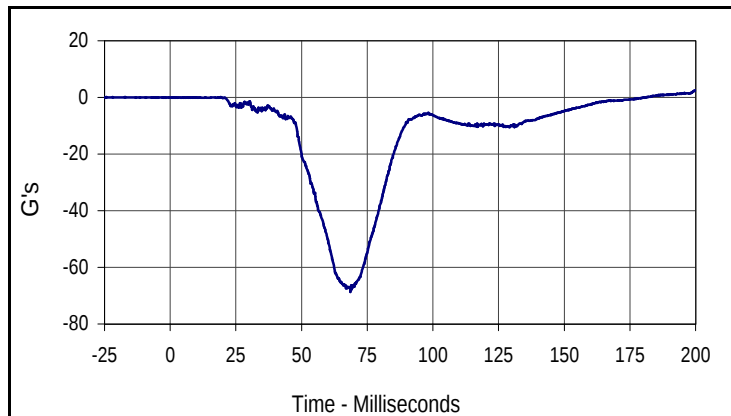
Data Plot	Page	
34	Passenger Left Femur Force	B-34
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35	Passenger Left Upper Tibia Moment X	B-35
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	Vehicle Left Rear X Displacement	B-41
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44	Vehicle Engine Bottom X	B-44
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LIST OF DATA PLOTS...(CONTINUED)

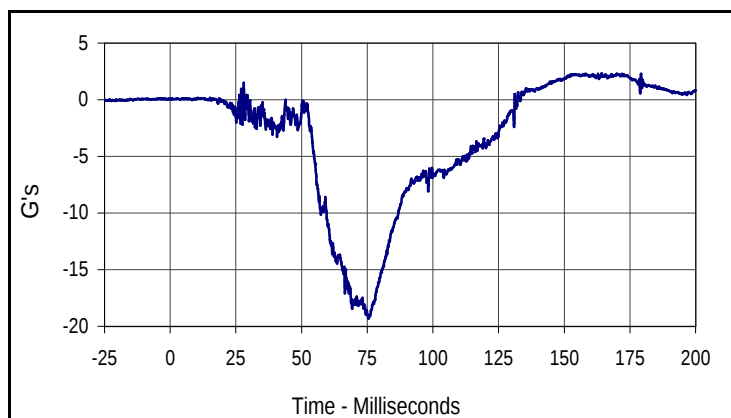
Data Plot	Page	
45	Vehicle Left Brake Caliper X	B-45
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	Vehicle Right Rear Z Displacement	B-49

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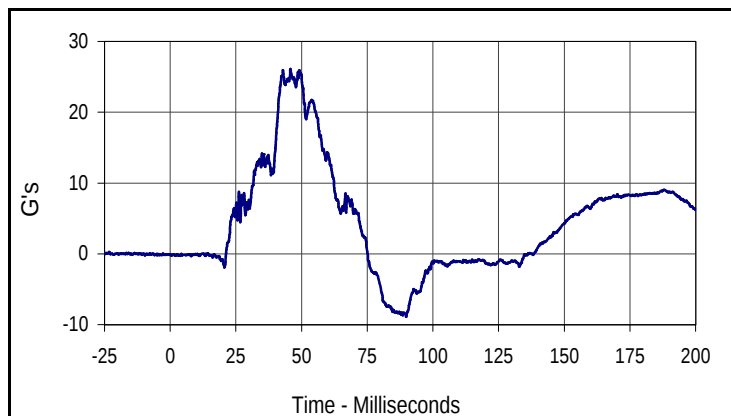
Test Date: 3/16/05
 NHTSA No.: M55208



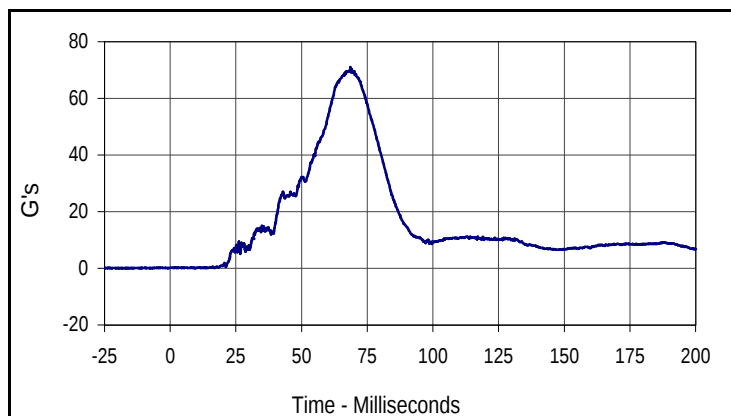
Curve Description			
Driver Head Primary X			
CURNO	Type	SAE Class	Units
001	FIL	1000	G's
Max	Time	Min	Time
2.4	200.0	-68.7	68.6



Curve Description			
Driver Head Primary Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
2.3	164.3	-19.3	75.5



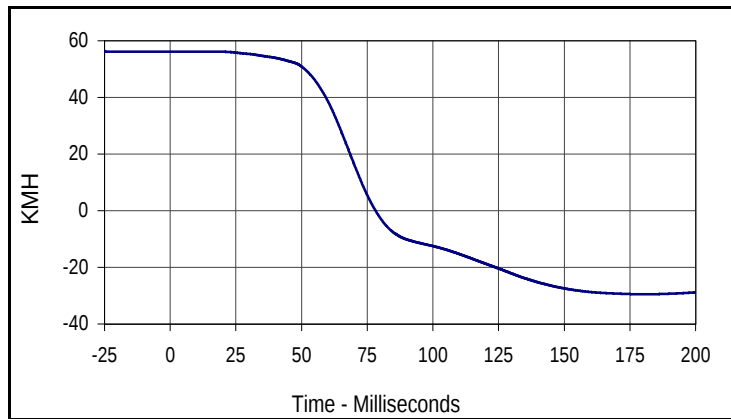
Curve Description			
Driver Head Primary Z			
CURNO	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
26.1	45.8	-8.9	89.8



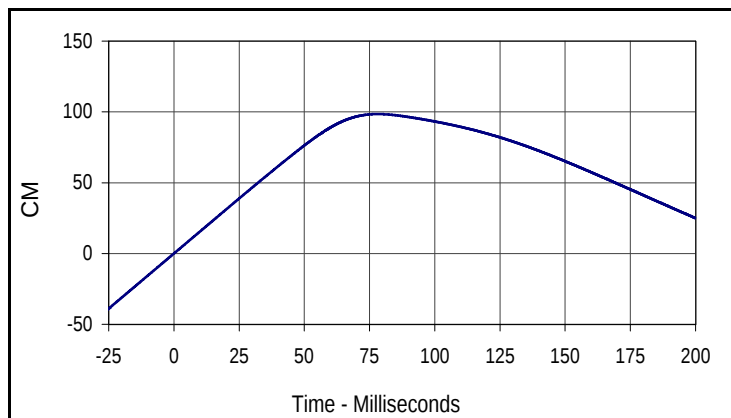
Curve Description			
Driver Head Resultant Primary			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
71.1	68.6	0.0	9.5

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
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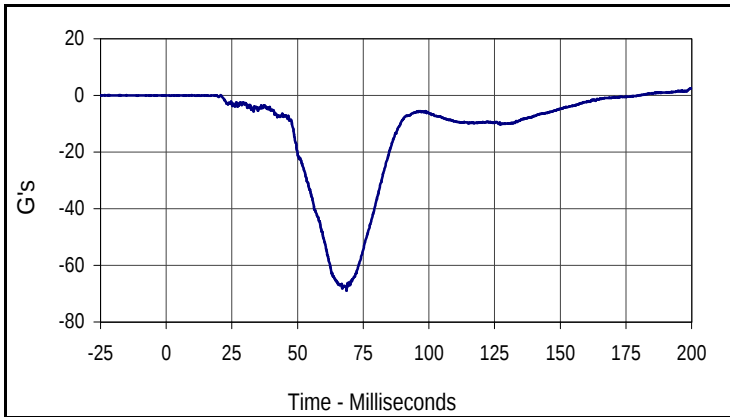
Curve Description			
Driver Head Primary X Velocity			
CURNO	Type	SAE Class	Units
001	IN1	180	KMH
Max	Time	Min	Time
56.2	0.0	-29.5	181.1



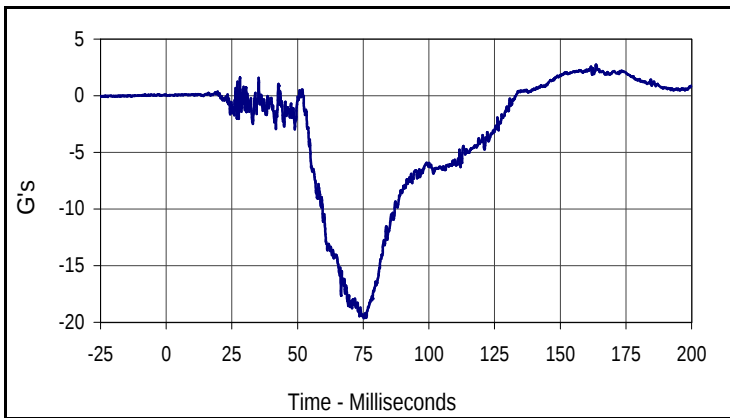
Curve Description			
Driver Head Primary X Displacement			
CURNO	Type	SAE Class	Units
001	IN2	180	CM
Max	Time	Min	Time
98.5	78.2	0.0	0.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

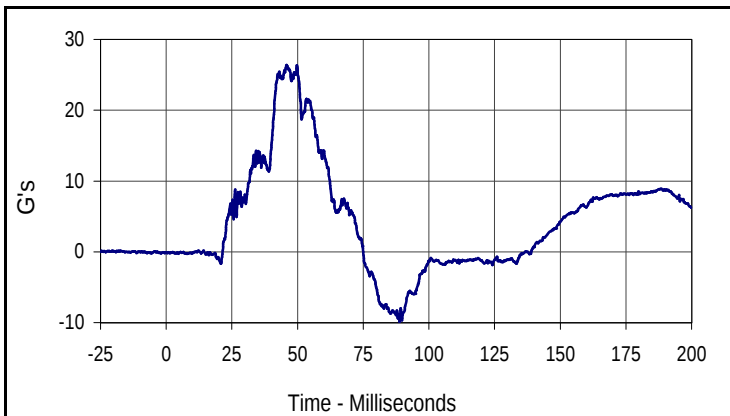
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 NHTSA No.: M55208



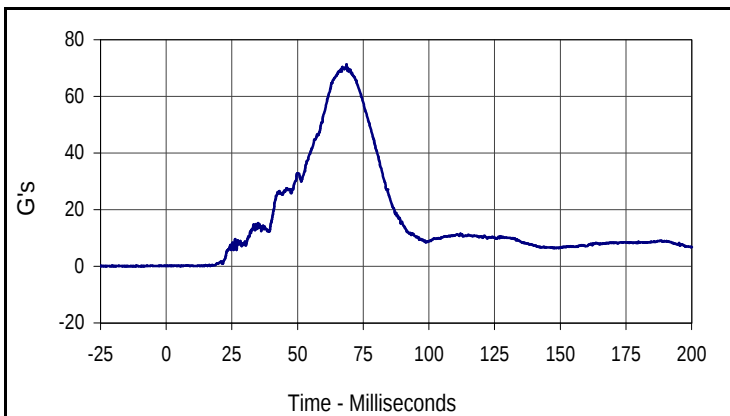
Curve Description			
Driver Head Redundant X			
CURNO	Type	SAE Class	Units
004	FIL	1000	G's
Max	Time	Min	Time
2.5	200.0	-68.9	68.7



Curve Description			
Driver Head Redundant Y			
CURNO	Type	SAE Class	Units
005	FIL	1000	G's
Max	Time	Min	Time
2.7	163.6	-19.6	75.2



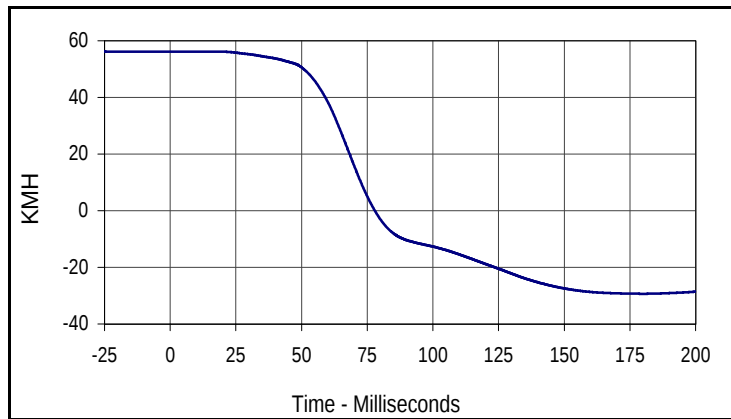
Curve Description			
Driver Head Redundant Z			
CURNO	Type	SAE Class	Units
006	FIL	1000	G's
Max	Time	Min	Time
26.4	45.8	-9.9	88.9



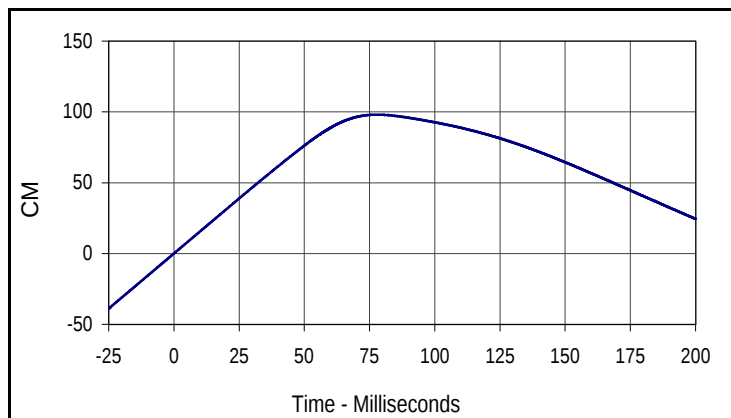
Curve Description			
Driver Head Resultant Redundant			
CURNO	Type	SAE Class	Units
004	RES	1000	G's
Max	Time	Min	Time
71.2	68.7	0.0	5.5

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05
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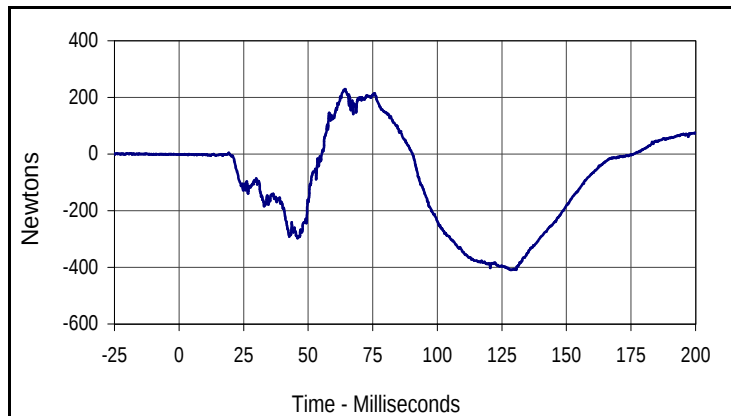
Curve Description			
Driver Head Redundant X Velocity			
CURNO	Type	SAE Class	Units
004	IN1	180	KMH
Max	Time	Min	Time
56.2	0.0	-29.3	180.0



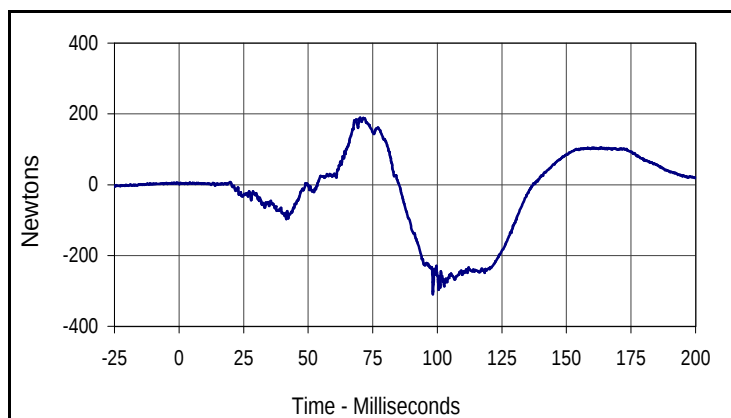
Curve Description			
Driver Head Redundant X Displacement			
CURNO	Type	SAE Class	Units
004	IN2	180	CM
Max	Time	Min	Time
98.1	77.9	0.0	0.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

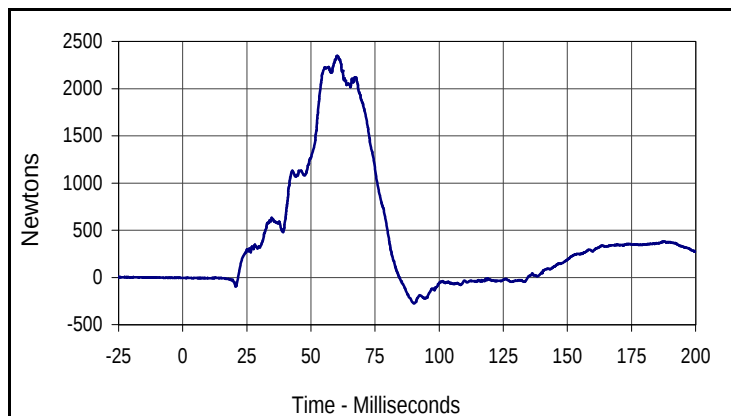
Test Date: 3/16/05
 NHTSA No.: M55208



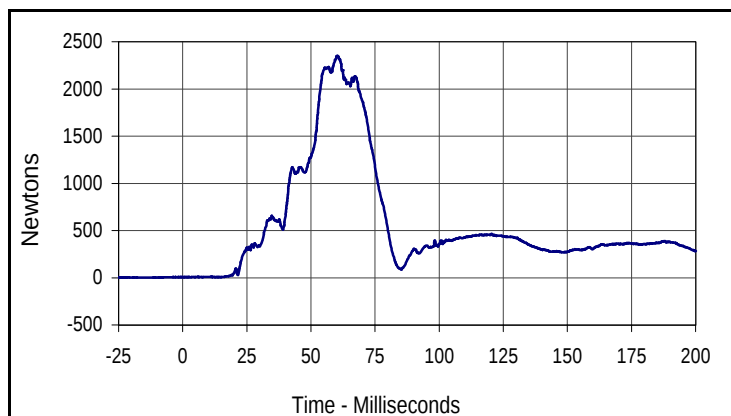
Curve Description			
Driver Upper Neck Force X			
CURNO	Type	SAE Class	Units
007	FIL	1000	Newtons
Max	Time	Min	Time
229.8	64.3	-409.3	130.5



Curve Description			
Driver Upper Neck Force Y			
CURNO	Type	SAE Class	Units
008	FIL	1000	Newtons
Max	Time	Min	Time
189.0	70.1	-309.9	98.3



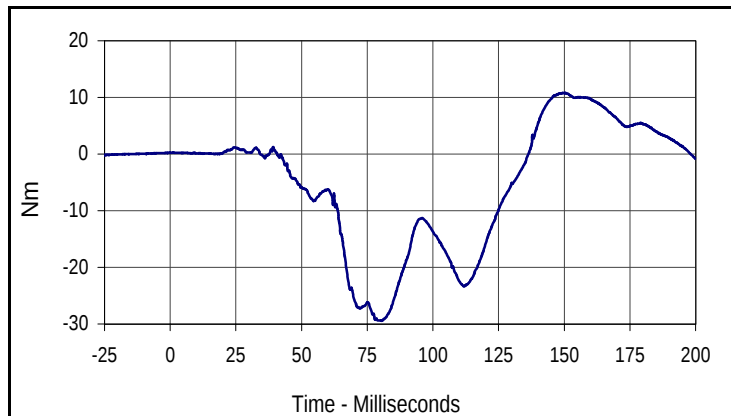
Curve Description			
Driver Upper Neck Force Z			
CURNO	Type	SAE Class	Units
009	FIL	1000	Newtons
Max	Time	Min	Time
2348.0	60.1	-276.6	90.2



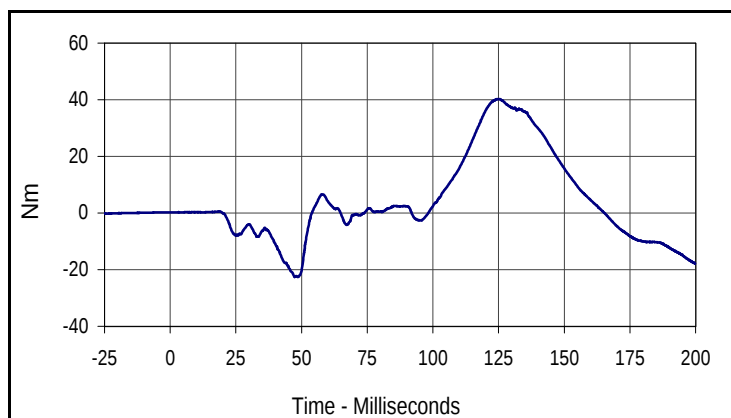
Curve Description			
Driver Upper Neck Force Res.			
CURNO	Type	SAE Class	Units
007	RES	1000	Newtons
Max	Time	Min	Time
2352.0	60.1	4.0	1.7

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
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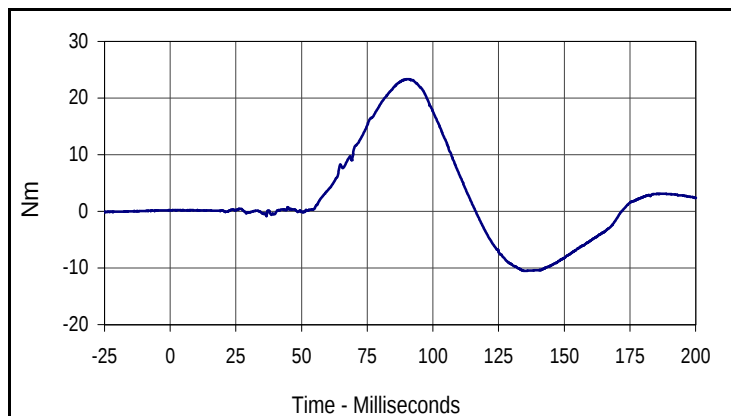
Test Date: 3/16/05
 NHTSA No.: M55208



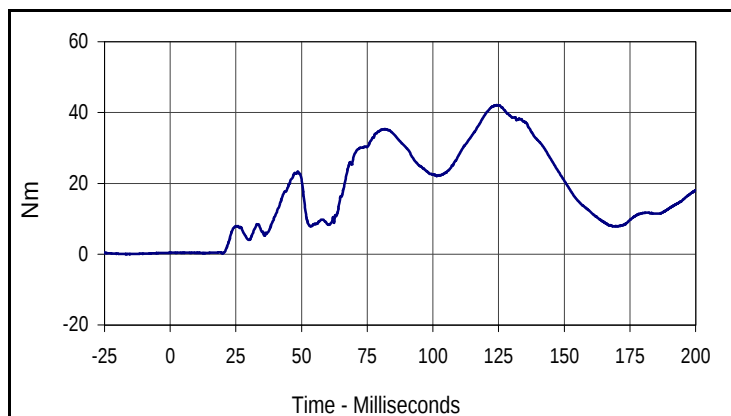
Curve Description			
Driver Upper Neck Moment X			
CURNO	Type	SAE Class	Units
010	FIL	600	Nm
Max	Time	Min	Time
10.8	149.8	-29.4	80.2



Curve Description			
Driver Upper Neck Moment Y			
CURNO	Type	SAE Class	Units
011	FIL	600	Nm
Max	Time	Min	Time
40.2	125.3	-22.7	48.6



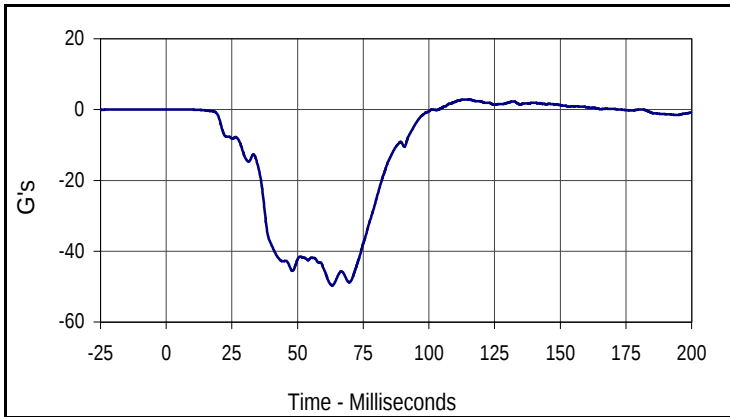
Curve Description			
Driver Upper Neck Moment Z			
CURNO	Type	SAE Class	Units
012	FIL	600	Nm
Max	Time	Min	Time
23.3	90.2	-10.5	134.9



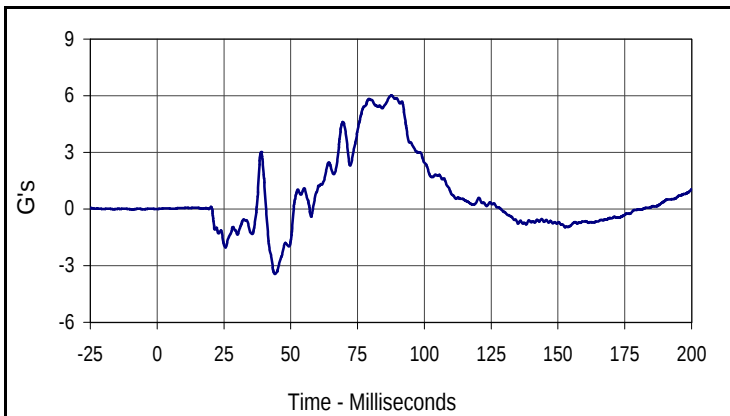
Curve Description			
Driver Upper Neck Moment Res.			
CURNO	Type	SAE Class	Units
010	RES	600	Nm
Max	Time	Min	Time
42.1	124.3	0.2	19.9

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

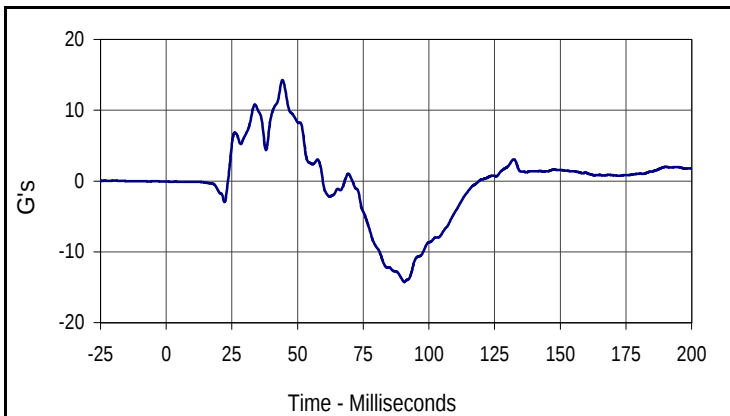
Test Date: 3/16/05
 NHTSA No.: M55208



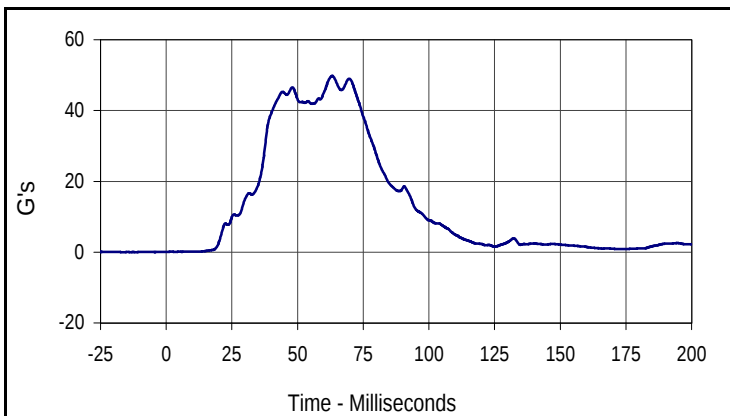
Curve Description			
Driver Chest Primary X			
CURNO	Type	SAE Class	Units
013	FIL	180	G's
Max	Time	Min	Time
2.9	115.2	-49.7	63.2



Curve Description			
Driver Chest Primary Y			
CURNO	Type	SAE Class	Units
014	FIL	180	G's
Max	Time	Min	Time
6.0	87.7	-3.4	44.1



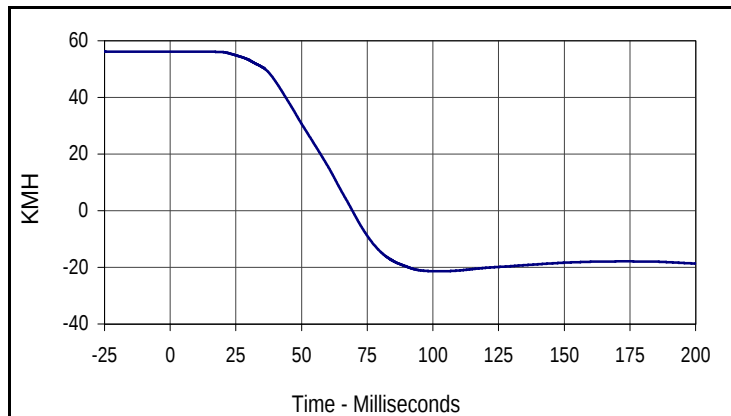
Curve Description			
Driver Chest Primary Z			
CURNO	Type	SAE Class	Units
015	FIL	180	G's
Max	Time	Min	Time
14.3	44.2	-14.2	90.6



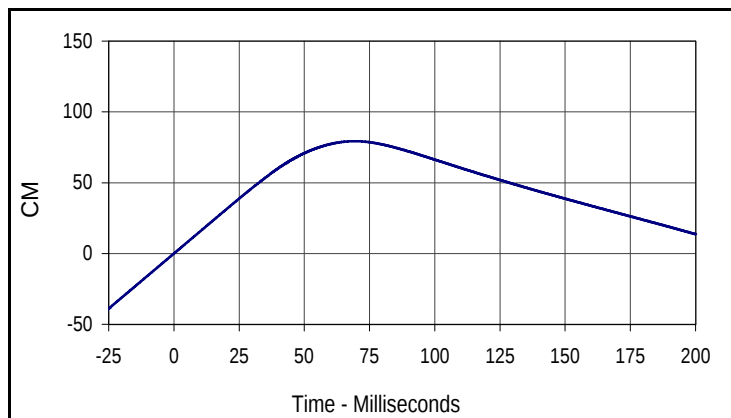
Curve Description			
Driver Chest Resultant Primary			
CURNO	Type	SAE Class	Units
013	RES	180	G's
Max	Time	Min	Time
49.8	63.2	0.1	0.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05
 NHTSA No.: M55208



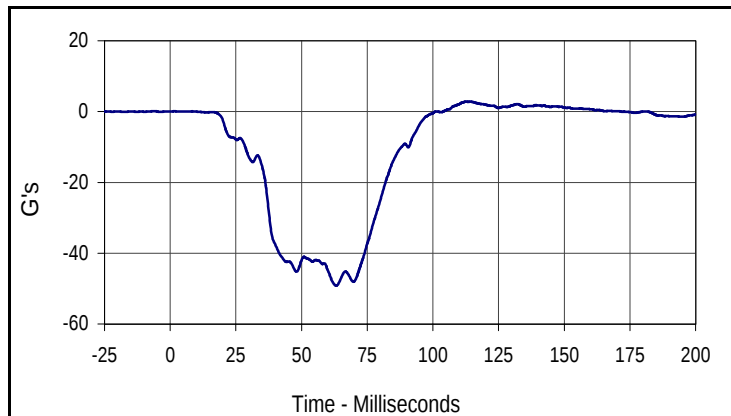
Curve Description			
Driver Chest Primary X Velocity			
CURNO	Type	SAE Class	Units
013	IN1	180	KMH
Max	Time	Min	Time
56.1	9.6	-21.4	103.6



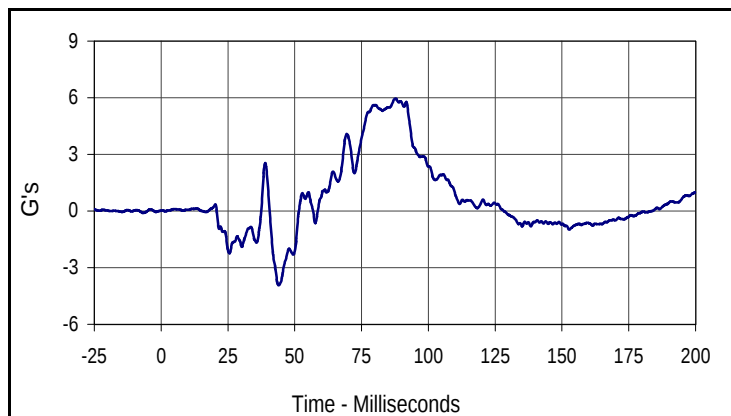
Curve Description			
Driver Chest Primary X Displacement			
CURNO	Type	SAE Class	Units
013	IN2	180	CM
Max	Time	Min	Time
79.3	69.4	0.0	0.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

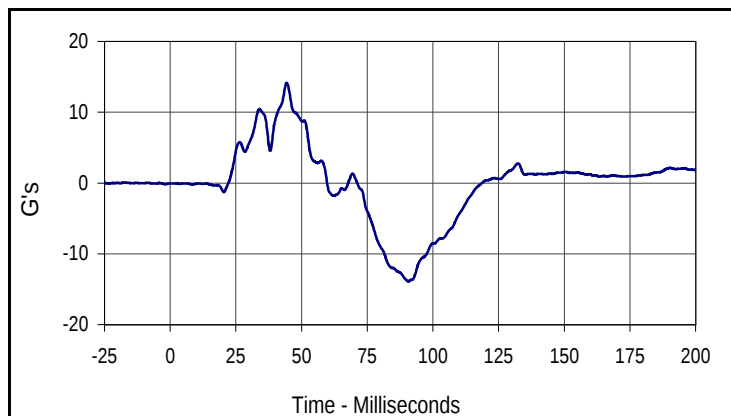
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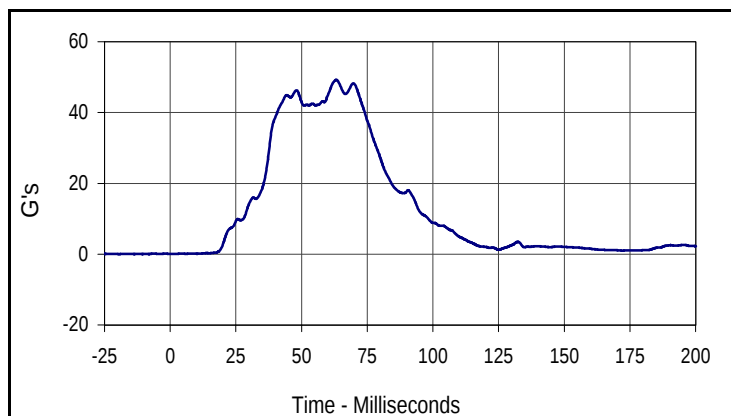
Curve Description			
Driver Chest Redundant X			
CURNO	Type	SAE Class	Units
016	FIL	180	G's
Max	Time	Min	Time
2.8	112.6	-49.2	63.2



Curve Description			
Driver Chest Redundant Y			
CURNO	Type	SAE Class	Units
017	FIL	180	G's
Max	Time	Min	Time
6.0	87.6	-3.9	44.0



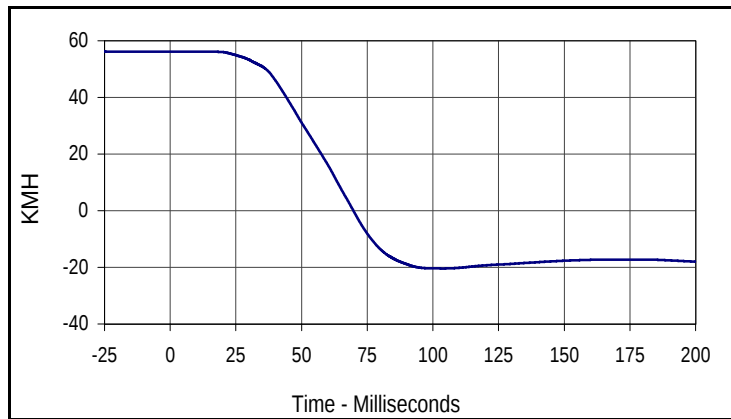
Curve Description			
Driver Chest Redundant Z			
CURNO	Type	SAE Class	Units
018	FIL	180	G's
Max	Time	Min	Time
14.1	44.3	-13.9	90.6



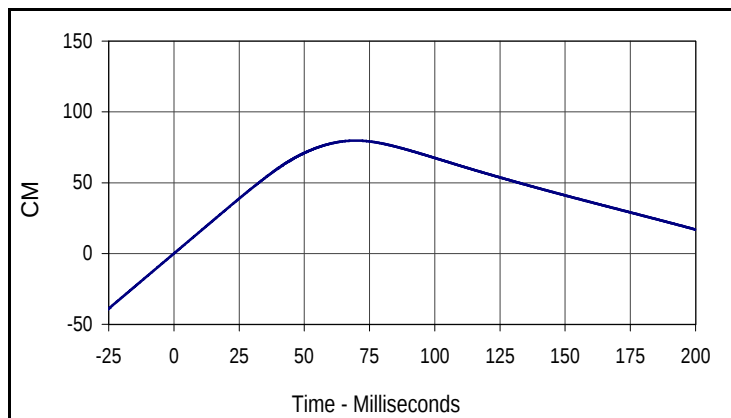
Curve Description			
Driver Chest Resultant Redundant			
CURNO	Type	SAE Class	Units
016	RES	180	G's
Max	Time	Min	Time
49.2	63.2	0.1	0.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05
 NHTSA No.: M55208



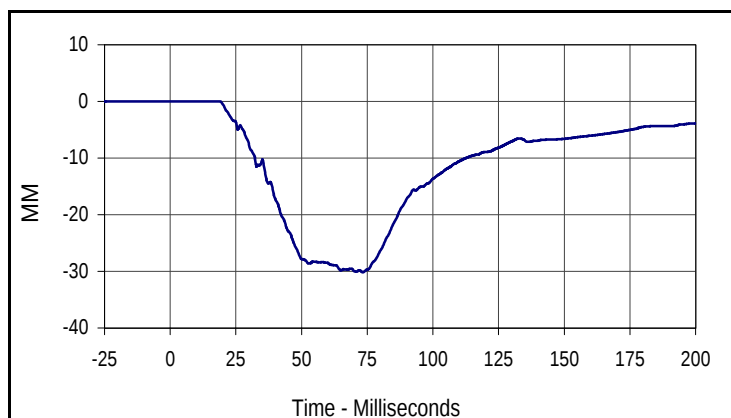
Curve Description			
Driver Chest Redundant X Velocity			
CURNO	Type	SAE Class	Units
016	IN1	180	KMH
Max	Time	Min	Time
56.2	9.4	-20.4	103.9



Curve Description			
Driver Chest Redundant X Displacement			
CURNO	Type	SAE Class	Units
016	IN2	180	CM
Max	Time	Min	Time
79.8	69.7	0.0	0.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

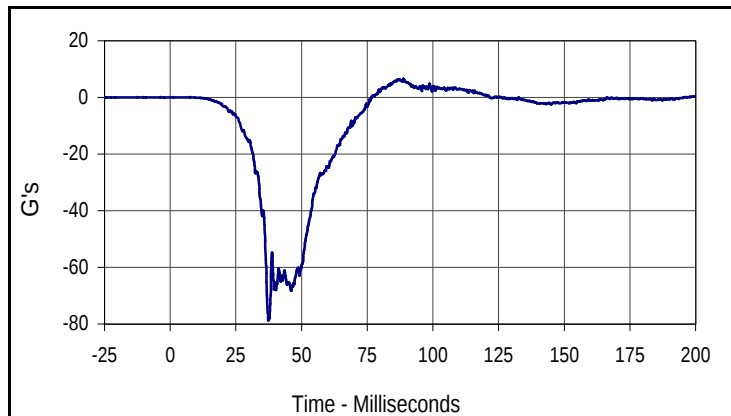
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 NHTSA No.: M55208



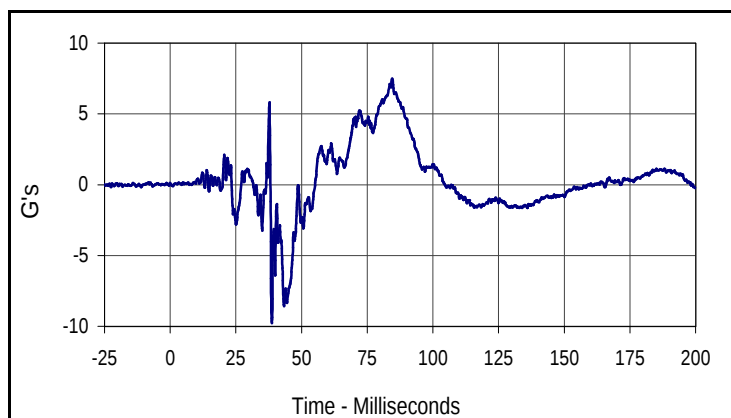
Curve Description			
Driver Chest Deflection			
CURNO	Type	SAE Class	Units
019	FIL	600	MM
Max	Time	Min	Time
0.0	5.2	-30.2	73.4

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

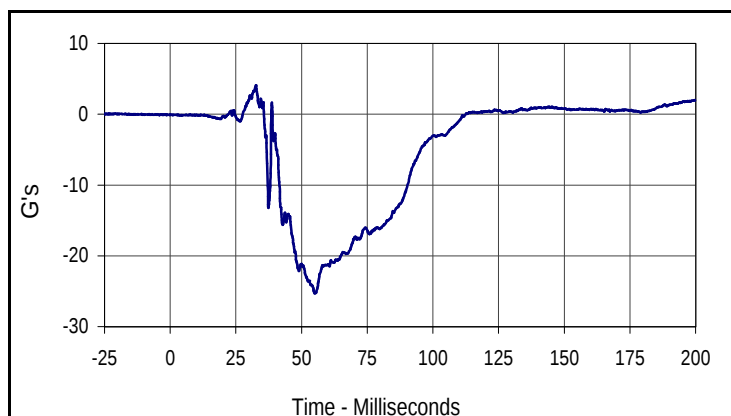
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 NHTSA No.: M55208



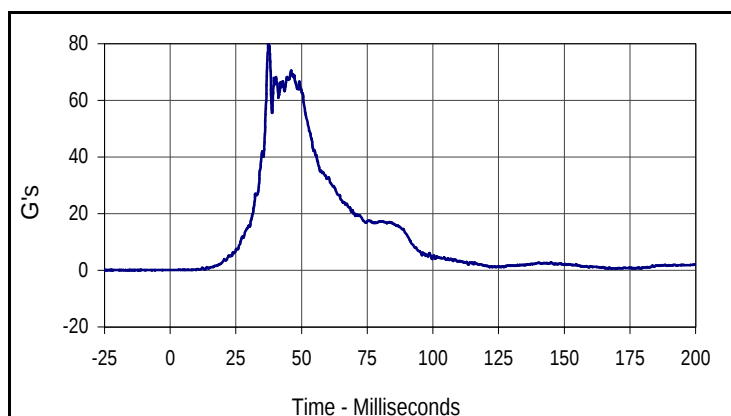
Curve Description			
Driver Pelvis X			
CURNO	Type	SAE Class	Units
020	FIL	1000	G's
Max	Time	Min	Time
6.7	88.8	-78.8	37.4



Curve Description			
Driver Pelvis Y			
CURNO	Type	SAE Class	Units
021	FIL	1000	G's
Max	Time	Min	Time
7.5	84.5	-9.8	38.7



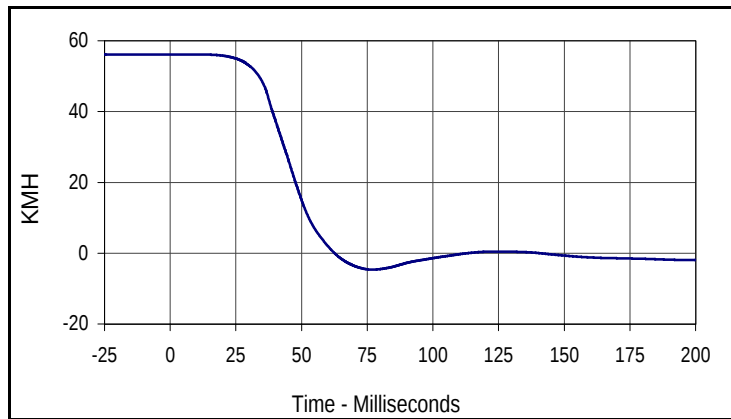
Curve Description			
Driver Pelvis Z			
CURNO	Type	SAE Class	Units
022	FIL	1000	G's
Max	Time	Min	Time
4.1	32.6	-25.3	55.0



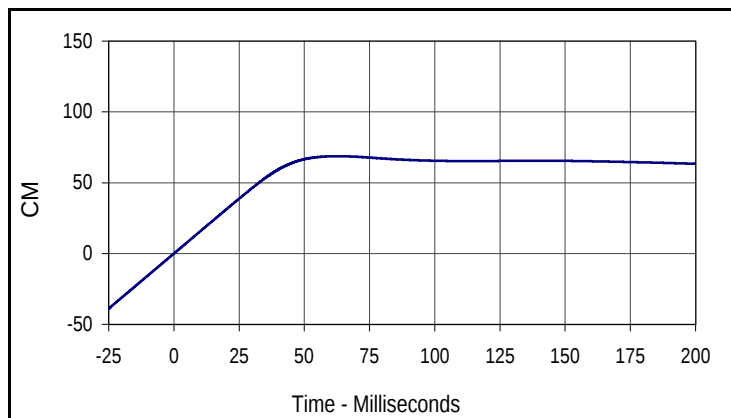
Curve Description			
Driver Pelvis Resultant			
CURNO	Type	SAE Class	Units
020	RES	1000	G's
Max	Time	Min	Time
79.9	37.4	0.1	7.1

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
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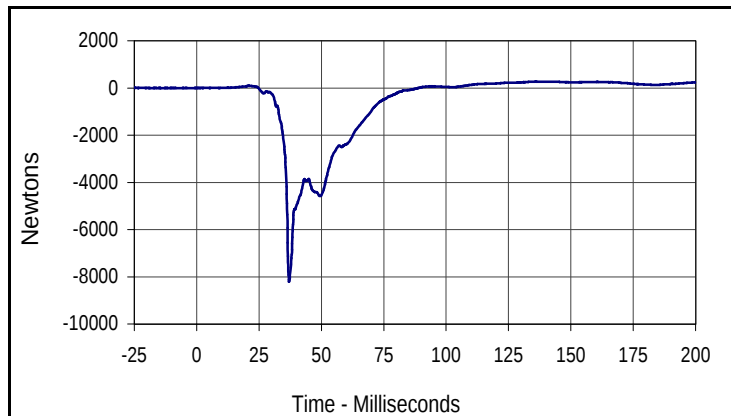
Curve Description			
Driver Pelvis X Velocity			
CURNO	Type	SAE Class	Units
020	IN1	180	KMH
Max	Time	Min	Time
56.1	4.0	-4.6	76.7



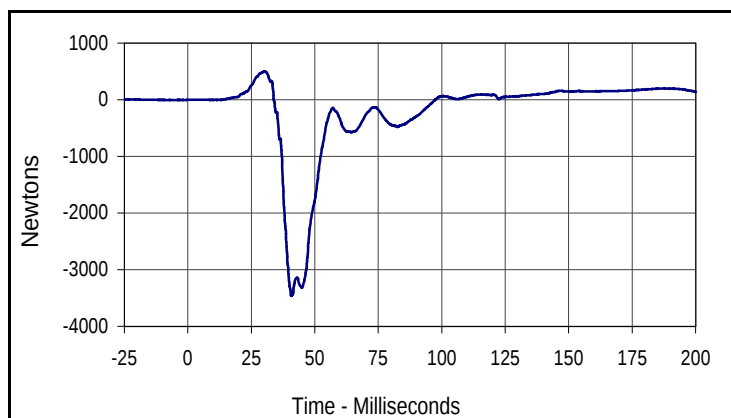
Curve Description			
Driver Pelvis X Displacement			
CURNO	Type	SAE Class	Units
020	IN2	180	CM
Max	Time	Min	Time
68.7	62.6	0.0	0.0

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 Test Program: 2005 NHTSA 35mph NCAP

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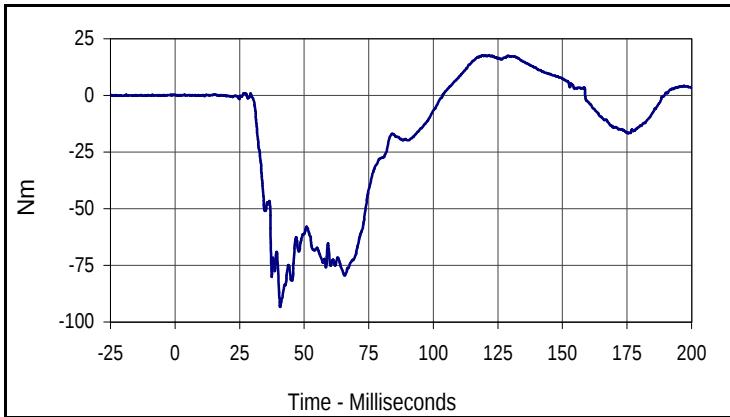
Curve Description			
Driver Left Femur Force			
CURNO	Type	SAE Class	Units
023	FIL	600	Newtons
Max	Time	Min	Time
271.3	135.9	-8215.7	37.0



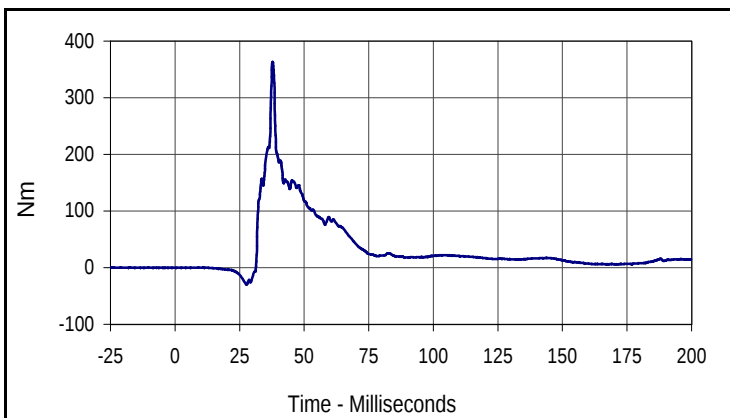
Curve Description			
Driver Right Femur Force			
CURNO	Type	SAE Class	Units
024	FIL	600	Newtons
Max	Time	Min	Time
500.1	30.2	-3461.3	40.8

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

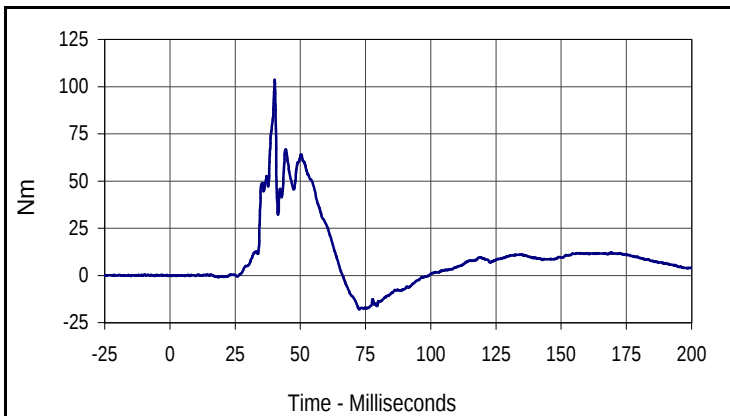
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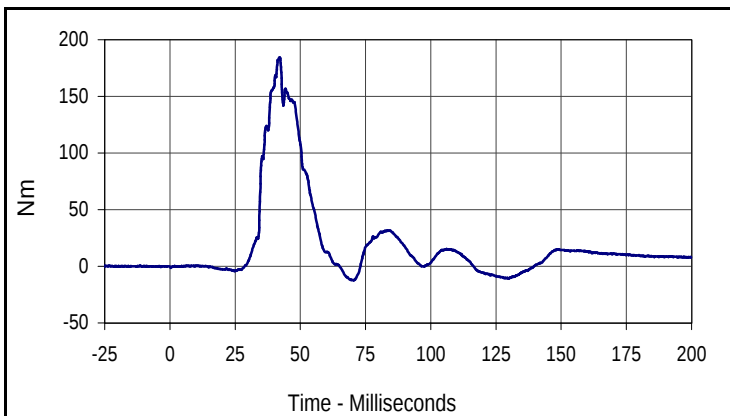
Curve Description			
Driver Left Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
025	FIL	600	Nm
Max	Time	Min	Time
17.7	119.9	-93.4	40.7



Curve Description			
Driver Left Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
026	FIL	600	Nm
Max	Time	Min	Time
363.6	37.8	-29.7	27.7



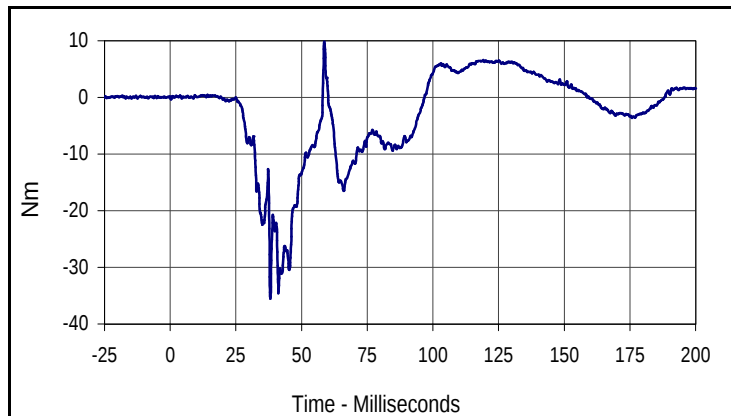
Curve Description			
Driver Right Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
027	FIL	600	Nm
Max	Time	Min	Time
103.6	40.2	-18.1	72.6



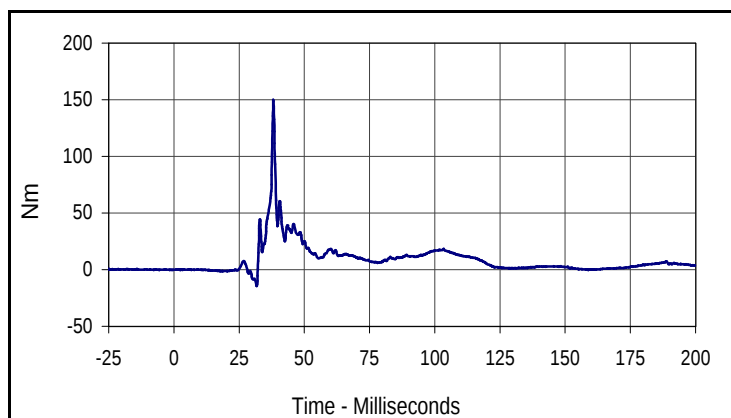
Curve Description			
Driver Right Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
028	FIL	600	Nm
Max	Time	Min	Time
184.5	42.0	-12.3	70.5

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

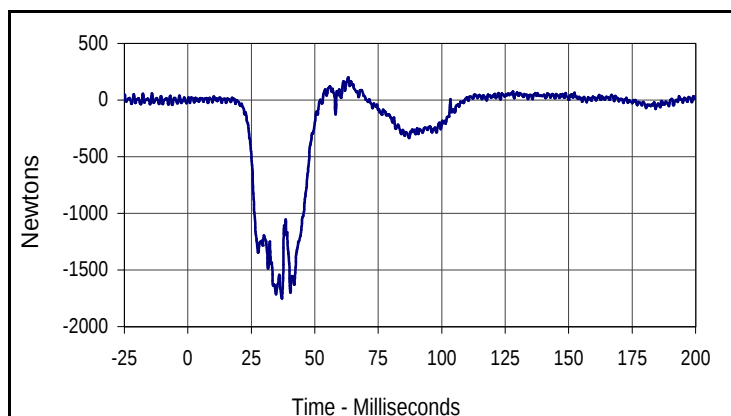
Test Date: 3/16/05
 NHTSA No.: M55208



Curve Description			
Driver Left Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
029	FIL	600	Nm
Max	Time	Min	Time
9.8	58.7	-35.5	38.1



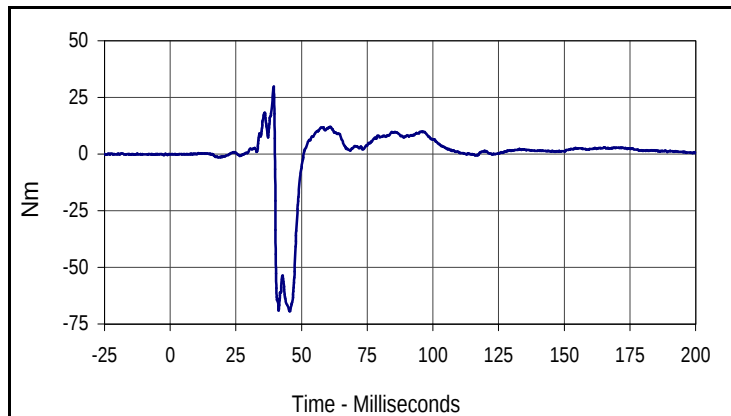
Curve Description			
Driver Left Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
030	FIL	600	Nm
Max	Time	Min	Time
150.0	38.1	-14.4	31.7



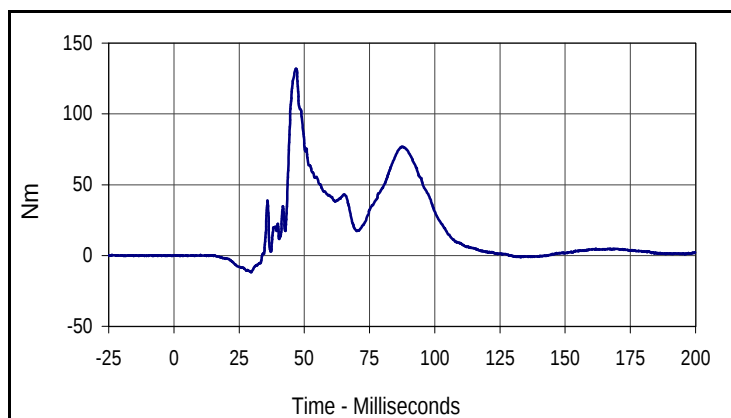
Curve Description			
Driver Left Lower Tibia Force Z			
CURNO	Type	SAE Class	Units
031	FIL	600	Newtons
Max	Time	Min	Time
201.7	63.1	-1751.7	37.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

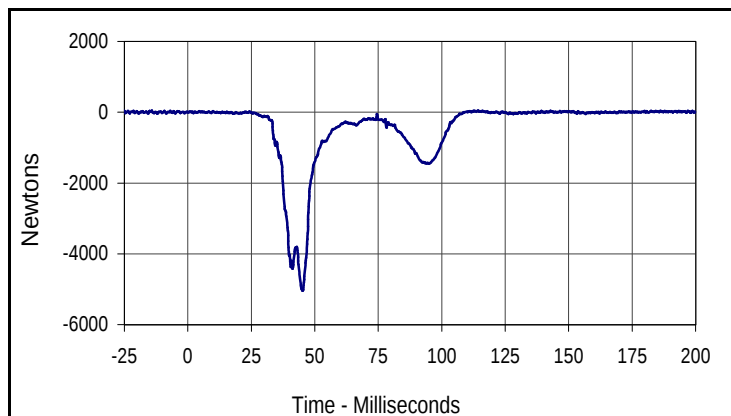
Test Date: 3/16/05
 NHTSA No.: M55208



Curve Description			
Driver Right Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
032	FIL	600	Nm
Max	Time	Min	Time
29.7	39.4	-69.4	45.5



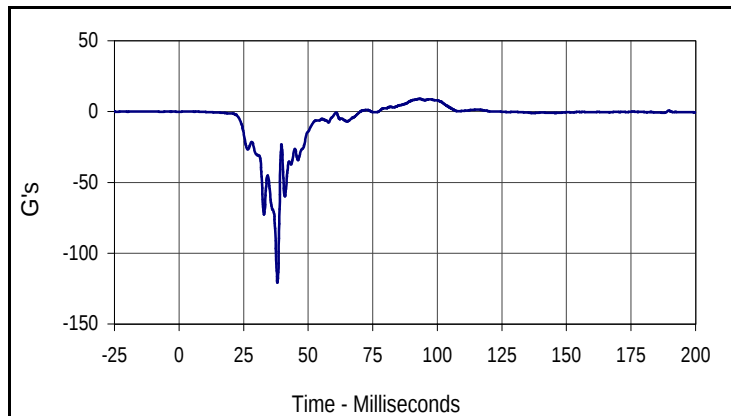
Curve Description			
Driver Right Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
033	FIL	600	Nm
Max	Time	Min	Time
132.0	46.9	-11.8	29.6



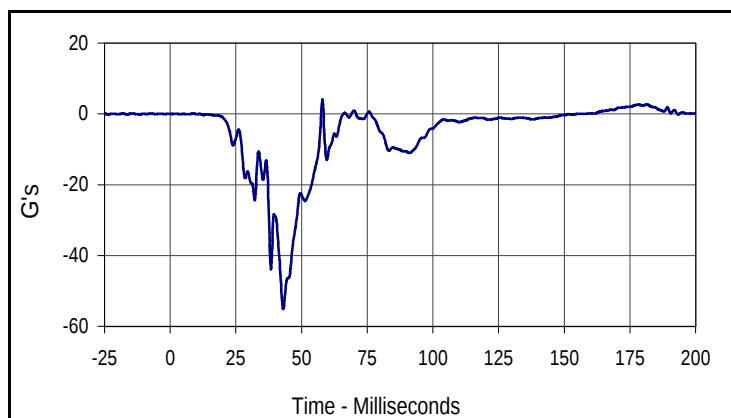
Curve Description			
Driver Right Lower Tibia Force Z			
CURNO	Type	SAE Class	Units
034	FIL	600	Newtons
Max	Time	Min	Time
49.1	114.2	-5042.4	45.2

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

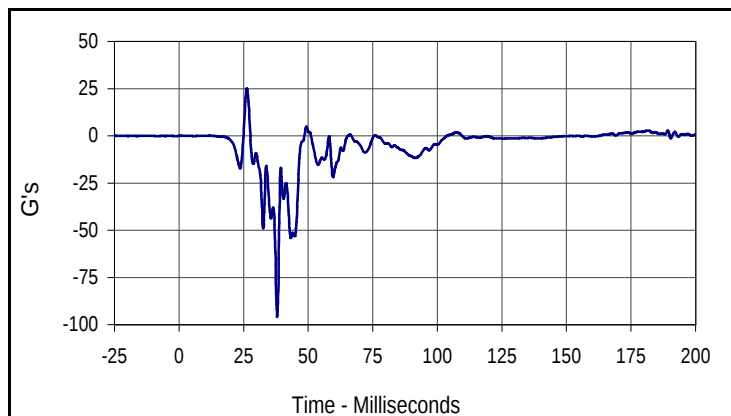
Test Date: 3/16/05
 NHTSA No.: M55208



Curve Description			
Driver Left Foot Aft X			
CURNO	Type	SAE Class	Units
035	FIL	180	G's
Max	Time	Min	Time
9.0	93.2	-120.8	38.1



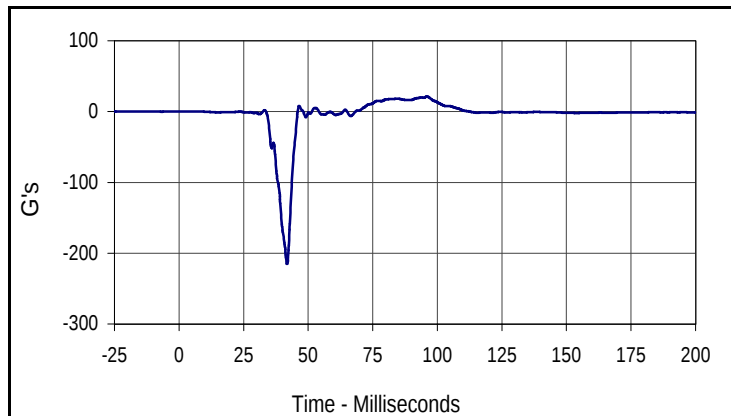
Curve Description			
Driver Left Foot Aft Z			
CURNO	Type	SAE Class	Units
036	FIL	180	G's
Max	Time	Min	Time
4.1	58.0	-55.1	43.0



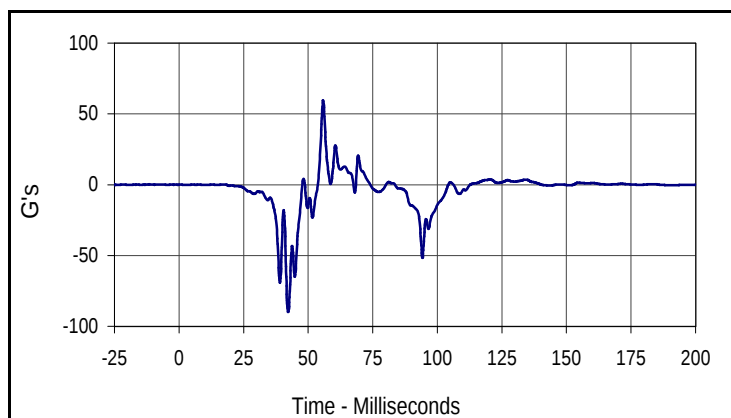
Curve Description			
Driver Left Foot Fore Z			
CURNO	Type	SAE Class	Units
037	FIL	180	G's
Max	Time	Min	Time
25.1	26.3	-95.9	38.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

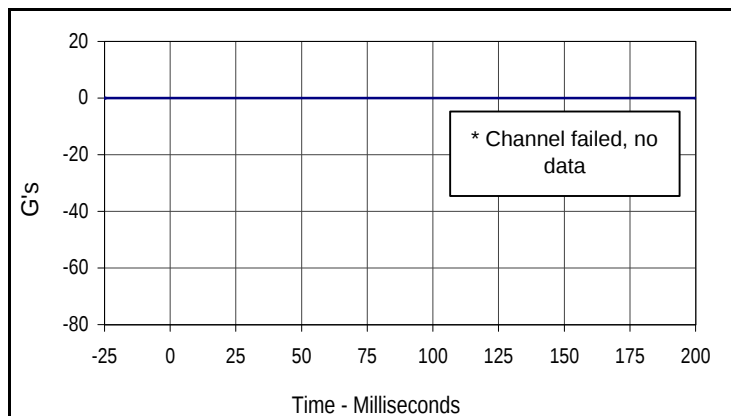
Test Date: 3/16/05
 NHTSA No.: M55208



Curve Description			
Driver Right Foot Aft X			
CURNO	Type	SAE Class	Units
038	FIL	180	G's
Max	Time	Min	Time
21.2	95.9	-215.2	41.8



Curve Description			
Driver Right Foot Aft Z			
CURNO	Type	SAE Class	Units
039	FIL	180	G's
Max	Time	Min	Time
59.6	55.8	-89.9	42.3

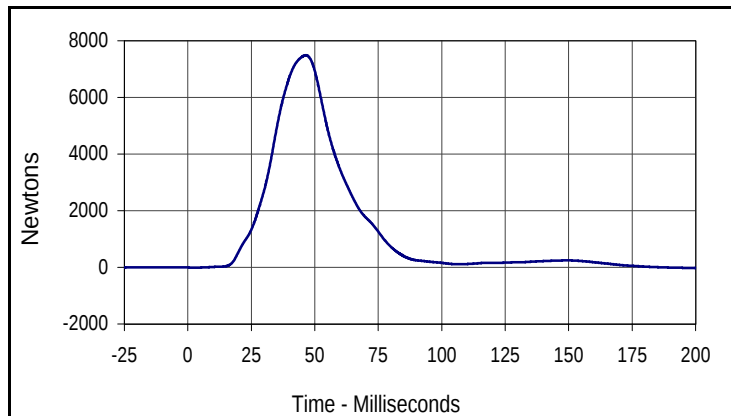


Curve Description			
Driver Right Foot Fore Z			
CURNO	Type	SAE Class	Units
040	FIL	180	G's
Max	Time	Min	Time
0.0	0.0	0.0	0.0

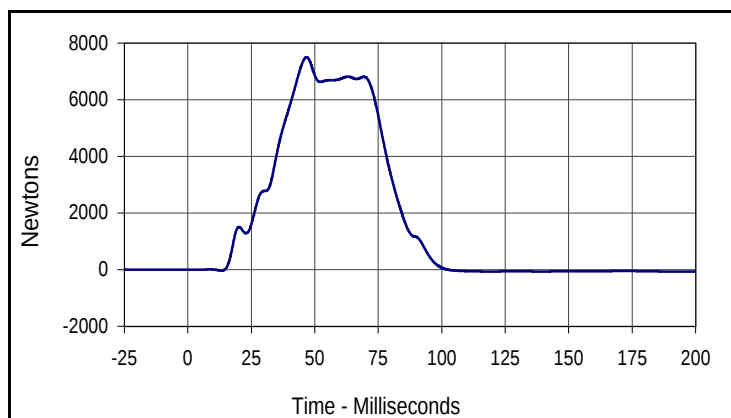
* Channel failed, no data

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

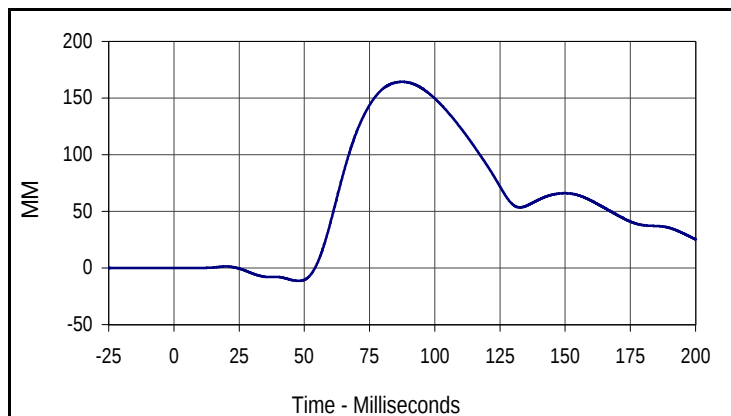
Test Date: 3/16/05
 NHTSA No.: M55208



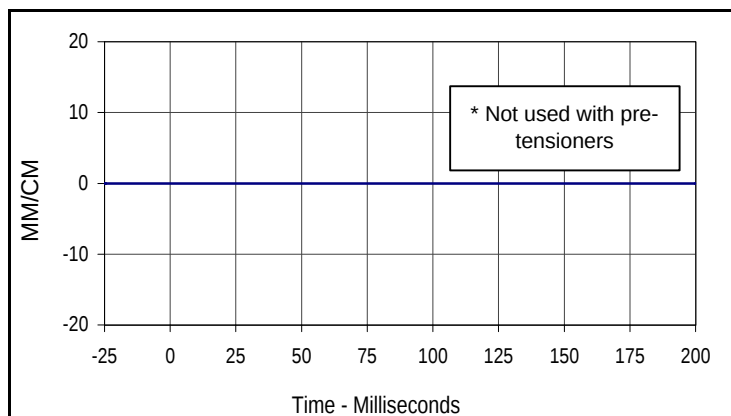
Curve Description			
Driver Lap Belt Force			
CURNO	Type	SAE Class	Units
041	FIL	60	Newtons
Max	Time	Min	Time
7487.4	46.4	-21.5	200.0



Curve Description			
Driver Shoulder Belt Force			
CURNO	Type	SAE Class	Units
042	FIL	60	Newtons
Max	Time	Min	Time
7500.5	46.8	-68.0	195.9



Curve Description			
Driver Shoulder Belt Pullout			
CURNO	Type	SAE Class	Units
043	FIL	60	MM
Max	Time	Min	Time
164.3	87.9	-11.3	48.3

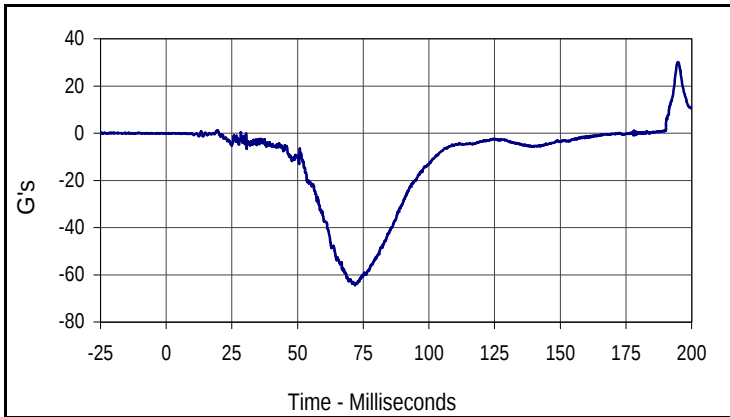


Curve Description			
Driver Shoulder Belt Elongation			
CURNO	Type	SAE Class	Units
044	FIL	60	MM/CM
Max	Time	Min	Time
0.0	0.0	0.0	0.0

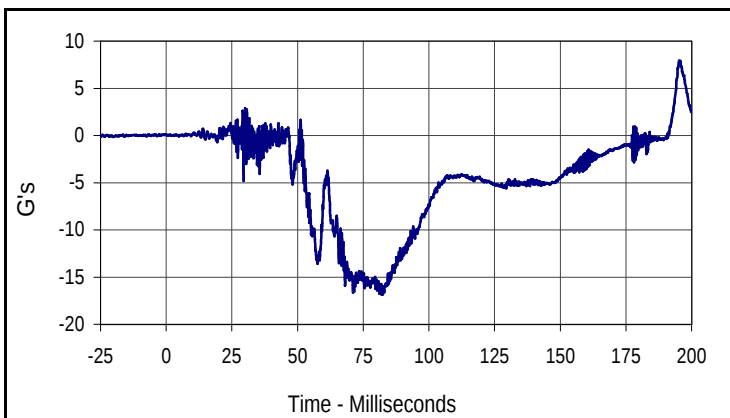
* Not used with pre-tensioners

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

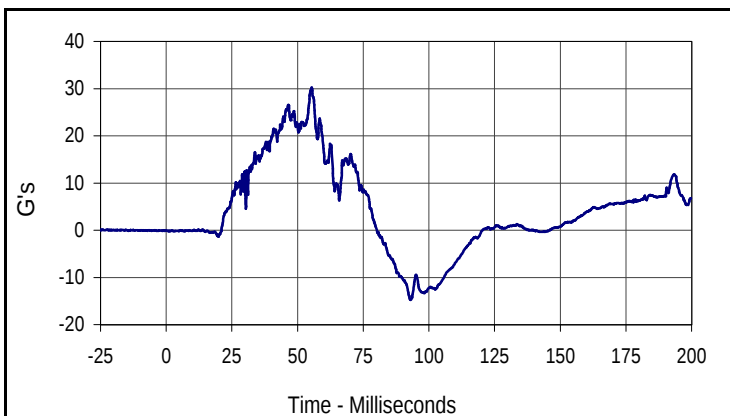
Test Date: 3/16/05
 NHTSA No.: M55208



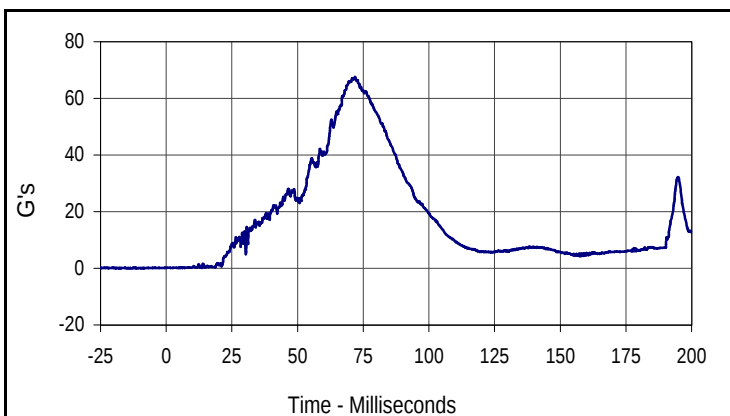
Curve Description			
Passenger Head Primary X			
CURNO	Type	SAE Class	Units
045	FIL	1000	G's
Max	Time	Min	Time
30.1	194.9	-64.3	71.9



Curve Description			
Passenger Head Primary Y			
CURNO	Type	SAE Class	Units
046	FIL	1000	G's
Max	Time	Min	Time
7.9	195.2	-16.9	82.5



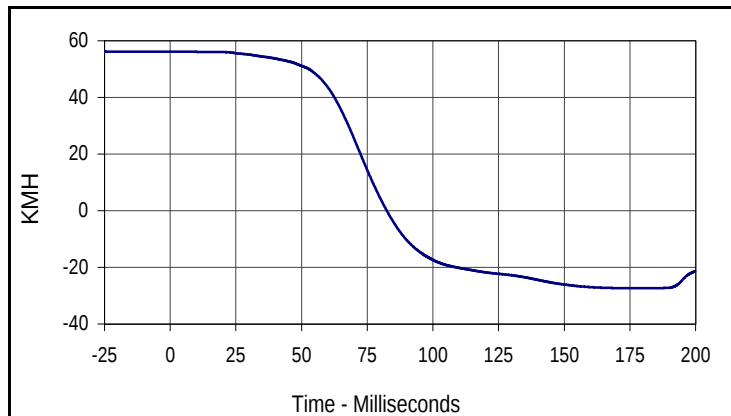
Curve Description			
Passenger Head Primary Z			
CURNO	Type	SAE Class	Units
047	FIL	1000	G's
Max	Time	Min	Time
30.2	55.4	-14.8	93.1



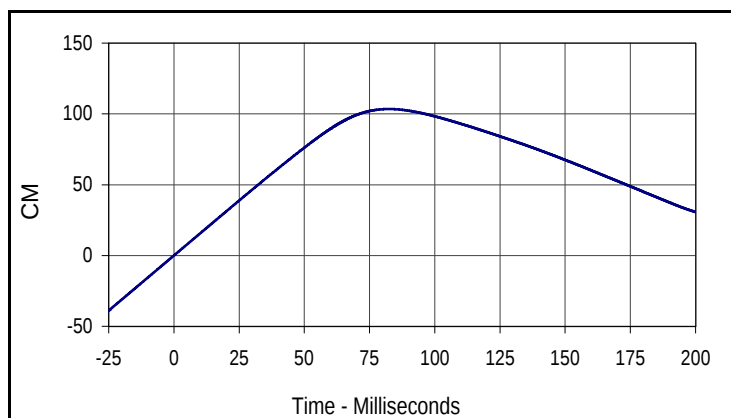
Curve Description			
Passenger Head Resultant Primary			
CURNO	Type	SAE Class	Units
045	RES	1000	G's
Max	Time	Min	Time
67.6	71.9	0.1	2.3

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05
 NHTSA No.: M55208



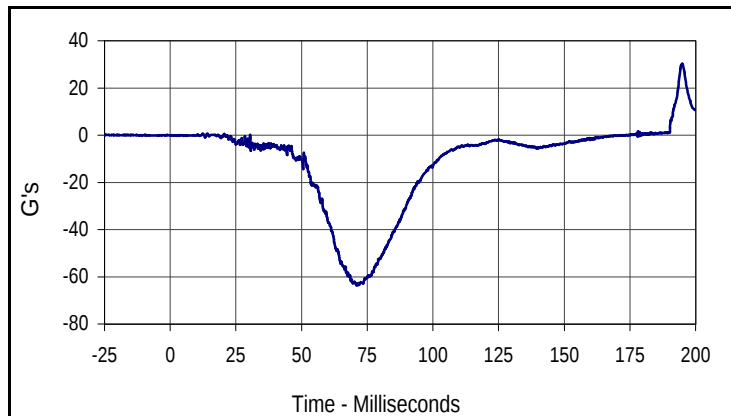
Curve Description			
Passenger Head Primary X Velocity			
CURNO	Type	SAE Class	Units
045	IN1	180	KMH
Max	Time	Min	Time
56.1	0.0	-27.4	177.3



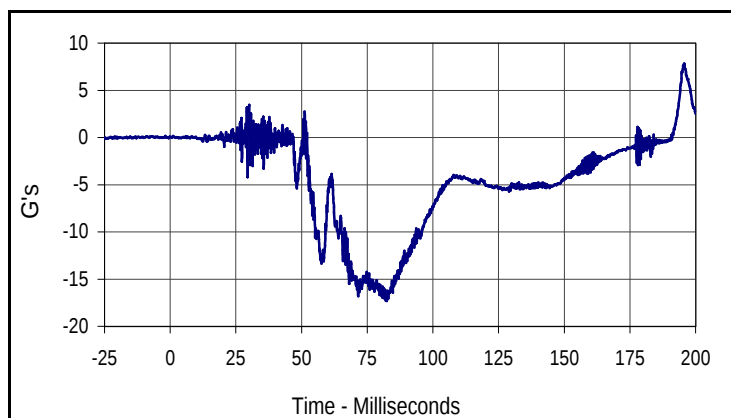
Curve Description			
Passenger Head Primary X Displacement			
CURNO	Type	SAE Class	Units
045	IN2	180	CM
Max	Time	Min	Time
103.4	82.4	0.0	0.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

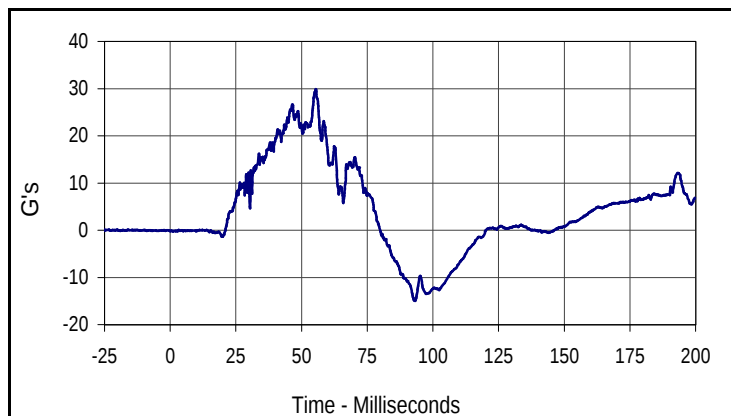
Test Date: 3/16/05
 NHTSA No.: M55208



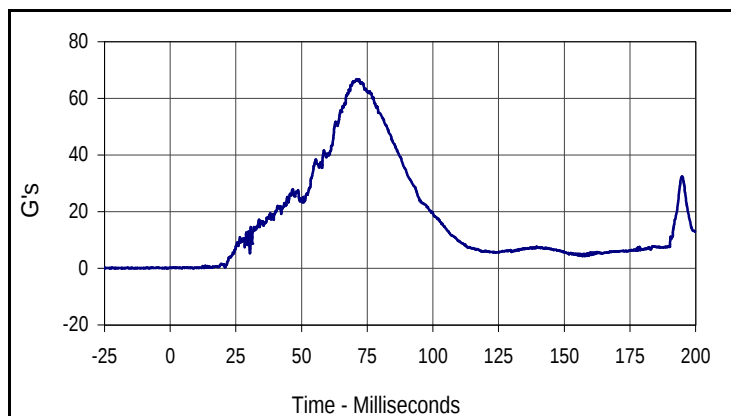
Curve Description			
Passenger Head Redundant X			
CURNO	Type	SAE Class	Units
048	FIL	1000	G's
Max	Time	Min	Time
30.3	194.9	-63.6	70.9



Curve Description			
Passenger Head Redundant Y			
CURNO	Type	SAE Class	Units
049	FIL	1000	G's
Max	Time	Min	Time
7.8	195.7	-17.3	82.5



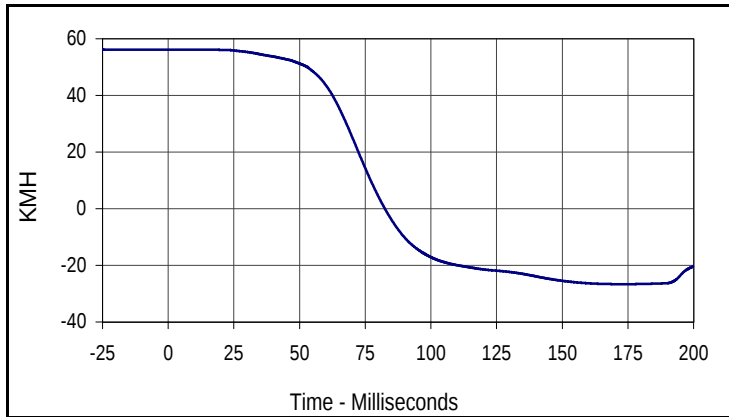
Curve Description			
Passenger Head Redundant Z			
CURNO	Type	SAE Class	Units
050	FIL	1000	G's
Max	Time	Min	Time
29.9	55.4	-15.0	93.3



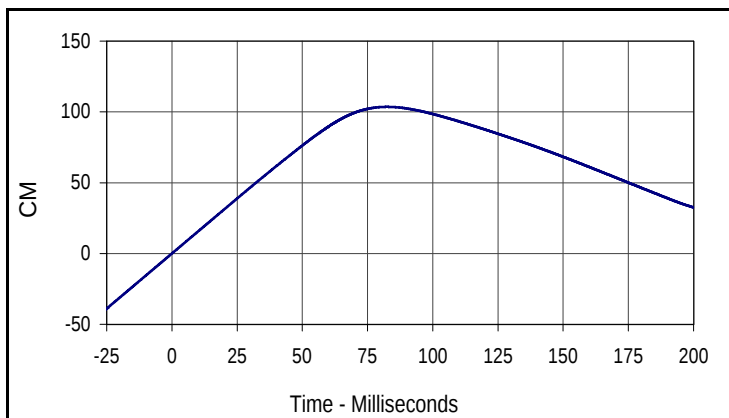
Curve Description			
Passenger Head Resultant Redundant			
CURNO	Type	SAE Class	Units
048	RES	1000	G's
Max	Time	Min	Time
66.8	70.9	0.0	8.9

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05
 NHTSA No.: M55208



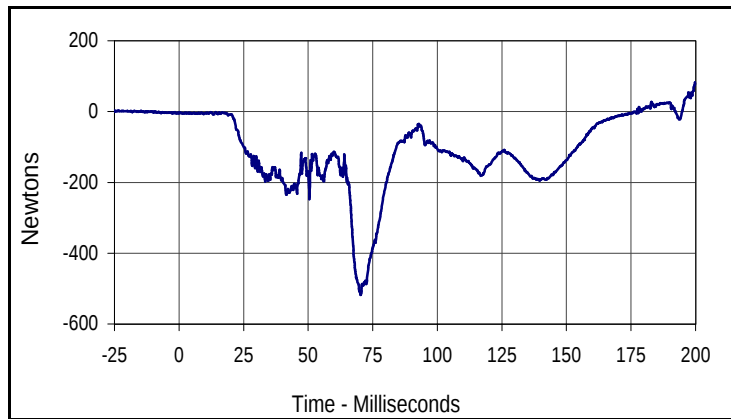
Curve Description			
Passenger Head Redundant X Velocity			
CURNO	Type	SAE Class	Units
048	IN1	180	KMH
Max	Time	Min	Time
56.2	0.0	-26.6	174.2



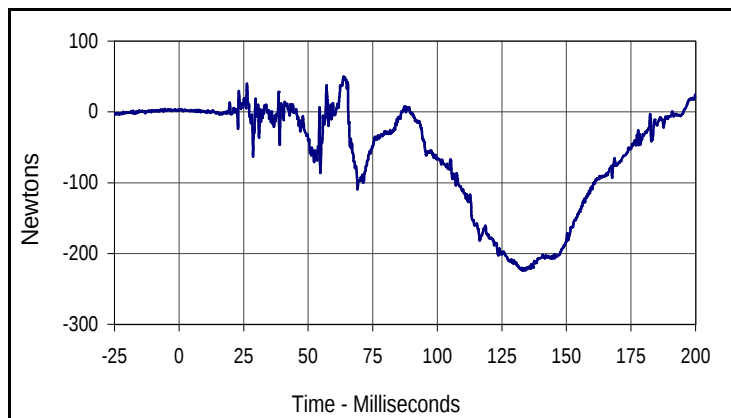
Curve Description			
Passenger Head Redundant X Displacement			
CURNO	Type	SAE Class	Units
048	IN2	180	CM
Max	Time	Min	Time
103.6	82.5	0.0	0.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

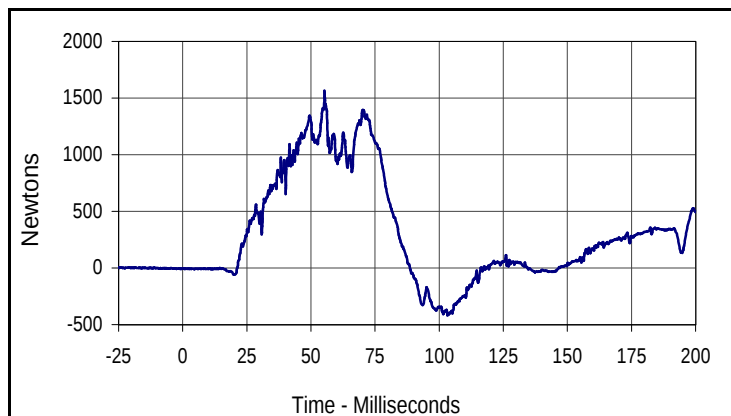
Test Date: 3/16/05
 NHTSA No.: M55208



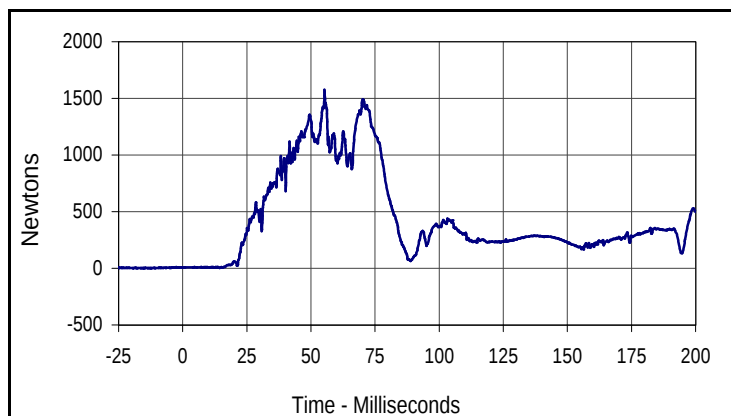
Curve Description			
Passenger Upper Neck Force X			
CURNO	Type	SAE Class	Units
051	FIL	1000	Newtons
Max	Time	Min	Time
82.0	199.9	-517.8	70.4



Curve Description			
Passenger Upper Neck Force Y			
CURNO	Type	SAE Class	Units
052	FIL	1000	Newtons
Max	Time	Min	Time
49.9	63.7	-224.2	133.1



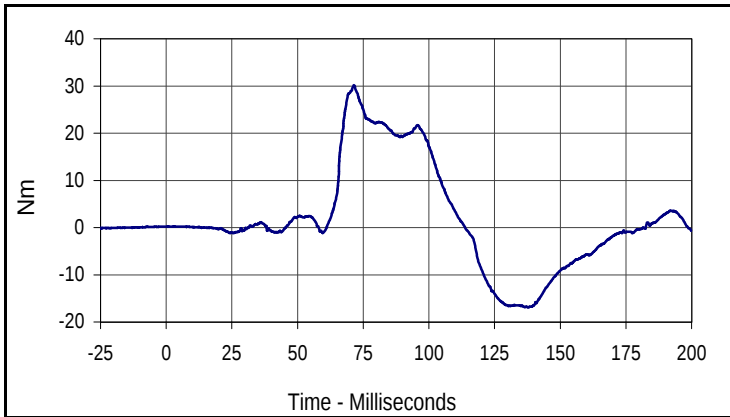
Curve Description			
Passenger Upper Neck Force Z			
CURNO	Type	SAE Class	Units
053	FIL	1000	Newtons
Max	Time	Min	Time
1564.5	55.3	-417.1	103.3



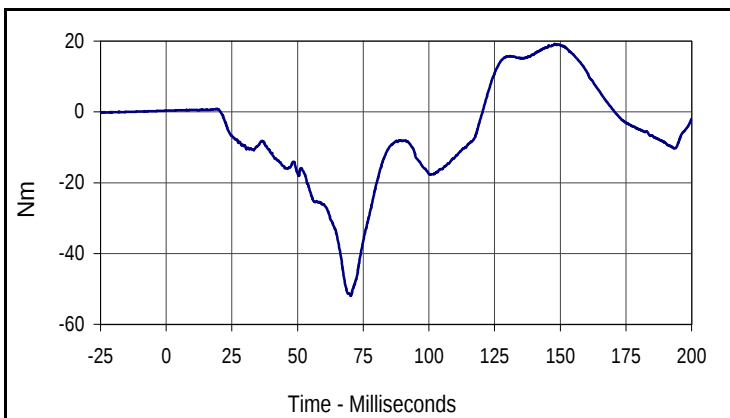
Curve Description			
Passenger Upper Neck Force Res.			
CURNO	Type	SAE Class	Units
051	RES	1000	Newtons
Max	Time	Min	Time
1576.4	55.3	3.5	14.4

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

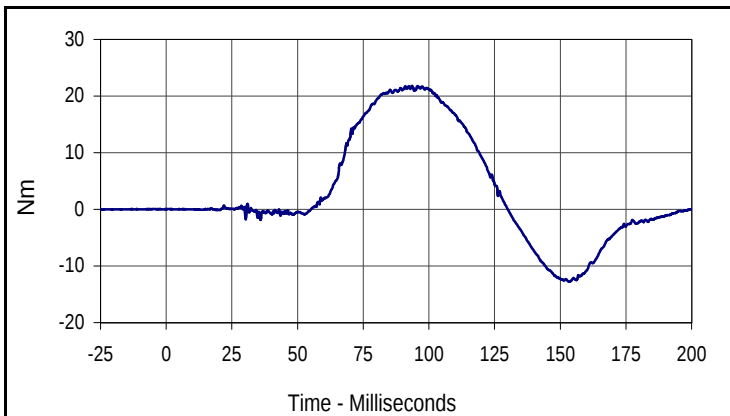
Test Date: 3/16/05
 NHTSA No.: M55208



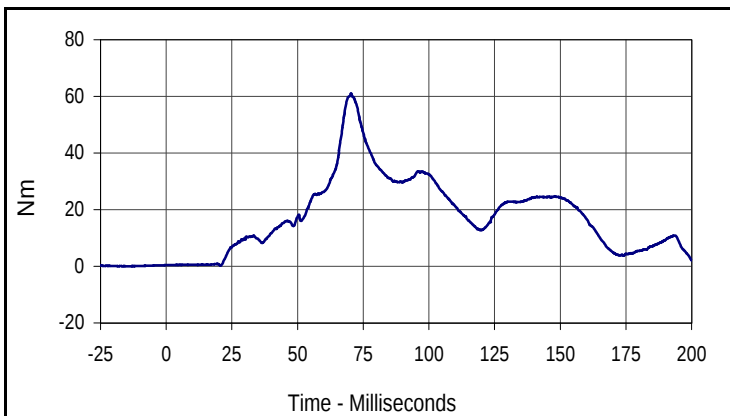
Curve Description			
Passenger Upper Neck Moment X			
CURNO	Type	SAE Class	Units
054	FIL	600	Nm
Max	Time	Min	Time
30.2	71.4	-17.0	137.7



Curve Description			
Passenger Upper Neck Moment Y			
CURNO	Type	SAE Class	Units
055	FIL	600	Nm
Max	Time	Min	Time
19.2	147.9	-51.9	70.3



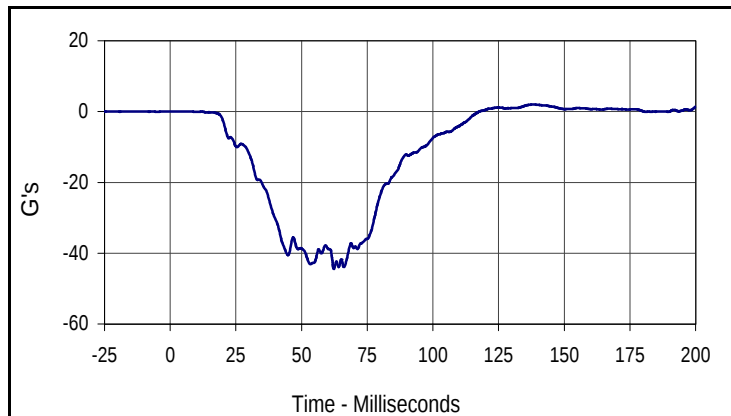
Curve Description			
Passenger Upper Neck Moment Z			
CURNO	Type	SAE Class	Units
056	FIL	600	Nm
Max	Time	Min	Time
21.8	93.5	-12.8	153.2



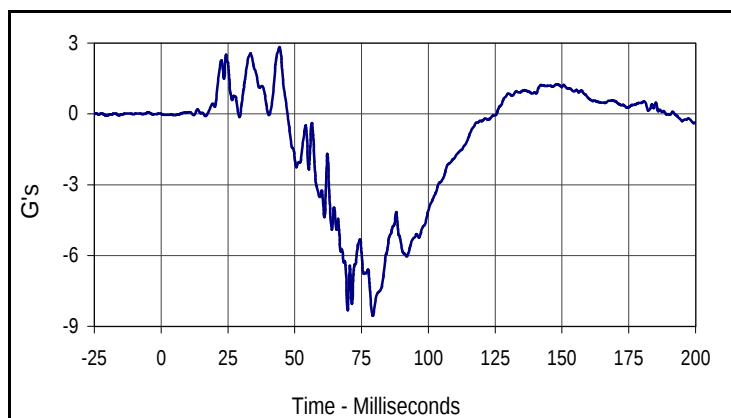
Curve Description			
Passenger Upper Neck Moment Res.			
CURNO	Type	SAE Class	Units
054	RES	600	Nm
Max	Time	Min	Time
61.0	70.4	0.2	20.7

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

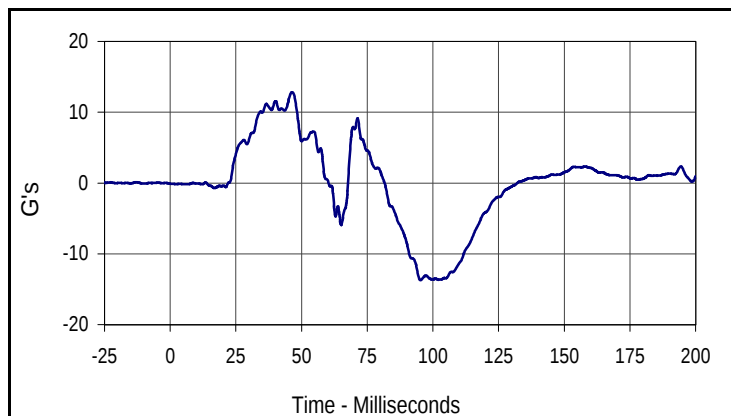
Test Date: 3/16/05
 NHTSA No.: M55208



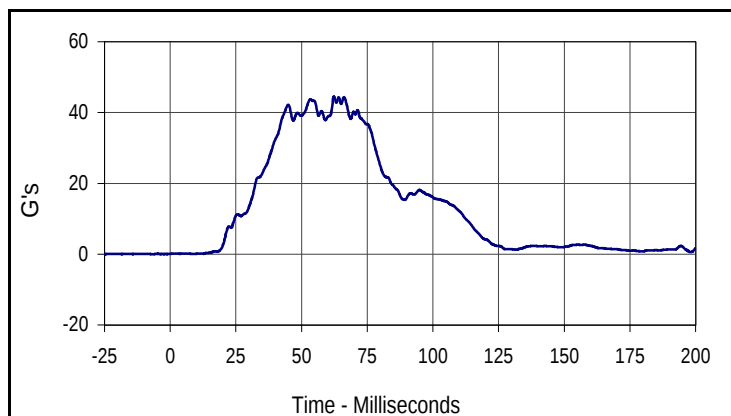
Curve Description			
Passenger Chest Primary X			
CURNO	Type	SAE Class	Units
057	FIL	180	G's
Max	Time	Min	Time
2.0	138.1	-44.5	62.3



Curve Description			
Passenger Chest Primary Y			
CURNO	Type	SAE Class	Units
058	FIL	180	G's
Max	Time	Min	Time
2.8	44.3	-8.6	79.2



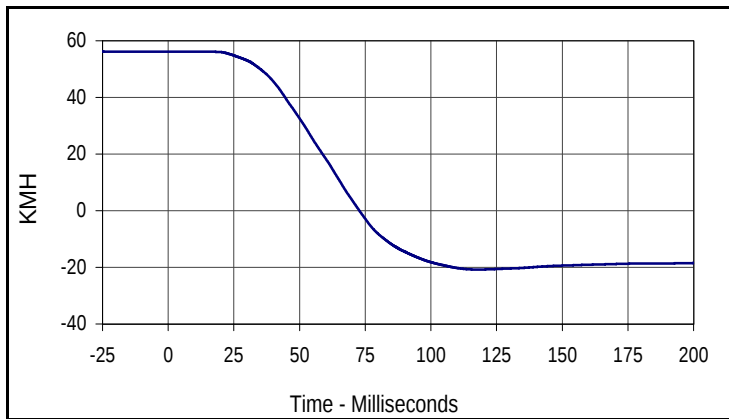
Curve Description			
Passenger Chest Primary Z			
CURNO	Type	SAE Class	Units
059	FIL	180	G's
Max	Time	Min	Time
12.8	46.4	-13.7	95.3



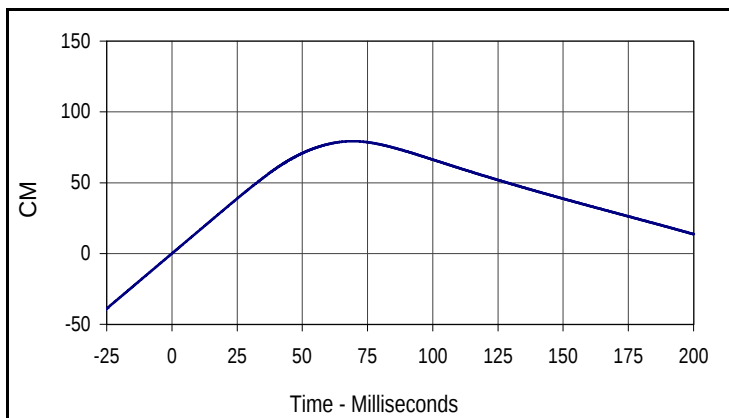
Curve Description			
Passenger Chest Resultant Primary			
CURNO	Type	SAE Class	Units
057	RES	180	G's
Max	Time	Min	Time
44.6	62.3	0.0	8.3

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05
 NHTSA No.: M55208



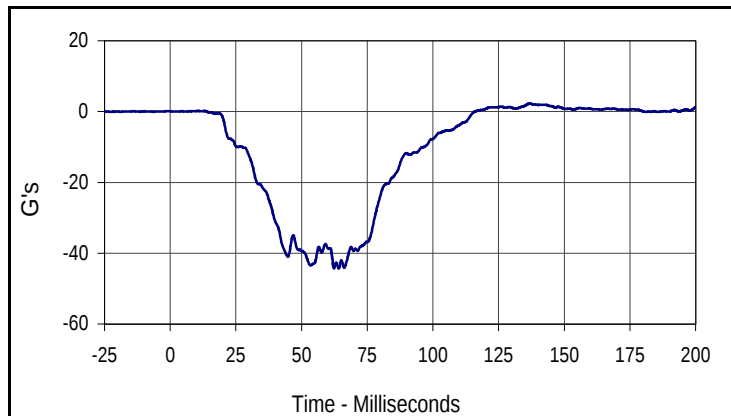
Curve Description			
Passenger Chest Primary X Velocity			
CURNO	Type	SAE Class	Units
057	IN1	180	KMH
Max	Time	Min	Time
56.2	8.2	-20.8	117.6



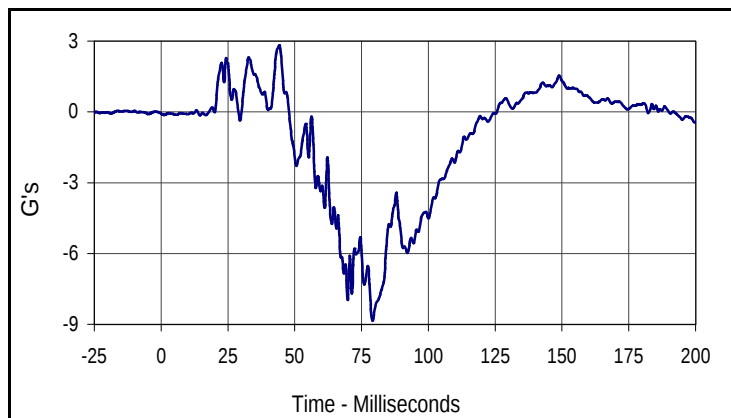
Curve Description			
Passenger Chest Primary X Displacement			
CURNO	Type	SAE Class	Units
057	IN2	180	CM
Max	Time	Min	Time
79.3	69.4	0.0	0.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

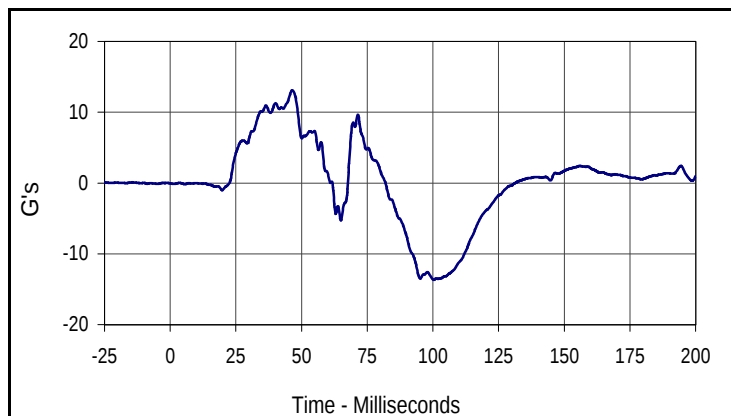
Test Date: 3/16/05
 NHTSA No.: M55208



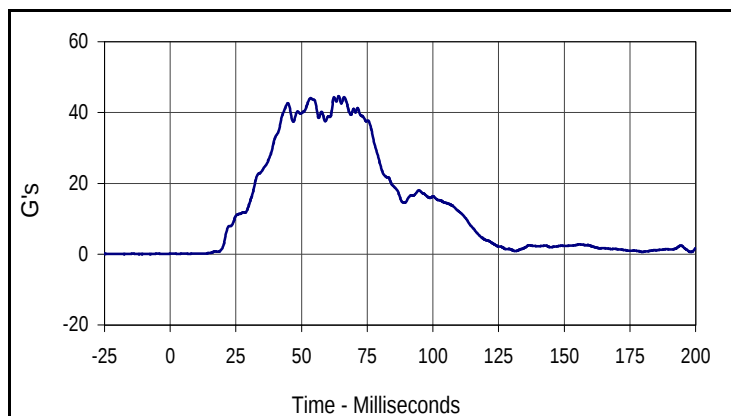
Curve Description			
Passenger Chest Redundant X			
CURNO	Type	SAE Class	Units
060	FIL	180	G's
Max	Time	Min	Time
2.3	136.7	-44.3	62.3



Curve Description			
Passenger Chest Redundant Y			
CURNO	Type	SAE Class	Units
061	FIL	180	G's
Max	Time	Min	Time
2.8	44.2	-8.9	79.1



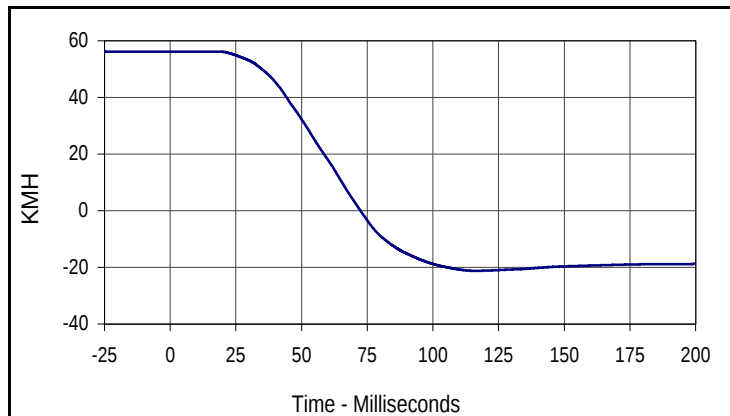
Curve Description			
Passenger Chest Redundant Z			
CURNO	Type	SAE Class	Units
062	FIL	180	G's
Max	Time	Min	Time
13.1	46.5	-13.7	100.3



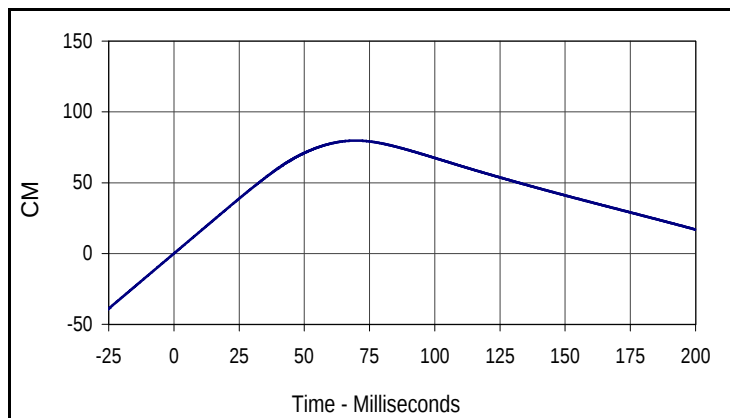
Curve Description			
Passenger Chest Resultant Redundant			
CURNO	Type	SAE Class	Units
060	RES	180	G's
Max	Time	Min	Time
44.7	64.1	0.1	2.9

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05
 NHTSA No.: M55208



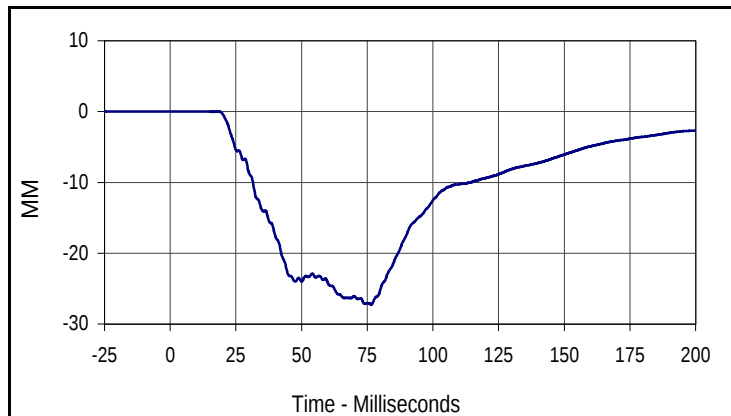
Curve Description			
Passenger Chest Redundant X Velocity			
CURNO	Type	SAE Class	Units
060	IN1	180	KMH
Max	Time	Min	Time
56.2	13.9	-21.2	116.0



Curve Description			
Passenger Chest Redundant X Displacement			
CURNO	Type	SAE Class	Units
060	IN2	180	CM
Max	Time	Min	Time
79.8	69.7	0.0	0.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

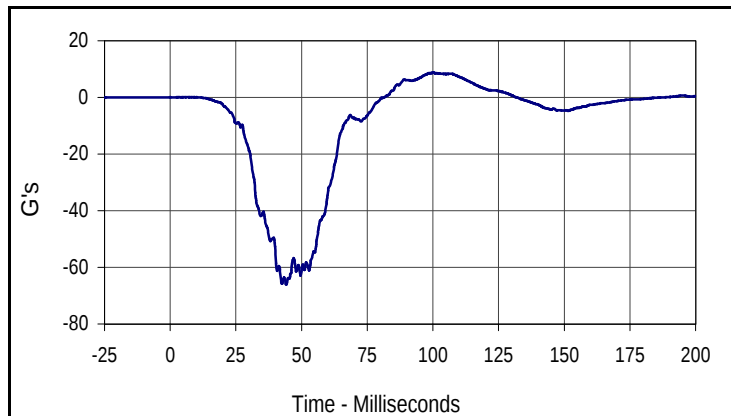
Test Date: 3/16/05
 NHTSA No.: M55208



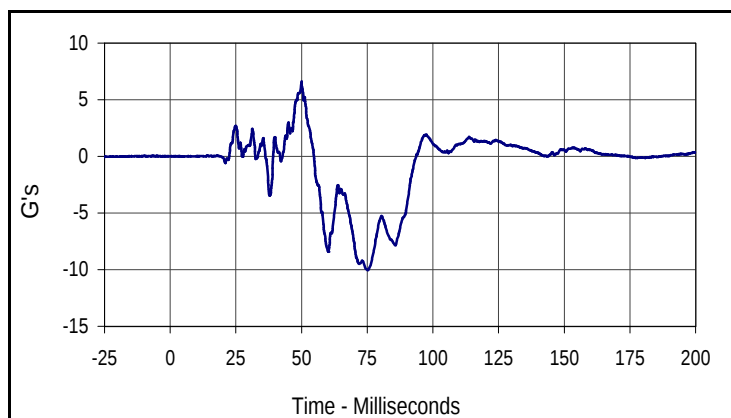
Curve Description			
Passenger Chest Deflection			
CURNO	Type	SAE Class	Units
063	FIL	600	MM
Max	Time	Min	Time
0.0	14.6	-27.2	76.5

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

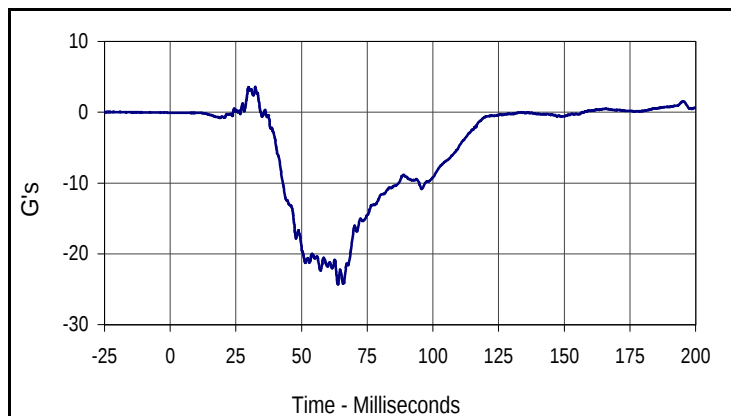
Test Date: 3/16/05
 NHTSA No.: M55208



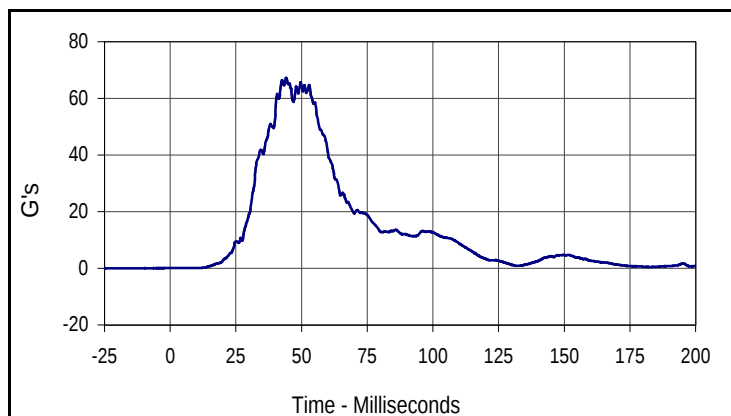
Curve Description			
Passenger Pelvis X			
CURNO	Type	SAE Class	Units
064	FIL	1000	G's
Max	Time	Min	Time
8.8	100.2	-66.1	44.1



Curve Description			
Passenger Pelvis Y			
CURNO	Type	SAE Class	Units
065	FIL	1000	G's
Max	Time	Min	Time
6.6	50.0	-10.1	75.2



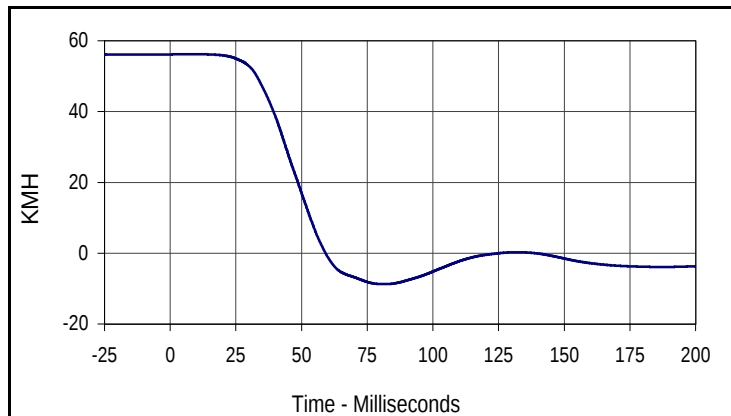
Curve Description			
Passenger Pelvis Z			
CURNO	Type	SAE Class	Units
066	FIL	1000	G's
Max	Time	Min	Time
3.6	32.4	-24.3	63.8



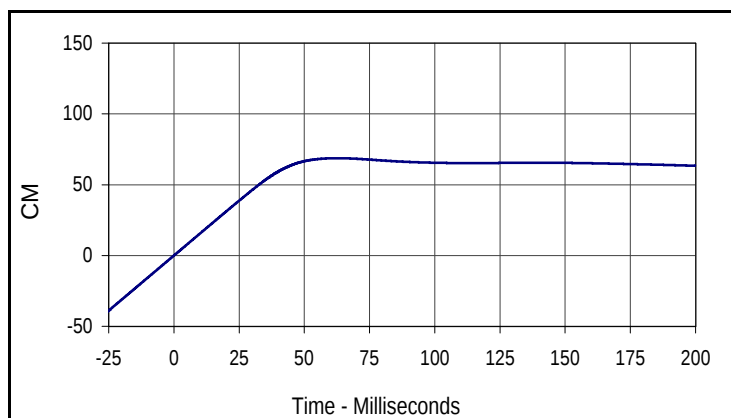
Curve Description			
Passenger Pelvis Resultant			
CURNO	Type	SAE Class	Units
064	RES	1000	G's
Max	Time	Min	Time
67.3	44.1	0.1	1.9

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05
 NHTSA No.: M55208



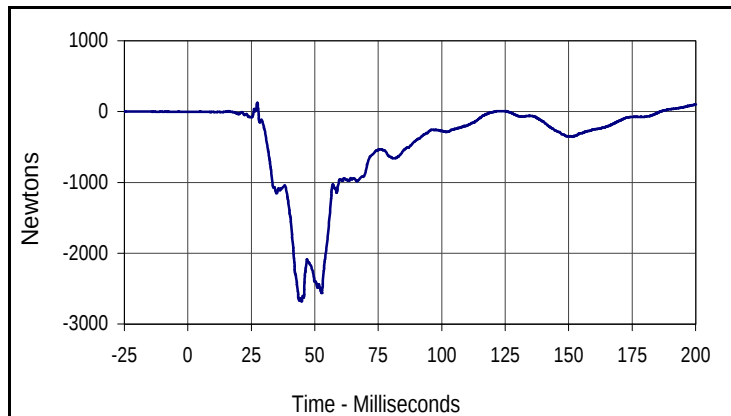
Curve Description			
Passenger Pelvis X Velocity			
CURNO	Type	SAE Class	Units
064	IN1	180	KMH
Max	Time	Min	Time
56.2	10.9	-8.7	81.3



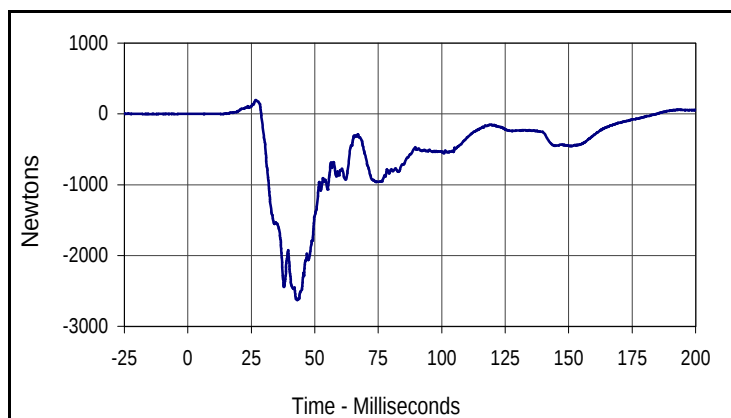
Curve Description			
Passenger Pelvis X Displacement			
CURNO	Type	SAE Class	Units
064	IN2	180	CM
Max	Time	Min	Time
68.7	62.6	0.0	0.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05
 NHTSA No.: M55208



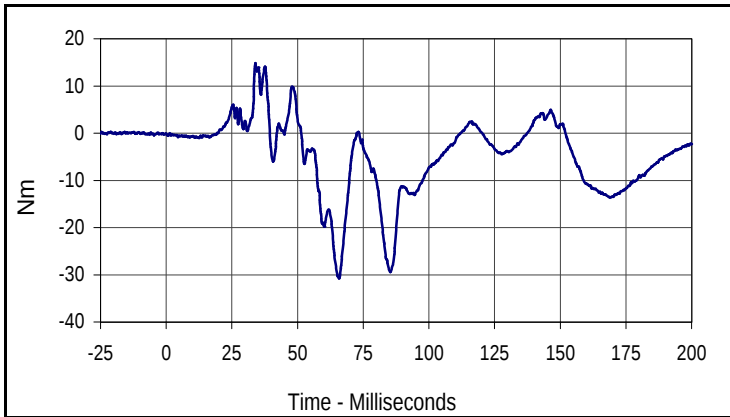
Curve Description			
Passenger Left Femur Force			
CURNO	Type	SAE Class	Units
067	FIL	600	Newtons
Max	Time	Min	Time
124.1	27.4	-2681.2	44.8



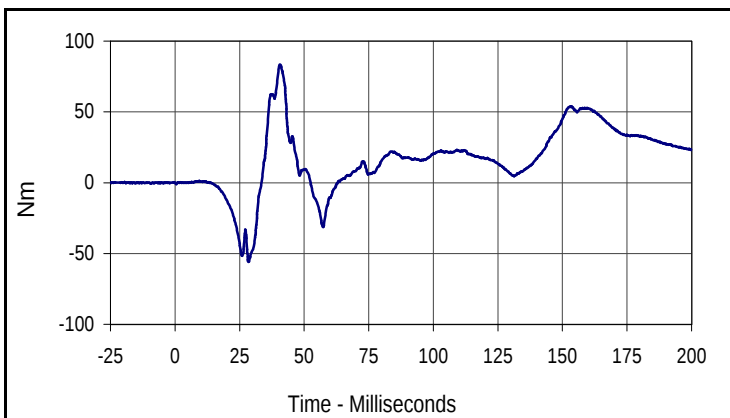
Curve Description			
Passenger Right Femur Force			
CURNO	Type	SAE Class	Units
068	FIL	600	Newtons
Max	Time	Min	Time
197.2	26.8	-2630.9	43.2

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

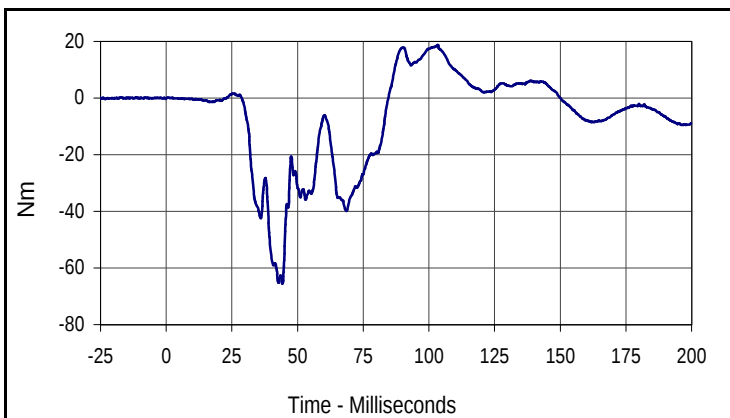
Test Date: 3/16/05
 NHTSA No.: M55208



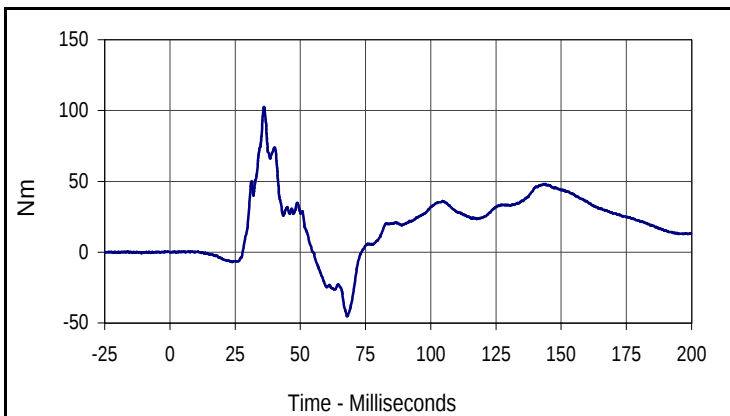
Curve Description			
Passenger Left Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
069	FIL	600	Nm
Max	Time	Min	Time
14.8	33.9	-30.8	65.9



Curve Description			
Passenger Left Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
070	FIL	600	Nm
Max	Time	Min	Time
83.5	40.7	-56.0	28.5



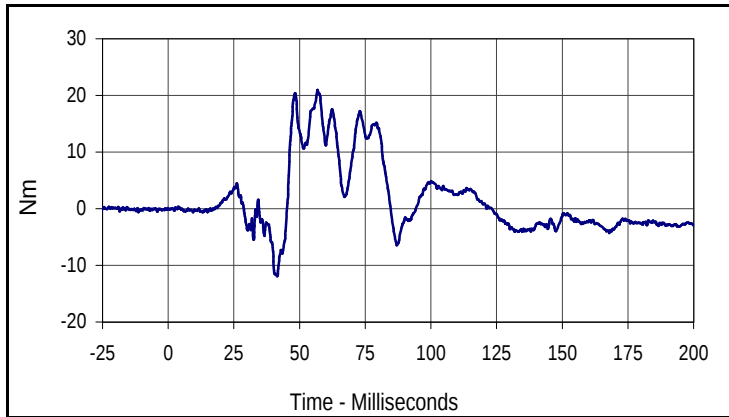
Curve Description			
Passenger Right Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
071	FIL	600	Nm
Max	Time	Min	Time
18.7	103.4	-65.5	44.2



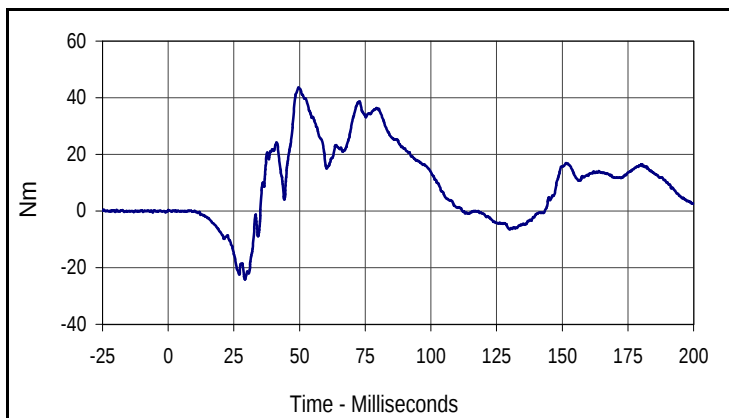
Curve Description			
Passenger Right Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
072	FIL	600	Nm
Max	Time	Min	Time
102.5	36.1	-45.3	68.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

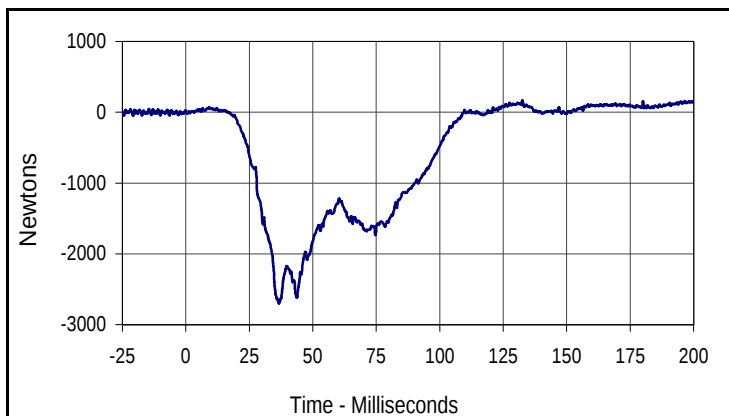
Test Date: 3/16/05
 NHTSA No.: M55208



Curve Description			
Passenger Left Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
073	FIL	600	Nm
Max	Time	Min	Time
21.0	56.8	-11.9	41.5



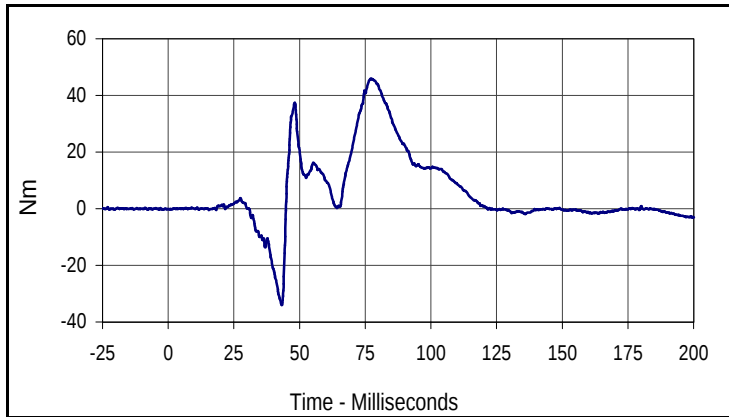
Curve Description			
Passenger Left Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
074	FIL	600	Nm
Max	Time	Min	Time
43.7	49.6	-24.1	29.2



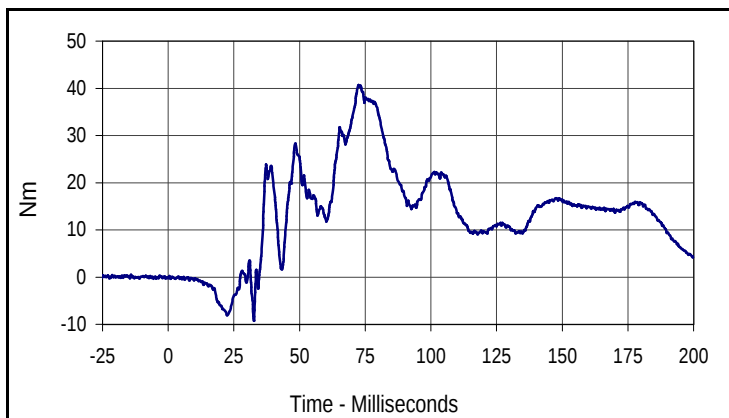
Curve Description			
Passenger Left Lower Tibia Force Z			
CURNO	Type	SAE Class	Units
075	FIL	600	Newtons
Max	Time	Min	Time
169.4	132.6	-2700.0	36.7

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

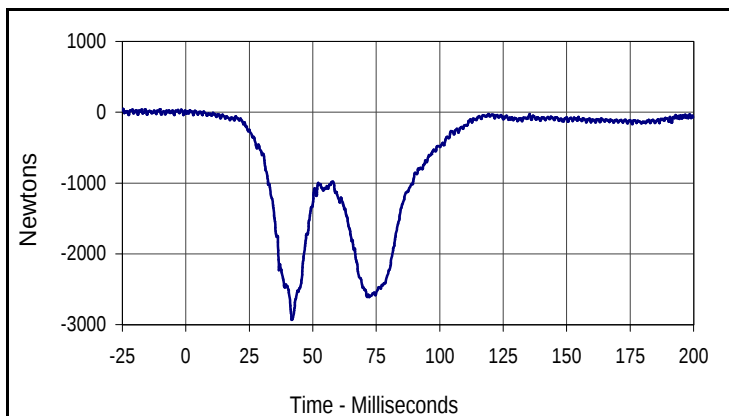
Test Date: 3/16/05
 NHTSA No.: M55208



Curve Description			
Passenger Right Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
076	FIL	600	Nm
Max	Time	Min	Time
45.9	77.2	-34.0	43.2



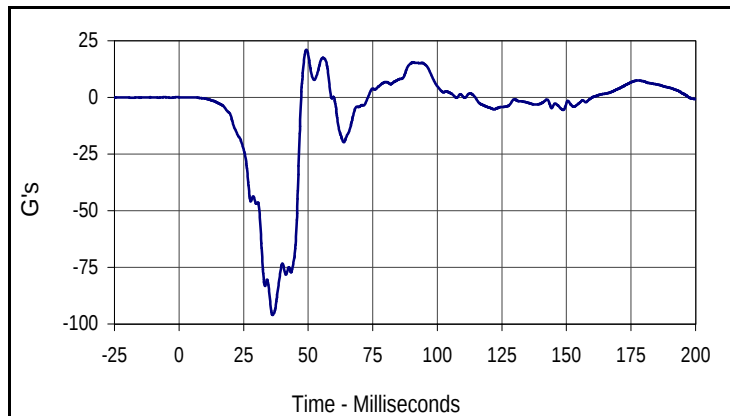
Curve Description			
Passenger Right Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
077	FIL	600	Nm
Max	Time	Min	Time
40.7	72.5	-9.3	32.6



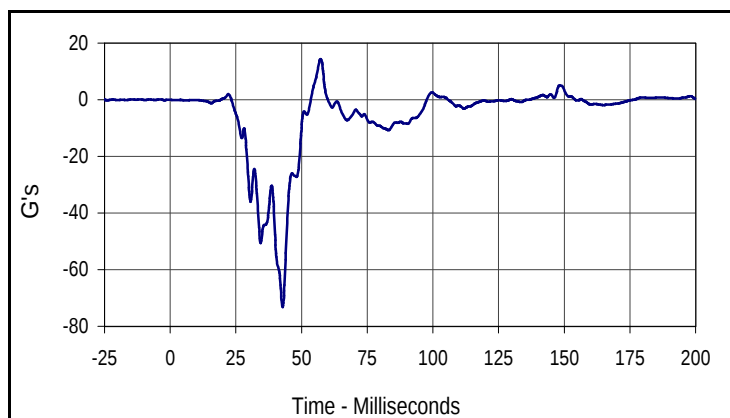
Curve Description			
Passenger Right lower Tibia Force Z			
CURNO	Type	SAE Class	Units
078	FIL	600	Newtons
Max	Time	Min	Time
27.3	1.6	-2931.8	41.8

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

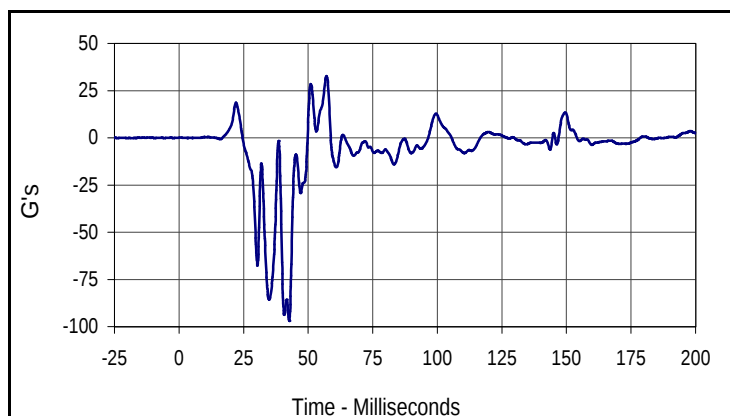
Test Date: 3/16/05
 NHTSA No.: M55208



Curve Description			
Passenger Left Foot Aft X			
CURNO	Type	SAE Class	Units
079	FIL	180	G's
Max	Time	Min	Time
21.1	49.3	-96.0	36.2



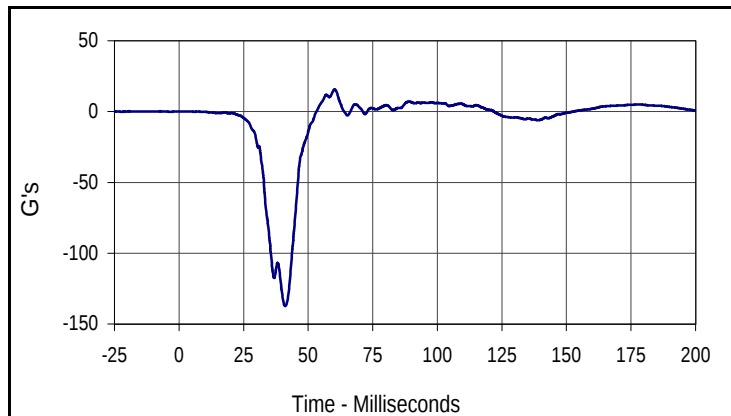
Curve Description			
Passenger Left Foot Aft Z			
CURNO	Type	SAE Class	Units
080	FIL	180	G's
Max	Time	Min	Time
14.4	57.3	-73.2	42.8



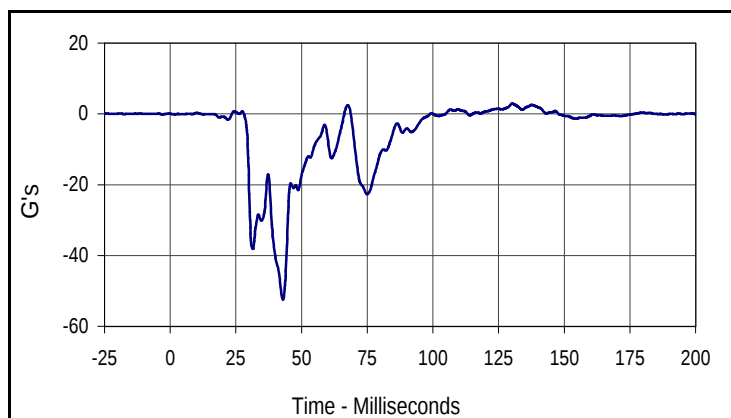
Curve Description			
Passenger Left Foot Fore Z			
CURNO	Type	SAE Class	Units
081	FIL	180	G's
Max	Time	Min	Time
32.7	57.1	-97.0	42.7

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

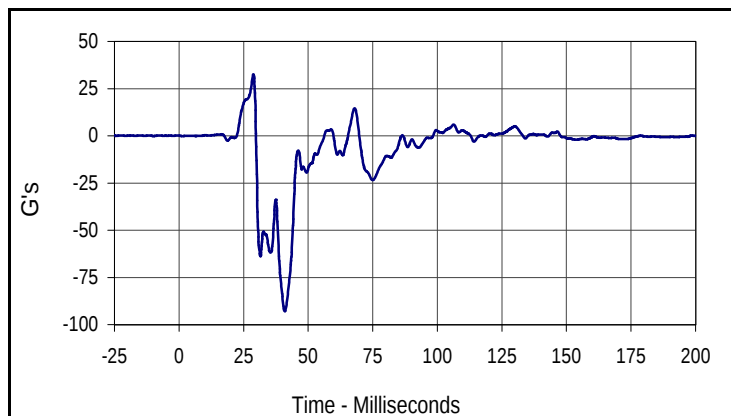
Test Date: 3/16/05
 NHTSA No.: M55208



Curve Description			
Passenger Right Foot Aft X			
CURNO	Type	SAE Class	Units
082	FIL	180	G's
Max	Time	Min	Time
15.6	60.3	-137.4	41.1



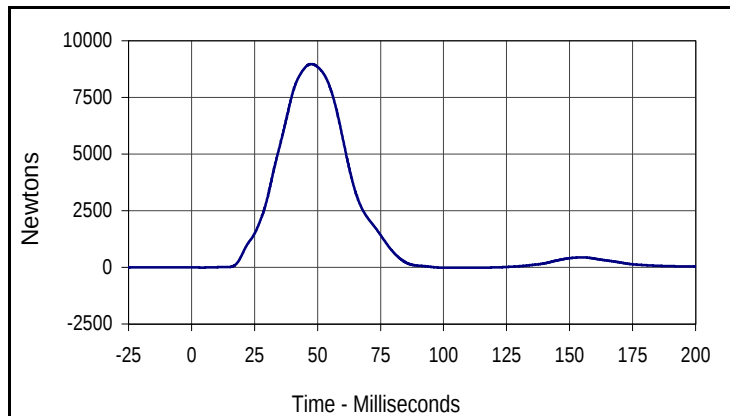
Curve Description			
Passenger Right Foot Aft Z			
CURNO	Type	SAE Class	Units
083	FIL	180	G's
Max	Time	Min	Time
2.9	130.2	-52.5	42.9



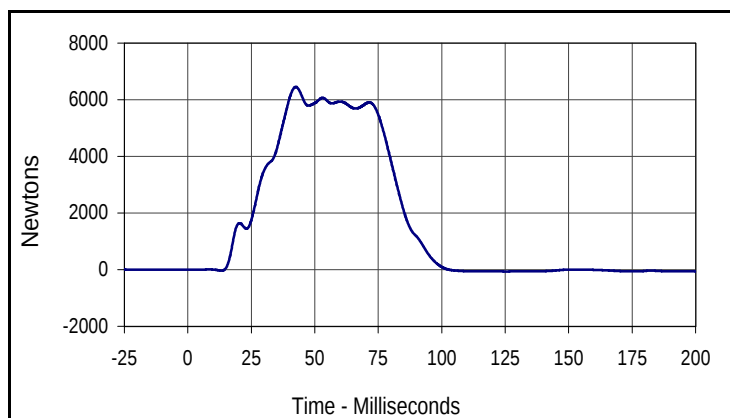
Curve Description			
Passenger Right Foot Fore Z			
CURNO	Type	SAE Class	Units
084	FIL	180	G's
Max	Time	Min	Time
32.6	28.8	-92.9	40.9

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

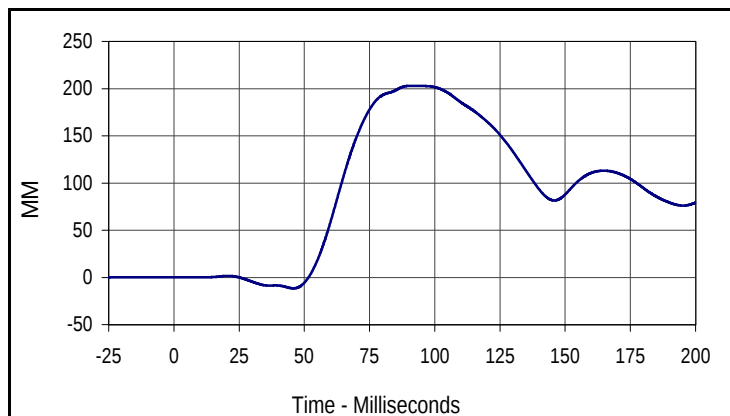
Test Date: 3/16/05
 NHTSA No.: M55208



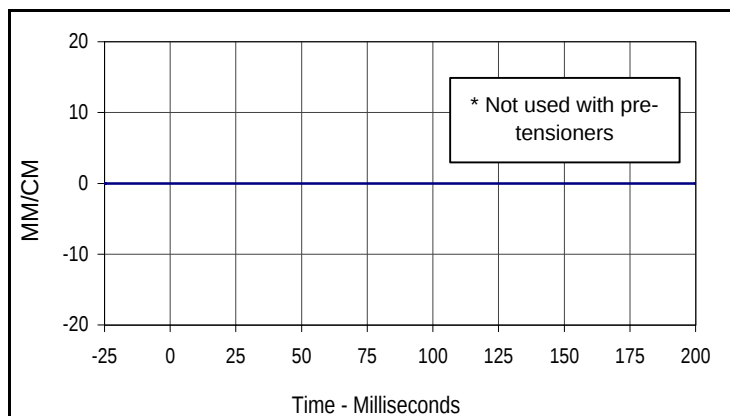
Curve Description			
Passenger Lap Belt Force			
CURNO	Type	SAE Class	Units
085	FIL	60	Newtons
Max	Time	Min	Time
8974.6	47.6	-20.8	102.6



Curve Description			
Passenger Shoulder Belt Force			
CURNO	Type	SAE Class	Units
086	FIL	60	Newtons
Max	Time	Min	Time
6452.6	42.5	-62.4	125.6



Curve Description			
Passenger Shoulder Belt Pullout			
CURNO	Type	SAE Class	Units
087	FIL	60	MM
Max	Time	Min	Time
202.9	91.1	-11.6	46.2

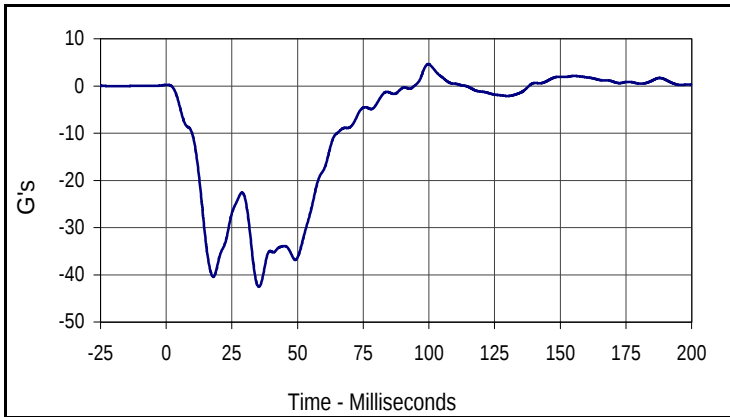


Curve Description			
Passenger Shoulder Belt Elongation			
CURNO	Type	SAE Class	Units
088	FIL	60	MM/CM
Max	Time	Min	Time
0.0	0.0	0.0	0.0

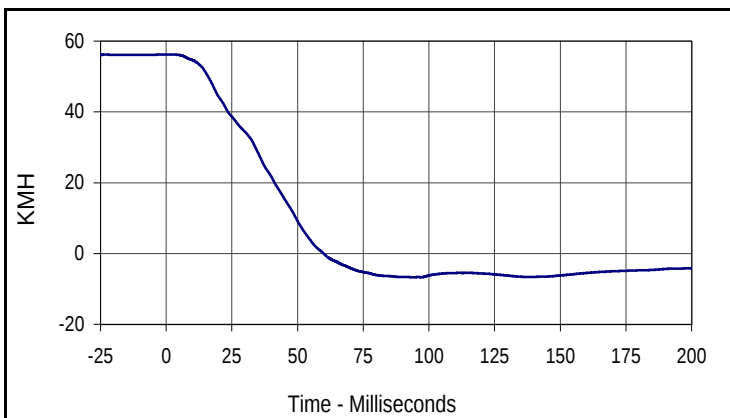
* Not used with pre-tensioners

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

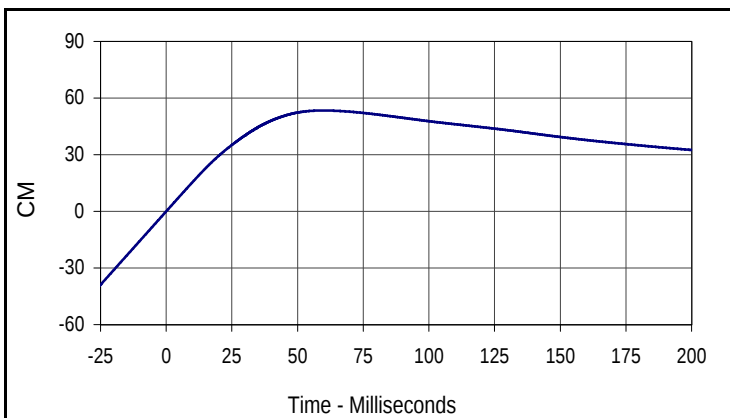
Test Date: 3/16/05
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Curve Description			
Vehicle Left Rear X			
CURNO	Type	SAE Class	Units
089	FIL	60	G's
Max	Time	Min	Time
4.6	99.8	-42.5	35.3



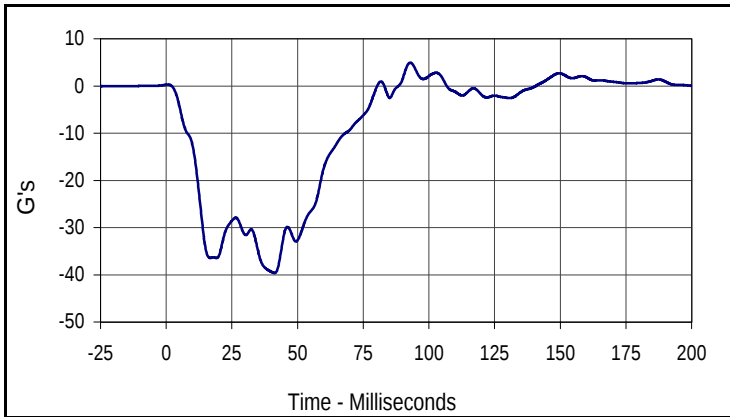
Curve Description			
Vehicle Left Rear X Velocity			
CURNO	Type	SAE Class	Units
089	IN1	180	KMH
Max	Time	Min	Time
56.2	2.7	-6.7	93.7



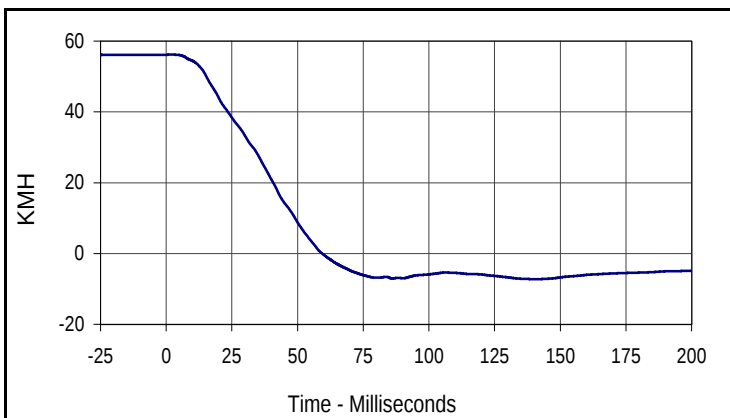
Curve Description			
Vehicle Left Rear X Displacement			
CURNO	Type	SAE Class	Units
089	IN2	180	CM
Max	Time	Min	Time
53.4	59.9	0.0	0.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

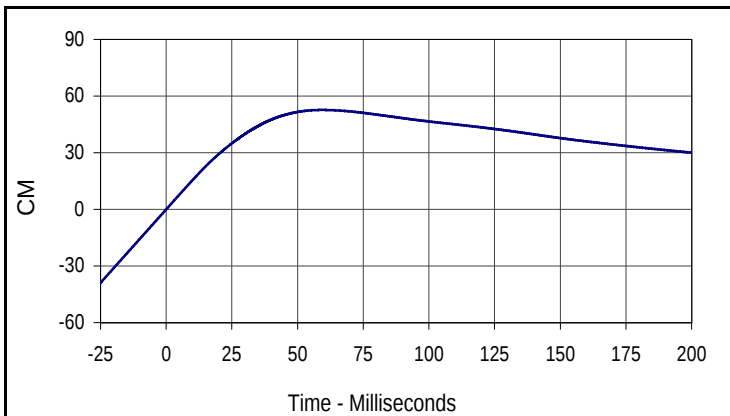
Test Date: 3/16/05
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Curve Description			
Vehicle Right Rear X			
CURNO	Type	SAE Class	Units
090	FIL	60	G's
Max	Time	Min	Time
4.9	92.9	-39.6	41.2



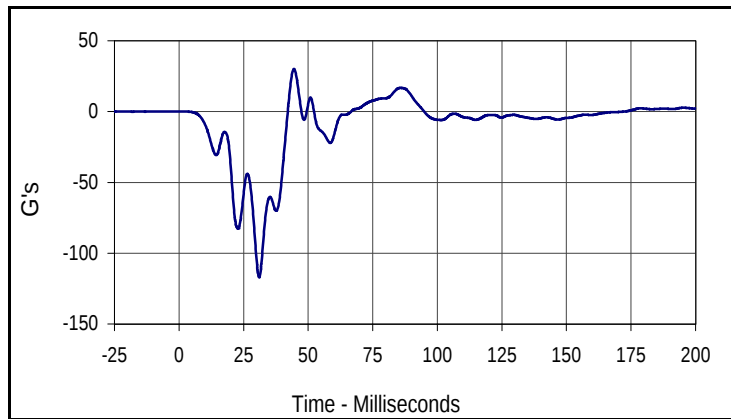
Curve Description			
Vehicle Right Rear X Velocity			
CURNO	Type	SAE Class	Units
090	IN1	180	KMH
Max	Time	Min	Time
56.2	2.6	-7.3	140.6



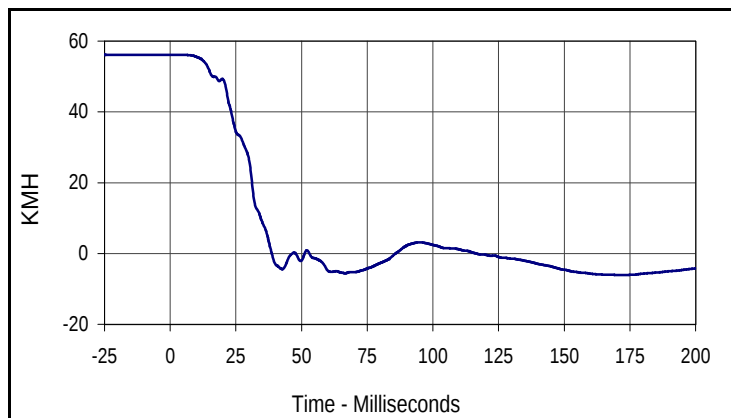
Curve Description			
Vehicle Right Rear X Displacement			
CURNO	Type	SAE Class	Units
090	IN2	180	CM
Max	Time	Min	Time
52.6	59.3	0.0	0.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

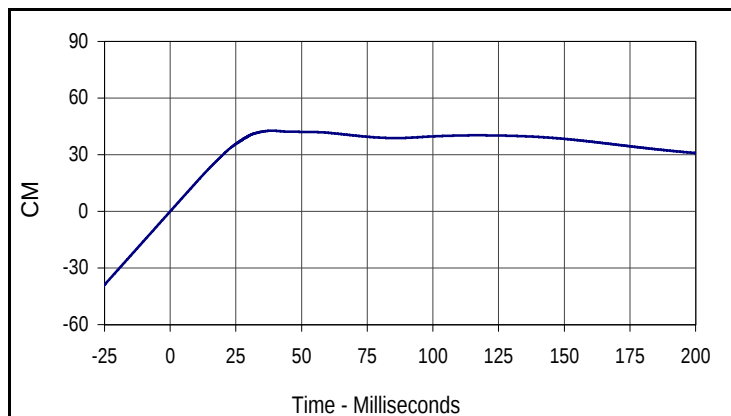
Test Date: 3/16/05
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Curve Description			
Vehicle Engine Top X			
CURNO	Type	SAE Class	Units
091	FIL	60	G's
Max	Time	Min	Time
30.1	44.5	-117.0	31.0



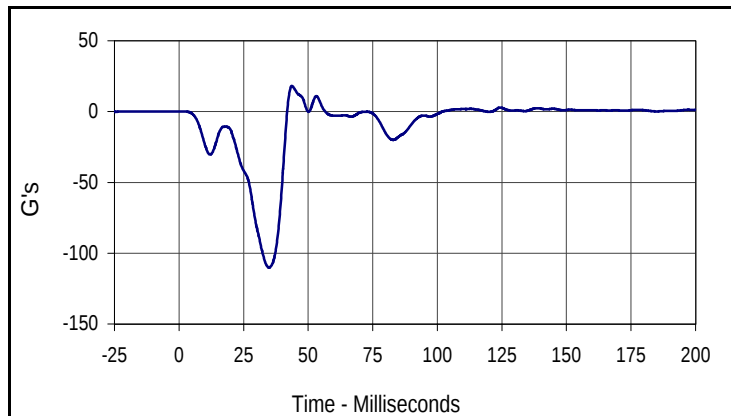
Curve Description			
Vehicle Engine Top X Velocity			
CURNO	Type	SAE Class	Units
091	IN1	180	KMH
Max	Time	Min	Time
56.1	2.5	-6.1	170.2



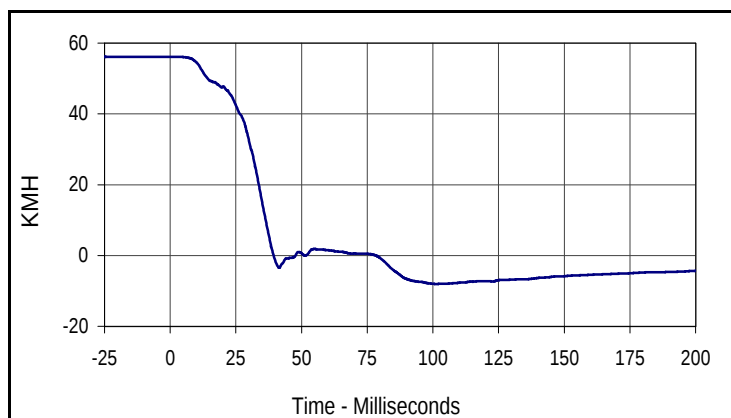
Curve Description			
Vehicle Engine Top X Displacement			
CURNO	Type	SAE Class	Units
091	IN2	180	CM
Max	Time	Min	Time
42.7	38.7	0.0	0.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

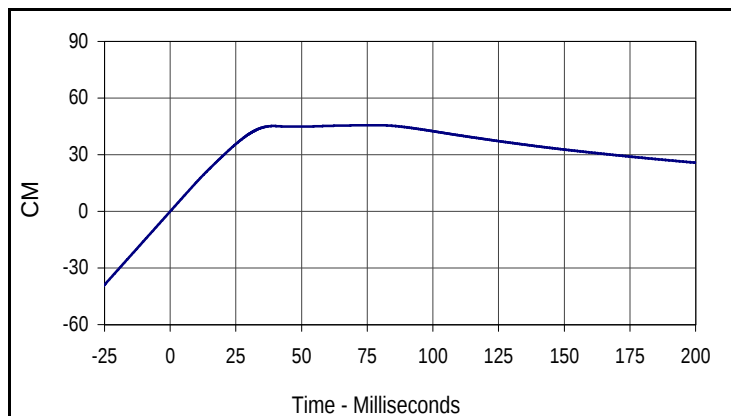
Test Date: 3/16/05
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Curve Description			
Vehicle Engine Bottom X			
CURNO	Type	SAE Class	Units
092	FIL	60	G's
Max	Time	Min	Time
18.1	43.6	-110.2	34.9



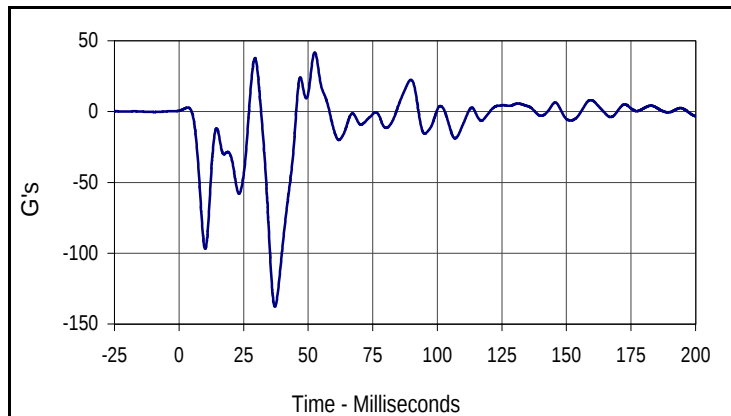
Curve Description			
Vehicle Engine Bottom X Velocity			
CURNO	Type	SAE Class	Units
092	IN1	180	KMH
Max	Time	Min	Time
56.1	0.0	-8.1	101.3



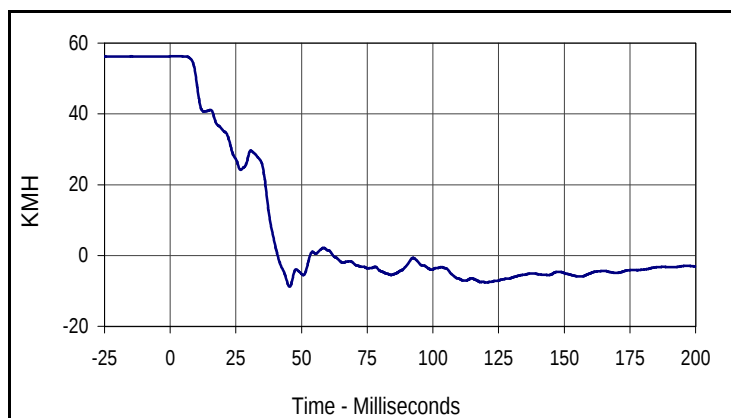
Curve Description			
Vehicle Engine Bottom X Displacement			
CURNO	Type	SAE Class	Units
092	IN2	180	CM
Max	Time	Min	Time
45.6	78.3	0.0	0.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

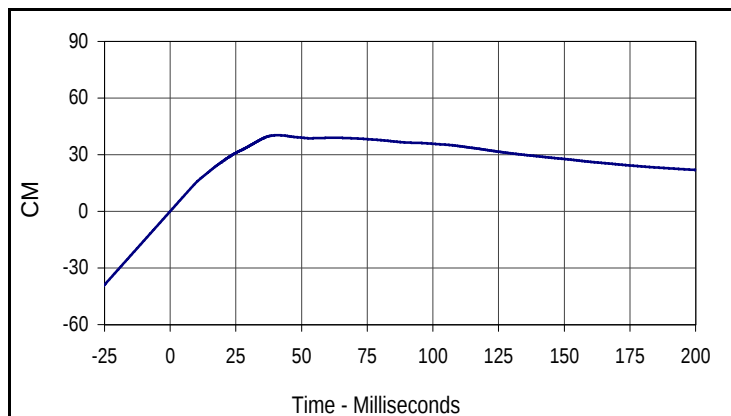
Test Date: 3/16/05
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Curve Description			
Vehicle Left Brake Caliper X			
CURNO	Type	SAE Class	Units
093	FIL	60	G's
Max	Time	Min	Time
41.8	52.6	-137.8	37.1



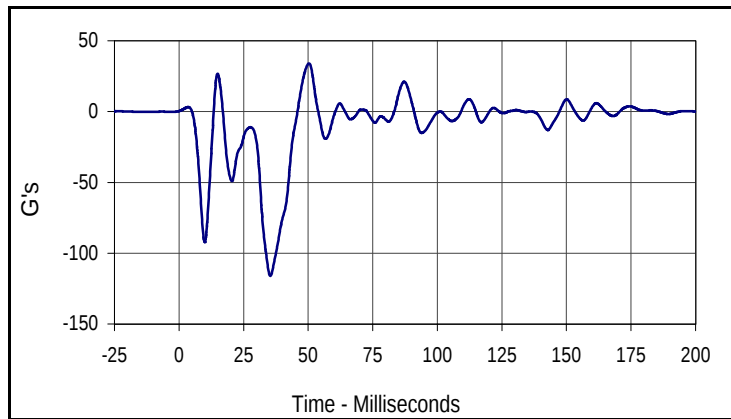
Curve Description			
Vehicle Left Brake Caliper X Velocity			
CURNO	Type	SAE Class	Units
093	IN1	180	KMH
Max	Time	Min	Time
56.3	2.7	-8.8	45.4



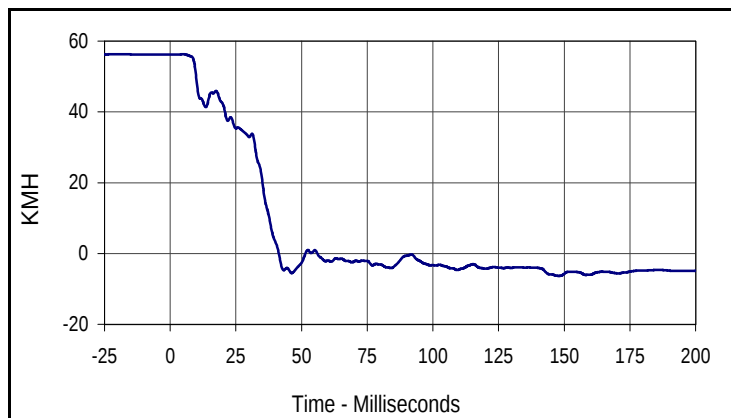
Curve Description			
Vehicle Left Brake Caliper X Displacement			
CURNO	Type	SAE Class	Units
093	IN2	180	CM
Max	Time	Min	Time
40.3	40.9	0.1	0.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

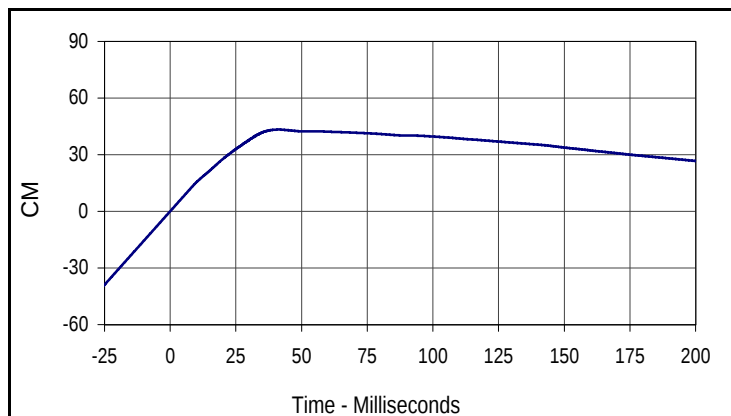
Test Date: 3/16/05
 NHTSA No.: M55208



Curve Description			
Vehicle Right Brake Caliper X			
CURNO	Type	SAE Class	Units
094	FIL	60	G's
Max	Time	Min	Time
34.1	50.3	-116.1	35.4



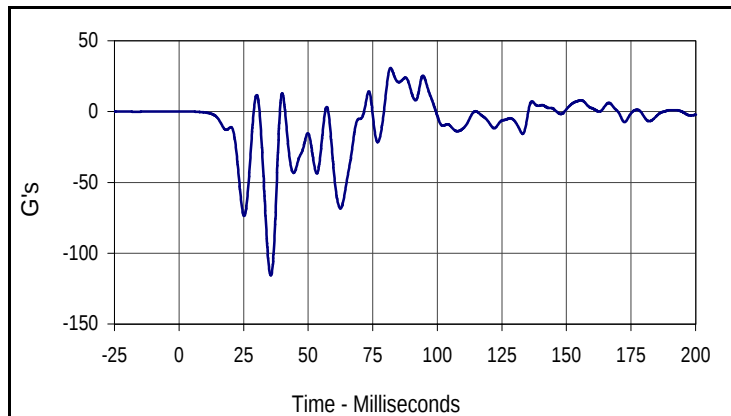
Curve Description			
Vehicle Right Brake Caliper X Velocity			
CURNO	Type	SAE Class	Units
094	IN1	180	KMH
Max	Time	Min	Time
56.3	5.1	-6.3	148.0



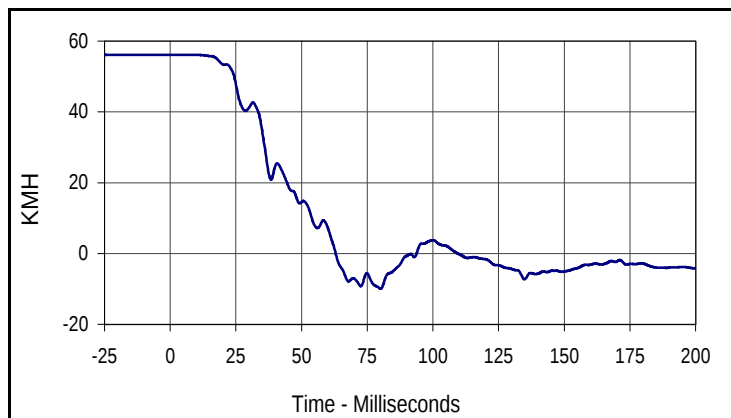
Curve Description			
Vehicle Right Brake Caliper X Displacement			
CURNO	Type	SAE Class	Units
094	IN2	180	CM
Max	Time	Min	Time
43.3	41.3	0.1	0.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

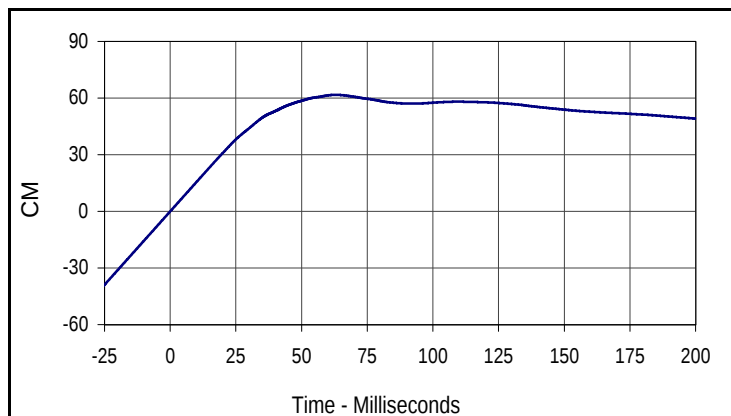
Test Date: 3/16/05
 NHTSA No.: M55208



Curve Description			
Vehicle Instrument Panel			
CURNO	Type	SAE Class	Units
095	FIL	60	G's
Max	Time	Min	Time
30.8	81.9	-115.6	35.5



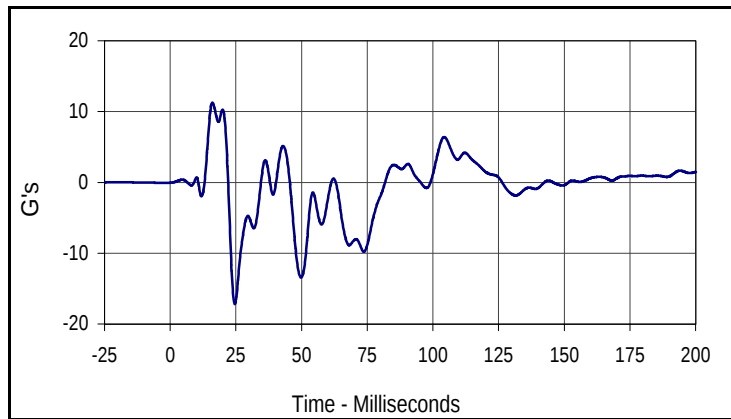
Curve Description			
Vehicle Instrument Panel X Velocity			
CURNO	Type	SAE Class	Units
095	IN1	180	KMH
Max	Time	Min	Time
56.2	0.6	-10.0	80.1



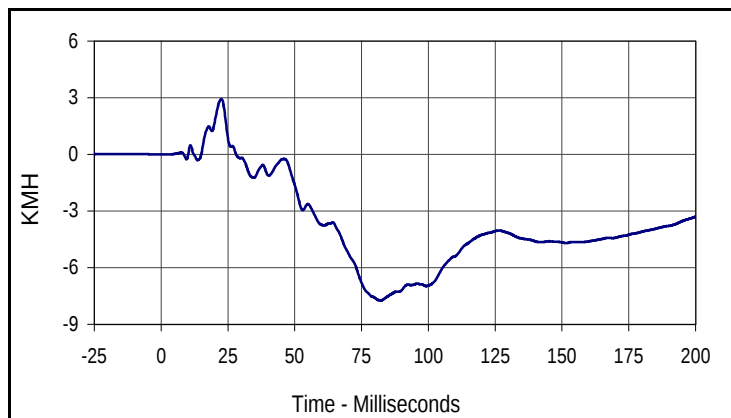
Curve Description			
Vehicle Instrument Panel X Displacement			
CURNO	Type	SAE Class	Units
095	IN2	180	CM
Max	Time	Min	Time
61.7	63.0	0.0	0.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

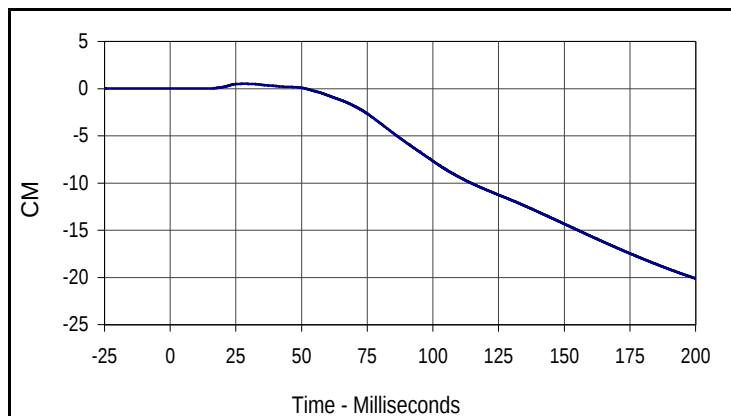
Test Date: 3/16/05
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Curve Description			
Vehicle Left Rear Z			
CURNO	Type	SAE Class	Units
096	FIL	60	G's
Max	Time	Min	Time
11.3	16.1	-17.2	24.6



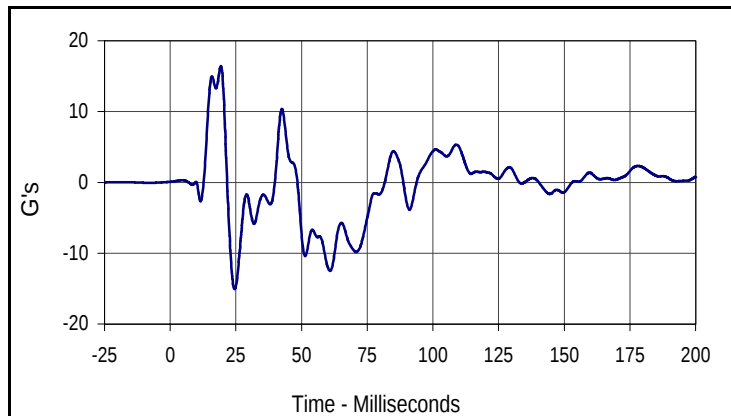
Curve Description			
Vehicle Left Rear Z Velocity			
CURNO	Type	SAE Class	Units
096	IN1	180	KMH
Max	Time	Min	Time
2.9	22.5	-7.7	82.2



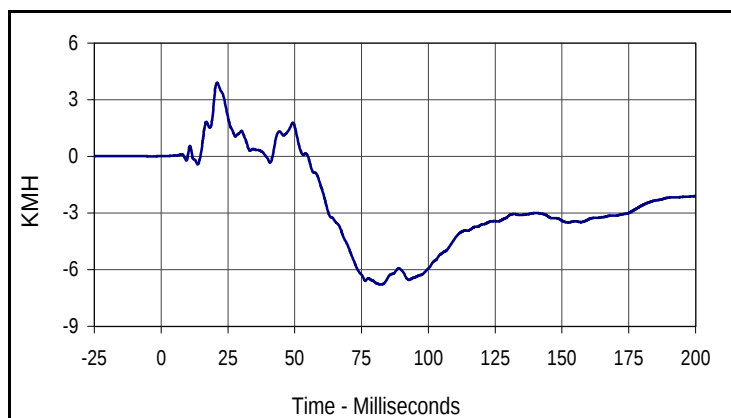
Curve Description			
Vehicle Left Rear Z Displacement			
CURNO	Type	SAE Class	Units
096	IN2	180	CM
Max	Time	Min	Time
0.5	28.1	-20.1	200.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

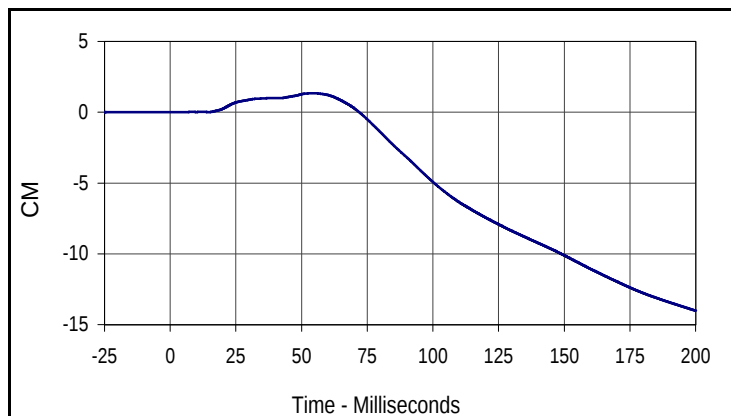
Test Date: 3/16/05
 NHTSA No.: M55208



Curve Description			
Vehicle Right Rear Z			
CURNO	Type	SAE Class	Units
097	FIL	60	G's
Max	Time	Min	Time
16.4	19.3	-15.1	24.5



Curve Description			
Vehicle Right Rear Z Velocity			
CURNO	Type	SAE Class	Units
097	IN1	180	KMH
Max	Time	Min	Time
3.9	21.0	-6.8	82.2



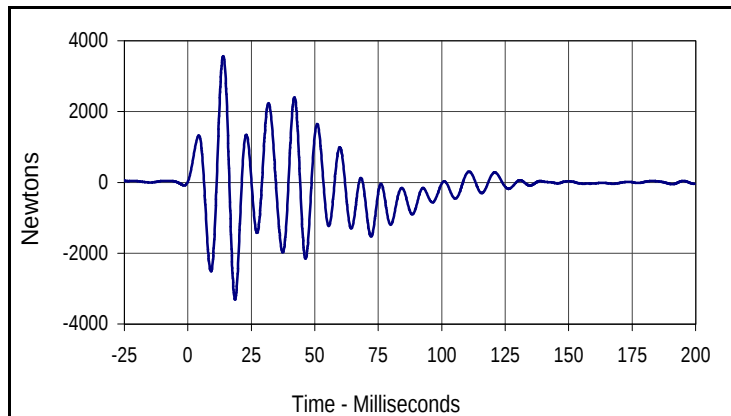
Curve Description			
Vehicle Right Rear Z Displacement			
CURNO	Type	SAE Class	Units
097	IN2	180	CM
Max	Time	Min	Time
1.3	55.0	-14.0	200.0

APPENDIX C

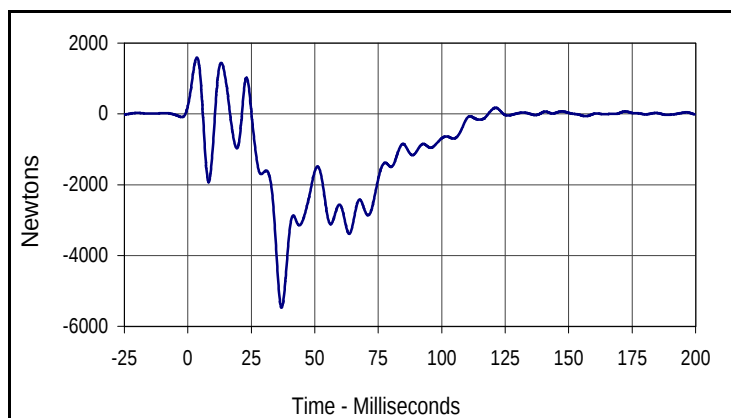
LOAD CELL BARRIER DATA PLOTS

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

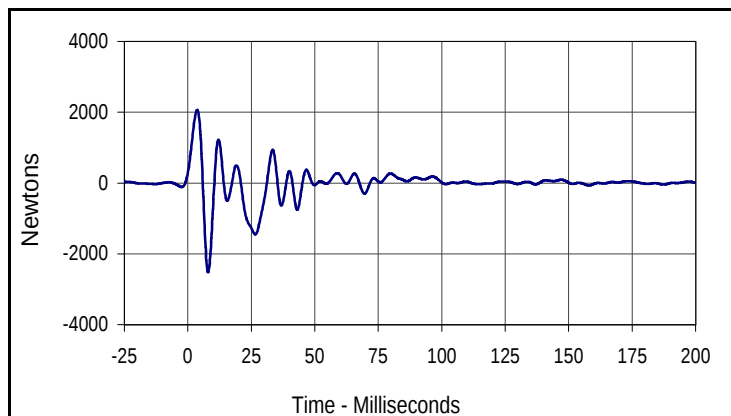
Test Date: 3/16/05
 NHTSA No.: M55208



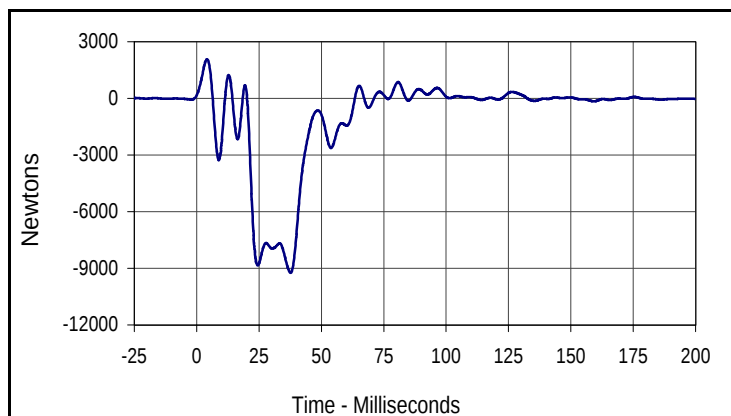
Curve Description			
Barrier Force A1			
CURNO	Type	SAE Class	Units
098	FIL	60	Newtons
Max	Time	Min	Time
3570.5	13.9	-3309.8	18.6



Curve Description			
Barrier Force B1			
CURNO	Type	SAE Class	Units
107	FIL	60	Newtons
Max	Time	Min	Time
1590.6	3.6	-5468.7	36.9



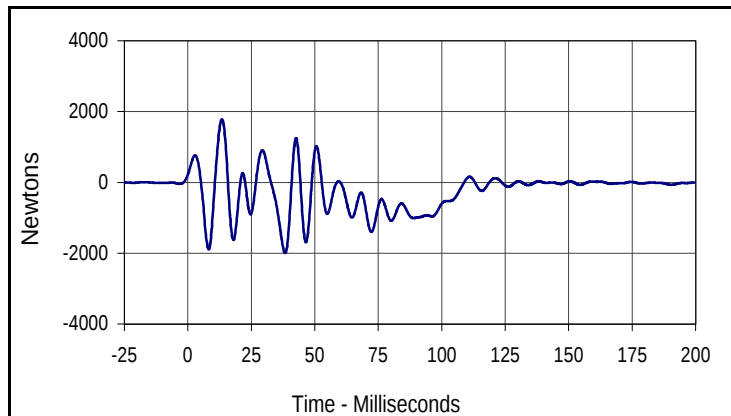
Curve Description			
Barrier Force C1			
CURNO	Type	SAE Class	Units
116	FIL	60	Newtons
Max	Time	Min	Time
2062.2	3.7	-2518.2	7.9



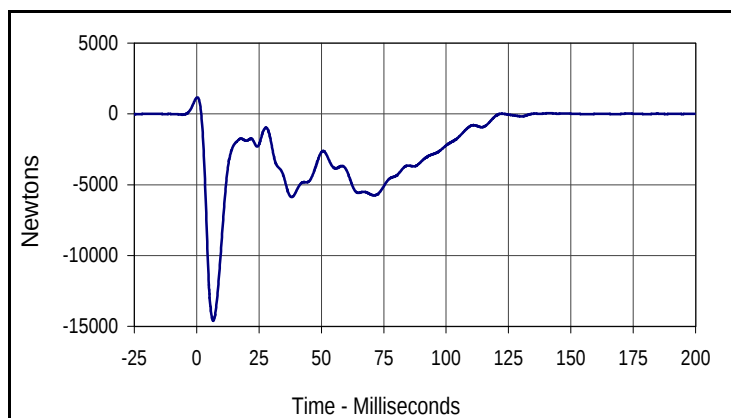
Curve Description			
Barrier Force D1			
CURNO	Type	SAE Class	Units
125	FIL	60	Newtons
Max	Time	Min	Time
2066.0	4.2	-9241.4	37.6

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

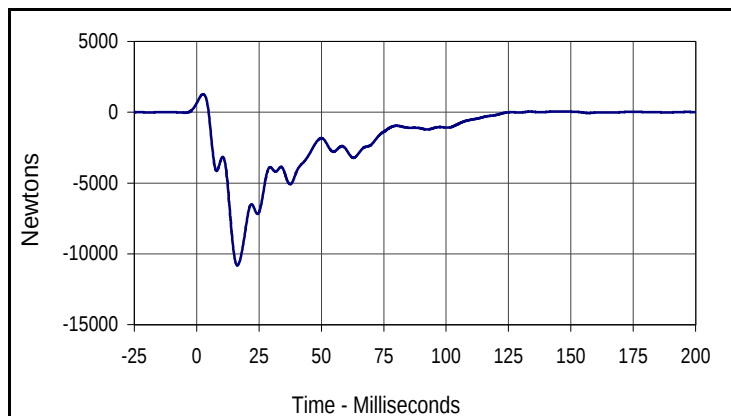
Test Date: 3/16/05
 NHTSA No.: M55208



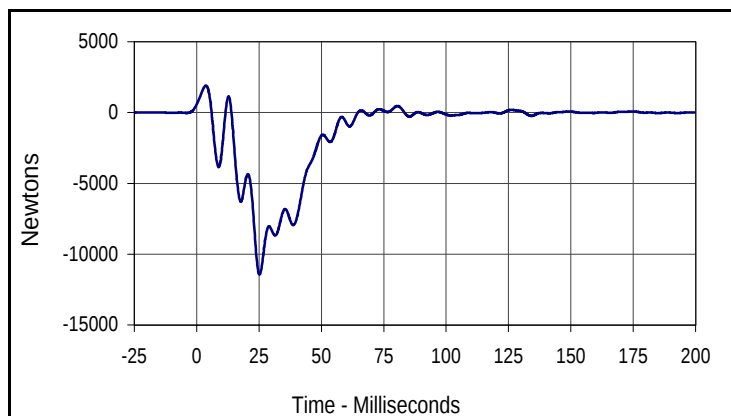
Curve Description			
Barrier Force A2			
CURNO	Type	SAE Class	Units
099	FIL	60	Newtons
Max	Time	Min	Time
1782.6	13.4	-1996.8	38.3



Curve Description			
Barrier Force B2			
CURNO	Type	SAE Class	Units
108	FIL	60	Newtons
Max	Time	Min	Time
1168.7	0.3	-14609.6	6.6



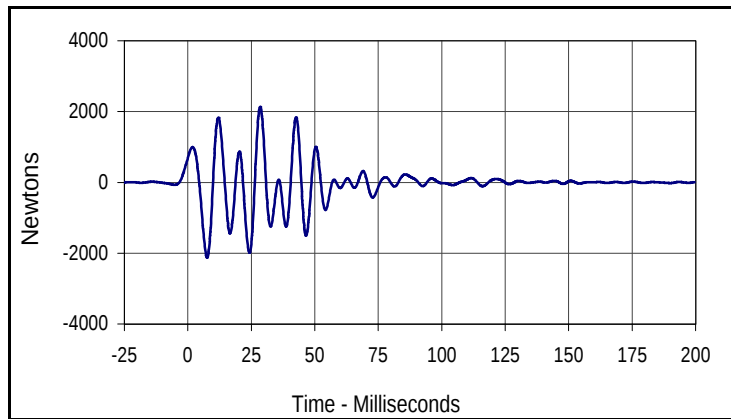
Curve Description			
Barrier Force C2			
CURNO	Type	SAE Class	Units
117	FIL	60	Newtons
Max	Time	Min	Time
1265.9	2.6	-10812.3	16.3



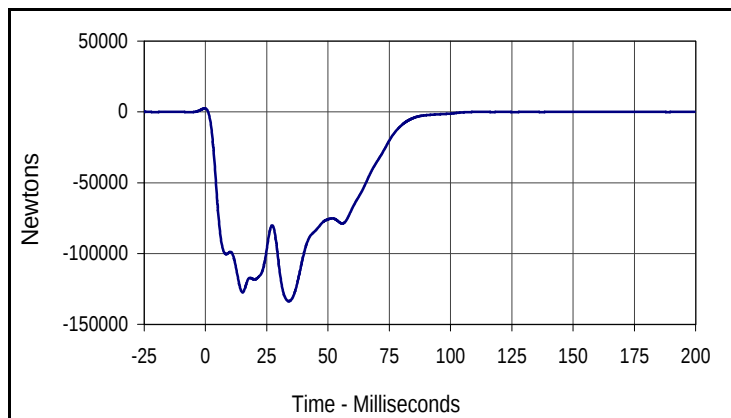
Curve Description			
Barrier Force D2			
CURNO	Type	SAE Class	Units
126	FIL	60	Newtons
Max	Time	Min	Time
1908.3	3.7	-11428.9	25.2

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

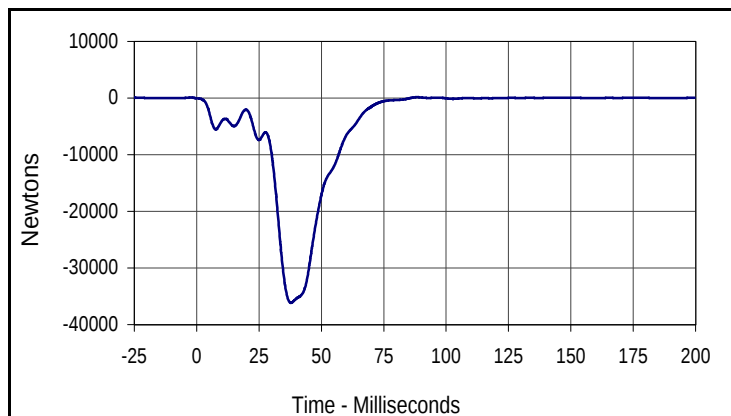
Test Date: 3/16/05
 NHTSA No.: M55208



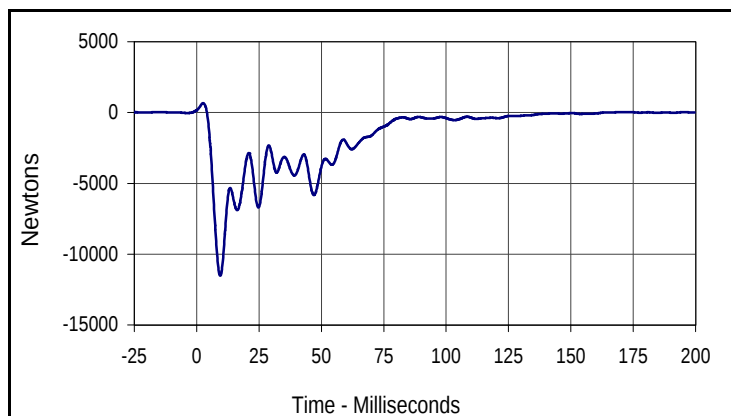
Curve Description			
Barrier Force A3			
CURNO	Type	SAE Class	Units
100	FIL	60	Newtons
Max	Time	Min	Time
2133.0	28.5	-2127.5	7.6



Curve Description			
Barrier Force B3			
CURNO	Type	SAE Class	Units
109	FIL	60	Newtons
Max	Time	Min	Time
2417.3	0.0	-133700.4	34.0



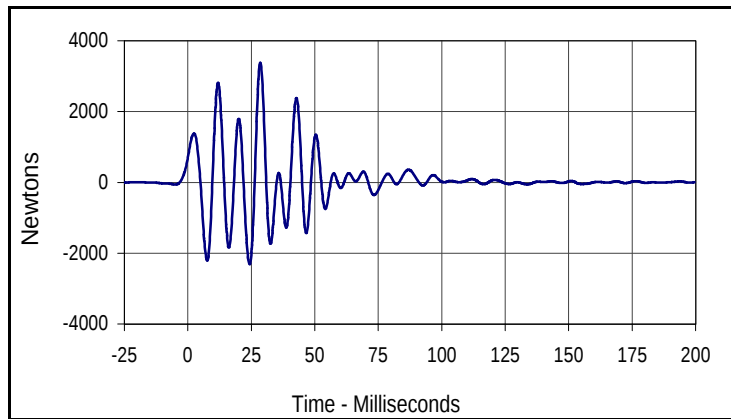
Curve Description			
Barrier Force C3			
CURNO	Type	SAE Class	Units
118	FIL	60	Newtons
Max	Time	Min	Time
152.6	88.4	-36143.9	37.8



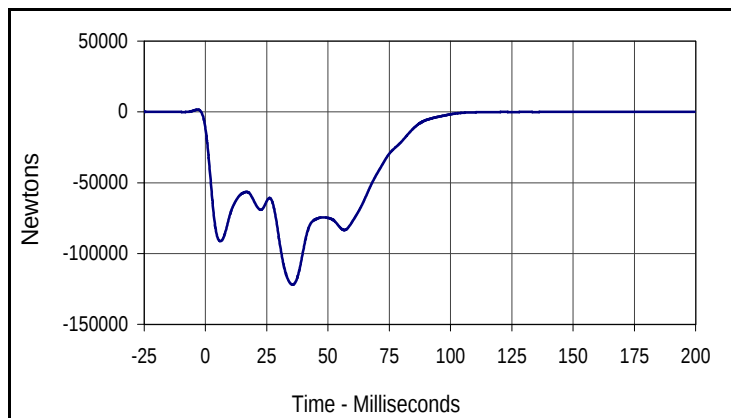
Curve Description			
Barrier Force D3			
CURNO	Type	SAE Class	Units
127	FIL	60	Newtons
Max	Time	Min	Time
669.8	2.6	-11521.5	9.4

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

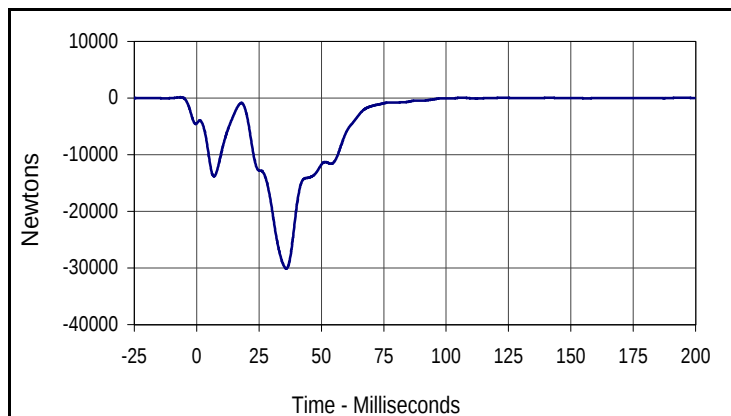
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 NHTSA No.: M55208



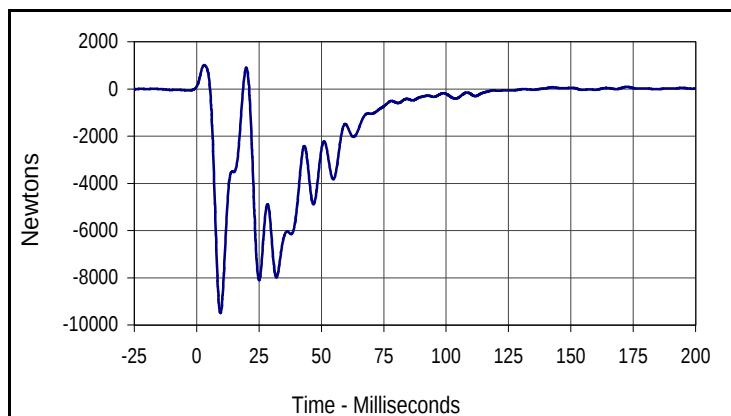
Curve Description			
Barrier Force A4			
CURNO	Type	SAE Class	Units
101	FIL	60	Newtons
Max	Time	Min	Time
3375.8	28.5	-2307.1	24.3



Curve Description			
Barrier Force B4			
CURNO	Type	SAE Class	Units
110	FIL	60	Newtons
Max	Time	Min	Time
44.8	179.6	-121964.8	35.5



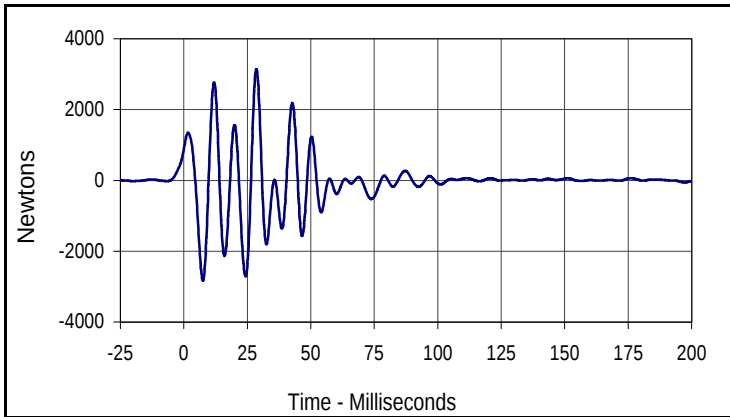
Curve Description			
Barrier Force C4			
CURNO	Type	SAE Class	Units
119	FIL	60	Newtons
Max	Time	Min	Time
74.7	106.4	-30097.5	35.9



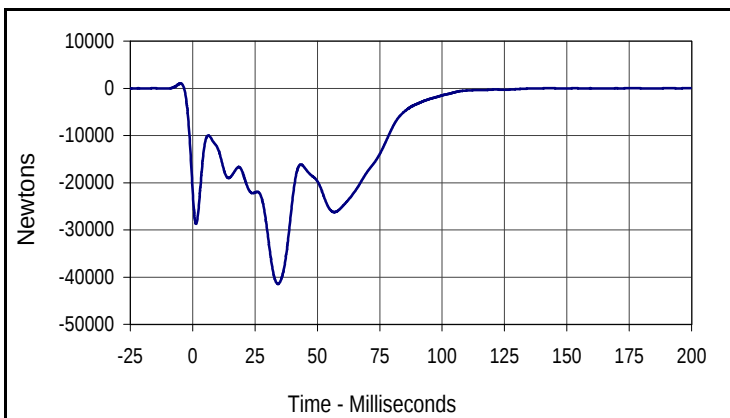
Curve Description			
Barrier Force D4			
CURNO	Type	SAE Class	Units
128	FIL	60	Newtons
Max	Time	Min	Time
1012.6	3.1	-9500.3	9.5

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

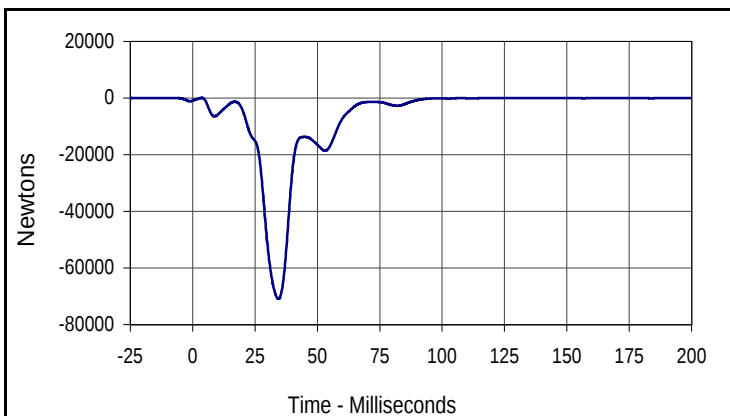
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 NHTSA No.: M55208



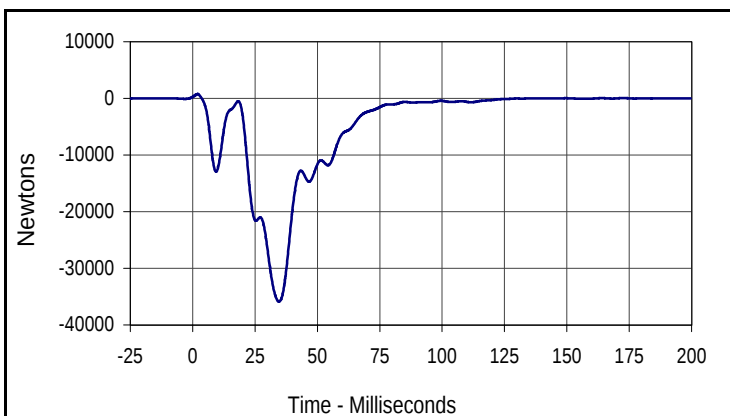
Curve Description			
Barrier Force A5			
CURNO	Type	SAE Class	Units
102	FIL	60	Newtons
Max	Time	Min	Time
3143.0	28.6	-2830.2	7.5



Curve Description			
Barrier Force B5			
CURNO	Type	SAE Class	Units
111	FIL	60	Newtons
Max	Time	Min	Time
24.1	176.2	-41433.2	34.2



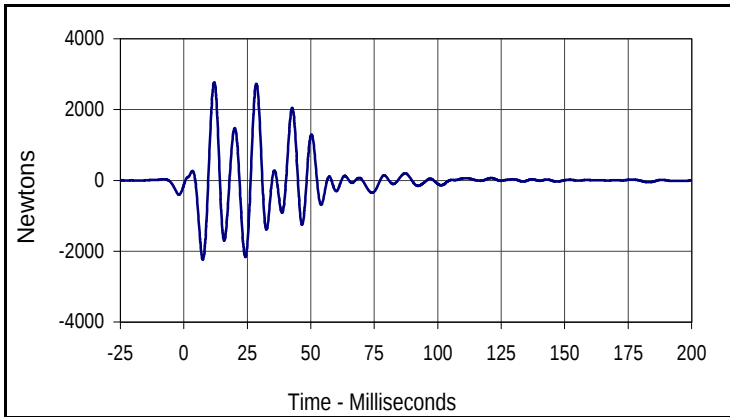
Curve Description			
Barrier Force C5			
CURNO	Type	SAE Class	Units
120	FIL	60	Newtons
Max	Time	Min	Time
59.6	3.6	-70852.9	34.3



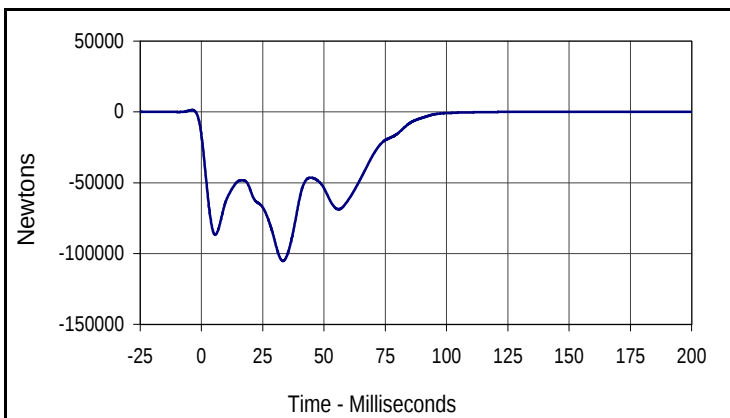
Curve Description			
Barrier Force D5			
CURNO	Type	SAE Class	Units
129	FIL	60	Newtons
Max	Time	Min	Time
766.5	2.0	-35863.5	34.6

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

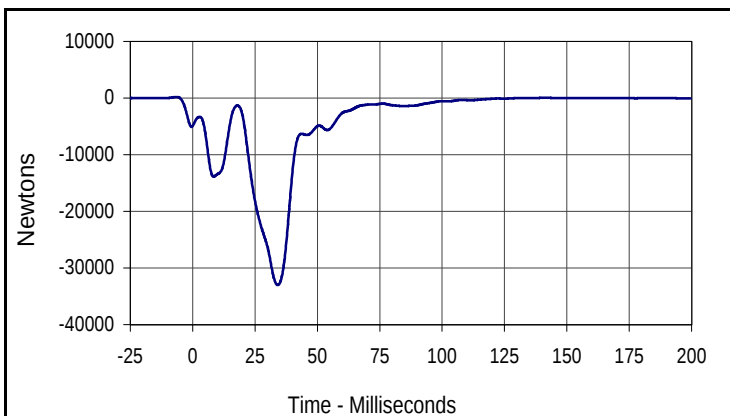
Test Date: 3/16/05
 NHTSA No.: M55208



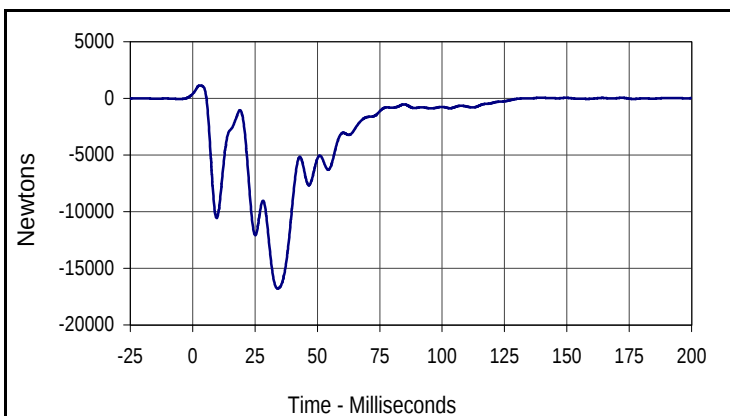
Curve Description			
Barrier Force A6			
CURNO	Type	SAE Class	Units
103	FIL	60	Newtons
Max	Time	Min	Time
2773.8	12.0	-2235.3	7.5



Curve Description			
Barrier Force B6			
CURNO	Type	SAE Class	Units
112	FIL	60	Newtons
Max	Time	Min	Time
40.1	152.5	-105263.4	33.2



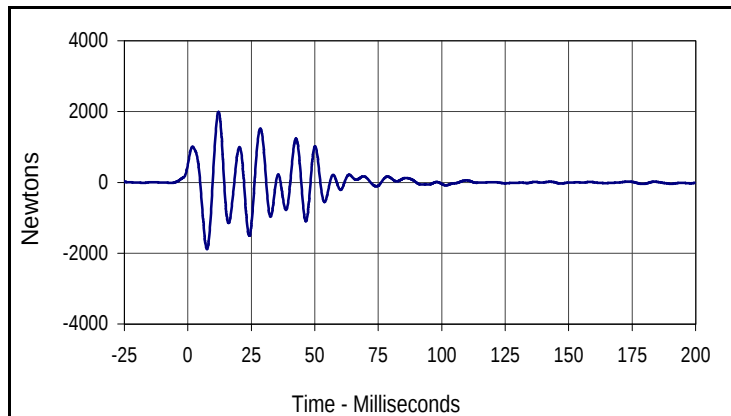
Curve Description			
Barrier Force C6			
CURNO	Type	SAE Class	Units
121	FIL	60	Newtons
Max	Time	Min	Time
46.9	140.8	-33018.3	34.1



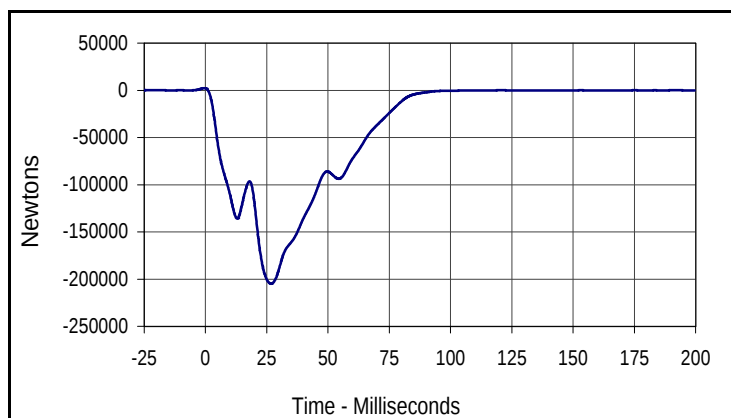
Curve Description			
Barrier Force D6			
CURNO	Type	SAE Class	Units
130	FIL	60	Newtons
Max	Time	Min	Time
1135.2	2.8	-16780.2	34.1

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

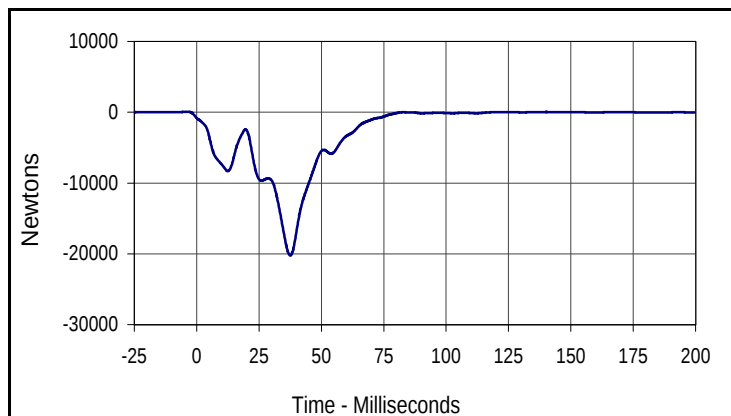
Test Date: 3/16/05
 NHTSA No.: M55208



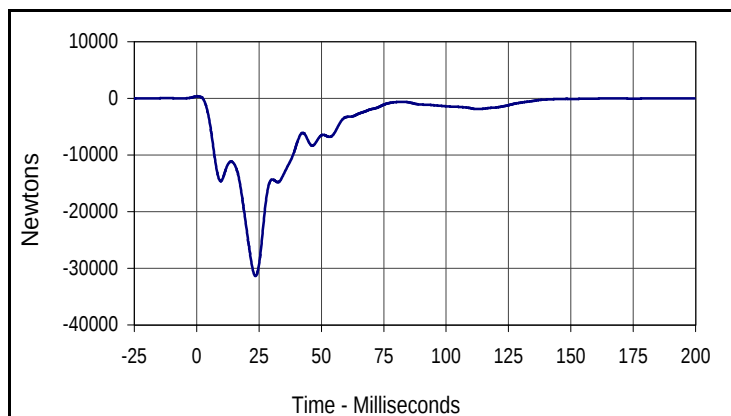
Curve Description			
Barrier Force A7			
CURNO	Type	SAE Class	Units
104	FIL	60	Newtons
Max	Time	Min	Time
1990.5	12.1	-1881.4	7.5



Curve Description			
Barrier Force B7			
CURNO	Type	SAE Class	Units
113	FIL	60	Newtons
Max	Time	Min	Time
2185.9	0.0	-204859.9	26.8



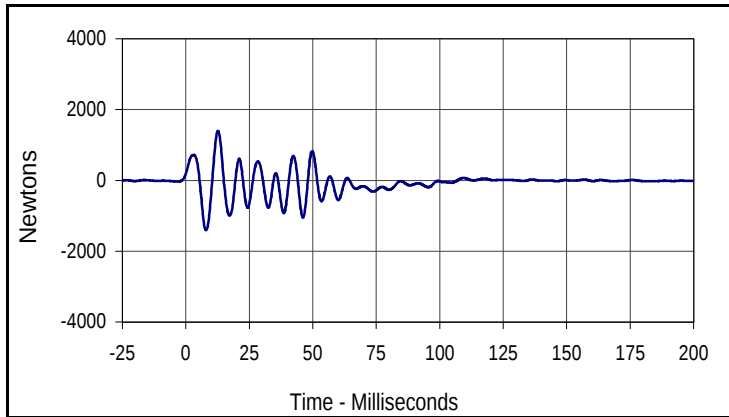
Curve Description			
Barrier Force C7			
CURNO	Type	SAE Class	Units
122	FIL	60	Newtons
Max	Time	Min	Time
34.0	140.1	-20238.7	37.5



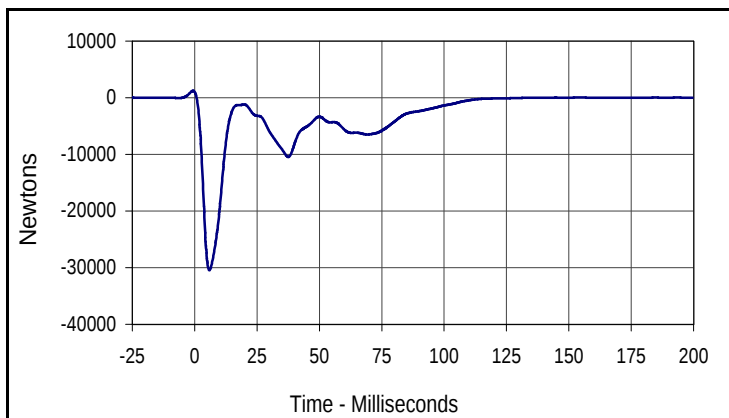
Curve Description			
Barrier Force D7			
CURNO	Type	SAE Class	Units
131	FIL	60	Newtons
Max	Time	Min	Time
368.2	0.3	-31369.0	23.6

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

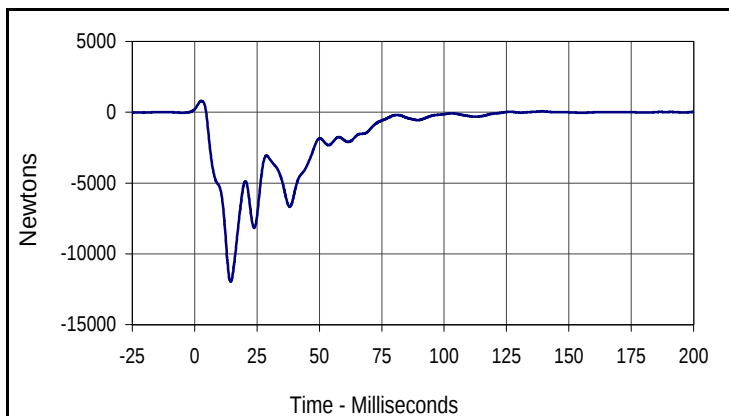
Test Date: 3/16/05
 NHTSA No.: M55208



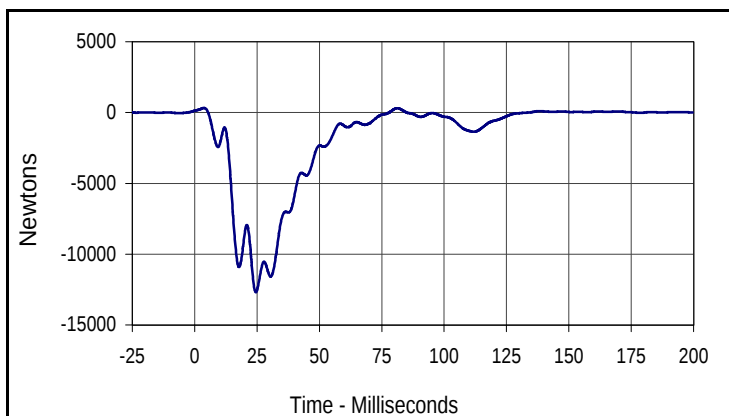
Curve Description			
Barrier Force A8			
CURNO	Type	SAE Class	Units
105	FIL	60	Newtons
Max	Time	Min	Time
1392.9	12.6	-1404.7	7.9



Curve Description			
Barrier Force B8			
CURNO	Type	SAE Class	Units
114	FIL	60	Newtons
Max	Time	Min	Time
1039.7	0.0	-30450.0	5.9



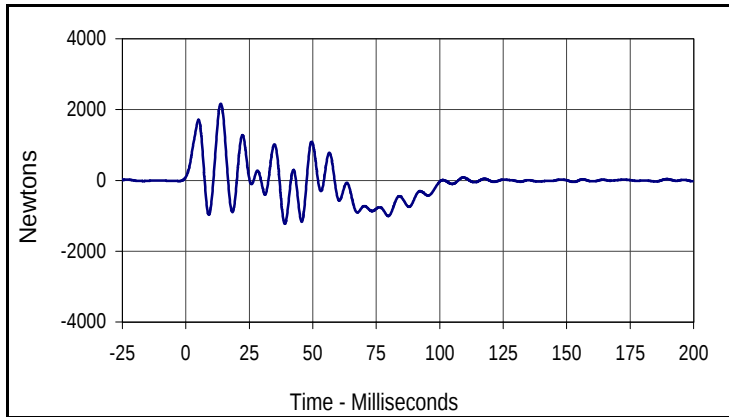
Curve Description			
Barrier Force C8			
CURNO	Type	SAE Class	Units
123	FIL	60	Newtons
Max	Time	Min	Time
787.9	2.7	-11972.7	14.4



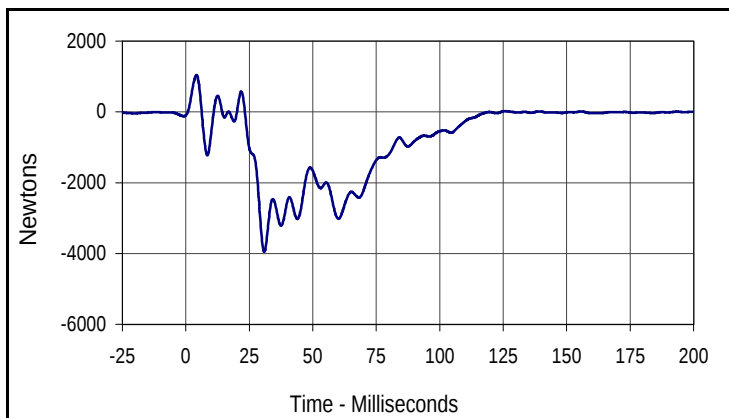
Curve Description			
Barrier Force D8			
CURNO	Type	SAE Class	Units
132	FIL	60	Newtons
Max	Time	Min	Time
321.2	3.7	-12692.7	24.5

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

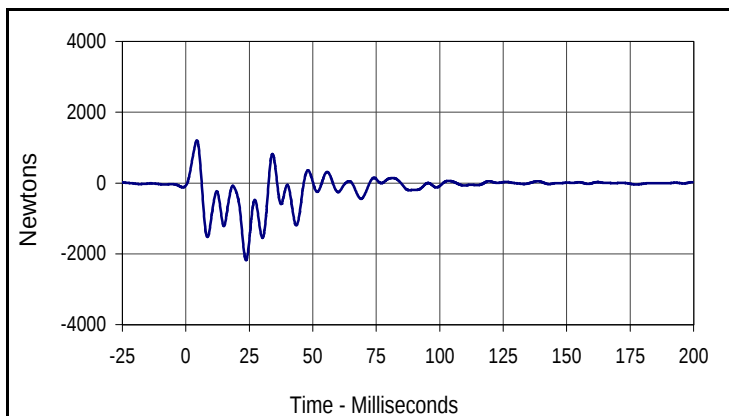
Test Date: 3/16/05
 NHTSA No.: M55208



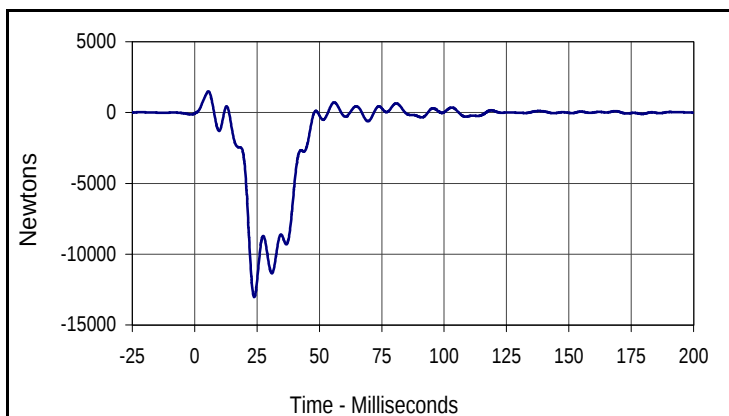
Curve Description			
Barrier Force A9			
CURNO	Type	SAE Class	Units
106	FIL	60	Newtons
Max	Time	Min	Time
2161.7	13.8	-1220.7	39.0



Curve Description			
Barrier Force B9			
CURNO	Type	SAE Class	Units
115	FIL	60	Newtons
Max	Time	Min	Time
1037.6	4.2	-3955.0	30.9



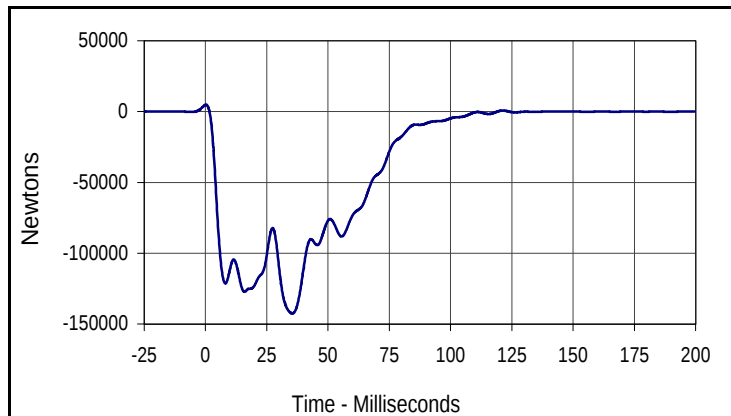
Curve Description			
Barrier Force C9			
CURNO	Type	SAE Class	Units
124	FIL	60	Newtons
Max	Time	Min	Time
1206.4	4.3	-2175.7	23.7



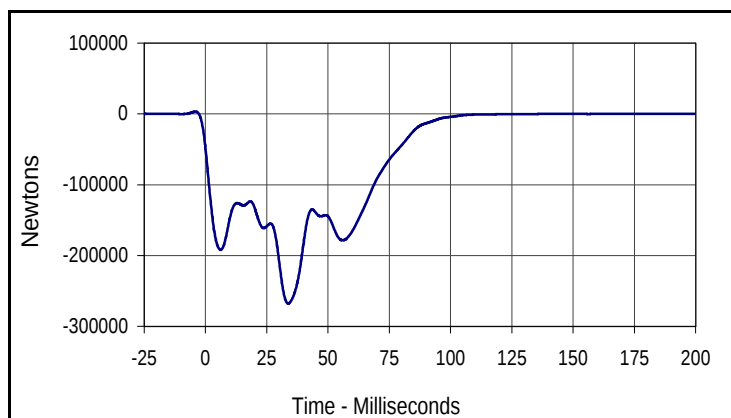
Curve Description			
Barrier Force D9			
CURNO	Type	SAE Class	Units
133	FIL	60	Newtons
Max	Time	Min	Time
1506.5	5.5	-13029.4	23.9

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

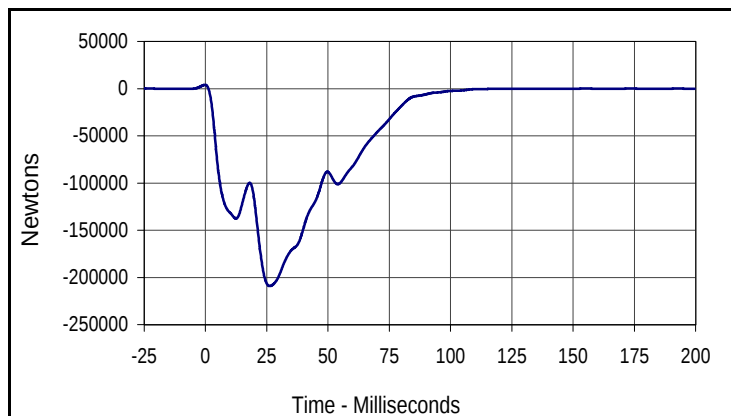
Test Date: 3/16/05
 NHTSA No.: M55208



Curve Description			
Barrier Force Sum Group 1			
CURNO	Type	SAE Class	Units
001	SUM	60	Newtons
Max	Time	Min	Time
4774.2	0.2	-142546.0	35.4



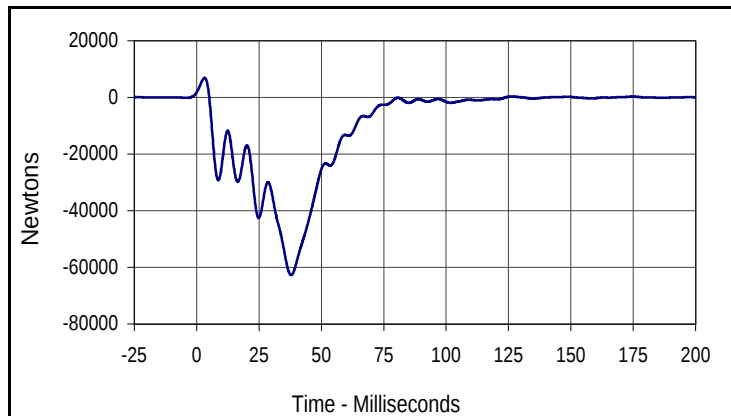
Curve Description			
Barrier Force Sum Group 2			
CURNO	Type	SAE Class	Units
002	SUM	60	Newtons
Max	Time	Min	Time
185.8	143.3	-267833.2	33.8



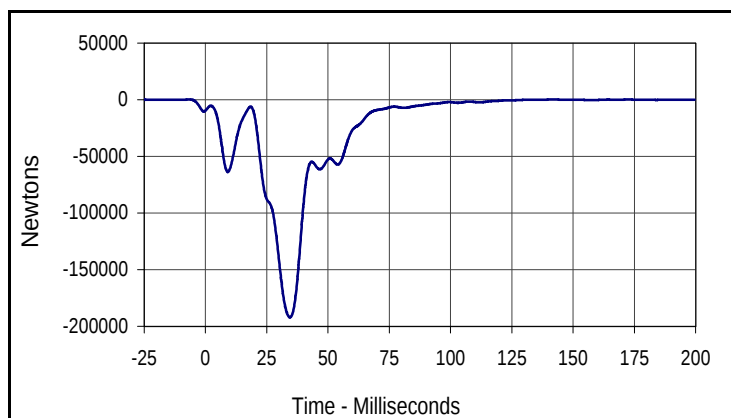
Curve Description			
Barrier Force Sum Group 3			
CURNO	Type	SAE Class	Units
003	SUM	60	Newtons
Max	Time	Min	Time
3926.9	0.0	-209121.2	26.2

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

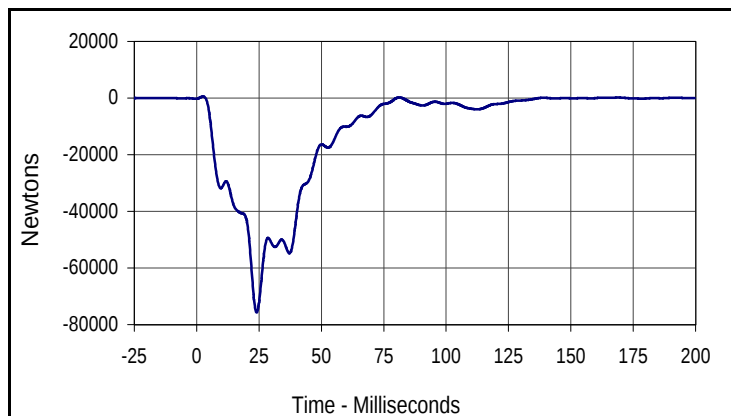
Test Date: 3/16/05
 NHTSA No.: M55208



Curve Description			
Barrier Force Sum Group 4			
CURNO	Type	SAE Class	Units
004	SUM	60	Newtons
Max	Time	Min	Time
6851.3	3.2	-62760.7	37.9



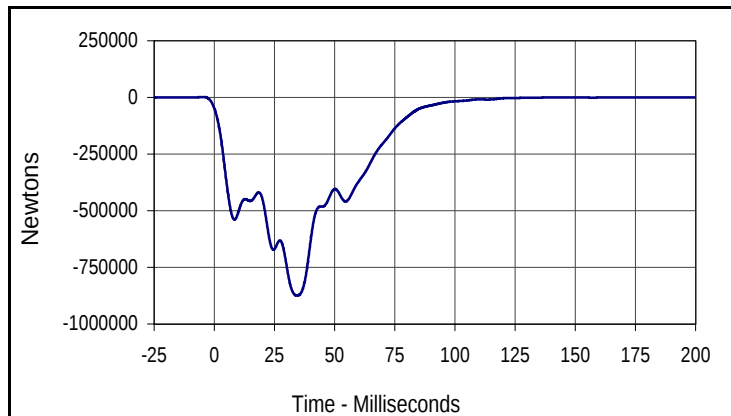
Curve Description			
Barrier Force Sum Group 5			
CURNO	Type	SAE Class	Units
005	SUM	60	Newtons
Max	Time	Min	Time
244.2	142.0	-192036.2	34.5



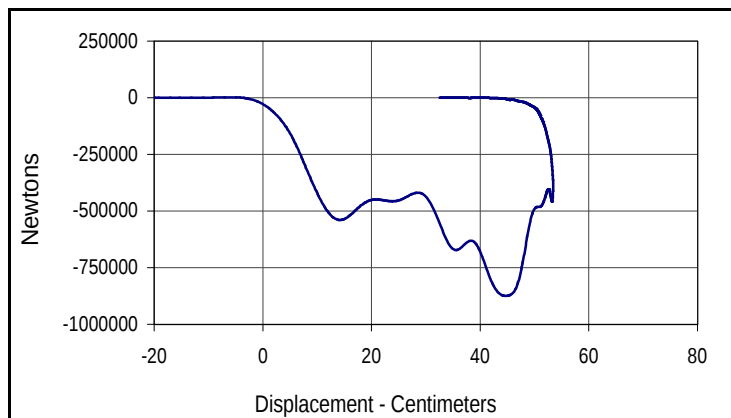
Curve Description			
Barrier Force Sum Group 6			
CURNO	Type	SAE Class	Units
006	SUM	60	Newtons
Max	Time	Min	Time
551.8	2.6	-75680.4	24.0

Test Vehicle: 2005 Nissan Xterra 5-Door MPV
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05
 NHTSA No.: M55208



Curve Description			
Barrier Force Total Sum			
CURNO	Type	SAE Class	Units
007	SUM	60	Newtons
Max	Time	Min	Time
540.6	173.5	-874586.0	34.3



Curve Description			
Barrier Force Total Sum vs. Displ.			
CURNO	Type	SAE Class	Units
001	XVY	60	Newtons
Max	CM	Min	CM
540.6	35.8	-874586.0	44.1

BARRIER LOAD CELL SUMMARY DATA

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

Location	Units	Max	Time	Min	Time
Barrier Force A1	Newtons	3570.5	13.9	-3309.8	18.6
Barrier Force A2	Newtons	1782.6	13.4	-1996.8	38.3
Barrier Force A3	Newtons	2133.0	28.5	-2127.5	7.6
Barrier Force A4	Newtons	3375.8	28.5	-2307.1	24.3
Barrier Force A5	Newtons	3143.0	28.6	-2830.2	7.5
Barrier Force A6	Newtons	2773.8	12.0	-2235.3	7.5
Barrier Force A7	Newtons	1990.5	12.1	-1881.4	7.5
Barrier Force A8	Newtons	1392.9	12.6	-1404.7	7.9
Barrier Force A9	Newtons	2161.7	13.8	-1220.7	39.0
Barrier Force B1	Newtons	1590.6	3.6	-5468.7	36.9
Barrier Force B2	Newtons	1168.7	0.3	-14609.6	6.6
Barrier Force B3	Newtons	2417.3	0.0	-133700.4	34.0
Barrier Force B4	Newtons	44.8	179.6	-121964.8	35.5
Barrier Force B5	Newtons	24.1	176.2	-41433.2	34.2
Barrier Force B6	Newtons	40.1	152.5	-105263.4	33.2
Barrier Force B7	Newtons	2185.9	0.0	-204859.9	26.8
Barrier Force B8	Newtons	1039.7	0.0	-30450.0	5.9
Barrier Force B9	Newtons	1037.6	4.2	-3955.0	30.9
Barrier Force C1	Newtons	2062.2	3.7	-2518.2	7.9
Barrier Force C2	Newtons	1265.9	2.6	-10812.3	16.3
Barrier Force C3	Newtons	152.6	88.4	-36143.9	37.8
Barrier Force C4	Newtons	74.7	106.4	-30097.5	35.9
Barrier Force C5	Newtons	59.6	3.6	-70852.9	34.3
Barrier Force C6	Newtons	46.9	140.8	-33018.3	34.1
Barrier Force C7	Newtons	34.0	140.1	-20238.7	37.5
Barrier Force C8	Newtons	787.9	2.7	-11972.7	14.4
Barrier Force C9	Newtons	1206.4	4.3	-2175.7	23.7
Barrier Force D1	Newtons	2066.0	4.2	-9241.4	37.6
Barrier Force D2	Newtons	1908.3	3.7	-11428.9	25.2
Barrier Force D3	Newtons	669.8	2.6	-11521.5	9.4
Barrier Force D4	Newtons	1012.6	3.1	-9500.3	9.5
Barrier Force D5	Newtons	766.5	2.0	-35863.5	34.6
Barrier Force D6	Newtons	1135.2	2.8	-16780.2	34.1
Barrier Force D7	Newtons	368.2	0.3	-31369.0	23.6
Barrier Force D8	Newtons	321.2	3.7	-12692.7	24.5
Barrier Force D9	Newtons	1506.5	5.5	-13029.4	23.9
Barrier Force Sum Group 1	Newtons	4774.2	0.2	-142546.0	35.4
Barrier Force Sum Group 2	Newtons	185.8	143.3	-267833.2	33.8
Barrier Force Sum Group 3	Newtons	3926.9	0.0	-209121.2	26.2
Barrier Force Sum Group 4	Newtons	6851.3	3.2	-62760.7	37.9
Barrier Force Sum Group 5	Newtons	244.2	142.0	-192036.2	34.5
Barrier Force Sum Group 6	Newtons	551.8	2.6	-75680.4	24.0
Barrier Force Total Sum	Newtons	540.6	173.5	-874586.0	34.3

APPENDIX D

INSTRUMENTATION DATA CHANNEL ASSIGNMENTS

2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 35
3/16/05
2005 Nissan Xterra 5-Door MPV

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
1	HEAD, PRIMARY	X	GPAC027	Accel., 1/2 bridge	Endevco	7264-2000	G
2	HEAD, PRIMARY	Y	GPAC002	Accel., 1/2 bridge	Endevco	7264-2000	G
3	HEAD, PRIMARY	Z	GPAC003	Accel., 1/2 bridge	Endevco	7264-2000	G
4	HEAD, REDUNDANT	X	GPAC032	Accel., 1/2 bridge	Endevco	7264-2000	G
5	HEAD, REDUNDANT	Y	GPAC021	Accel., 1/2 bridge	Endevco	7264-2000	G
6	HEAD, REDUNDANT	Z	GPAC026	Accel., 1/2 bridge	Endevco	7264-2000	G
7	NECK FORCE	X	GPUN01FX	Load cell, six axis neck	R. A. Denton	1716A	N
8	NECK FORCE	Y	GPUN01FY	Load cell, six axis neck	R. A. Denton	1716A	N
9	NECK FORCE	Z	GPUN01FZ	Load cell, six axis neck	R. A. Denton	1716A	N
10	NECK MOMENT	X	GPUN01MX	Load cell, six axis neck	R. A. Denton	1716A	Nm
11	NECK MOMENT	Y	GPUN01MY	Load cell, six axis neck	R. A. Denton	1716A	Nm
12	NECK MOMENT	Z	GPUN01MZ	Load cell, six axis neck	R. A. Denton	1716A	Nm
13	CHEST, PRIMARY	X	GPAC005	Accel., 1/2 bridge	Endevco	7264-2000	G
14	CHEST, PRIMARY	Y	GPAC011	Accel., 1/2 bridge	Endevco	7264-2000	G
15	CHEST, PRIMARY	Z	GPAC010	Accel., 1/2 bridge	Endevco	7264-2000	G
16	CHEST, REDUNDANT	X	GPAC034	Accel., 1/2 bridge	Endevco	7264-2000	G
17	CHEST, REDUNDANT	Y	GPAC023	Accel., 1/2 bridge	Endevco	7264-2000	G
18	CHEST, REDUNDANT	Z	GPAC020	Accel., 1/2 bridge	Endevco	7264-2000	G
19	CHEST DEFLECTION	X	GPCP002	Rotary Pot Chest	Servo	14CBI	MM
20	PELVIS, PRIMARY	X	GPAC025	Accel., 1/2 bridge	Endevco	7264-2000	G
21	PELVIS, PRIMARY	Y	GPAC022	Accel., 1/2 bridge	Endevco	7264-2000	G
22	PELVIS, PRIMARY	Z	GPAC019	Accel., 1/2 bridge	Endevco	7264-2000	G
23	LEFT FEMUR FORCE	Z	KEFF003	Load cell, Femur	R.A. Denton	2121	N
24	RIGHT FEMUR FORCE	Z	KEFF004	Load cell, Femur	R.A. Denton	2121	N

2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 35
3/16/05
2005 Nissan Xterra 5-Door MPV

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
25	UP. TIBIA LEFT MOM.	X	GPOT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
26	UP. TIBIA LEFT MOM.	Y	GPOT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
27	UP. TIBIA RIGHT MOM.	X	GPOT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
28	UP. TIBIA RIGHT MOM.	Y	GPOT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
29	LWR. TIBIA LEFT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
30	LWR. TIBIA LEFT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
31	LWR. TIBIA LEFT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
32	LWR. TIBIA RIGHT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
33	LWR. TIBIA RIGHT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
34	LWR. TIBIA RIGHT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
35	FOOT LEFT, AFT	X	KEIC002X	Accel., Foot Triax	I.C. Sensor	3031-500	G
36	FOOT LEFT, AFT	Z	KEIC002Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
37	FOOT LEFT, FORE	Z	KEIC002Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
38	FOOT RIGHT, AFT	X	KEIC001X	Accel., Foot Triax	I.C. Sensor	3031-500	G
39	FOOT RIGHT, AFT	Z	KEIC001Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
40	FOOT RIGHT, FORE	Z	KEIC001Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
41	LAP BELT FORCE	X	BL134	Load cell, Seat belt	FGP	FN4060	N
42	SHOULDER BELT FORCE	X	BL135	Load cell, Seat belt	FGP	FN4060	N
43	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	MM
44	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Passenger A.T.D. Serial Number 34
3/16/05
2005 Nissan Xterra 5-Door MPV

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
45	HEAD, PRIMARY	X	KEAC039	Accel.,1/2 bridge	Endevco	7264-2000	G
46	HEAD, PRIMARY	Y	KEAC038	Accel.,1/2 bridge	Endevco	7264-2000	G
47	HEAD, PRIMARY	Z	KEAC027	Accel.,1/2 bridge	Endevco	7264-2000	G
48	HEAD, REDUNDANT	X	KEAC031	Accel.,1/2 bridge	Endevco	7264-2000	G
49	HEAD, REDUNDANT	Y	KEAC032	Accel.,1/2 bridge	Endevco	7264-2000	G
50	HEAD, REDUNDANT	Z	KEAC026	Accel.,1/2 bridge	Endevco	7264-2000	G
51	NECK FORCE	X	GPUN02FX	Load cell, six axis neck	R. A. Denton	1716A	N
52	NECK FORCE	Y	GPUN02FY	Load cell, six axis neck	R. A. Denton	1716A	N
53	NECK FORCE	Z	GPUN02FZ	Load cell, six axis neck	R. A. Denton	1716A	N
54	NECK MOMENT	X	GPUN02MX	Load cell, six axis neck	R. A. Denton	1716A	Nm
55	NECK MOMENT	Y	GPUN02MY	Load cell, six axis neck	R. A. Denton	1716A	Nm
56	NECK MOMENT	Z	GPUN02MZ	Load cell, six axis neck	R. A. Denton	1716A	Nm
57	CHEST, PRIMARY	X	GPAC031	Accel., 1/2 bridge	Endevco	7264-2000	G
58	CHEST, PRIMARY	Y	GPAC024	Accel., 1/2 bridge	Endevco	7264-2000	G
59	CHEST, PRIMARY	Z	GPAC029	Accel., 1/2 bridge	Endevco	7264-2000	G
60	CHEST, REDUNDANT	X	KEAC023	Accel.,1/2 bridge	Endevco	7264-200	G
61	CHEST, REDUNDANT	Y	KEAC022	Accel.,1/2 bridge	Endevco	7264-200	G
62	CHEST, REDUNDANT	Z	KEAC024	Accel.,1/2 bridge	Endevco	7264-200	G
63	CHEST DEFLECTION	X	GPCP001	Rotary Pot Chest	Servo	14CBI	MM
64	PELVIS, PRIMARY	X	KEAC019	Accel.,1/2 bridge	Endevco	7264-200	G
65	PELVIS, PRIMARY	Y	KEAC020	Accel.,1/2 bridge	Endevco	7264-200	G
66	PELVIS, PRIMARY	Z	KEAC021	Accel.,1/2 bridge	Endevco	7264-200	G
67	LEFT FEMUR FORCE	Z	KEFF001	Load cell, Femur	R.A. Denton	2121	N
68	RIGHT FEMUR FORCE	Z	KEFF002	Load cell, Femur	R.A. Denton	2121	N

2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Passenger A.T.D. Serial Number 34
3/16/05
2005 Nissan Xterra 5-Door MPV

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
69	UP. TIBIA LEFT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
70	UP. TIBIA LEFT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
71	UP. TIBIA RIGHT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
72	UP. TIBIA RIGHT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
73	LWR. TIBIA LEFT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
74	LWR. TIBIA LEFT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
75	LWR. TIBIA LEFT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
76	LWR. TIBIA RIGHT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
77	LWR. TIBIA RIGHT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
78	LWR. TIBIA RIGHT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
79	FOOT LEFT, AFT	X	KEIC003X	Accel., Foot Triax	I.C. Sensor	3031-500	G
80	FOOT LEFT, AFT	Z	KEIC003Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
81	FOOT LEFT, FORE	Z	KEIC003Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
82	FOOT RIGHT, AFT	X	KEIC004X	Accel., Foot Triax	I.C. Sensor	3031-500	G
83	FOOT RIGHT, AFT	Z	KEIC004Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
84	FOOT RIGHT, FORE	Z	KEIC004Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
85	LAP BELT FORCE	X	BL168	Load cell, Seat belt	First Tech	IF-964	N
86	SHOULDER BELT FORCE	X	BL169	Load cell, Seat belt	First Tech	IF-964	N
87	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	MM
88	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

**2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Vehicle Accelerometers
3/16/05
2005 Nissan Xterra 5-Door MPV**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
89	LEFT REAR	X	KEVA002	Accel., Pre-Amp	I.C.S/Karco	3031-500	G
90	RIGHT REAR	X	KEVA006	Accel., Vehicle block	I.C. Sensor	3031-200	G
91	ENGINE TOP	X	KEVA009	Accel., Vehicle block	I.C. Sensor	3031-500	G
92	ENGINE BOTTOM	X	KEVA007	Accel., Vehicle block	I.C. Sensor	3031-500	G
93	LEFT BRAKE CALIPER	X	KEVA008	Accel., Vehicle block	I.C. Sensor	3031-500	G
94	RIGHT BRAKE CALIPER	X	KEVA012	Accel., Vehicle block	I.C. Sensor	3031-500	G
95	INSTRUMENT PANEL	X	KEVA011	Accel., Vehicle block	I.C. Sensor	3031-200	G
96	LEFT REAR	Z	KEVA001	Accel., Vehicle block	I.C. Sensor	3031-500	G
97	RIGHT REAR	Z	KEVA010	Accel., Vehicle block	I.C. Sensor	3031-200	G

2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Rigid Load Cell Barrier
3/16/05
2005 Nissan Xterra 5-Door MPV

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
98	BARRIER FORCE A1	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
99	BARRIER FORCE A2	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
100	BARRIER FORCE A3	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
101	BARRIER FORCE A4	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
102	BARRIER FORCE A5	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
103	BARRIER FORCE A6	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
104	BARRIER FORCE A7	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
105	BARRIER FORCE A8	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
106	BARRIER FORCE A9	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
107	BARRIER FORCE B1	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
108	BARRIER FORCE B2	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
109	BARRIER FORCE B3	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
110	BARRIER FORCE B4	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
111	BARRIER FORCE B5	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
112	BARRIER FORCE B6	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
113	BARRIER FORCE B7	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
114	BARRIER FORCE B8	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
115	BARRIER FORCE B9	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N

2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Rigid Load Cell Barrier
3/16/05
2005 Nissan Xterra 5-Door MPV

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
116	BARRIER FORCE C1	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
117	BARRIER FORCE C2	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
118	BARRIER FORCE C3	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
119	BARRIER FORCE C4	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
120	BARRIER FORCE C5	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
121	BARRIER FORCE C6	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
122	BARRIER FORCE C7	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
123	BARRIER FORCE C8	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
124	BARRIER FORCE C9	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
125	BARRIER FORCE D1	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
126	BARRIER FORCE D2	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
127	BARRIER FORCE D3	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
128	BARRIER FORCE D4	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
129	BARRIER FORCE D5	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
130	BARRIER FORCE D6	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
131	BARRIER FORCE D7	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
132	BARRIER FORCE D8	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
133	BARRIER FORCE D9	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N

APPENDIX E

DUMMY CALIBRATION DATA

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

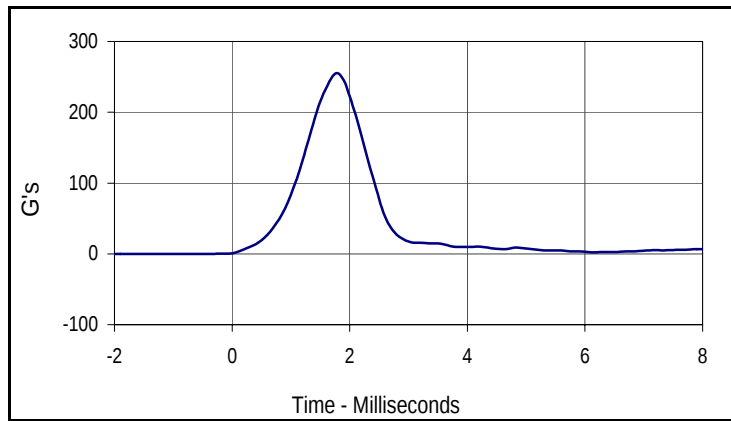
Test Date: 2/15/05

ATD Serial No.: 034

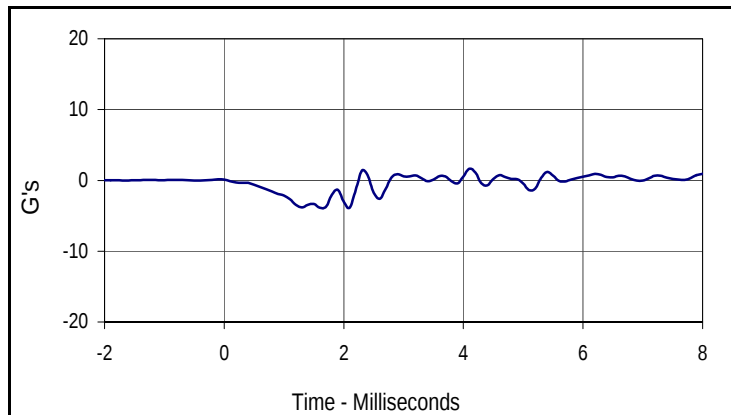
Test I.D.: HD02A



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	255.0	Pass
Peak Lateral Acceleration	G's	≤15.0	3.9	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results			Pass	



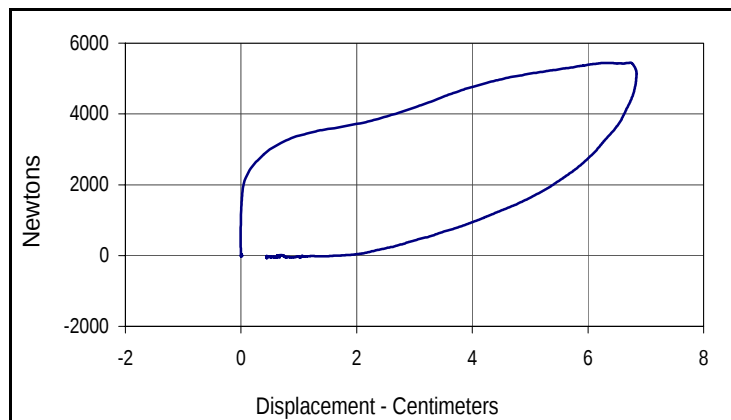
Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
255.0	1.8	0.0	-0.4



Curve Description			
Head Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
1.6	4.1	-3.9	1.6

Test Program: Hybrid III 50th Percentile Male Thorax Impact TestTest Date: 2/16/05ATD Serial No.: 034Test I.D.: CH02A

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	6.74	Pass
Peak Probe Force	Newtons	5159 to 5893	5447	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.84	Pass
Internal Hysteresis	%	69 to 85	75.3	Pass
Overall Test Results				Pass



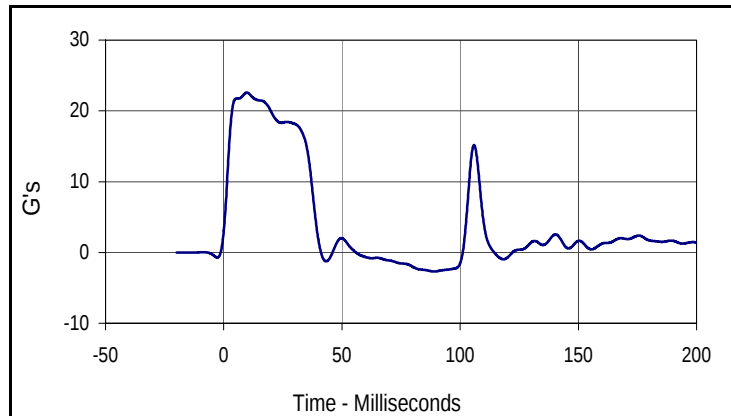
Curve Description			
Probe Force vs. Chest Deflection			
CURNO	Type	SAE Class	Hysteresis
001	FIL	180	75.3
Peak Probe Force		Peak Chest Deflection	
5447		6.84	

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

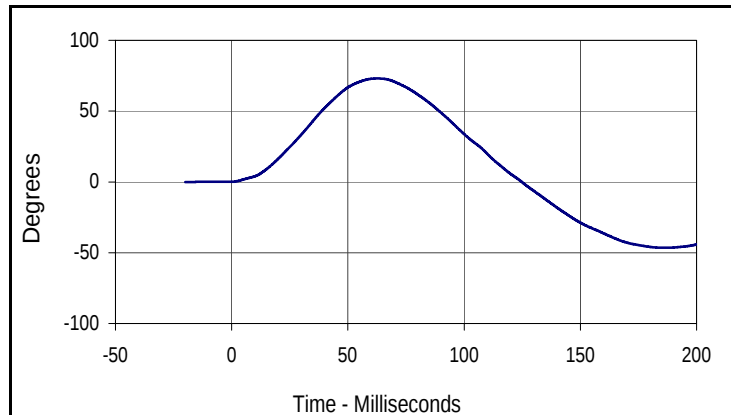
Test Date: 2/16/05
 Test I.D.: NF02A



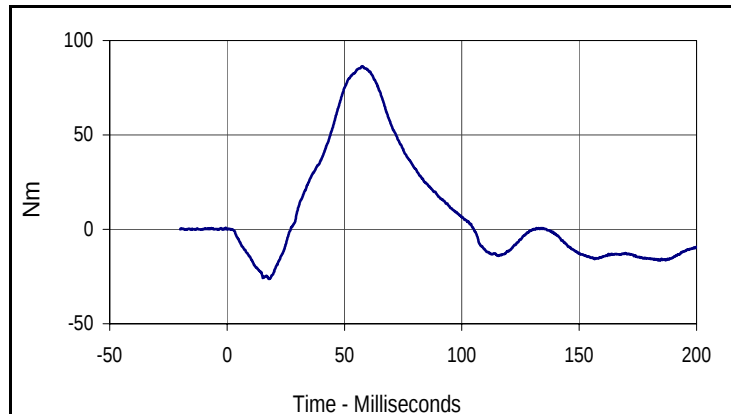
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	6.89 to 7.13	7.05	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	22.6	Pass
	20 Msec.	G's	17.6 to 22.6	19.9	Pass
	30 Msec.	G's	12.5 to 18.5	18.2	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	18.2	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	38.8	Pass
Maximum "D" Plane Rotation	Max	Degrees	64.0 to 78.0	73.0	Pass
	Time	Msec.	57.0 to 64.0	62.7	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	124.8	Pass
Moment About Occ. Condyle	Max	Nm	84.1 to 108.5	86.4	Pass
	Time	Msec.	47.0 to 58.0	57.5	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	105.2	Pass
Overall Test Results				Pass	



Curve Description			
Pendulum Deceleration			
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
22.6	9.8	-2.7	89.0



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
73.0	62.7	-46.5	186.7



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
86.4	57.5	-26.2	17.9

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

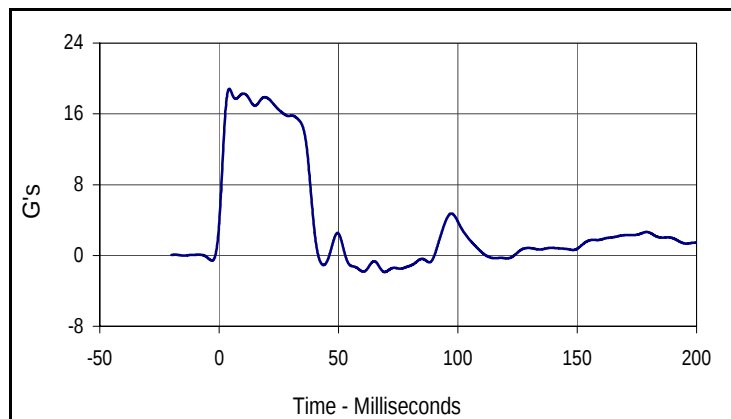
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ATD Serial No.: 034

Test I.D.: NE02A



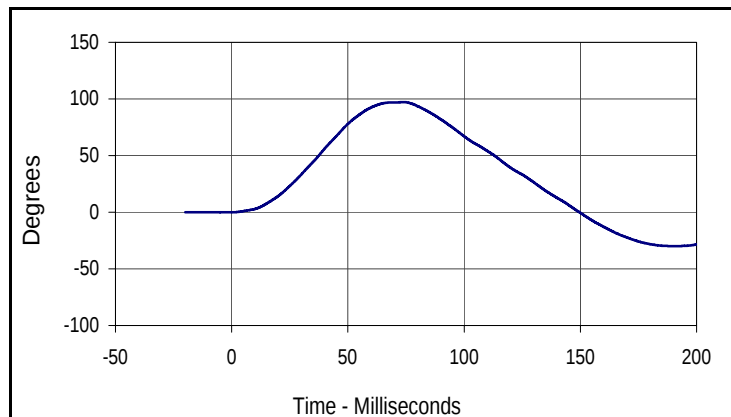
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	5.94 to 6.19	5.97	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	18.3	Pass
	20 Msec.	G's	14.0 to 19.0	17.8	Pass
	30 Msec.	G's	11.0 to 16.0	15.8	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	15.8	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	39.2	Pass
Maximum "D" Plane Rotation	Max	Degrees	81.0 to 106.0	97.2	Pass
	Time	Msec.	72.0 to 82.0	74.0	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	149.6	Pass
Moment About Occ. Condyle	Max	Nm	-52.9 to- 79.9	-77.9	Pass
	Time	Msec.	65.0 to 79.0	65.6	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	131.6	Pass
Overall Test Results				Pass	



Curve Description

Pendulum Deceleration

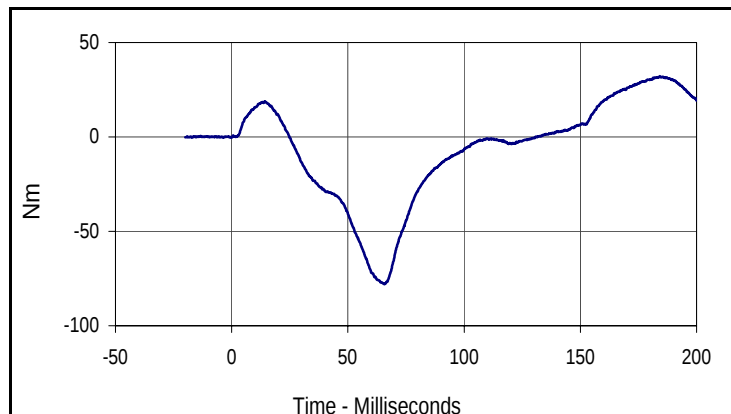
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
18.8	4.2	-1.9	69.4



Curve Description

"D" Plane Rotation

CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
97.2	74.0	-29.9	190.7



Curve Description

Moment About Occipital Condyle

CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
32.3	184.2	-77.9	65.6

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

Test Date: 2/15/05

ATD Serial No.: 034

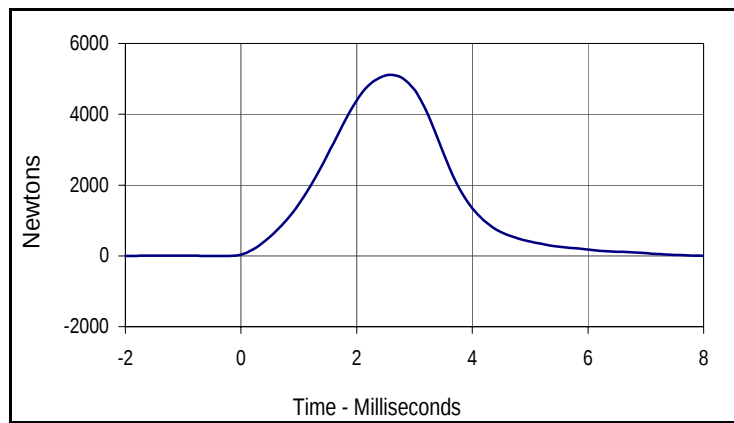
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**Left Knee**

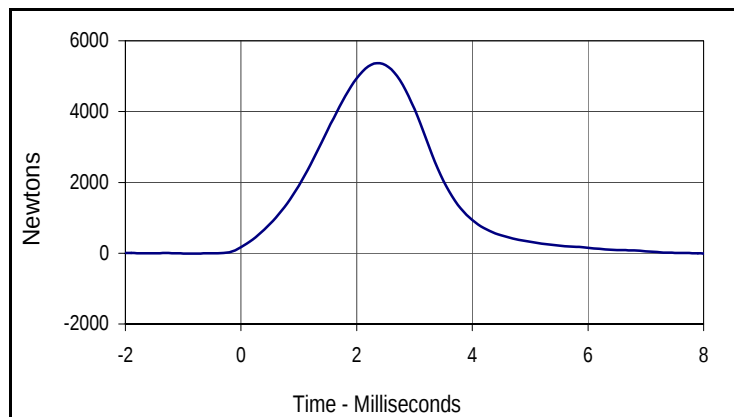
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.12	Pass
Peak Probe Force	Newtons	4715 to 5782	5113	Pass
Overall Test Results				Pass

Right Knee

Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.13	Pass
Peak Probe Force	Newtons	4715 to 5782	5370	Pass
Overall Test Results				Pass

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

CURNO	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
5113.0	2.6	-44.9	9.4

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

CURNO	Type	SAE Class	Units
002	FIL	600	Newtons
Max	Time	Min	Time
5370.0	2.4	-34.6	9.2

Test Program: Hybrid III 50th Percentile Male External Measurements

Test Date: 2/16/05

ATD Serial No.: 034

Test I.D.: N/A



Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
A - Total sitting height	mm	879 to 889	885	Pass
B - Shoulder pivot height	mm	505 to 521	510	Pass
C - "H" point height	mm	84 to 89	86	Pass
D - "H" point from seat back	mm	135 to 140	139	Pass
E - Shoulder pivot from back	mm	84 to 94	90	Pass
F - Thigh clearance	mm	140 to 155	150	Pass
G - Elbow back to wrist pivot	mm	290 to 305	295	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	210	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	495	Pass
N - Buttock popliteal length	mm	452 to 477	465	Pass
O - Chest depth	mm	213 to 229	225	Pass
P - Foot length	mm	251 to 267	265	Pass
V - Shoulder breadth	mm	422 to 437	425	Pass
W - Foot breadth	mm	91 to 107	100	Pass
Y - Chest circumference	mm	970 to 1001	1000	Pass
Z - Waist circumference	mm	836 to 866	845	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: Hybrid III 50th Percentile Male Head Drop Test

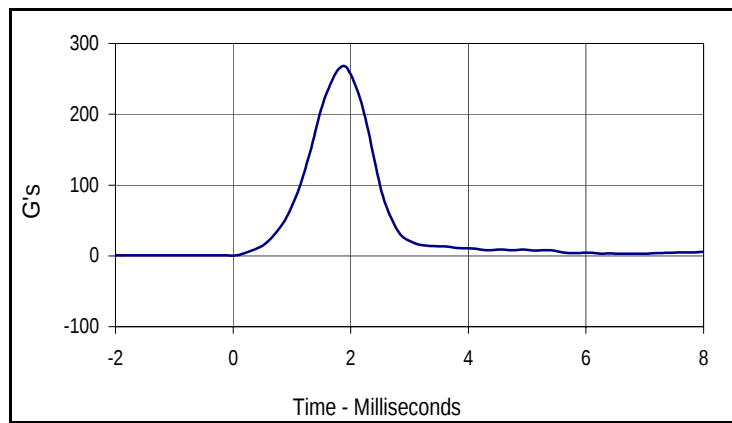
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ATD Serial No.: 035

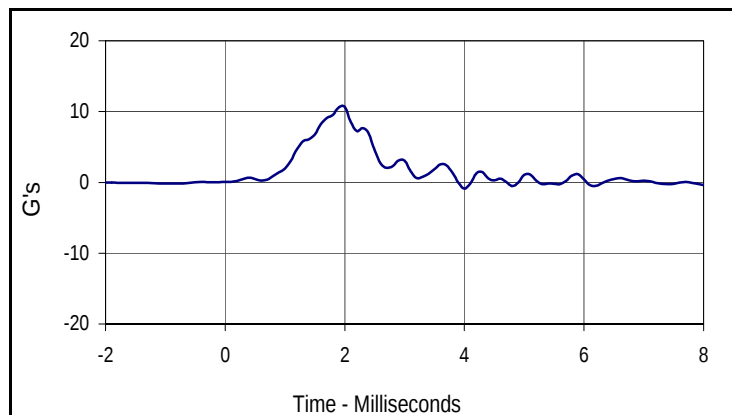
Test I.D.: HD02B



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	268.0	Pass
Peak Lateral Acceleration	G's	≤15.0	10.6	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
268.0	1.9	0.4	0.0



Curve Description			
Head Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
10.6	2.0	-0.9	4.0

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

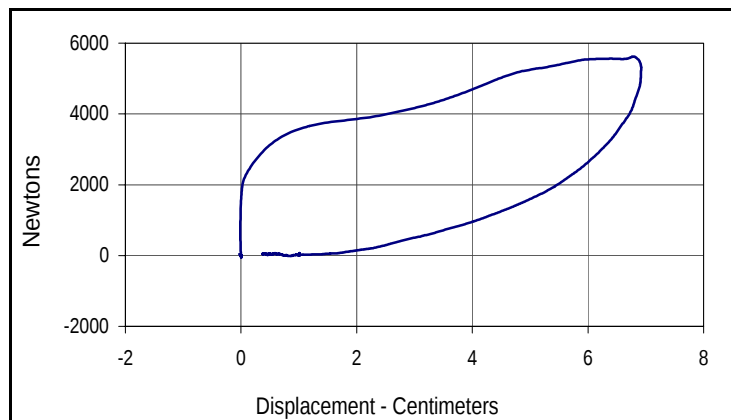
Test Date: 2/16/05

ATD Serial No.: 035

Test I.D.: CH02A



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	6.67	Pass
Peak Probe Force	Newtons	5159 to 5893	5622	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.92	Pass
Internal Hysteresis	%	69 to 85	75.1	Pass
Overall Test Results				Pass



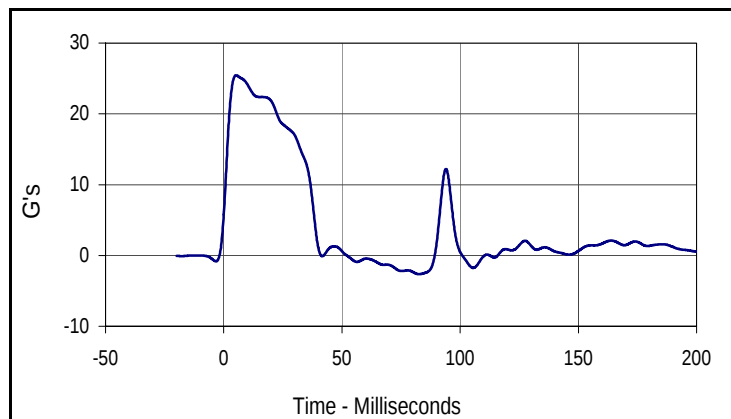
Curve Description			
Probe Force vs. Chest Deflection			
CURNO	Type	SAE Class	Hysteresis
001	FIL	180	75.1
Peak Probe Force		Peak Chest Deflection	
5622		6.92	

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

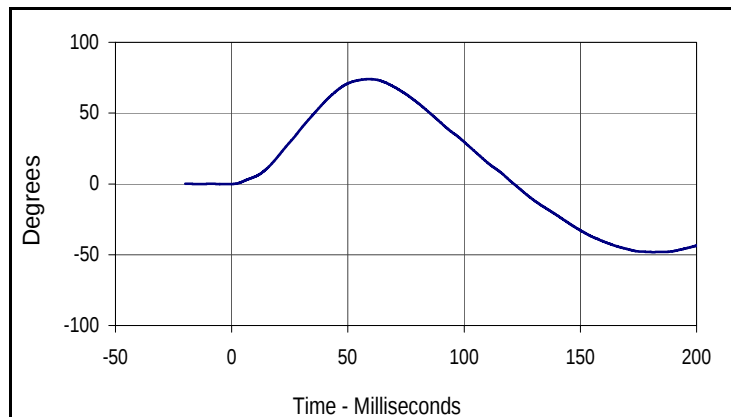
Test Date: 2/16/05
 Test I.D.: NF02B



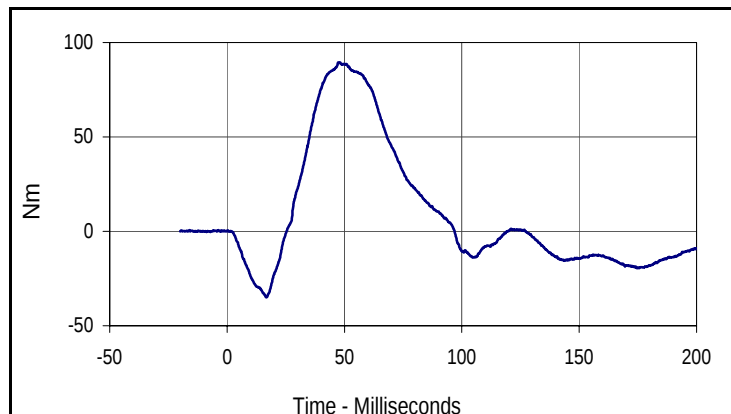
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	6.89 to 7.13	6.98	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	24.2	Pass
	20 Msec.	G's	17.6 to 22.6	21.9	Pass
	30 Msec.	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	38.5	Pass
Maximum "D" Plane Rotation	Max	Degrees	64.0 to 78.0	74.0	Pass
	Time	Msec.	57.0 to 64.0	59.1	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	121.4	Pass
Moment About Occ. Condyle	Max	Nm	84.1 to 108.5	89.5	Pass
	Time	Msec.	47.0 to 58.0	47.4	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	97.0	Pass
Overall Test Results				Pass	



Curve Description			
Pendulum Deceleration			
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
25.4	5.2	-2.7	82.6



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
74.0	59.1	-48.1	181.3



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
89.5	47.4	-34.9	16.8

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

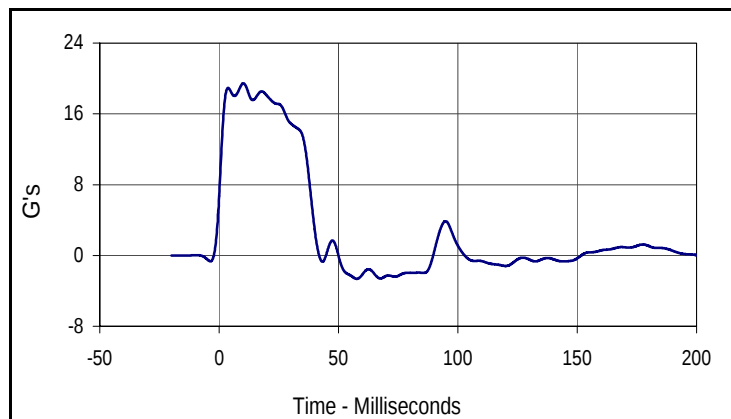
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ATD Serial No.: 035

Test I.D.: NE02A



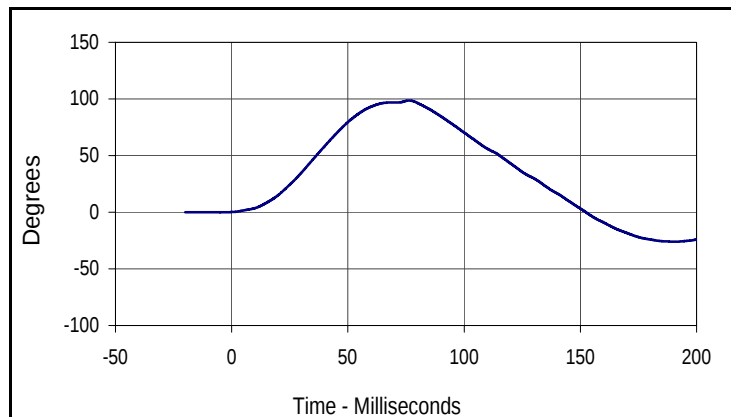
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	5.94 to 6.19	6.16	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	19.4	Pass
	20 Msec.	G's	14.0 to 19.0	18.1	Pass
	30 Msec.	G's	11.0 to 16.0	14.9	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	14.9	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	39.2	Pass
Maximum "D" Plane Rotation	Max	Degrees	81.0 to 106.0	98.7	Pass
	Time	Msec.	72.0 to 82.0	76.3	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	152.4	Pass
Moment About Occ. Condyle	Max	Nm	-52.9 to- 79.9	-78.5	Pass
	Time	Msec.	65.0 to 79.0	65.9	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	131.2	Pass
Overall Test Results				Pass	



Curve Description

Pendulum Deceleration

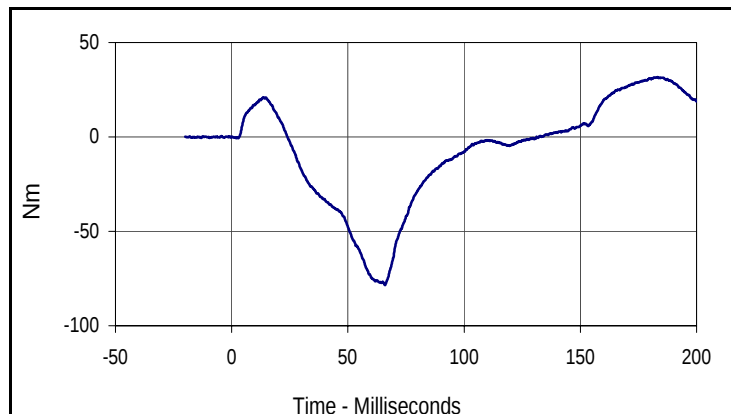
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
19.4	10.1	-2.6	57.7



Curve Description

"D" Plane Rotation

CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
98.7	76.3	-25.9	190.9



Curve Description

Moment About Occipital Condyle

CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
31.7	183.1	-78.5	65.9

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

Test Date: 2/15/05

ATD Serial No.: 035

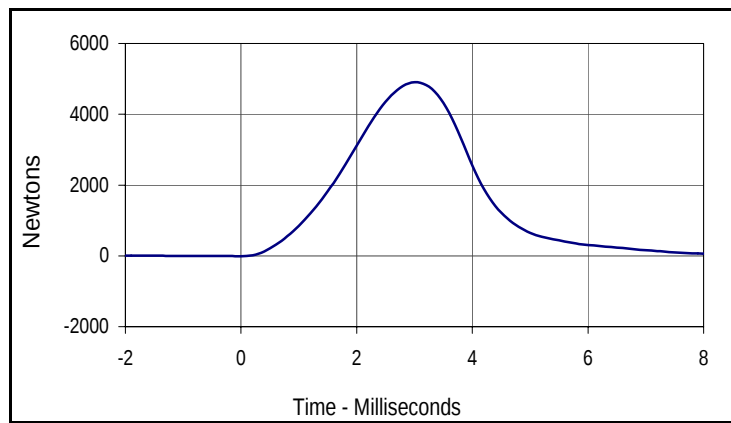
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**Left Knee**

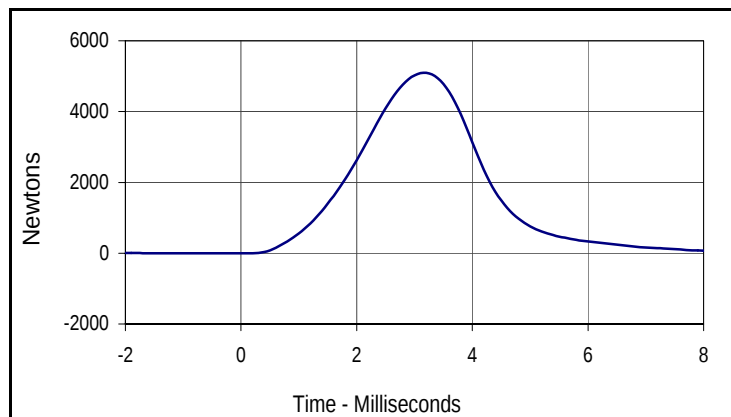
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.09	Pass
Peak Probe Force	Newtons	4715 to 5782	4906	Pass
Overall Test Results				Pass

Right Knee

Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.10	Pass
Peak Probe Force	Newtons	4715 to 5782	5099	Pass
Overall Test Results				Pass

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

CURNO	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
4905.7	3.0	-40.3	10.0

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

CURNO	Type	SAE Class	Units
002	FIL	600	Newtons
Max	Time	Min	Time
5099.0	3.2	-35.4	10.0

Test Program: Hybrid III 50th Percentile Male External Measurements

Test Date: 2/16/05

ATD Serial No.: 035

Test I.D.: N/A



Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	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	515	Pass
C - "H" point height	mm	84 to 89	87	Pass
D - "H" point from seat back	mm	135 to 140	139	Pass
E - Shoulder pivot from back	mm	84 to 94	90	Pass
F - Thigh clearance	mm	140 to 155	145	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	198	Pass
K - Buttock to knee length	mm	579 to 604	589	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	455	Pass
O - Chest depth	mm	213 to 229	225	Pass
P - Foot length	mm	251 to 267	265	Pass
V - Shoulder breadth	mm	422 to 437	430	Pass
W - Foot breadth	mm	91 to 107	102	Pass
Y - Chest circumference	mm	970 to 1001	987	Pass
Z - Waist circumference	mm	836 to 866	862	Pass
AA - Location for chest circumference	mm	429 to 434	431	Pass
BB - Location for waist circumference	mm	226 to 231	229	Pass
Overall Test Results				Pass

APPENDIX F

CHILD RESTRAINT SYSTEMS

REPORT NUMBER TR-P25001-15-NC

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

**NISSAN MOTOR COMPANY
2005 NISSAN XTERRA 5-DOOR MPV**

NHTSA NUMBER: M55208

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



MARCH 16, 2005

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 DTNH22-01-D-02005.

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Date: March 30, 2005

FINAL REPORT ACCEPTED BY:

Manager, New Car Assessment Program

Date of Acceptance

COTR, NCAP Frontal Impact Program

Date of Acceptance

Technical Report Documentation Page

1. Report No. TR-P25001-15-NC		2. Government Accession No.		3. Recipients Catalog No.	
4. Title and Subtitle Final Report of a Graco Hi-Back Turbo Booster CRS NHTSA NO. M55208		5. Report Date March 16, 2005		6. Performing Organization Code KAR	
		8. Performing Organization Report No. TR-P25001-15-NC			
7. Authors Mr. Yednesh Parnaik, Project Engineer, Karco Mr. Frank Richardson, Program Manager, Karco		10. Work Unit No.			
9. Performing Organization Name and Address Karco Engineering, LLC 9270 Holly Rd. Adelanto, CA, 92301					
12. Sponsoring Agency Name and Address U. S. Department of Transportation National Highway Traffic Safety Administration Rulemaking Office of Crashworthiness Standards Mail Code NPS-111 400 Seventh Street, SW, Room 5311 Washington, D.C 20590		11. Contract or Grant No. DTNH22-01-D-02005			
		13. Type of Report and Period Covered Final Test Report Option Year 1			
		14. Sponsoring Agency Code DOT/NHTSA/NRM/OCS			
15. Supplementary Notes					
16. Abstract A frontal barrier impact test was conducted on two 10 year old Hybrid III child dummies in conjunction with frontal NCAP testing on a 2005 Nissan Xterra 5-Door MPV. P4 (10 year old) was restrained with a Graco Hi-Back TurboBooster CRS and P3 (10 year old) was restrained with the vehicle's three-point belt system. This test was conducted in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure for the determination of CRS crashworthiness at Karco Engineering, LLC on March 16, 2005					
Measurement Description		Units	Left Rear (10-Yr)	Right Rear (10-Yr)	
Head Injury Criteria (HIC) 36		N/A	1472.3	2042.6	
Head Injury Criteria (HIC) 15		N/A	938.1	1301.7	
3 msec. Chest Clip		G's	53.0	55.0	
Peak Chest Deflection		mm	-36.6	-27.1	
17. Key Words 56.3 km/h NCAP Frontal Barrier Impact Test New Car Assessment Program (NCAP) Final Report of a Graco Hi-Back Turbo Booster CRS (P4) NHTSA NO. M55208				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 72	22. Price

Form DOT F1700.7 (8-72)

TR-P25001-15-NC

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SECTION F-1

PURPOSE AND SUMMARY OF TEST M55208

The purpose of this test is to obtain CRS performance data during an NCAP (35mph) frontal impact test.

The 35 mph (56.3 km/h) NCAP frontal impact test was conducted in accordance with the Office of Crashworthiness Standards (OCS) NCAP Laboratory Test Procedure.

SUMMARY

Two ten year old child Hybrid III dummies were placed in the Position 3 and Position 4 seating positions. Position 4 dummy was restrained with a Graco Hi-Back TurboBooster CRS and the Position 3 dummy was restrained with the vehicle's three-point belt system.

Both child dummies were instrumented with head, chest, and pelvic tri-axial accelerometers, a chest displacement potentiometer, six-axis upper neck, lumbar, clavicle, ASIS and femur load cells. In addition a tri-axial accelerometer was installed on the CRS and the CRS seat back for Position 4. Seat belt load cells were placed on the shoulder and lap belts to measure belt loads.

The 10-year old (Position 4, Serial No. 011) and 10-year old (Position 3, Serial No. 009) child dummies were calibrated one test prior this test. Child dummy certification information is found in Section F-5.

CHILD DUMMY VALUES

Location	HIC 36 Values	HIC 15 Values	3 Msec. Chest Clip (g)	Peak Chest Defl. (mm)
10-year Child (P4)	1472.3	938.1	53.0	-36.6
10-year Child (P3)	2042.6	1301.7	55.0	-27.1

DATA SHEET NO.1 CRASH TEST SUMMARYTest Vehicle: 2005 Nissan Xterra 5-Door MPVNHTSA No.: M55208Test Program 2005 NHTSA 35mph NCAPTest Date: 3/16/05**CHILD RESTRAINT SYSTEM INFORMATION**

Description	Position #4 CRS	Position #3 CRS
Manufacturer	Graco	
Model Name	TurboBooster	
Serial No.	JJ0105050003171	
Type	Hi-Back Booster	
Forward/Rearward	Forward	

VISIBLE DUMMY CONTACT POINTS

Description	Position #4 CRS	Position #3 CRS
Head Contact	Chin to Chest	Chin to Chest
Chest Contact	N/C	N/C
Abdomen Contact	N/C	N/C
Left Knee Contact	N/C	N/C
Right Knee Contact	N/C	N/C
Left Toe Contact	Left Front Seat Back	Right Front Seat Back
Right Toe Contact	Left Front Seat Back	Right Front Seat Back

POST-TEST DOOR OPENINGS

Description	Position #4 CRS	Position #3 CRS
Front Door	Remained closed/latched, opened w/o tools	Remained closed/latched, opened w/o tools
Rear Door	Remained closed/latched, opened w/o tools	Remained closed/latched, opened w/o tools
Hatch/Other Door	Remained closed/latched, opened w/o tools	

POST-TEST SEAT DATA

Location	Seat Movement (mm)	Seat Back Failure
Left Front	None	None
Right Front	None	None
Left Rear	None	None
Right Rear	None	None

MOVIE COVERAGE

Cameras	Standard	Additional
High Speed	2	2
Real Time	0	0
Total	2	2

DATA CHANNELS

Child Sensors	78
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DATA SHEET NO.2 CRS PARAMETER DATATest Vehicle: 2005 Nissan Xterra 5-Door MPVNHTSA No.: M55208Test Program 2005 NHTSA 35mph NCAPTest Date: 3/16/05**RETAINING CLIP INFORMATION**

Description	Position #4 CRS	Position #3 CRS
Ret. Clip Movement		

CHILD HARNESS STRETCH

Description	Position #4 CRS	Position #3 CRS
Harness Stretch		

TEST VEHICLE WEIGHTS

	Units	As Delivered Weights (UVW)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	494	466		513	565	
Right	kg	488	461		519	570	
Ratio	%	51.4	48.6		47.6	52.4	
Totals	kg	982	927	1909	1032	1135	2167

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1909
Weight of 2 P572 ATD's	kg	152
Rated Cargo/Luggage Wt. (RCLW)	kg	110
Calculated Vehicle Target Wt. (TVTW)	kg	2171

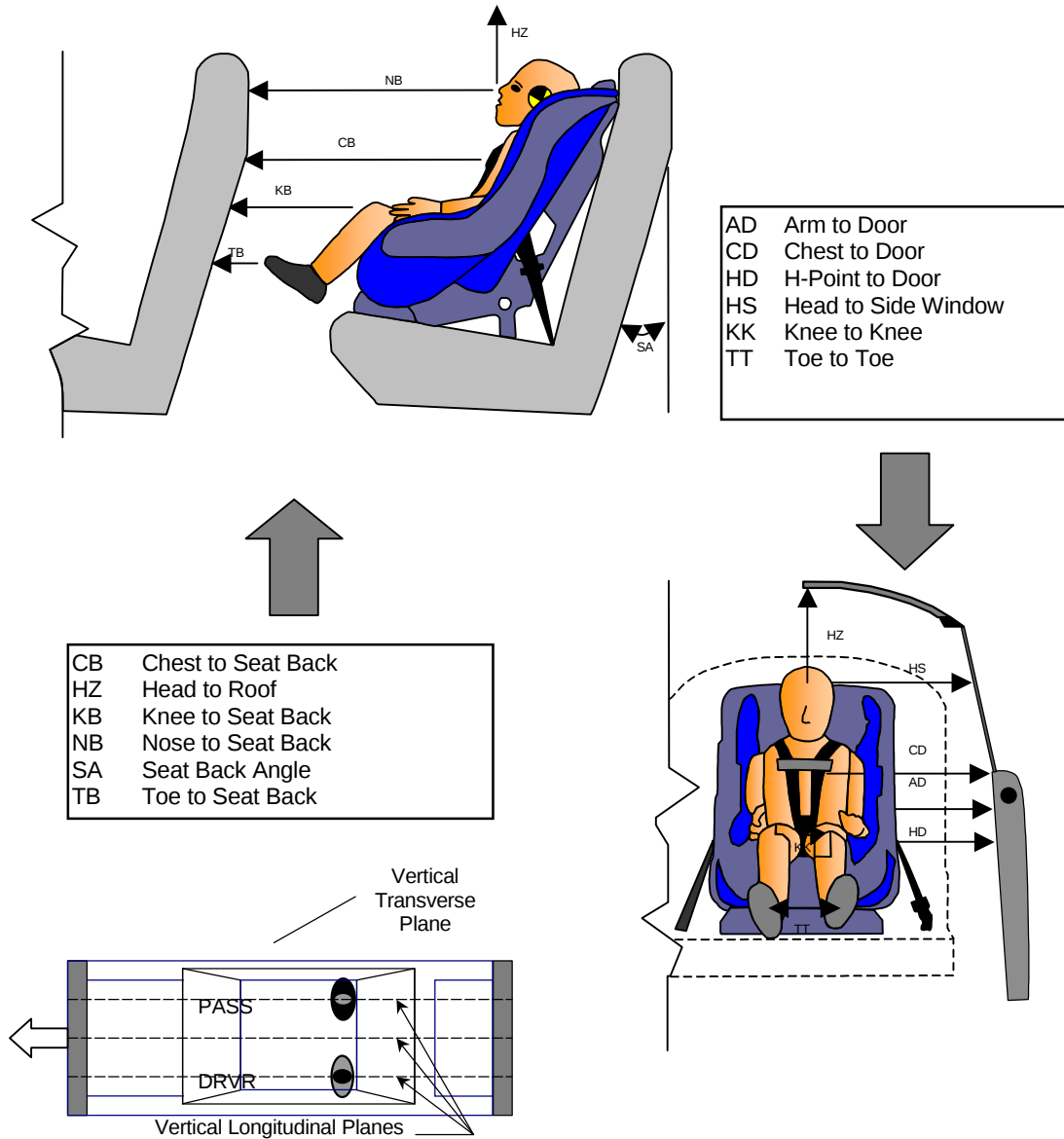
DATA SHEET NO.3 CHILD DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program 2005 NHTSA 35mph NCAP

Test Date: 3/16/05



DUMMY MEASUREMENTS FOR REAR SEAT OCCUPANTS

DATA SHEET NO.3 CHILD DUMMY POSITIONING IN VEHICLE...(CONTINUED)Test Vehicle: 2005 Nissan Xterra 5-Door MPVNHTSA No.: M55208Test Program 2005 NHTSA 35mph NCAPTest Date: 3/16/05**CHILD DUMMY POSITION MEASUREMENTS**

Code	Measurement	Units	P4 CRS Serial No. 011			P3 CRS Serial No. 009		
			Pre-Test	Post-Test	Diff.	Pre-Test	Post-Test	Diff.
SA	Seat Back Angle	deg.	20.1	13.9	-6.2	20.1	13.9	-6.2
HZ	Head to Roof (Z)	mm	230	260	30	350	360	10
CD	Chest to Dash	mm	425	420	-5	390	520	130
KK	Knee to Knee (Y)	mm	185	155	-30	170	170	0
HS	Head to Side Window	mm	345	460	115	375	530	155
HD	H-Point to Door (Y)	mm	330	305	-25	260	290	30
AD	Arm to Door	mm	260	230	-30	180	165	-15
NB	Nose to Seat Back	mm	575	510	-65	600	620	20
CB	Chest to Seat Back	mm	545	520	-25	590	630	40
FF	Foot to Foot	mm	200	220	20	170	100	-70
KB-Left	Knee to Seat Back	mm	290	280	-10	320	370	50
KB-Right	Knee to Seat Back	mm	300	320	20	325	360	35
TB-Left	Toe to Seat Back	mm	145	165	20	95	60	-35
TB-Right	Toe to Seat Back	mm	140	140	0	100	80	-20

DATA SHEET NO. 4 - CHILD HYBRID III ATD INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Left Rear (10 Yr.)				Right Rear (10 Yr.)			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	1.4	30.2	-44.6	101.0	1.5	21.0	-86.6	91.7
Head CG	Y	G's	6.8	57.0	-7.0	111.2	8.6	90.4	-4.2	66.8
Head CG	Z	G's	82.7	80.0	-0.5	20.6	93.4	83.1	-59.7	91.2
Head CG Resultant	N/A	G's	89.1	80.0			105.8	83.1		

1.) Right Rear channel failed at 271.0 msec.

PRIMARY HEAD INJURY CRITERIA (HIC)

Location	Left Rear (10 Yr.)				Right Rear (10 Yr.)			
	HIC	T ¹	T ²	Avg G	HIC	T ¹	T ²	Avg G
Head CG (HIC36)	1472.3	58.7	94.7	69.9	2042.6	61.9	97.9	79.6
Head CG (HIC15)	938.1	69.4	84.4	82.8	1301.7	73.1	88.1	94.4

1.) Right Rear head X channel failed at 271.0 msec.

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Left Rear (10 Yr.)				Right Rear (10 Yr.)			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	3.8	184.1	-52.6	51.2	0.5	85.2	-57.9	47.4
Chest CG	Y	G's	4.1	183.8	-16.7	61.4	8.3	58.6	-6.7	44.2
Chest CG	Z	G's	15.5	100.3	-9.6	48.9	24.6	91.1	-20.1	70.7
Chest CG Resultant	N/A	G's	54.3	51.1			58.2	47.4		

1.) Right Rear channel failed at 84.0 msec.

PRIMARY CHEST CLIP (3MSEC)

Location	Left Rear (10 Yr.)			Right Rear (10 Yr.)		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG	53.0	49.4	52.4	55.0	52.0	55.0

1.) Right Rear chest X channel failed at 84.0 msec.

CHEST PEAK DEFLECTIONS

Location	Axis	Units	Left Rear (10 Yr.)				Right Rear (10 Yr.)			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest	X	MM	1.5	200.0	-36.6	79.4	0.0	14.1	-27.1	88.4

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Left Rear (10 Yr.)				Right Rear (10 Yr.)			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	10.3	156.3	-47.6	49.0	4.8	121.6	-53.7	50.3
Pelvis	Y	G's	11.7	92.9	-12.5	51.3	18.7	53.5	-11.5	88.1
Pelvis	Z	G's	4.8	102.8	-38.8	48.6	14.7	93.9	-42.1	56.5
Pelvis Resultant	N/A	G's	61.5	48.6			66.8	50.3		

DATA SHEET NO. 4...(CONTINUED)

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Left Rear (10 Yr.)				Right Rear (10 Yr.)			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	20.4	30.9	-1140.1	70.3	97.7	30.9	-1603.3	87.3
Neck Force	Y	Newtons	251.6	70.1	-105.7	47.4	197.5	90.2	-233.0	119.1
Neck Force	Z	Newtons	2852.8	80.9	-76.3	41.5	3727.9	90.3	-137.0	27.1
Neck Force Resultant	N/A	Newtons	3008.8	80.9			4031.1	90.3		
Neck Moment	X	Nm	27.6	99.6	-26.2	70.0	29.5	90.4	-14.6	77.6
Neck Moment	Y	Nm	28.0	96.8	-63.8	62.6	17.3	90.1	-76.1	56.6
Neck Moment	Z	Nm	1.9	180.4	-9.0	72.9	3.0	90.2	-13.0	90.8
Neck Moment Resultant	N/A	Nm	66.3	63.5			76.1	56.6		

FEMUR PEAK FORCES AND MOMENTS

Location	Axis	Units	Left Rear (10 Yr.)				Right Rear (10 Yr.)			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Femur Force	Z	Newtons	1173.4	52.3	-121.1	129.1	2242.0	47.7	-142.3	132.9
Right Femur Force	Z	Newtons	2077.6	53.8	-161.6	139.3	1189.1	47.5	-210.4	119.0

LUMBAR PEAK FORCES AND MOMENTS

Location	Axis	Units	Left Rear (10 Yr.)				Right Rear (10 Yr.)			
			Max	Time	Min	Time	Max	Time	Min	Time
Lumbar Force	X	Newtons	708.5	102.2	-953.1	47.6	1543.3	44.9	-2748.8	94.5
Lumbar Force	Y	Newtons	61.9	184.8	-1046.9	90.9	415.1	55.7	-721.3	71.1
Lumbar Force	Z	Newtons	1917.3	80.4	-1557.5	49.6	3136.1	93.5	-289.0	27.3
Lumbar Force Resultant	N/A	Newtons	2168.1	81.9			4041.3	93.5		
Lumbar Moment	X	Nm	27.2	188.4	-116.4	82.4	55.2	48.3	-24.4	90.5
Lumbar Moment	Y	Nm	72.2	114.4	-26.6	200.0	177.8	47.5	-30.3	199.6
Lumbar Moment	Z	Nm	35.0	86.2	-7.9	37.1	16.6	67.8	-17.5	56.6
Lumbar Moment Res.	N/A	Nm	124.0	82.3			183.7	47.5		

CLAVICLE PEAK FORCES

Location	Axis	Units	Left Rear (10 Yr.)				Right Rear (10 Yr.)			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Clavicle Force	X	Newtons	3256.7	70.8	-39.9	200.0	268.4	77.4	-406.6	92.6
Left Clavicle Force	Z	Newtons	978.0	65.8	-427.0	88.3	64.7	78.9	-411.2	93.4
Right Clavicle Force	X	Newtons	386.3	99.5	-160.0	69.0	1842.3	58.4	-18.7	158.2
Right Clavicle Force	Z	Newtons	246.8	79.8	-222.5	96.4	26.8	30.6	-619.8	48.2

DATA SHEET NO. 4...(CONTINUED)

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

UPPER AND LOWER ASIS PEAK FORCES

Location	Axis	Units	Left Rear (10 Yr.)				Right Rear (10 Yr.)			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Upper ASIS Force	X	Newtons	231.1	55.5	-2.6	17.4	1400.8	52.0	-157.3	96.8
Left Lower ASIS Force	Z	Newtons	383.7	50.3	-1.1	17.7	1084.8	47.4	-24.8	15.9
Right Upper ASIS Force	X	Newtons	283.9	48.4	-802.6	79.1	1585.0	52.9	-140.1	111.4
Right Lower ASIS Force	Z	Newtons	1199.0	79.1	-7.4	182.8	1127.8	47.4	-29.5	195.9

CRS ACCELEROMETER PEAK VALUES

Location	Axis	Units	Left Rear (10 Yr.)				Right Rear (10 Yr.)			
			Max	Time	Min	Time	Max	Time	Min	Time
CRS	X	G's	24.7	112.7	-65.1	54.3				
CRS	Y	G's	49.8	57.2	-25.8	53.7				
CRS	Z	G's	32.0	57.9	-65.6	54.4				
CRS Resultant	N/A	G's	94.9	54.3						
CRS Seat Back	X	G's	94.0	143.0	-59.8	54.7				
CRS Seat Back	Y	G's	23.5	57.0	-40.8	70.2				
CRS Seat Back	Z	G's	33.6	71.0	-12.8	42.2				
CRS Seat Back Resultant	N/A	G's	95.1	143.1						

CHILD SEAT BELT SENSOR PEAK VALUES

Location	Axis	Units	Left Rear (10 Yr.)				Right Rear (10 Yr.)			
			Max	Time	Min	Time	Max	Time	Min	Time
Lap Belt Force	N/A	Newtons	4142.9	50.2	0.4	4.6	4273.7	45.8	-35.3	196.3
Shoulder Belt Force	N/A	Newtons	7260.7	71.9	-77.2	200.0	6433.1	55.3	-10.3	144.7
Shoulder Belt Pullout	N/A	MM	96.9	86.0	0.0	12.5	304.6	97.8	0.1	0.0
Shoulder Belt Elongation	N/A	MM/CM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.) Right Rear channel, questionable data

2.) Not installed

DATA SHEET NO.5 CRS PERFORMANCE DATA

Test Vehicle: 2005 Nissan Xterra 5-Door MPV

NHTSA No.: M55208

Test Program 2005 NHTSA 35mph NCAP

Test Date: 3/16/05

CRS PERFORMANCE DATA

Location	P4 CRS		P3 CRS	
	Damage	Post-Test	Damage	Post-Test
Upper Tether Strap	No	None		
Upper Tether Buckle	No	None		
Upper Tether Hook	No	None		
Veh. Upper Tether Anchor	No	None		
Lower Anchor Strap	No	None		
Lower Anchor Buckle	No	None		
Lower Anchor Hooks	No	None		
Veh. Lower CRS Anchors	No	None		
5-Point Harness Connections	No	None		
Cracks on CRS	No	None		
Fabric Tears on CRS	No	None		
Vehicle Seat Structure	No	None		
Vehicle Seat Fabric Tears	No	None		

DATA SHEET NO.6 CRS CAMERA DATATest Vehicle: 2005 Nissan Xterra 5-Door MPVNHTSA No.: M55208Test Program 2005 NHTSA 35mph NCAPTest Date: 3/16/05**CAMERA LOCATIONS**

No.	Camera View	Location(mm)			Film Plane to Head	Angle (Deg.)	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Right Rear Dummy Onboard	-2692	787	-1625	1425	-10	13	1000
2	Left Rear Dummy Onboard	-3048	-787	-1625	1320	-10	13	1000

ADDITIONAL CAMERAS

1	Left Rear Dummy Onboard	-2692	787	-1625	1425	-10	8.5	1000
2	Rear Dummies Onboard	-3048	-787	-1625	1320	-10	8.5	1000

X = Barrier Face Y = Monorail Centerline Z = Ground DNR = Did Not Run NTM = No Time Marks

SECTION F-2

PHOTOGRAPHS

LIST OF CRS PHOTOGRAPHS

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2	Post-Test Position 3 Front View (Head Position)	F2-2
3	Pre-Test Position 3 Front View (Seat Belt Position)	F2-3
4	Post-Test Position 3 Front View (Seat Belt Position)	F2-4
5	Pre-Test Position 3 Right Side View	F2-5
6	Post-Test Position 3 Right Side View	F2-6
7	Pre-Test Position 3 Left Side View	F2-7
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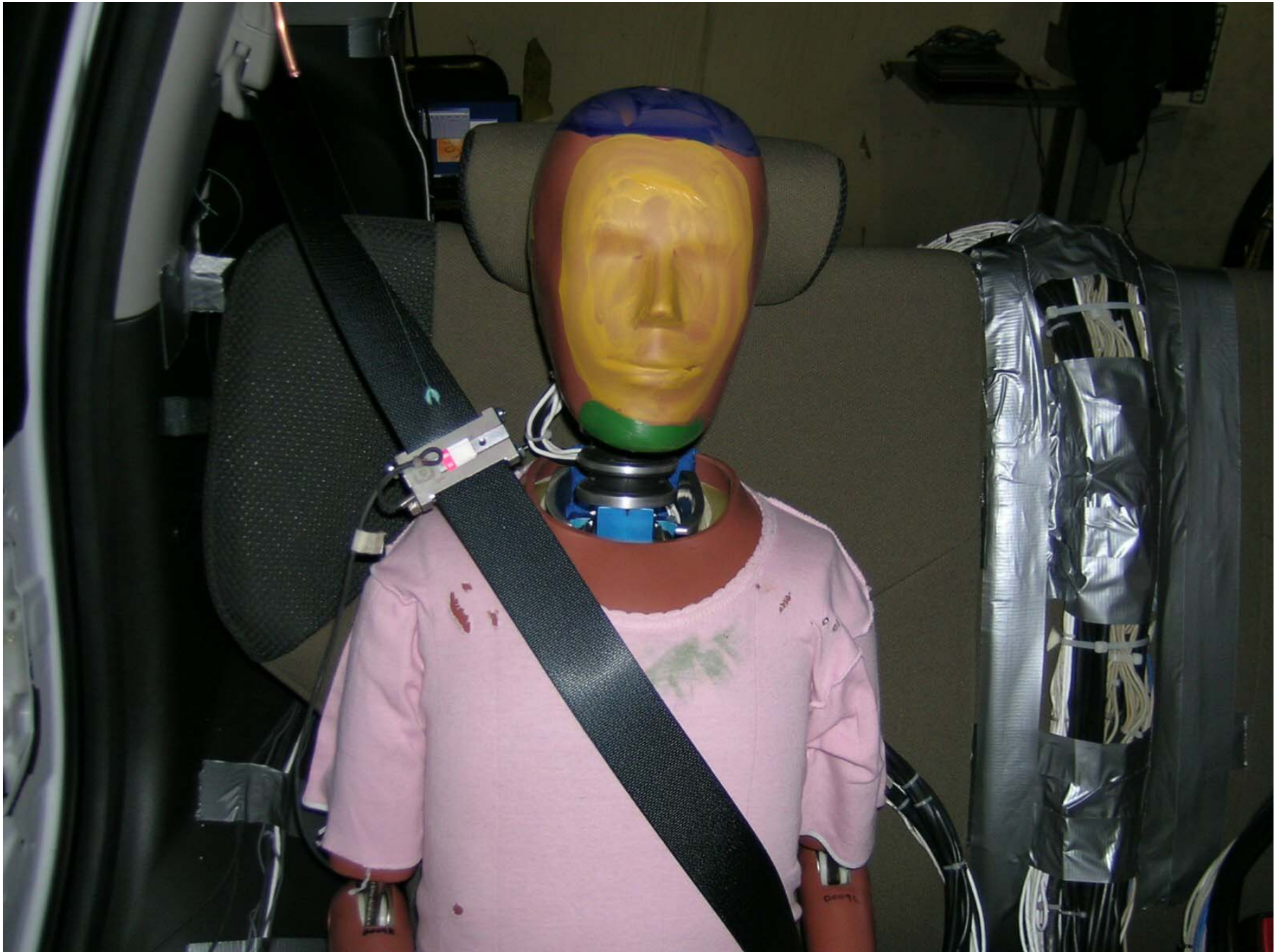


Figure F2-1: Pre-Test Position 3 Front View (Head Position)



Figure F2-2: Post-Test Position 3 Front View (Head Position)

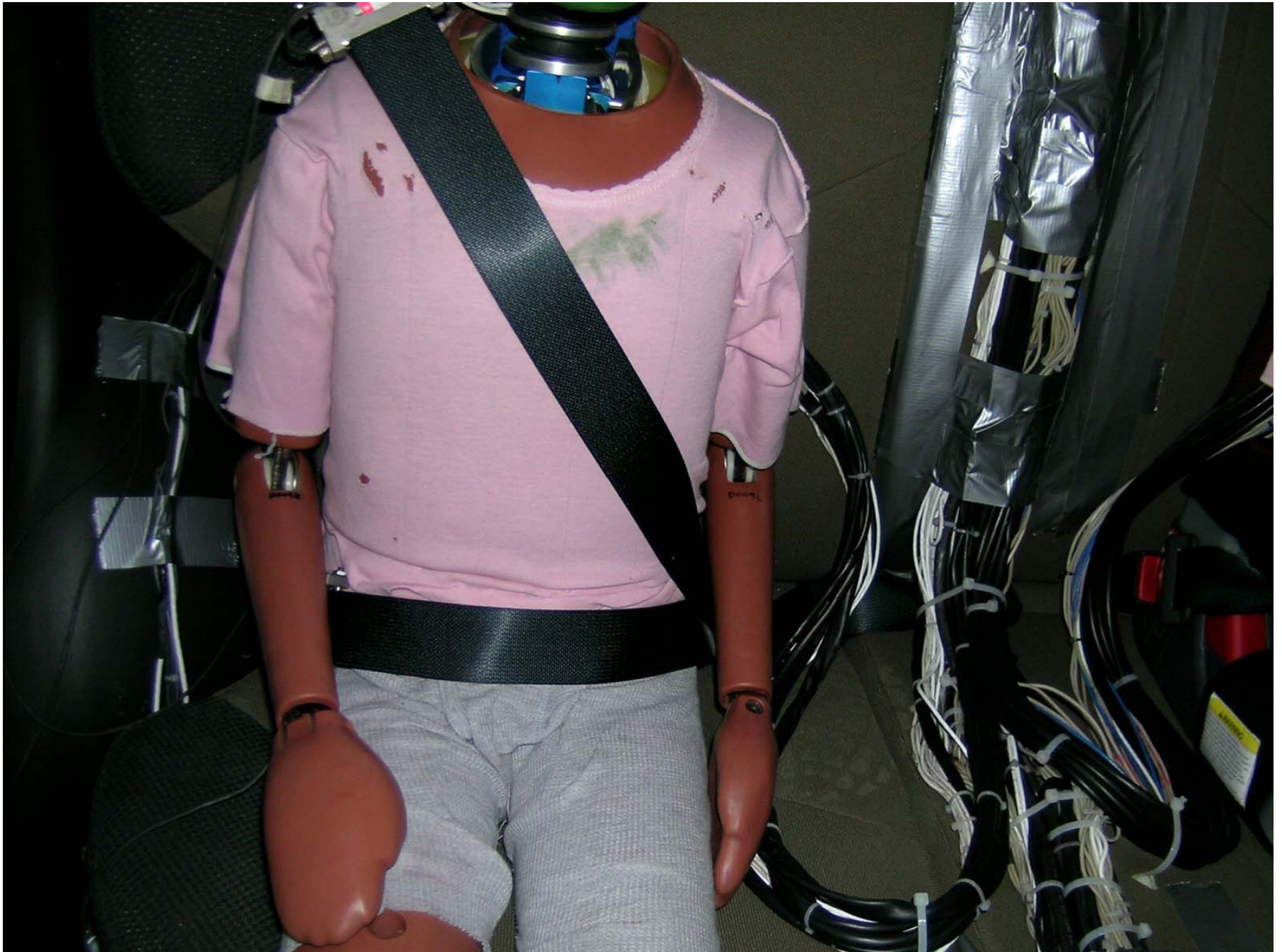


Figure F2-3: Pre-Test Position 3 Front View (Seat Belt Position)



Figure F2-4: Post-Test Position 3 Front View (Seat Belt Position)



Figure F2-5: Pre-Test Position 3 Right Side View



Figure F2-6: Post-Test Position 3 Right Side View



Figure F2-7: Pre-Test Position 3 Left Side View



Figure F2-8: Post-Test Position 3 Left Side View



Figure F2-9: Post-Test Position 3 Dummy Feet

MODEL 8497VIC NAME: TurboBooster
SERIAL JJ 0105050003171
Manufactured in 010505
GRACO CHILDREN'S PRODUCTS, INC.
EXTON, PA 19341 1-888-224-6549
Made in China

LAPZ0004B

Figure F2-10: Close-up, Position 4 CRS Label



Figure F2-11: Pre-Test Frontal View of Position 4 CRS



Figure F2-12: Post-Test Frontal View of Position 4 CRS



Figure F2-13: Pre-Test Rear View of Position 4 CRS



Figure F2-14: Post-Test Rear View of Position 4 CRS



Figure F2-15: Pre-Test Left Side View of Position 4 CRS



Figure F2-16: Post-Test Left Side View of Position 4 CRS



Figure F2-17: Pre-Test Right Side View of Position 4 CRS



Figure F2-18: Post-Test Right Side View of Position 4 CRS



Figure F2-19: Pre-Test Position 4 Front View (Head Position)



Figure F2-20: Post-Test Position 4 Front View (Head Position)



Figure F2-21: Pre-Test Position 4 Front View (Seat Belt Position)



Figure F2-22: Post-Test Position 4 Front View (Seat Belt Position)



Figure F2-23: Pre-Test Position 4 Left Side View



Figure F2-24: Post-Test Position 4 Left Side View



Figure F2-25: Pre-Test Position 4 Right Side View



Figure F2-26: Post-Test Position 4 Right Side View



Figure F2-27: Post-Test Position 4 Dummy Feet Contacts

SECTION F-3

CHILD DUMMY RESPONSE AND CRS DATA TRACES

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	Left Rear (10 Yr.) Shoulder Belt Force
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	Left Rear (10 Yr.) CRS Y
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	Right Rear (10 Yr.) Upper Neck Moment Y
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LIST OF DATA PLOTS...(CONTINUED)

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F3-20	Right Rear (10 Yr.) Pelvis X	F3-20
	Right Rear (10 Yr.) Pelvis Y	F3-20
	Right Rear (10 Yr.) Pelvis Z	F3-20
	Right Rear (10 Yr.) Pelvis Resultant	F3-20
F3-21	Right Rear (10 Yr.) Left Femur Force	F3-21
	Right Rear (10 Yr.) Right Femur Force	F3-21
F3-22	Right Rear (10 Yr.) Lumbar Force X	F3-22
	Right Rear (10 Yr.) Lumbar Force Y	F3-22
	Right Rear (10 Yr.) Lumbar Force Z	F3-22
	Right Rear (10 Yr.) Lumbar Force Resultant	F3-22
F3-23	Right Rear (10 Yr.) Lumbar Moment X	F3-23
	Right Rear (10 Yr.) Lumbar Moment Y	F3-23
	Right Rear (10 Yr.) Lumbar Moment Z	F3-23
	Right Rear (10 Yr.) Lumbar Moment Resultant	F3-23
F3-24	Right Rear (10 Yr.) Left Clavicle Force X	F3-24
	Right Rear (10 Yr.) Left Clavicle Force Z	F3-24
	Right Rear (10 Yr.) Right Clavicle Force X	F3-24
	Right Rear (10 Yr.) Right Clavicle Force Z	F3-24
F3-25	Right Rear (10 Yr.) Left Upper ASIS Force	F3-25
	Right Rear (10 Yr.) Left Lower ASIS Force	F3-25
	Right Rear (10 Yr.) Right Upper ASIS Force	F3-25
	Right Rear (10 Yr.) Right Lower ASIS Force	F3-25
F3-26	Right Rear (10 Yr.) Lap Belt Force	F3-26
	Right Rear (10 Yr.) Shoulder Belt Force	F3-26
	Right Rear (10 Yr.) Shoulder Belt Pullout	F3-26
	Right Rear (10 Yr.) Shoulder Belt Elongation	F3-26

SECTION F-4

CHILD DUMMY INSTRUMENTATION INFORMATION

2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Left Rear Child A.T.D. Serial Number 011 (10 Yr.)
3/16/05
2005 Nissan Xterra 5-Door MPV

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
134	HEAD CG	X	GPAC047	Accel.,1/2 bridge	Endevco	7264-2000	G
135	HEAD CG	Y	GPAC048	Accel.,1/2 bridge	Endevco	7264-2000	G
136	HEAD CG	Z	GPAC049	Accel.,1/2 bridge	Endevco	7264-2000	G
137	UPPER NECK FORCE	X	10UNFX	Load cell, six axis neck	R. A. Denton	IF-234	N
138	UPPER NECK FORCE	Y	10UNFY	Load cell, six axis neck	R. A. Denton	IF-234	N
139	UPPER NECK FORCE	Z	10UNFZ	Load cell, six axis neck	R. A. Denton	IF-234	N
140	UPPER NECK MOMENT	X	10UNMX	Load cell, six axis neck	R. A. Denton	IF-234	Nm
141	UPPER NECK MOMENT	Y	10UNMY	Load cell, six axis neck	R. A. Denton	IF-234	Nm
142	UPPER NECK MOMENT	Z	10UNMZ	Load cell, six axis neck	R. A. Denton	IF-234	Nm
143	CHEST CG	X	2116-A01	Accel., Full Bridge	Entran	2000JF	G
144	CHEST CG	Y	2116-A06	Accel., Full Bridge	Entran	2000JF	G
145	CHEST CG	Z	2116-A07	Accel., Full Bridge	Entran	2000JF	G
146	CHEST DEFLECTION	X	10CP	Rotary Pot Chest	Servo	14CBI	MM
147	PELVIS	X	2116-N07	Accel., Full Bridge	Entran	2000JF	G
148	PELVIS	Y	2116-A03	Accel., Full Bridge	Entran	2000JF	G
149	PELVIS	Z	2116-A17	Accel., Full Bridge	Entran	2000JF	G
150	LEFT FEMUR FORCE	Z	KEFF001	Load cell, Femur	R.A. Denton	2090	N
151	RIGHT FEMUR FORCE	Z	KEFF002	Load cell, Femur	R.A. Denton	2090	N
152	LUMBAR FORCE	X	LUMFX	Load cell, Lumbar	R.A. Denton	2431	N
153	LUMBAR FORCE	Y	LUMFY	Load cell, Lumbar	R.A. Denton	2431	N
154	LUMBAR FORCE	Z	LUMFZ	Load cell, Lumbar	R.A. Denton	2431	N
155	LUMBAR MOMENT	X	LUMMX	Load cell, Lumbar	R.A. Denton	2431	Nm
156	LUMBAR MOMENT	Y	LUMMY	Load cell, Lumbar	R.A. Denton	2431	Nm
157	LUMBAR MOMENT	Z	LUMMZ	Load cell, Lumbar	R.A. Denton	2431	Nm

2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Left Rear Child A.T.D. Serial Number 011 (10 Yr.)
3/16/05
2005 Nissan Xterra 5-Door MPV

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
158	LEFT CLAVICLE FORCE	X	CLFX	Load cell, Clavicle	R.A. Denton	5400J	N
159	LEFT CLAVICLE FORCE	Z	CLFY	Load cell, Clavicle	R.A. Denton	5400J	N
160	RIGHT CLAVICLE FORCE	X	CLRFX	Load cell, Clavicle	R.A. Denton	5410J	N
161	RIGHT CLAVICLE FORCE	Z	CLRFZ	Load cell, Clavicle	R.A. Denton	5410J	N
162	LEFT ASIS UPPER	X	10LUASIS	Load cell, ASIS	R.A. Denton	3475	N
163	LEFT ASIS LOWER	X	10LLASIS	Load cell, ASIS	R.A. Denton	3475	N
164	RIGHT ASIS UPPER	X	10RUASIS	Load cell, ASIS	R.A. Denton	3476	N
165	RIGHT ASIS LOWER	X	10RLASIS	Load cell, ASIS	R.A. Denton	3476	N
166	LAP BELT FORCE	X	BL168	Load cell, Seat belt	First Tech	IF-964	N
167	SHOULDER BELT FORCE	X	BL169	Load cell, Seat belt	First Tech	IF-964	N
168	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	MM
169	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM
170	CRS	X	KETX1A	Accel.,1/2 bridge	Endevco	7264-200	G
171	CRS	Y	KETX1B	Accel.,1/2 bridge	Endevco	7264-200	G
172	CRS	Z	KETX1C	Accel.,1/2 bridge	Endevco	7264-200	G
173	CRS SEAT BACK	X	KETX6A	Accel.,1/2 bridge	Endevco	7264-200	G
174	CRS SEAT BACK	Y	KETX6B	Accel.,1/2 bridge	Endevco	7264-200	G
175	CRS SEAT BACK	Z	KETX6C	Accel.,1/2 bridge	Endevco	7264-200	G

2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Right Rear Child A.T.D. Serial Number 009 (10 Yr.)
3/16/05
2005 Nissan Xterra 5-Door MPV

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
176	HEAD CG	X	09HDX	Accel.,1/2 bridge	Endevco	7264-2000	G
177	HEAD CG	Y	09HDY	Accel.,1/2 bridge	Endevco	7264-2000	G
178	HEAD CG	Z	09HDZ	Accel.,1/2 bridge	Endevco	7264-2000	G
179	UPPER NECK FORCE	X	09UNFX	Load cell, six axis neck	R. A. Denton	IF-234	N
180	UPPER NECK FORCE	Y	09UNFY	Load cell, six axis neck	R. A. Denton	IF-234	N
181	UPPER NECK FORCE	Z	09UNFZ	Load cell, six axis neck	R. A. Denton	IF-234	N
182	UPPER NECK MOMENT	X	09UNMX	Load cell, six axis neck	R. A. Denton	IF-234	Nm
183	UPPER NECK MOMENT	Y	09UNMY	Load cell, six axis neck	R. A. Denton	IF-234	Nm
184	UPPER NECK MOMENT	Z	09UNMZ	Load cell, six axis neck	R. A. Denton	IF-234	Nm
185	CHEST CG	X	09CHX	Accel., Full Bridge	Entran	2000JF	G
186	CHEST CG	Y	09CHY	Accel., Full Bridge	Entran	2000JF	G
187	CHEST CG	Z	09CHZ	Accel., Full Bridge	Entran	2000JF	G
188	CHEST DEFLECTION	X	09CHP	Rotary Pot Chest	Servo	14CBI	MM
189	PELVIS	X	09PELX	Accel., Full Bridge	Entran	2000JF	G
190	PELVIS	Y	09PELY	Accel., Full Bridge	Entran	2000JF	G
191	PELVIS	Z	09PELZ	Accel., Full Bridge	Entran	2000JF	G
192	LEFT FEMUR FORCE	Z	09LFEM	Load cell, Femur	R.A. Denton	2090	N
193	RIGHT FEMUR FORCE	Z	09RFEM	Load cell, Femur	R.A. Denton	2090	N
194	LUMBAR FORCE	X	09LUMFX	Load cell, Lumbar	R.A. Denton	2431	N
195	LUMBAR FORCE	Y	09LUMFY	Load cell, Lumbar	R.A. Denton	2431	N
196	LUMBAR FORCE	Z	09LUMFZ	Load cell, Lumbar	R.A. Denton	2431	N
197	LUMBAR MOMENT	X	09LUMMX	Load cell, Lumbar	R.A. Denton	2431	Nm
198	LUMBAR MOMENT	Y	09LUMMY	Load cell, Lumbar	R.A. Denton	2431	Nm
199	LUMBAR MOMENT	Z	09LUMMZ	Load cell, Lumbar	R.A. Denton	2431	Nm

2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Right Rear Child A.T.D. Serial Number 009 (10 Yr.)
3/16/05
2005 Nissan Xterra 5-Door MPV

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
200	LEFT CLAVICLE FORCE	X	09CLFX	Load cell, Clavicle	R.A. Denton	5400J	N
201	LEFT CLAVICLE FORCE	Z	09CLFY	Load cell, Clavicle	R.A. Denton	5400J	N
202	RIGHT CLAVICLE FORCE	X	09CLRFX	Load cell, Clavicle	R.A. Denton	5410J	N
203	RIGHT CLAVICLE FORCE	Z	09CLRFXZ	Load cell, Clavicle	R.A. Denton	5410J	N
204	LEFT ASIS UPPER	X	09LUASIS	Load cell, ASIS	R.A. Denton	3475	N
205	LEFT ASIS LOWER	X	09LLASIS	Load cell, ASIS	R.A. Denton	3475	N
206	RIGHT ASIS UPPER	X	09RUASIS	Load cell, ASIS	R.A. Denton	3476	N
207	RIGHT ASIS LOWER	X	09RLASIS	Load cell, ASIS	R.A. Denton	3476	N
208	LAP BELT FORCE	X	BL176	Load cell, Seat belt	First Tech	IF-964	N
209	SHOULDER BELT FORCE	X	BL179	Load cell, Seat belt	First Tech	IF-964	N
210	SHOULDER BELT SPOOL	X	KEPP002	Pullout pot	Celesco	PTX101-0030	MM
211	SHOULDER BELT ELONG.	X	KEEP002	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

SECTION F-5

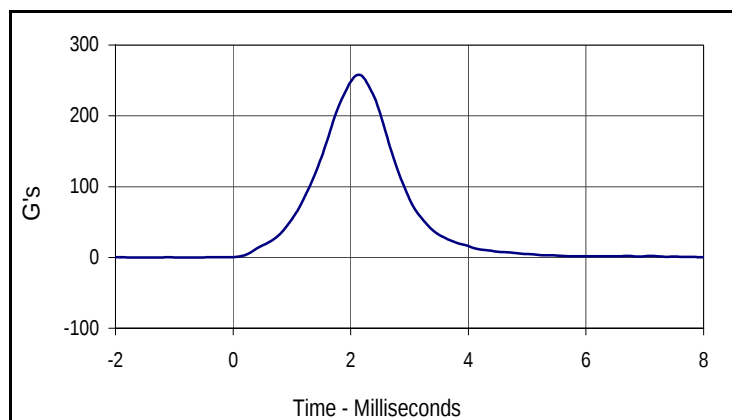
CHILD DUMMY CALIBRATION INFORMATION

Test Program: Hybrid III 10 Yr Old Head Drop Test
 ATD Serial No.: 009

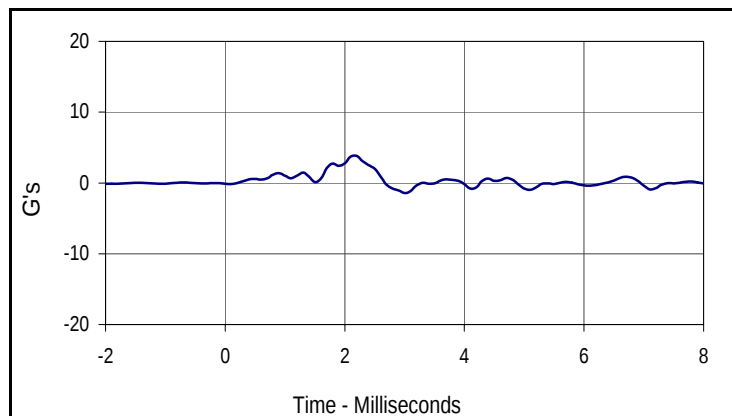
Test Date: 2/15/05
 Test I.D.: HD02A



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	250.0 to 300.0	257.7	Pass
Peak Lateral Acceleration	G's	≤15.0	3.8	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<10	1.9	Pass
Overall Test Results			Pass	



Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
257.7	2.1	0.0	-0.6



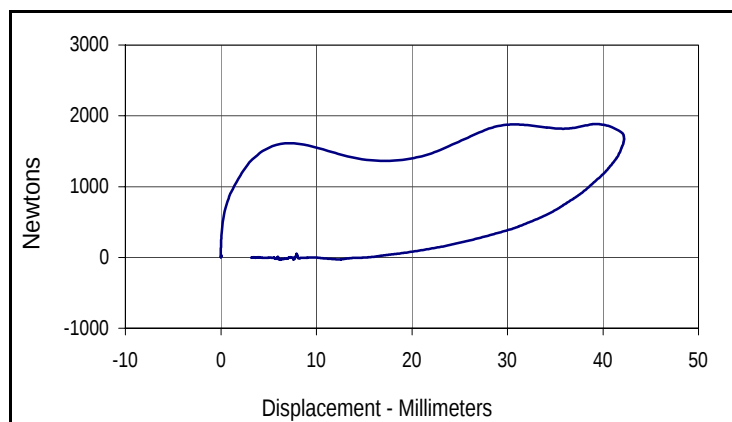
Curve Description			
Head Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
3.8	2.2	-1.4	3.0

Test Program: Hybrid III 10 Yr Old Thorax Impact Test
 ATD Serial No.: 009

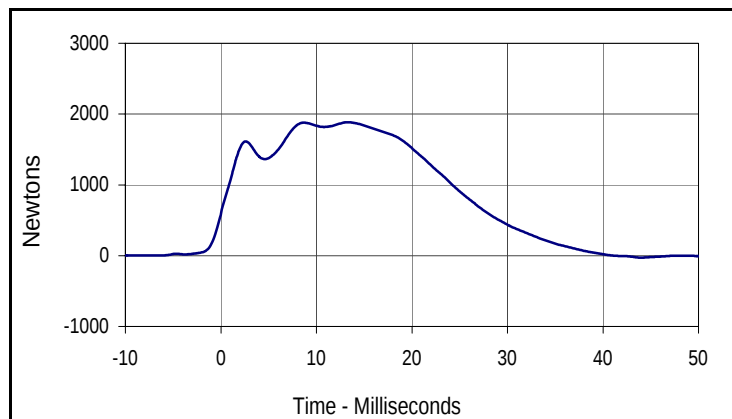
Test Date: 2/16/05
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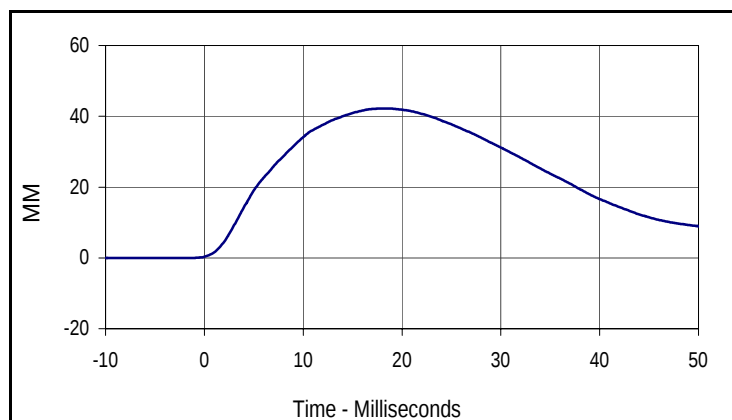
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	5.88 to 6.12	6.10	Pass
Peak Chest Deflection	MM	40.5 to 48.5	42.2	Pass
Peak Force Between 40.5 and 48.5 MM	Newtons	1830 to 2330	1884	Pass
Peak Force Between 20 and 40.5 MM	Newtons	≤2330	1669	Pass
Internal Hysteresis	%	69 to 85	81.5	Pass
Overall Test Results			Pass	



Curve Description			
Probe Force vs. Chest Deflection			
CURNO	Type	SAE Class	Hysteresis
003	FIL	180	81.5
Peak Probe Force		Peak Chest Deflection	
1883.5		42.2	



Curve Description			
Probe Force			
CURNO	Type	SAE Class	Units
002	FIL	180	Newtons
Max	Time	Min	Time
1883.5	13.3	-32.5	76.7



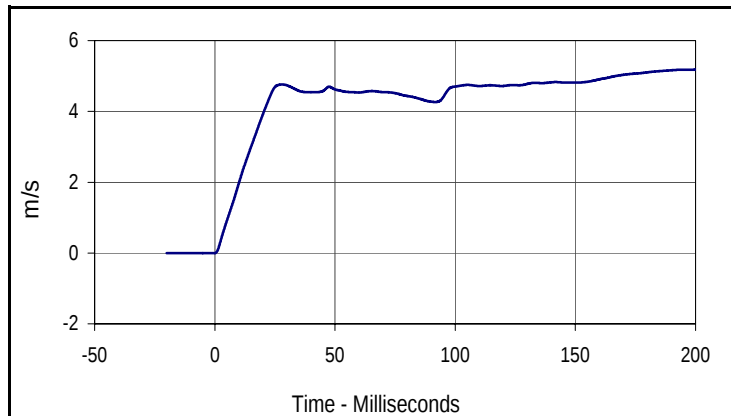
Curve Description			
Chest Deflection			
CURNO	Type	SAE Class	Units
001	FIL	180	MM
Max	Time	Min	Time
42.2	18.4	0.0	-1.5

Test Program: Hybrid III 10 Yr Old Neck Flexion Test
 ATD Serial No.: 009

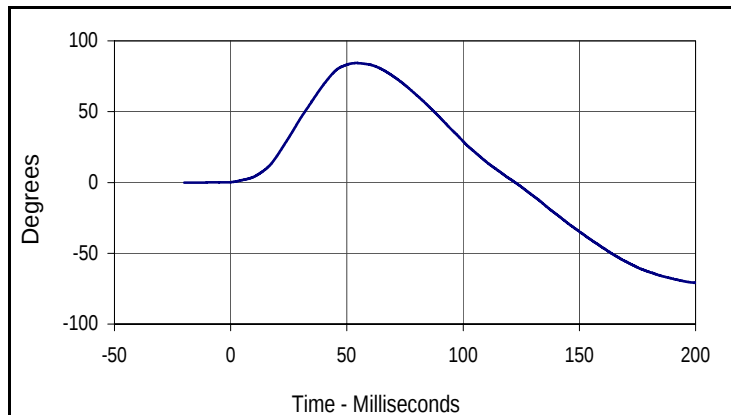
Test Date: 2/15/05
 Test I.D.: NF02A



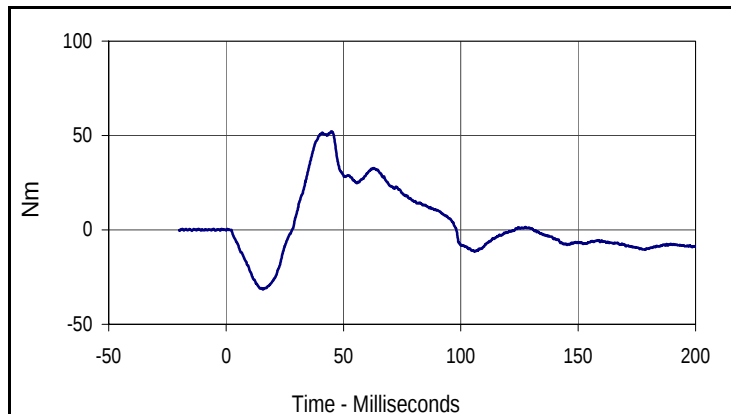
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	5.98 to 6.22	6.07	Pass
Pendulum Deceleration	10 Msec.	m/s	1.64 to 2.04	1.97	Pass
	20 Msec.	m/s	3.04 to 4.04	3.92	Pass
	30 Msec.	m/s	4.45 to 5.65	4.74	Pass
"D" Plane Rotation	Max	Degrees	74.0 to 88.0	84.3	Pass
Peak Moment in Rotation	Max	Nm	50.0 to 62.0	52.1	Pass
Positive Moment Decay, Time To 10 Nm		Msec.	85.0 to 105.0	90.7	Pass
			Overall Test Results		Pass



Curve Description			
Pendulum Velocity			
CURNO	Type	SAE Class	Units
001	FIL	180	m/s
Max	Time	Min	Time
5.2	195.5	0.0	-0.2



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
84.3	54.1	-70.8	200.0



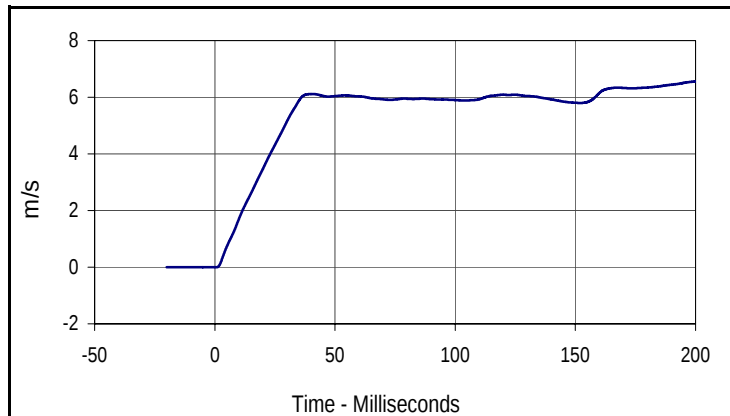
Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
002	FIL	600	Nm
Max	Time	Min	Time
52.1	44.9	-31.6	15.7

Test Program: Hybrid III 10 Yr Old Neck Extension Test
 ATD Serial No.: 009

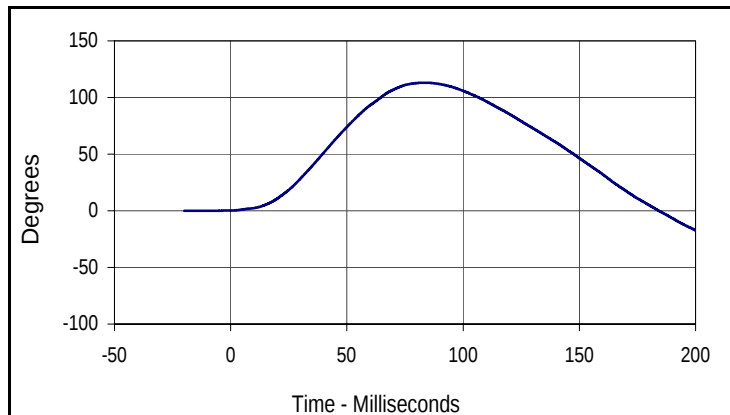
Test Date: 2/16/05
 Test I.D.: NE02A



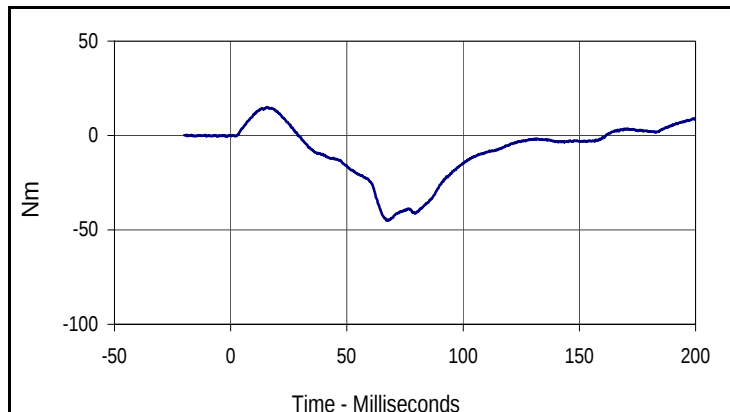
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	4.91 to 5.15	5.03	Pass
Pendulum Deceleration	10 Msec.	m/s	1.59 to 1.89	1.70	Pass
	20 Msec.	m/s	2.88 to 3.68	3.47	Pass
	30 Msec.	m/s	4.20 to 5.20	5.15	Pass
"D" Plane Rotation	Max	Degrees	99.0 to 114.0	113.0	Pass
Peak Moment in Rotation	Max	Nm	-35.0 to -47.0	-45.0	Pass
Positive Moment Decay, Time To 10 Nm		Msec.	100.0 to 120.0	107.2	Pass
			Overall Test Results		Pass



Curve Description			
Pendulum Velocity			
CURNO	Type	SAE Class	Units
001	FIL	180	m/s
Max	Time	Min	Time
6.6	200.0	0.0	0.5



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
113.0	83.8	-17.2	200.0



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
002	FIL	600	Nm
Max	Time	Min	Time
14.9	15.5	-45.0	67.9

Test Program: Hybrid III 10 Yr Old Knee Impact Test
 ATD Serial No.: 009

Test Date: 2/16/05
 Test I.D.: LK02A , RK02A

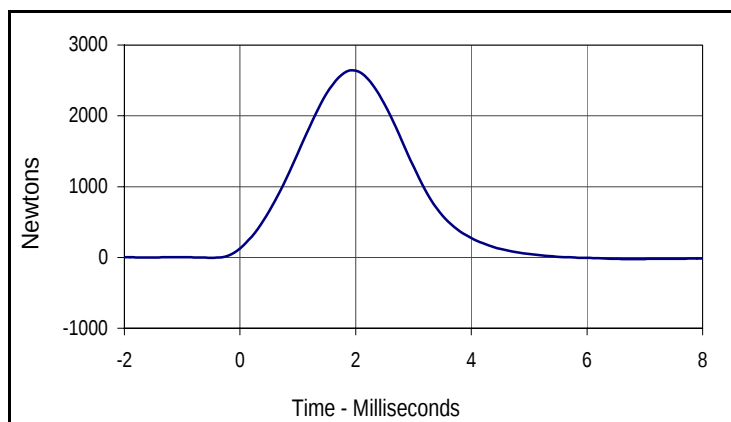


Left Knee

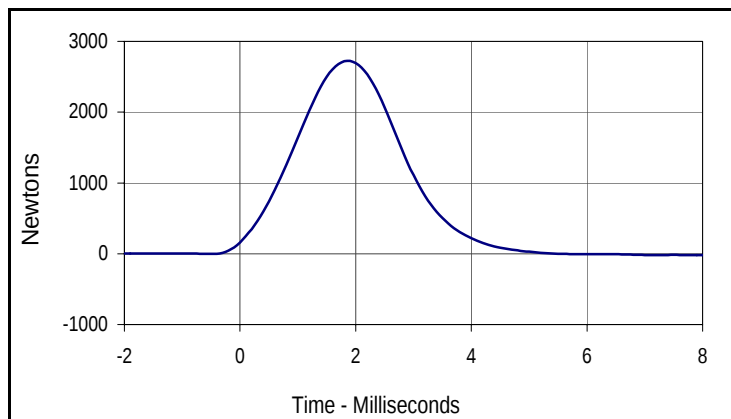
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.09	Pass
Peak Probe Force	Newtons	2560 to 3140	2642	Pass
Overall Test Results				Pass

Right Knee

Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.09	Pass
Peak Probe Force	Newtons	2560 to 3140	2724	Pass
Overall Test Results				Pass



Curve Description			
Left Knee Probe Force			
CURNO	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
2642.4	1.9	-23.5	6.8



Curve Description			
Right Knee Probe Force			
CURNO	Type	SAE Class	Units
002	FIL	600	Newtons
Max	Time	Min	Time
2724.2	1.9	-24.2	8.5

Test Program: Hybrid III 10 Yr Old External Measurements

Test Date: 2/16/05

ATD Serial No.: 009

Test I.D.: N/A



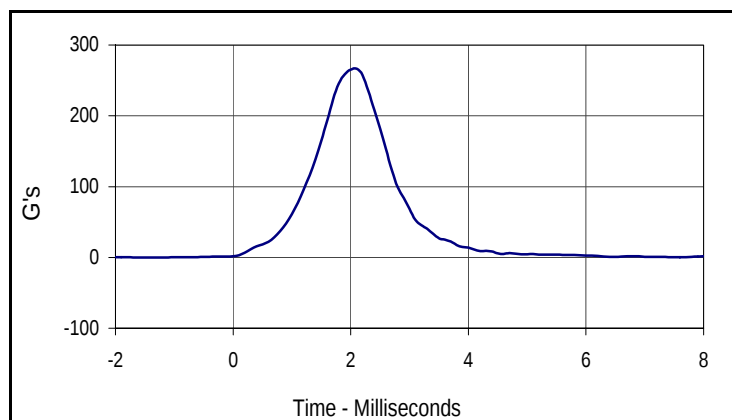
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
A - Total sitting height	mm	710 to 737	725	Pass
B - Shoulder pivot height	mm	385 to 405	400	Pass
C - "H" point height	mm	78 to 88	80	Pass
D - "H" point from backline	mm	133 to 143	136	Pass
E - Shoulder pivot from back	mm	80 to 90	88	Pass
F - Thigh clearance	mm	105 to 121	115	Pass
G - Elbow back to wrist pivot	mm	227 to 243	235	Pass
H - Skull cap to back line	mm	46 to 51	50	Pass
I - Shoulder to elbow length	mm	269 to 285	275	Pass
J - Elbow rest height	mm	137 to 158	140	Pass
K - Buttock to knee length	mm	464 to 484	480	Pass
L - Popliteal length	mm	321 to 342	335	Pass
M - Knee pivot height	mm	370 to 389	380	Pass
N - Buttock popliteal length	mm	367 to 387	375	Pass
O - Chest depth without jacket	mm	158 to 173	165	Pass
P - Foot length	mm	188 to 203	195	Pass
R - Buttock to knee pivot length	mm	414 to 434	430	Pass
S - Head breadth	mm	137 to 147	140	Pass
T - Head depth	mm	178 to 188	180	Pass
U - Hip breadth	mm	257 to 272	265	Pass
V - Shoulder breadth	mm	307 to 323	315	Pass
W - Foot breadth	mm	69 to 84	81	Pass
X - Head circumference	mm	528 to 549	535	Pass
Y - Chest circumference with jacket	mm	691 to 716	710	Pass
Z - Waist circumference	mm	696 to 721	710	Pass
AA - Location for chest circumference	mm	338 to 348	344	Pass
Overall Test Results				Pass

Test Program: Hybrid III 10 Yr Old Head Drop Test
 ATD Serial No.: 011

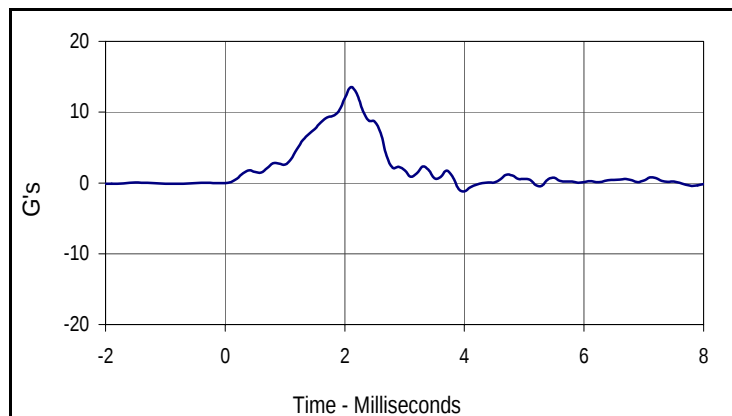
Test Date: 2/15/05
 Test I.D.: HD02B



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	250.0 to 300.0	266.5	Pass
Peak Lateral Acceleration	G's	≤15.0	13.5	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<10	1.8	Pass
Overall Test Results			Pass	



Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
266.5	2.1	0.1	-1.3



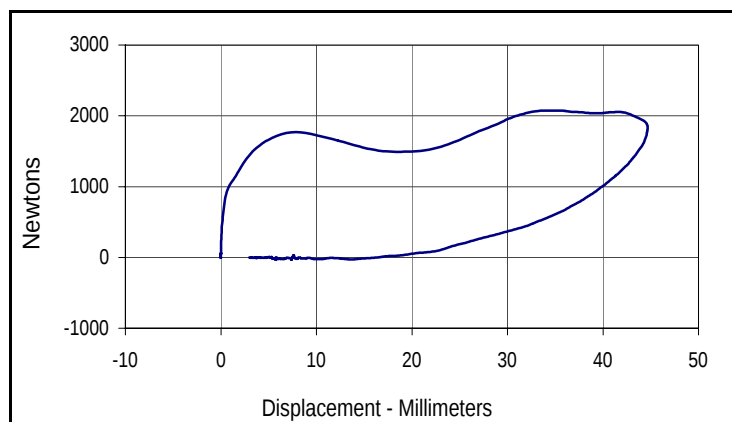
Curve Description			
Head Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
13.5	2.1	-1.2	4.0

Test Program: Hybrid III 10 Yr Old Thorax Impact Test
 ATD Serial No.: 011

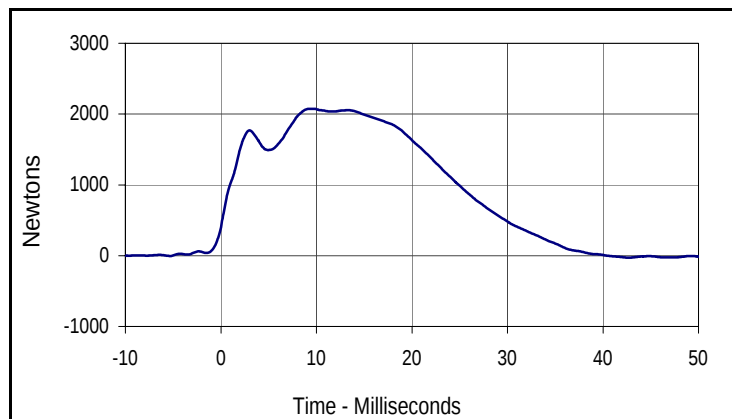
Test Date: 2/16/05
 Test I.D.: CH02B



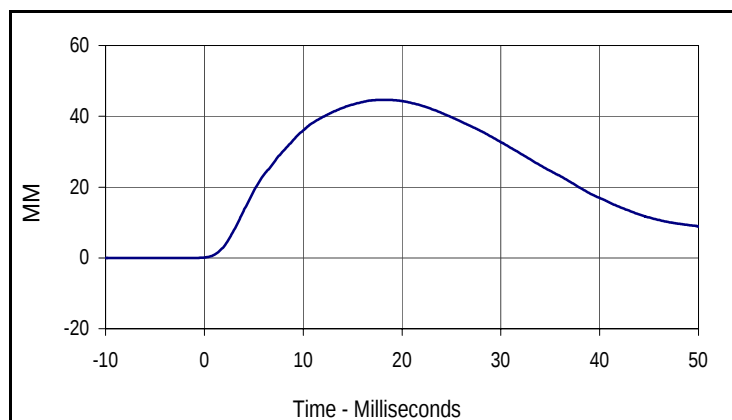
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	5.88 to 6.12	5.97	Pass
Peak Chest Deflection	MM	40.5 to 48.5	44.7	Pass
Peak Force Between 40.5 and 48.5 MM	Newtons	1830 to 2330	2075	Pass
Peak Force Between 20 and 40.5 MM	Newtons	≤2330	2055	Pass
Internal Hysteresis	%	69 to 85	81.4	Pass
Overall Test Results			Pass	



Curve Description			
Probe Force vs. Chest Deflection			
CURNO	Type	SAE Class	Hysteresis
003	FIL	180	81.4
Peak Probe Force		Peak Chest Deflection	
2075.3		44.7	



Curve Description			
Probe Force			
CURNO	Type	SAE Class	Units
002	FIL	180	Newtons
Max	Time	Min	Time
2075.3	9.7	-33.4	85.1



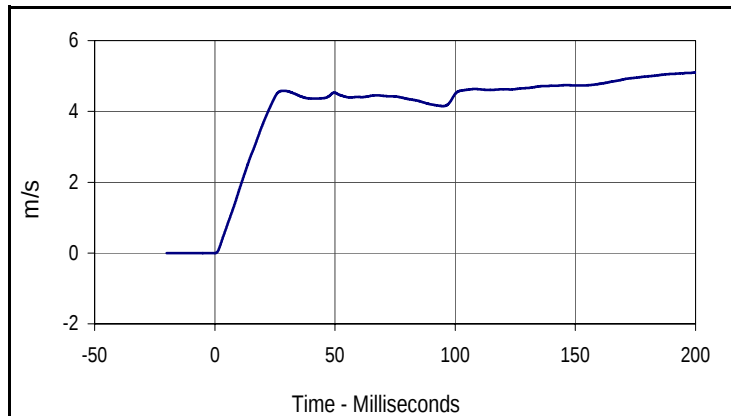
Curve Description			
Chest Deflection			
CURNO	Type	SAE Class	Units
001	FIL	180	MM
Max	Time	Min	Time
44.7	18.2	0.0	-7.1

Test Program: Hybrid III 10 Yr Old Neck Flexion Test
 ATD Serial No.: 011

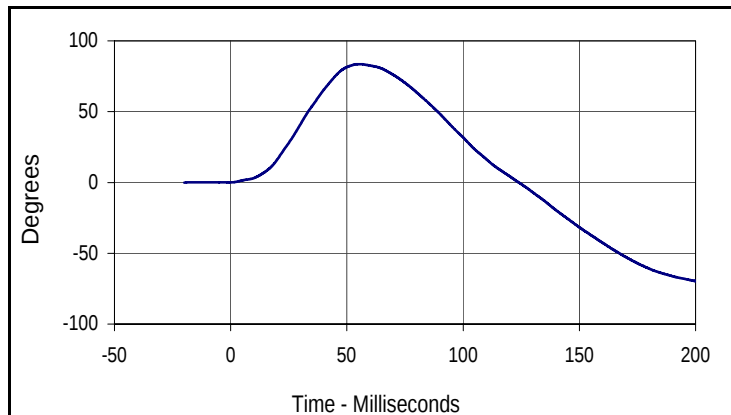
Test Date: 2/15/05
 Test I.D.: NF02B



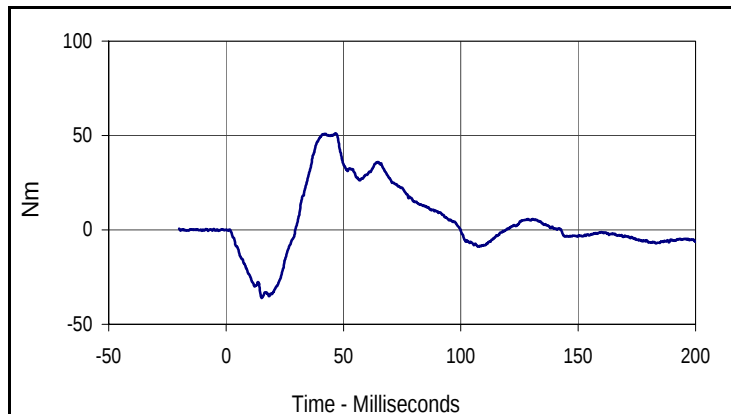
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	5.98 to 6.22	6.13	Pass
Pendulum Deceleration	10 Msec.	m/s	1.64 to 2.04	1.75	Pass
	20 Msec.	m/s	3.04 to 4.04	3.65	Pass
	30 Msec.	m/s	4.45 to 5.65	4.57	Pass
"D" Plane Rotation	Max	Degrees	74.0 to 88.0	83.6	Pass
Peak Moment in Rotation	Max	Nm	50.0 to 62.0	51.1	Pass
Positive Moment Decay, Time To 10 Nm		Msec.	85.0 to 105.0	88.7	Pass
			Overall Test Results		Pass



Curve Description			
Pendulum Velocity			
CURNO	Type	SAE Class	Units
001	FIL	180	m/s
Max	Time	Min	Time
5.1	200.0	0.0	0.0



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
83.6	55.3	-69.6	200.0



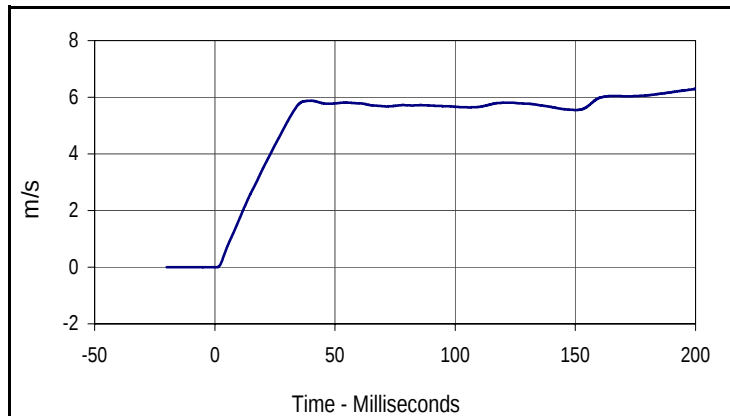
Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
002	FIL	600	Nm
Max	Time	Min	Time
51.1	46.5	-36.1	15.2

Test Program: Hybrid III 10 Yr Old Neck Extension Test
 ATD Serial No.: 011

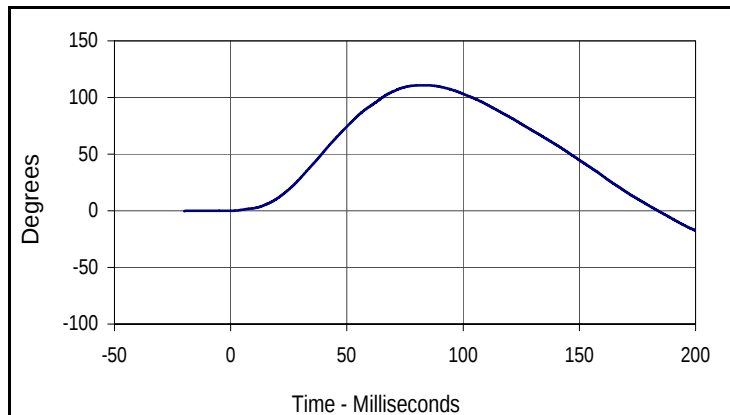
Test Date: 2/16/05
 Test I.D.: NE02B



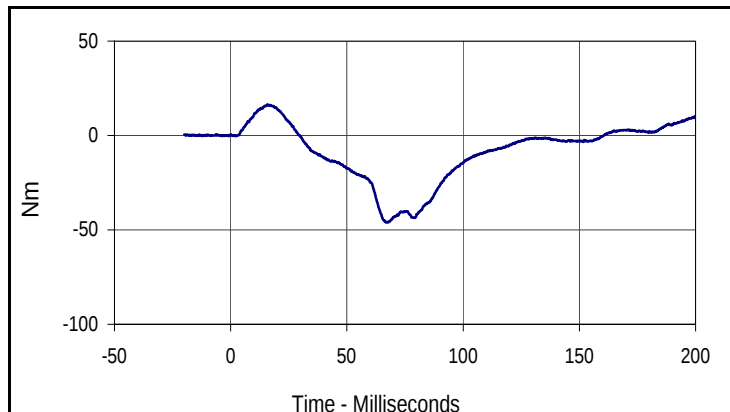
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	4.91 to 5.15	5.07	Pass
Pendulum Deceleration	10 Msec.	m/s	1.59 to 1.89	1.66	Pass
	20 Msec.	m/s	2.88 to 3.68	3.49	Pass
	30 Msec.	m/s	4.20 to 5.20	5.11	Pass
"D" Plane Rotation	Max	Degrees	99.0 to 114.0	110.8	Pass
Peak Moment in Rotation	Max	Nm	-35.0 to -47.0	-46.0	Pass
Positive Moment Decay, Time To 10 Nm		Msec.	100.0 to 120.0	106.1	Pass
			Overall Test Results		Pass



Curve Description			
Pendulum Velocity			
CURNO	Type	SAE Class	Units
001	FIL	180	m/s
Max	Time	Min	Time
6.3	200.0	0.0	0.7



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
110.8	82.7	-17.5	200.0



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
002	FIL	600	Nm
Max	Time	Min	Time
16.5	15.8	-46.0	66.9

Test Program: Hybrid III 10 Yr Old Knee Impact Test
 ATD Serial No.: 011

Test Date: 2/16/05
 Test I.D.: LK02B , RK02B

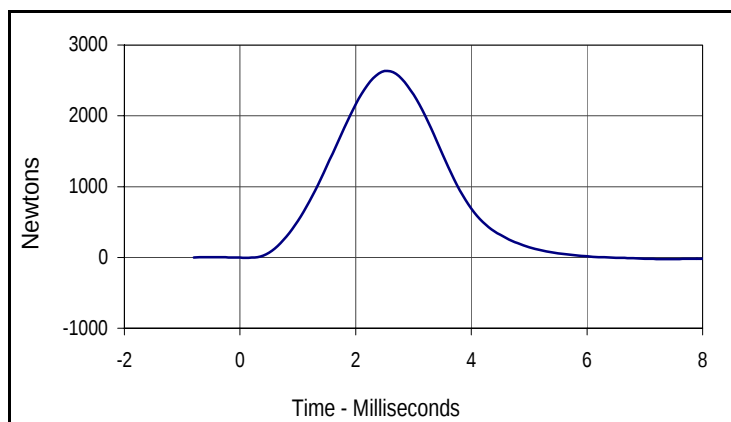


Left Knee

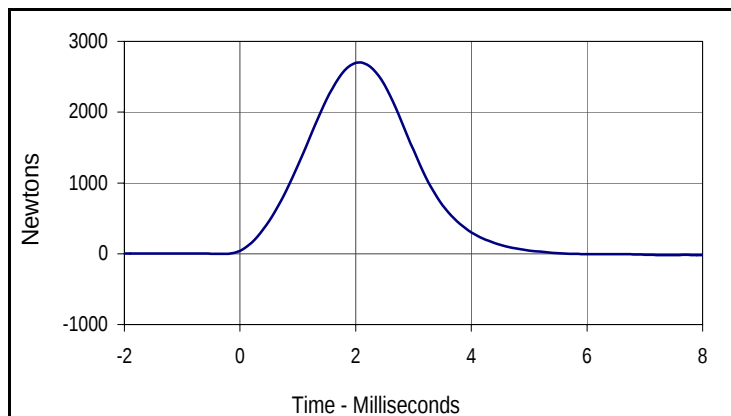
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.11	Pass
Peak Probe Force	Newtons	2560 to 3140	2633	Pass
Overall Test Results				Pass

Right Knee

Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.10	Pass
Peak Probe Force	Newtons	2560 to 3140	2701	Pass
Overall Test Results				Pass



Curve Description			
Left Knee Probe Force			
CURNO	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
2632.9	2.5	-23.4	7.4



Curve Description			
Right Knee Probe Force			
CURNO	Type	SAE Class	Units
002	FIL	600	Newtons
Max	Time	Min	Time
2700.5	2.1	-24.0	8.7

Test Program: Hybrid III 10 Yr Old External Measurements

Test Date: 2/16/05

ATD Serial No.: 011

Test I.D.: N/A



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
A - Total sitting height	mm	710 to 737	725	Pass
B - Shoulder pivot height	mm	385 to 405	395	Pass
C - "H" point height	mm	78 to 88	80	Pass
D - "H" point from backline	mm	133 to 143	136	Pass
E - Shoulder pivot from back	mm	80 to 90	88	Pass
F - Thigh clearance	mm	105 to 121	115	Pass
G - Elbow back to wrist pivot	mm	227 to 243	233	Pass
H - Skull cap to back line	mm	46 to 51	50	Pass
I - Shoulder to elbow length	mm	269 to 285	274	Pass
J - Elbow rest height	mm	137 to 158	150	Pass
K - Buttock to knee length	mm	464 to 484	480	Pass
L - Popliteal length	mm	321 to 342	325	Pass
M - Knee pivot height	mm	370 to 389	380	Pass
N - Buttock popliteal length	mm	367 to 387	370	Pass
O - Chest depth without jacket	mm	158 to 173	165	Pass
P - Foot length	mm	188 to 203	195	Pass
R - Buttock to knee pivot length	mm	414 to 434	425	Pass
S - Head breadth	mm	137 to 147	145	Pass
T - Head depth	mm	178 to 188	180	Pass
U - Hip breadth	mm	257 to 272	265	Pass
V - Shoulder breadth	mm	307 to 323	320	Pass
W - Foot breadth	mm	69 to 84	82	Pass
X - Head circumference	mm	528 to 549	535	Pass
Y - Chest circumference with jacket	mm	691 to 716	710	Pass
Z - Waist circumference	mm	696 to 721	710	Pass
AA - Location for chest circumference	mm	338 to 348	339	Pass
Overall Test Results				Pass