

REPORT NUMBER TR-P25001-13-NC

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

**NISSAN MOTOR COMPANY, LTD
2005 NISSAN TITAN LE
4-DOOR TRUCK**

NHTSA NUMBER: M55207

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



FEBRUARY 15, 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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Prepared by: _____
Mr. Biren J. Patel, Project Engineer
KARCO Engineering, LLC

Date: 3/1/05

Reviewed by: _____
Mr. Michael L. Dunlap, Quality Assurance Manager
KARCO Engineering, LLC

Date: 3/1/05

Approved by: _____
Mr. Frank D. Richardson, Program Manager
KARCO Engineering, LLC

Date: 3/1/05

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-P25001-13-NC		2. Government Accession No.		3. Recipients Catalog No.	
4. Title and Subtitle Final Report of New Car Assessment Program 2005 Nissan Titan LE 4-Door Truck NHTSA No. M55207				5. Report Date February 15, 2005	
				6. Performing Organization Code KAR	
7. Authors Mr. Biren J. Patel, Project Engineer, Karco Mr. Frank Richardson, Program Manager, Karco				8. Performing Organization Report No. TR-P25001-13-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 4	
				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 Titan LE 4-Door Truck at Karco Engineering, LLC on February 15, 2005. This test was conducted to obtain data indicant of FMVSS 208, 212, 219 (partial), 301, and footwell intrusion performance. The impact velocity was 56.04 km/h. The ambient temperature at the barrier face at the time of impact was 13.3 degrees Celsius. The vehicle's maximum post-test static crush was 508 mm at the right side of the vehicle centerline. The test vehicle is equipped with 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	488.0	578.8
Max. Chest Accel. (3 msec Clip)		G's	60	42.7	42.1
Left Femur Force		Newtons	10008	-3217.1	-2200.9
Right Femur Force		Newtons	10008	-2368.3	-942.6
17. Key Words 56.3 km/h NCAP Frontal Barrier Impact Test New Car Assessment Program (NCAP) 2005 Nissan Titan LE 4-Door Truck NHTSA No. M55207				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 191	22. Price

Form DOT F1700.7 (8-72)

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SECTION 1

PURPOSE AND SUMMARY OF TEST M55207

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 Titan LE 4-Door Truck at a velocity of 56.04 km/h (34.83 mph). The test was performed at Karco Engineering, LLC on February 15, 2005.

Three (3) real-time video cameras and thirteen (13) 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 tri-axial 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 and passenger's lap and shoulder belts to measure dummy torso and pelvic section loading. Shoulder belt spool-off was also measured for the driver and passenger dummies. The driver (position 1) ATD (Serial No. 034) and the right-front passenger (position 2) ATD (Serial No. 035) were calibrated two tests 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. Appendix F contains the Child Restraint data.

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 508 mm and both the driver and passenger side doors remained closed during the impact 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 on rebound the head contacted the headrest, 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 on rebound the head contacted the headrest, both knees contacted the glove box.

Occupant injury data is contained in table below.

OCCUPANT DATA SUMMARY

ATD Position	HIC ₃₆	Clip (g)	Chest Def. (mm)	Left Femur (N)	Right Femur (N)	Belt Spool (mm)
Driver	488.0	42.7	-28.1	-3217.1	-2368.3	0.8*
Passenger	578.8	42.1	-30.3	-2200.9	-942.6	1.1*

* Driver channel failed at 64.0 msec., Passenger channel failed at 67.0 msec.

SECTION 2
OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

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 Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

PRIMARY IMPACT DATA

Measured Parameter	Units	Value
Velocity at Impact	km/h	56.04
Test Weight	kg	2672
Impact Angle	degrees	0
Average Rebound	mm	387
Maximum Static Crush	mm	508

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. 034	50% Male Hybrid III No. 035
Head Contact	Airbag, Head Rest	Airbag, Head Rest
Chest Contact	Airbag	Airbag
Abdomen Contact	Airbag	Airbag
Left Knee Contact	Knee Bolster	Glove Box
Right Knee Contact	Knee Bolster	Glove Box

16mm MOVIE COVERAGE

Description	Standard	Additional
High Speed	13	0
Real Time	1	2
Total	14	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 Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	M55207
Make	Nissan
Model	Titan LE
Body Style	4-Door Truck
Vin No.	1N6AA07A05N506256
Color	Deep Water
Delivery Date	2/11/2005
Odometer (mi)	57
Dealer	Soutars
Transmission	5-Speed Automatic
Final Drive	Rear
Type/No. Cyl.	V8
Engine Disp. (L)	5.6
Engine Placement	Longitudinal
Roof Rack	No
Sunroof/T-Top	Yes
Tinted Glass	Yes
Traction Control	Yes
Power Brakes	Yes
Front Disc	Yes
Rear Disc	Yes

Anti-Lock Brakes	Yes
All Wheel Drive	No
Power Steering	Yes
Driver Front Airbag	Yes
Driver Side Airbag	Yes
Driver Head Airbag	No
Driver Curtain Airbag	Yes
Pass. Airbag	Yes
Pass. Side Airbag	Yes
Pass. Head Airbag	No
Pass. Curtain Airbag	Yes
Pre-Tensioners	Yes
Load Limiters	Yes
Bucket Seats	Yes
Air Cond.	Yes
AM/FM Cassette	Yes
Tilt Steering	Yes
Automatic Door Locks	Yes
Power Windows	Yes
Power Seats	Yes
Other	Navigation System

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

Yes

DATA FROM CERTIFICATION LABEL

Manufactured By	Nissan Motor Company, Ltd.
Date of Manufacture	Oct-04

GVWR (kg)	2913
GAWR Front (kg)	1497
GAWR Rear (kg)	1724

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Split Bench	Bench	
Number of Occupants	2	3		5
Capacity Weight (VCW) (kg)				635
Cargo Weight (RCLW) (kg)				136

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

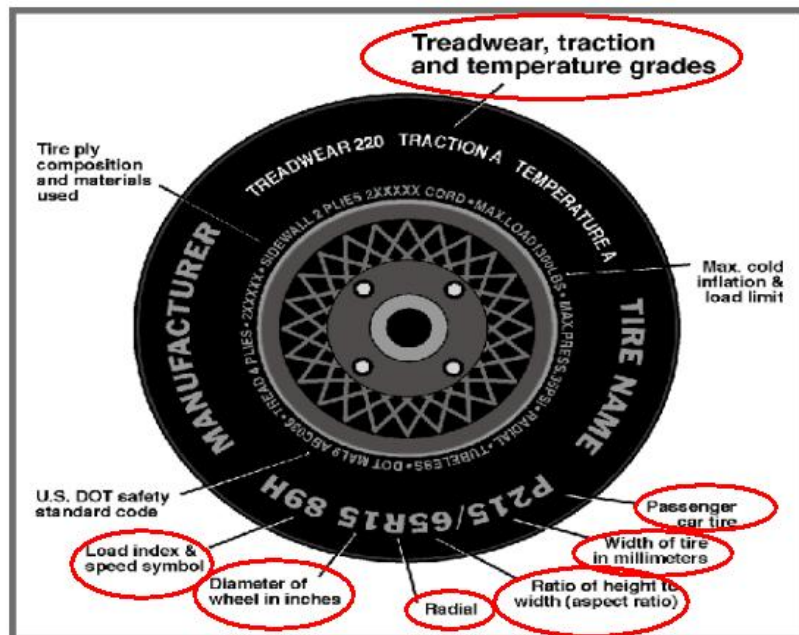
Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

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)	300	300
Cold Pressure (kpa)	245	245
Recommended Tire Size	P265/70R18	P265/70R18
Tire Size on Vehicle	P265/70R18	P265/70R18
Tire Manufacturer	Goodyear	Goodyear
Treadwear	360	360
Traction	A	A
Temperature Grades	B	B
Tire Plies Sidewall	2 Plies Polyester Cord	2 Plies Polyester Cord
Tire Plies Body	2 Polyester + 2 Steel	2 Polyester + 2 Steel
Load Index/Speed Symbol	114S	114S
Tire Material	Polyester + Steel + Rubber	Polyester + Steel + Rubber
DOT Safety Code Right	MK7B-DYER-4204	MK7B-DYER-4204
DOT Safety Code Left	MK7B-DYER-4204	MK7B-DYER-4204

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

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

TEST VEHICLE WEIGHTS

	Units	As Delivered Weights (UVW)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	665	553	1218	730	623	1353
Right	kg	628	545	1173	696	623	1319
Ratio	%	54.1	45.9	100%	53.4	46.6	100%
Totals	kg	1293	1098	2391	1426	1246	2672

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	2391
Weight of 2 P572 ATD's	kg	152
Rated Cargo/Luggage Wt. (RCLW)	kg	136
Calculated Vehicle Target Wt. (TVTW)	kg	2679

TEST VEHICLE ATTITUDE AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	892	898	958	967	1617
As Tested	mm	870	880	935	945	1642

Vehicle Wheelbase (mm) 3520

Weight of Ballast Secured in Cargo Area (kg) 0

Vehicle Components Removed Tail Gate, Spare Tire

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

FUEL SYSTEM DATA

Fuel System Capacity From Owners Manual (L) 105.98

Usable Capacity Furnished by COTR (L) N/A

Actual Test Volume with Entire Fuel System Filled (L) 79.45

1/3 of Usable Capacity (L) 35.33

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 Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

SPEED TRAP DATA

Measured Parameter	Units	Requirement	Value
Trap No.1 Velocity (Primary)	km/h	55.51 to 57.12	56.04
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	55.85
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	5499	5149	-350
Center	mm	5694	5194	-500
Right Side	mm	5499	5269	-230

VEHICLE REBOUND FROM BARRIER

Measured Parameter	Units	Value
Left Side	mm	360
Center	mm	450
Right Side	mm	350
Average	mm	387

DATA SHEET NO. 4
TEST VEHICLE INFORMATION

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

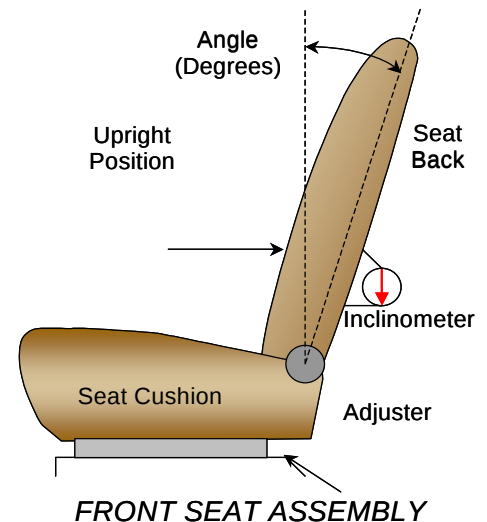
Test Date: 2/15/05

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 using a digital inclinometer.

SEAT BACK ANGLES

	Angle (Deg.)
Driver w/seated Dummy	10.0
Passenger w/seated Dummy	10.0

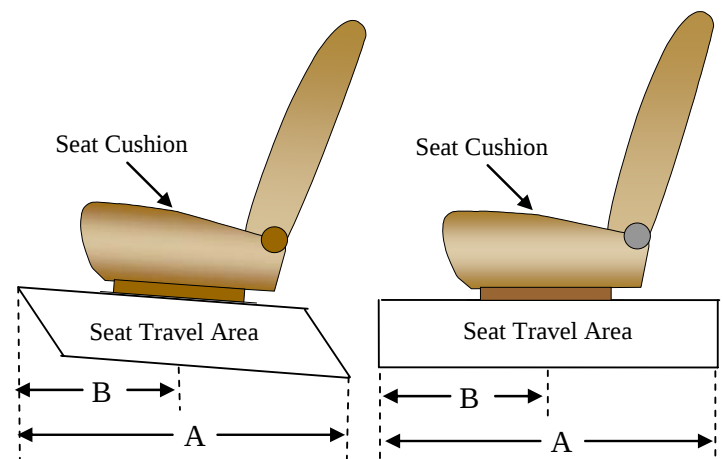


SEAT FORE/AFT POSITIONS

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

SEAT FORE/AFT POSITIONING

	Total Fore/Aft Travel	Placed in Position
Driver	238 mm	119 mm
Passenger	234 mm	117 mm



SEAT BELT UPPER ANCHORAGE

Position number one (1) is the uppermost position.

SEAT BELT UPPER ANCHORAGE

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

DATA SHEET NO. 4...(CONTINUED)

TEST VEHICLE INFORMATION

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

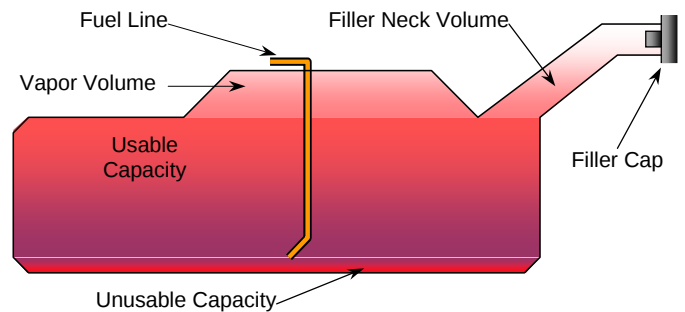
Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard Tank"	105.98
Usable Capacity of "Optional" Tank	
Usable Capacity used for FMVSS 301	97.50 to 99.62
Actual Amount of Solvent used	79.49
1/3 of Usable Capacity	35.33

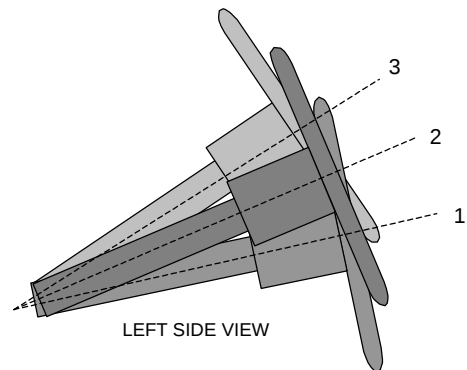
The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the right rear fender. The standard fuel tank occupies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



VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

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



STEERING COLUMN ASSEMBLY

STEERING COLUMN POSITIONS

	Fore/Aft Positon (mm)	Degrees
Lowermost positon No. 1		20.9
Geometric center position No. 2		25.5*
Uppermost position No. 3		35.8

* Placed in the manufacturer's nominal design position.

DATA SHEET NO. 5
DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

TEST DUMMY POSITION MEASUREMENTS

Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (deg)	Length (mm)	Angle (deg)
WA	Windshield Angle		58.0		
SWA	Steering Wheel Angle		64.5		
SCA	Steering Column Angle		25.5		
SA	Seat Back Angle		10.0		10.0
HZ	Head to Roof (Z)	240	90.0	205	90.0
HH	Head to Header	455		433	
HW	Head to Windshield	700		650	
HR	Head to Side Header (Y)	310		340	
NR	Nose to Rim	380	14.3		
CD	Chest to Dash	545		540	
CS	Chest to Steering Hub	300			
RA	Rim to Abdomen	180			
KDL	Left Knee to Dash	140	7.8	180	
KDR	Right Knee to Dash	140		200	4.8
PA	Pelvic Angle		20.0		20.0
TA	Tibia Angle		53.3		43.1
KK	Knee to Knee (Y)	280		270	
SK	Striker to Knee	685	0.7	670	1.8
ST	Striker to Head	625	73.0	655	74.0
SH	Striker to H-Point	300	12.0	283	4.0
SHY	Striker to H-Point (Y)	240		245	
HS	Head to Side Window	350		370	
HD	H-Point to Door (Y)	180		160	
AD	Arm to Door (Y)	50		50	

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

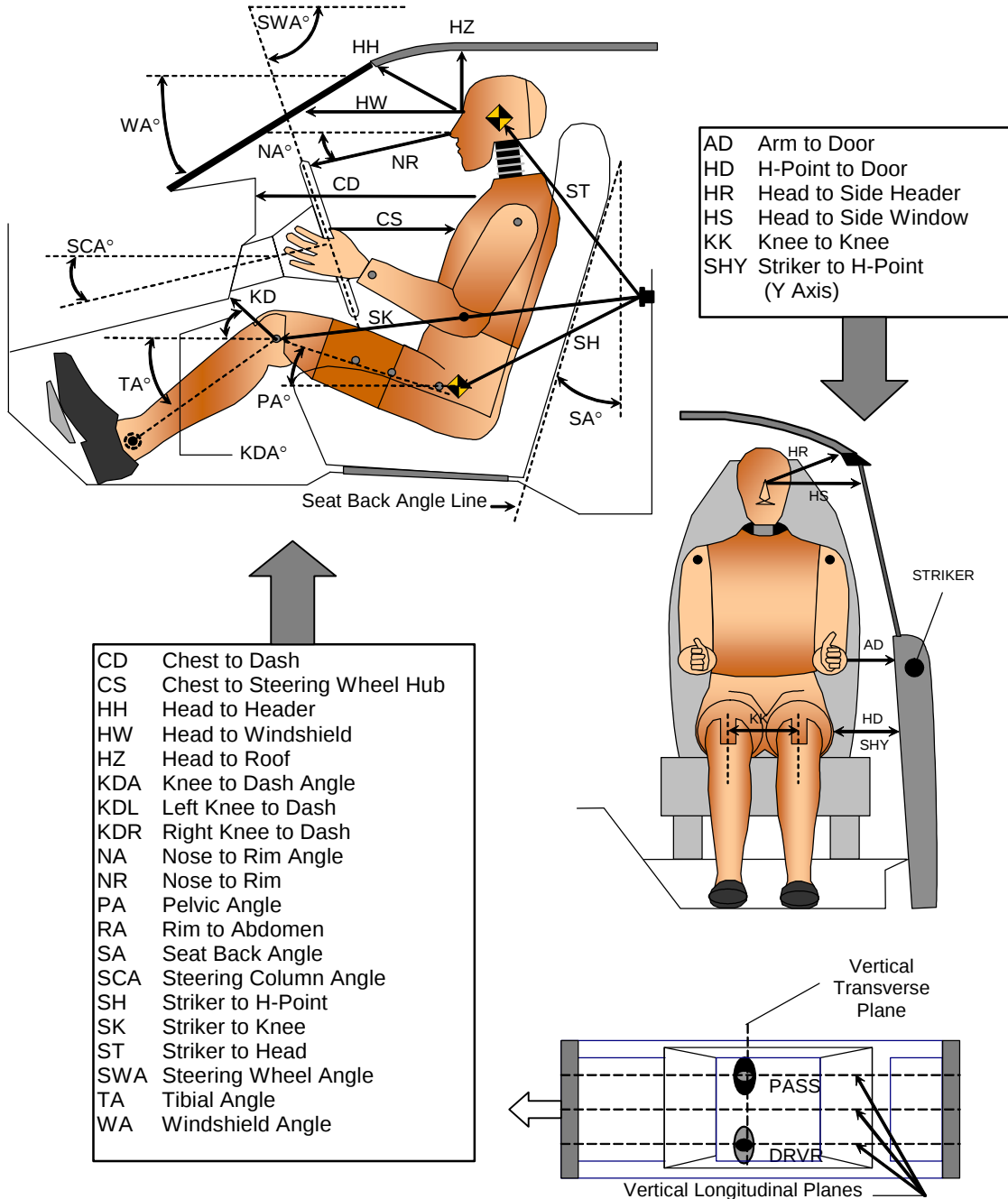
Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

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DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS



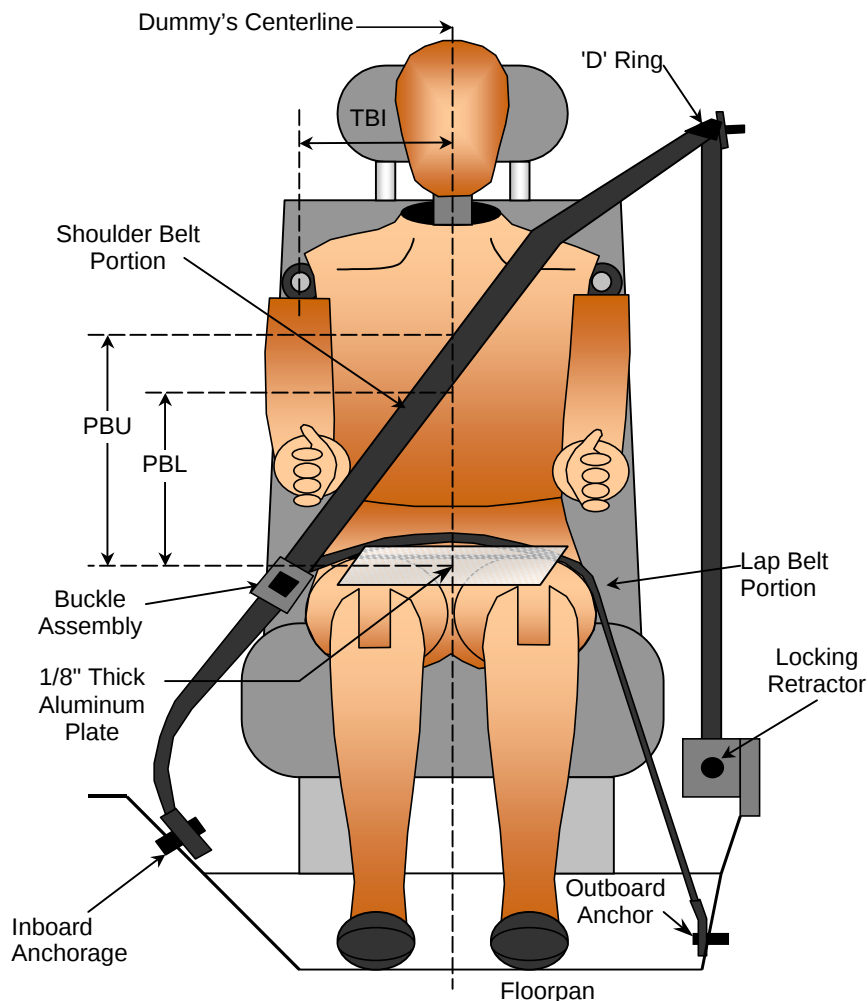
DATA SHEET NO. 6
SEAT BELT POSITIONING DATA

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05



SEAT BELT POSITIONING MEASUREMENTS

Measured Parameter	Units	Driver	Passenger
TBI -Dummy C/L to Lap/Shoulder Belt Intersect	mm	230	220
PBU - Top Surface of reference to belt upper edge	mm	335	360
PBL - Top Surface of reference to belt lower edge	mm	260	270
Lap Belt Tension	Newtons	10	10
Shoulder Belt Tension		Retractor	Retractor

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

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

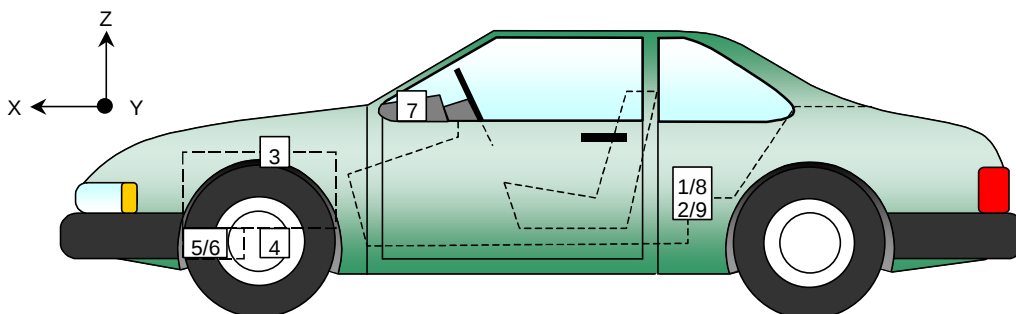
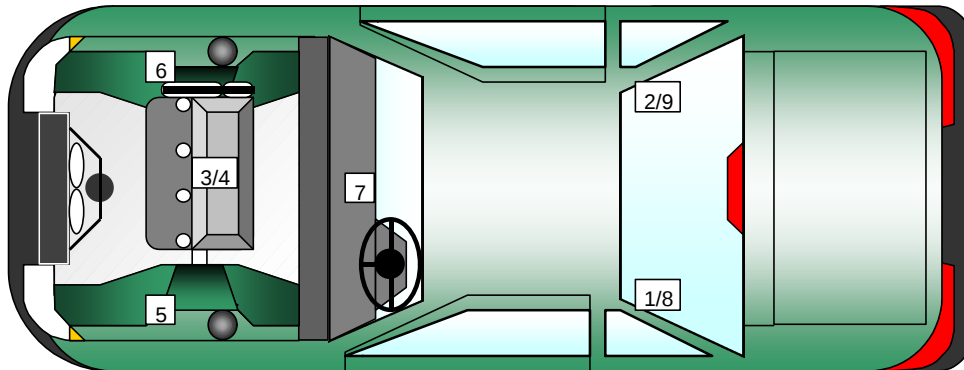
Test Date: 2/15/05

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	2490	-750	470	G's	3.5	133.1	-43.9	17.1
2	Right Rear X-Member	2490	750	470	G's	3.8	142.3	-46.9	17.1
3	Engine Top	4865	0	1070	G's	39.4	46.0	-96.0	30.5 ¹
4	Engine Bottom	4200	200	270	G's	19.8	54.6	-72.1	39.4
5	Left Brake Caliper	4670	-800	280	G's	53.1	72.6	-99.0	43.6
6	Right Brake Caliper	4670	800	280	G's	44.6	20.9	-121.1	44.2
7	Instrument Panel	3960	0	1260	G's	43.1	84.9	-107.2	34.5
8	Left Rear X-Member (Z-Axis)	2435	-750	470	G's	11.3	78.7	-18.6	36.9
9	Right Rear X-Member (Z-Axis)	2435	750	470	G's	11.1	51.2	-14.5	35.1

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

1.) Channel failed at 52.0 msec.



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

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	6.6	197.6	-51.7	79.9	0.9	193.5	-59.6	78.3
Head CG	Y	G's	2.7	125.1	-10.8	68.8	2.4	193.9	-7.4	79.4
Head CG	Z	G's	29.9	63.8	-2.3	98.1	33.5	59.9	-15.9	101.5
Head CG Resultant	N/A	G's	55.2	78.1			63.5	76.8		

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	2.3	134.7	-45.8	61.3	1.5	162.6	-44.1	69.0
Chest CG	Y	G's	6.4	91.0	-4.4	35.0	7.7	79.6	-5.6	66.4
Chest CG	Z	G's	10.1	53.1	-13.9	97.1	17.7	52.2	-18.5	100.3
Chest CG Resultant	N/A	G's	46.0	61.2			44.2	69.0		

FEMUR PEAK FORCES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Femur	Z	Newtons	568.1	38.6	-3217.1	50.1	578.5	37.4	-2200.9	52.9
Right Femur	Z	Newtons	1065.7	42.7	-2368.3	56.0	896.6	45.0	-942.6	82.9

SEAT BELT SENSOR PEAK VALUES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Shoulder Belt Pullout	N/A	MM	0.8	20.4	-11.2	43.7	1.1	65.8	-18.7	50.0
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	10181.2	54.4	-13.7	177.7	10524.4	55.7	1.8	0.0
Shoulder Belt Force	N/A	Newtons	6967.4	50.0	-62.0	175.2	6027.5	46.8	-41.6	156.0

1.) Driver channel failed at 64.0 msec., Passenger channel failed at 67.0 msec.

2.) 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	488.0	54.4	90.4	44.9	578.8	62.7	98.7	48.1

PRIMARY CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Primary	42.7	60.1	63.1	42.1	55.3	58.3

DATA SHEET NO. 8...(CONTINUED)

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	8.9	90.9	-73.4	56.2	8.4	91.2	-67.1	52.9
Pelvis	Y	G's	5.5	63.3	-4.7	48.3	9.9	61.6	-6.6	73.2
Pelvis	Z	G's	1.5	187.5	-24.6	59.8	2.2	37.8	-20.6	73.0
Pelvis Resultant	N/A	G's	77.0	56.2			69.1	55.1		

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	228.1	65.3	-627.9	112.5	17.0	199.7	-586.6	76.2
Neck Force	Y	Newtons	124.7	61.0	-72.4	74.9	286.9	91.7	-184.8	140.0
Neck Force	Z	Newtons	2078.6	64.0	-166.3	124.4	1544.0	59.6	-709.1	101.6
Neck Force Resultant	N/A	Newtons	2089.3	64.0			1582.7	59.6		
Neck Moment	X	Nm	18.0	74.1	-11.0	85.9	15.8	102.9	-16.1	131.4
Neck Moment	Y	Nm	53.1	124.1	-22.2	80.9	20.4	148.0	-44.7	76.3
Neck Moment	Z	Nm	15.1	74.5	-5.9	136.7	22.2	98.4	-14.1	147.2
Neck Moment Resultant	N/A	Nm	53.6	124.1			45.4	76.3		

FOOT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Foot Aft	X	G's	15.2	190.6	-52.2	61.2	33.1	78.3	-160.8	47.4
Left Foot Aft	Z	G's	10.4	48.5	-32.0	28.5	21.6	57.2	-53.4	46.9
Left Foot Fore	Z	G's	0.0	0.0	0.0	0.0	0.9	43.3	-24.2	41.1
Right Foot Aft	X	G's	22.4	67.2	-125.3	46.8	26.0	81.1	-91.9	50.0
Right Foot Aft	Z	G's	12.0	66.8	-115.2	48.3	2.9	184.0	-64.1	49.0
Right Foot Fore	Z	G's	40.5	36.3	-196.7	45.1	37.2	35.4	-17.9	27.9

1.) Driver channel failed, no data; Passenger channel failed at 42.0 msec.

2.) Passenger channel failed at 52.0 msec.

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	42.7	49.3	-17.2	68.9	13.7	108.7	-84.5	48.5
Left Upper Moment	Y	Nm	106.8	52.4	-47.5	33.7	66.2	52.9	-67.1	46.3
Right Upper Moment	X	Nm	15.6	155.0	-148.3	48.7	42.5	70.7	-20.1	46.7
Right Upper Moment	Y	Nm	22.3	48.1	-19.8	54.9	23.1	160.1	-55.0	58.9
Left Lower Moment	X	Nm	25.6	96.1	-3.1	38.9	59.1	86.2	-52.5	47.9
Left Lower Moment	Y	Nm	51.4	46.7	-13.6	33.8	59.7	83.6	-46.0	42.7
Left Lower Force	Z	Newtons	0.0	0.0	0.0	0.0	70.5	24.4	-3716.4	47.1
Right Lower Moment	X	Nm	34.5	84.0	-42.5	48.4	10.0	71.5	-7.9	46.1
Right Lower Moment	Y	Nm	35.6	81.0	-83.4	40.9	46.8	82.2	-21.5	33.9
Right Lower Force	Z	Newtons	181.2	154.7	-4854.4	48.9	50.9	200.0	-2268.0	82.3

1.) Driver channel failed, no data

DATA SHEET NO. 8...(CONTINUED)Test Vehicle: 2005 Nissan Titan LE 4-Door TruckNHTSA No.: M55207Test Program: 2005 NHTSA 35mph NCAPTest Date: 2/15/05**CHEST PEAK DEFLECTIONS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest	X	MM	0.0	1.9	-28.1	80.1	0.0	13.6	-30.3	72.3

HEAD REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	6.4	198.5	-52.5	80.5	0.9	193.6	-59.1	76.9
Head CG	Y	G's	2.7	127.3	-10.5	68.4	2.5	194.0	-7.0	79.5
Head CG	Z	G's	29.7	63.9	-2.4	98.2	33.1	60.5	-16.0	101.8
Head CG Resultant	N/A	G's	55.0	78.2			63.6	76.9		

CHEST REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	2.2	134.5	-45.9	61.3	1.3	167.5	-43.4	69.0
Chest CG	Y	G's	6.4	90.9	-4.7	35.0	7.0	79.7	-5.9	66.5
Chest CG	Z	G's	10.0	53.3	-13.7	95.1	17.4	49.6	-18.1	100.5
Chest CG Resultant	N/A	G's	46.1	61.3			43.5	69.0		

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	488.8	54.3	90.3	44.9	580.8	62.7	98.7	48.2

REDUNDANT CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Redundant	42.9	60.2	63.2	41.8	55.5	58.5

DATA SHEET NO. 9
SEAT BELT ASSESSMENT TEST DATA

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
TBI -Dummy C/L to Lap/Shoulder Belt Intersect	mm	230	220
PBU - Top Surface of reference to belt upper edge	mm	335	360
PBL - Top Surface of reference to belt lower edge	mm	260	270
Lap Belt Tension	Newtons	10	10
Shoulder Belt Tension		Retractor	Retractor

SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
Retractor Reel to "D" ring	mm	980	980
Shoulder Belt length as measured on ATD	mm	970	970
Lap Belt length as measured on ATD	mm	910	890
Remainder of belt on reel	mm	680	640
Total belt length for continuous webbing systems	mm	3540	3480

SHOULDER BELT SPOOL-OFF DATA

Measurement Description	Units	Driver	Passenger
As determined mechanically	mm	45.0	150.0
As determined electronically	mm	0.8*	1.1*

* Driver channel failed at 64.0 msec., Passenger channel failed at 67.0 msec.

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 Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

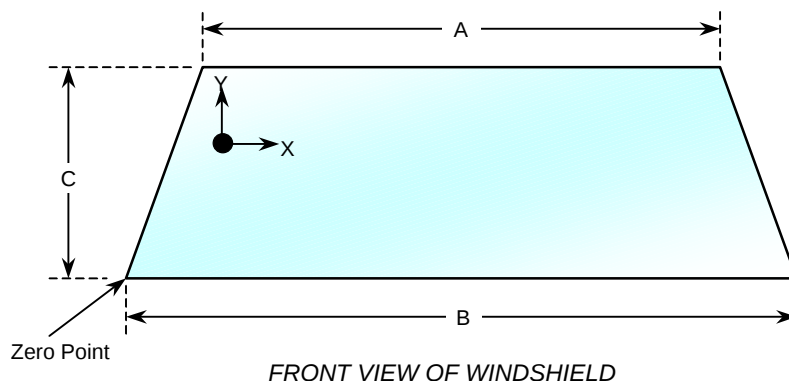
Windshield Mounting Details: Windshield glass is secured to the vehicle frame with a rubber type adhesive. No molding covers the windshield periphery at any point.

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

Temperature of windshield molding during test: 21.1 °C

WINDSHIELD PERIPHERY MEASUREMENTS

Measurement	Pre-Test(mm)	Post-Test(mm)	% of Retention
Left Side	2316	2316	100
Right Side	2316	2316	100
Total	4631	4631	100



WINDSHIELD DIMENSIONS

Item	Units	Segment Length	Molding Width
A	mm	1385	15
B	mm	1622	15
C-Left	mm	812	15
C-Right	mm	812	15

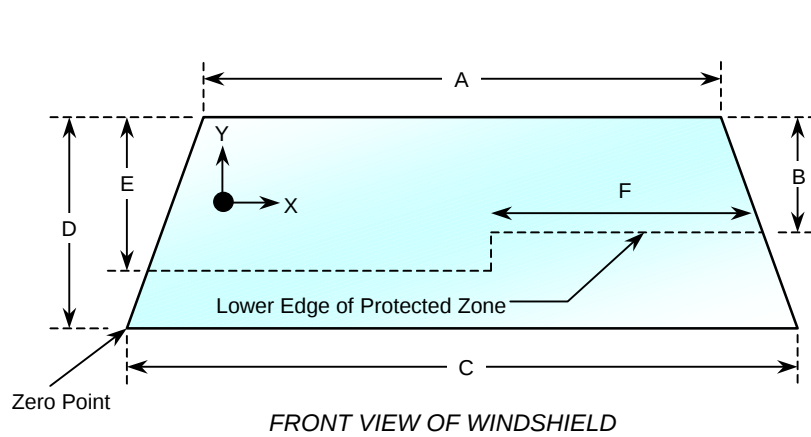
DATA SHEET NO. 11
WINDSHIELD ZONE INTRUSION FMVSS 219 DATA (PARTIAL)

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05



**WINDSHIELD AND
PROTECTED ZONE**

Item	Units	Value
A	mm	1385
B	mm	480
C	mm	1622
D	mm	812
E	mm	482
F	mm	430

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 Titan LE 4-Door Truck NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP Test Date: 2/15/05

Test Time: 2:45 PM

Temperature: 13.3 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

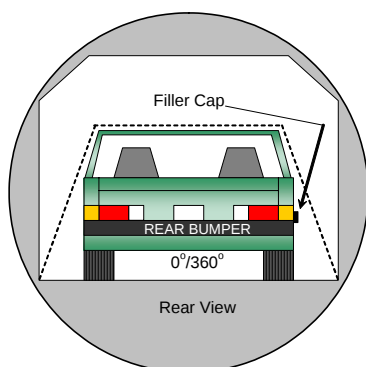
DATA SHEET NO. 13
FMVSS 301 STATIC ROLLOVER DATA

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

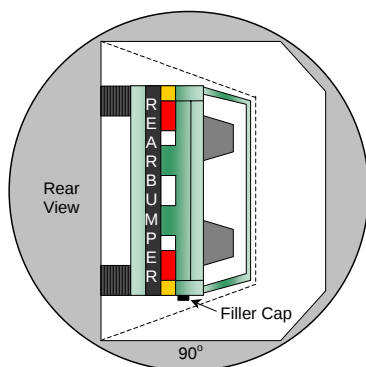
NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

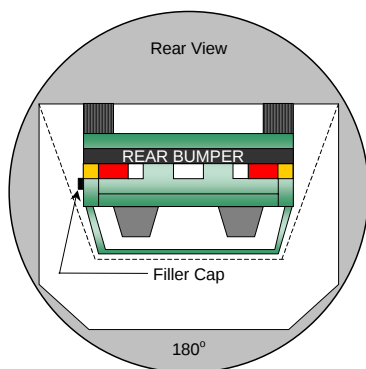
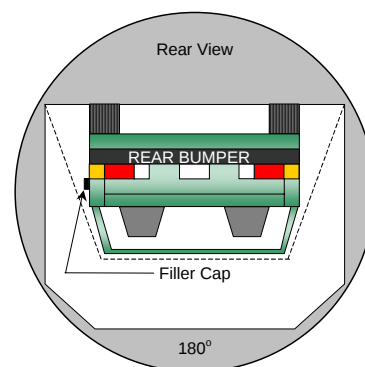
Test Date: 2/15/05



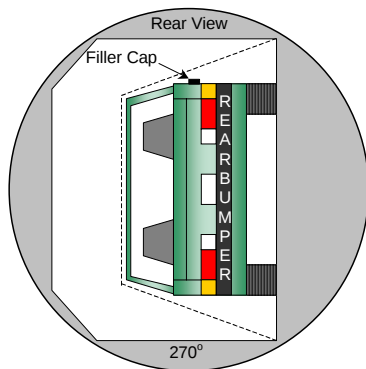
0° to 90°



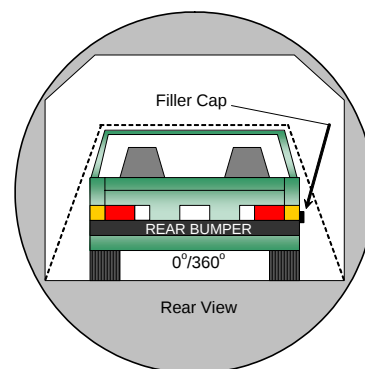
90° to 180°



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 Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° to 90°	83	300	383
90° to 180°	80	300	380
180° to 270°	80	300	380
270° to 360°	74	300	374

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 Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

VEHICLE MEASUREMENT TABLE

No.	Measurement Description	Units	Pre-Test	Post-Test	Diff.
1	Total length of vehicle at centerline	mm	5694	5194	-500
2	RSOV to front of engine	mm	5089	5004	-85
3	RSOV to firewall centerline	mm	4734	4714	-20
4	RSOV to leading edge of right door	mm	4209	4245	36
5	RSOV to leading edge of left door	mm	4210	4260	50
6	RSOV to lower leading edge of right door	mm	4178	4190	12
7	RSOV to lower leading edge of left door	mm	4173	4206	33
8	RSOV to upper trailing edge of right door	mm	3032	3070	38
9	RSOV to upper trailing edge of left door	mm	3032	3090	58
10	RSOV to lower trailing edge of right door	mm	3010	3025	15
11	RSOV to lower trailing edge of left door	mm	3007	3040	33
12	RSOV to bottom of right 'A' pillar	mm	4166	4186	20
13	RSOV to bottom of left 'A' pillar	mm	4176	4246	70
14	RSOV to firewall on right side	mm	4729	4694	-35
15	RSOV to firewall on left side	mm	4697	4794	97
16	RSOV to steering column	mm	3750	3805	55
17	Center of steering column to left 'A' pillar	mm	414	400	-14
18	Center of steering column to headlining	mm	470	475	5
19	RSOV to right side of front bumper	mm	5499	5269	-230
20	RSOV to left side of front bumper	mm	5499	5149	-350
21	Length of engine block	mm	685	685	0
RD	RSOV to right side of dash panel	mm	4006	4041	35
CD	RSOV to center of dash panel	mm	3940	4000	60
LD	RSOV to left side of dash panel	mm	3972	4086	114

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

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

VEHICLE STRUCTURAL MEASUREMENT TABLE

No.	Measurement Description	Units	Pre-Test	Post-Test	Diff.
1	Total length	mm	5694	5194	-500
2	Total width	mm	2000	1960	-40
3	Bumper top height	mm	780	810	30
4	Bumper bottom height	mm	360	360	0
5	Longitudinal member top height	mm	560	620	60
6	Longitudinal member bottom height	mm	435	510	75
7	Distance between longitudinal members	mm	800	770	-30
8	Longitudinal member width	mm	95	94	-1
9	Engine top height	mm	1105	1163	58
10	Engine bottom height	mm	286	276	-10
11	Engine and gear box width	mm	770	765	-5
12	Front bumper to engine distance	mm	605	390	-215
13	Front shock absorber fixing width	mm	821	941	120
14	Bonnet leading edge height	mm	1040	1160	120
15	Front shock absorber fixing width	mm	800	821	21
16	Front bumper to front axle distance	mm	877	470	-407
17	Front axle to 'A' pillar distance	mm	570	530	-40
18	'A' pillar to 'B' pillar distance	mm	1180	1180	0
19	'B' pillar to rear axle distance	mm	1801	1770	-31
20	'B' pillar to 'C' pillar distance	mm	972	970	-2
21	Roof sill bottom height	mm	1729	1710	-19
22	Roof sill top height	mm	1830	1850	20
23	Floor sill bottom height	mm	415	360	-55
24	Floor sill top height	mm	503	455	-48

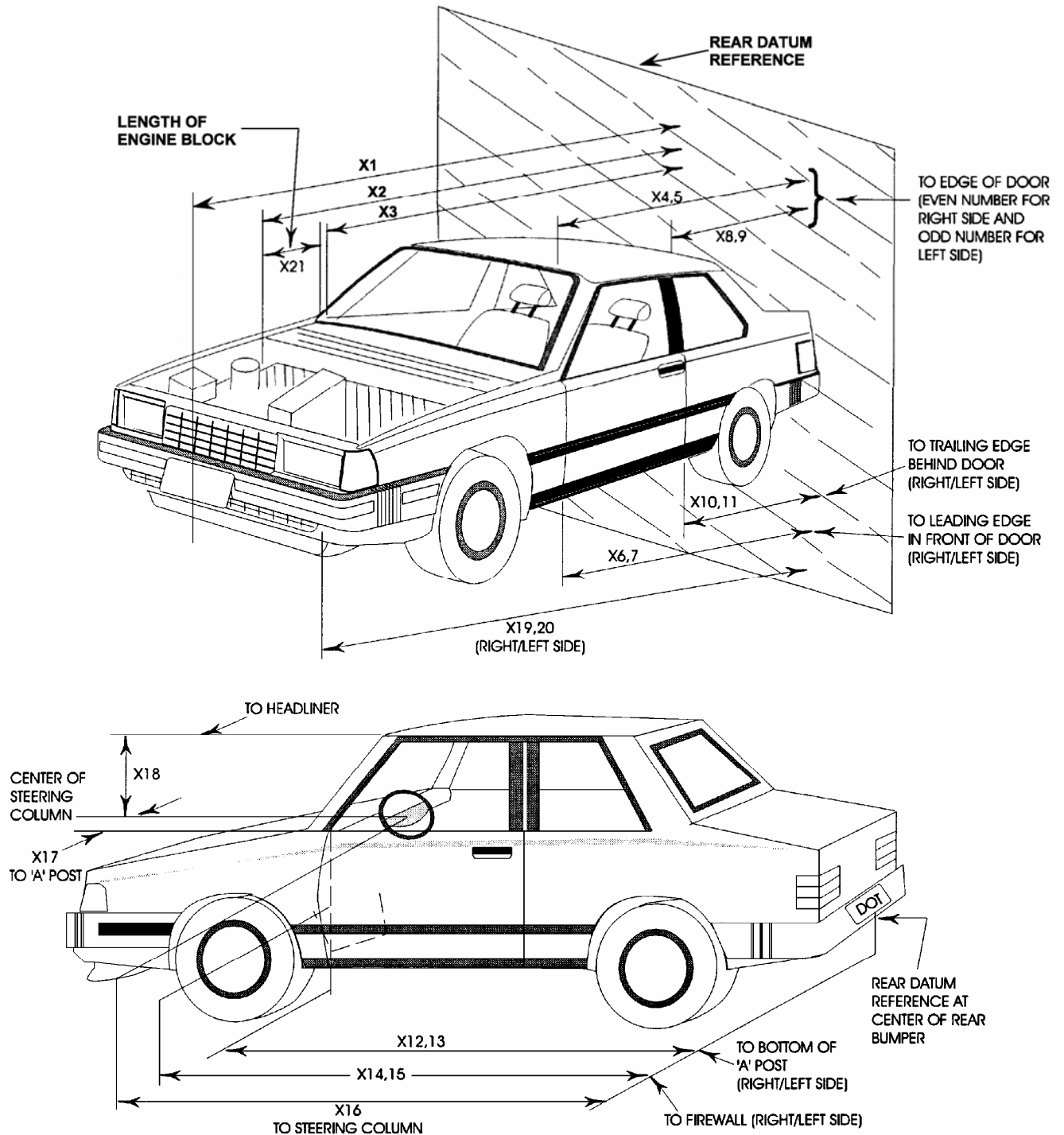
DATA SHEET NO. 14...(CONTINUED)
VEHICLE MEASUREMENTS

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05



DATA SHEET NO. 15
CAMERA LOCATIONS

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

VEHICLE CAMERA MEASUREMENT TABLE

No.	Camera View	Location (mm)			Angle (deg.)	Film Plane to Head (mm)	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Real Time Camera (Panning)	-12192	-6096	-1651	-10	N/A	Zoom	30
2	Overall Left Side	-2489	-8280	-1143	-4	7634	24	1000
3	Left Side View	-1677	-7620	-1329	-4	7000	50	1000
4	Driver and Interior View	-6477	-10185	-4748	-13	10809	80	955
5	Steering Column (Bottom)	-2134	-8230	-2997	-16	7685	19	995
6	Steering Column (Top)	-2134	-8230	-3404	-20	7766	19	1015
7	Overall Right Side	-2083	8230	-1270	-6	7582	13	1030
8	Right Side View	-1677	7316	-1422	-4	6694	50	1000
9	Passenger and Interior View	-6781	9144	-2997	-9	9642	28	1025
10	Right Side View	-1829	7316	-1422	-4	6680	28	1000
11	Windshield	-610	0	-5944	-90	N/A	13	1040
12	Passenger Front View	610	432	-2667	-40	N/A	13	NTM
13	View of Engine	-914	0	1499	90	N/A	6	1015
14	View of Fuel Tank	-2438	0	1499	90	N/A	6	905

ADDITIONAL CAMERAS

1	Real Time Camera	-1219	-8585	-1372	0	8012	Zoom	30
2	Real Time Camera	-1067	7976	-991	0	7461	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

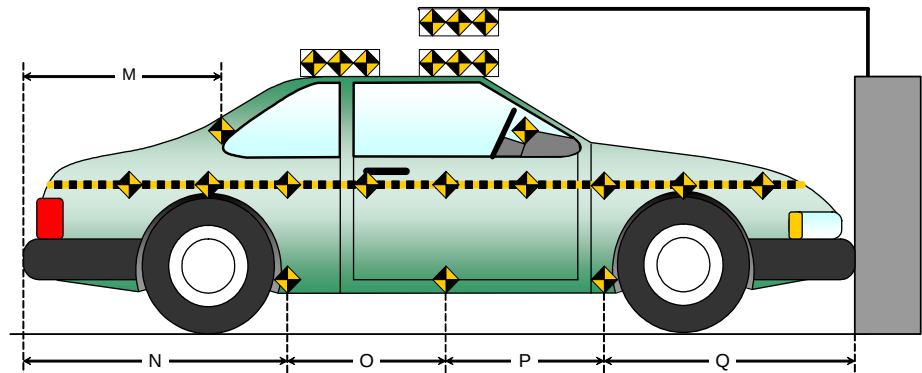
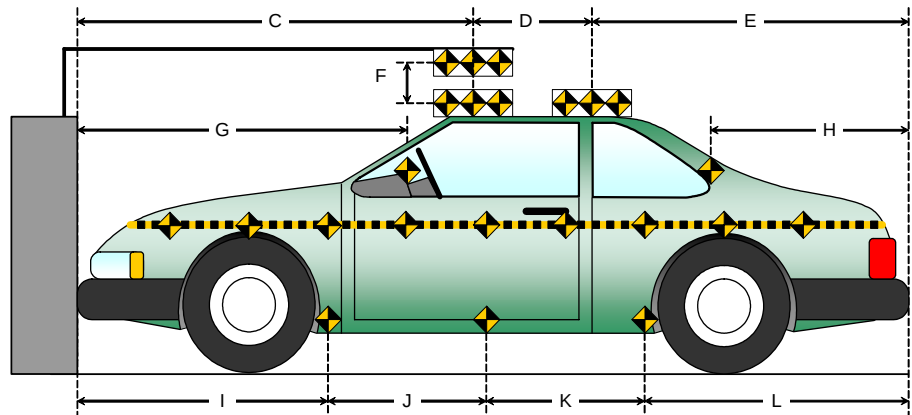
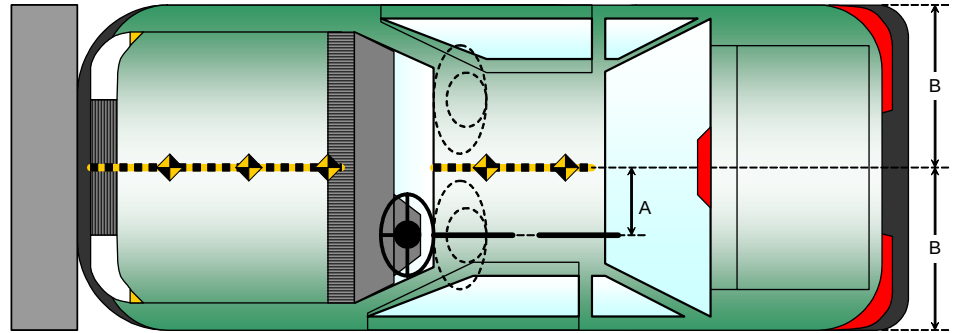
Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

All Dimensions in (mm)	
Item	Value
A	*
B	1000
C	*
D	*
E	*
F	*
G	1805
H	2030
I	1457
J	1227
K	1227
L	1795
M	2035
N	1795
O	1227
P	1227
Q	1457



* Targets not installed due to vehicle sunroof.

DATA SHEET NO. 17
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

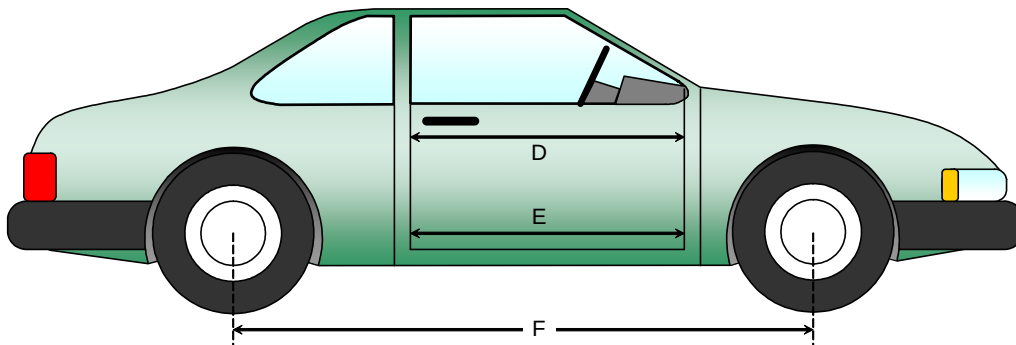
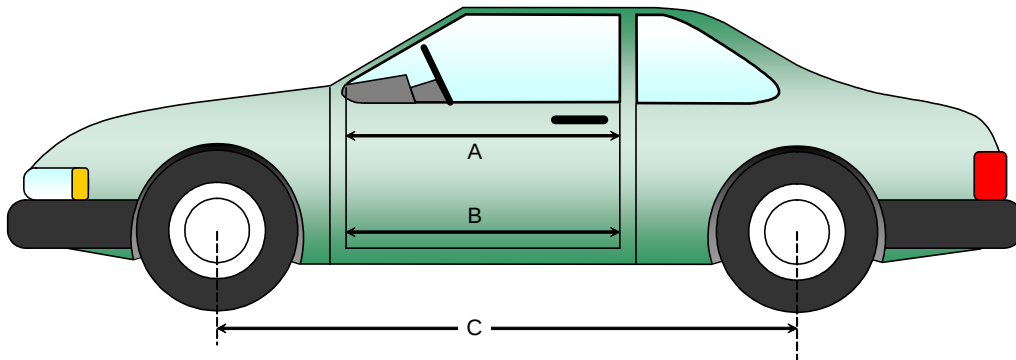
Test Date: 2/15/05

DOOR OPENING WIDTH TABLE

Item	Description	Units	Pre-Test	Post-Test	Diff.
A	Left Side Upper	mm	1078	1075	-3
B	Left Side Lower	mm	1026	1025	-1
D	Right Side Upper	mm	1084	1075	-9
E	Right Side Lower	mm	1032	1025	-7

WHEELBASE MEASUREMENT TABLE

Item	Description	Units	Pre-Test	Post-Test	Diff.
C	Left Side Wheel Base	mm	3520	3450	-70
F	Right Side Wheel Base	mm	3520	3450	-70



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

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

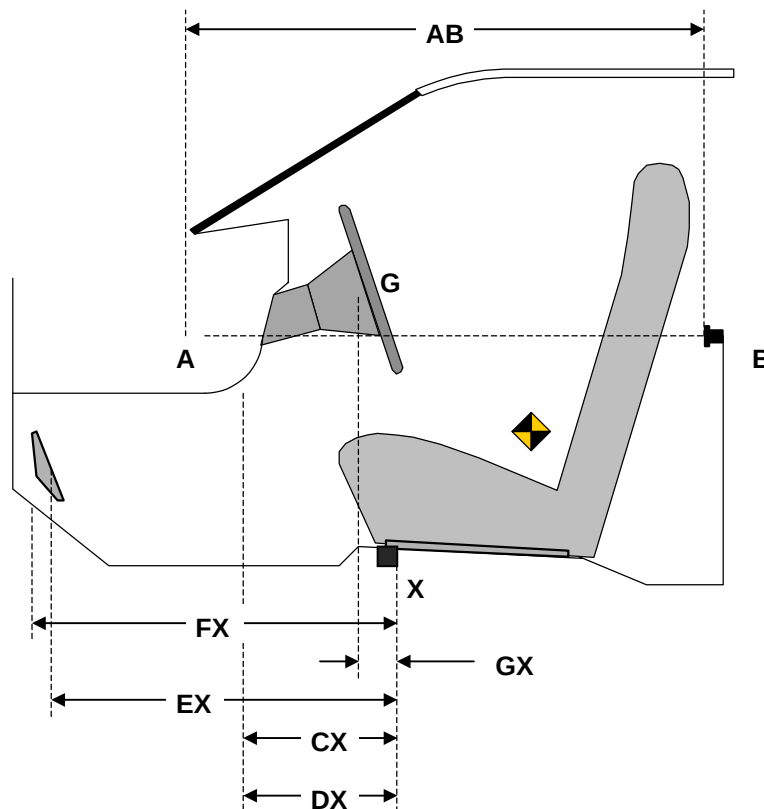
Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

DRIVER COMPARTMENT INTRUSION TABLE

Item	Description	Units	Pre-Test	Post-Test	Diff.
AB	Door Opening (Inside window jam)	mm	1078	1075	-3
CX	Left Knee Bolster to X	mm	295	300	5
DX	Right Knee Bolster to X	mm	275	260	-15
EX	Brake Pedal to X	mm	535	470	-65
FX	Foot Rest to X	mm	580	540	-40
GX	Center of Steering Wheel Hub to X	mm	65	70	5

X = Left Front Seat Outboard Anchor Bolt Head



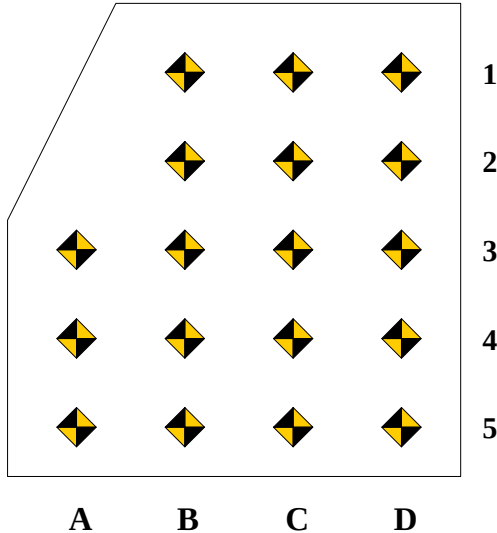
DATA SHEET NO. 17...(CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05



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		699	692	683		697	692	681		-2	0	-2
2		608	605	606		621	613	610		13	8	4
3	502	504	506	502	507	519	531	543	5	15	25	41
4	407	410	410	411	413	427	438	452	6	17	28	41
5	305	307	313	319	312	328	345	364	7	21	32	45

DRIVER FLOOR PAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1		5	9	-7		-29	-35	-64		-34	-44	-57
2		48	51	42		33	13	-10		-15	-37	-52
3	60	63	79	84	48	50	69	58	-12	-13	-10	-26
4	59	60	80	82	43	44	68	59	-16	-16	-12	-23
5	68	65	78	80	50	48	62	46	-18	-17	-16	-34

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

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

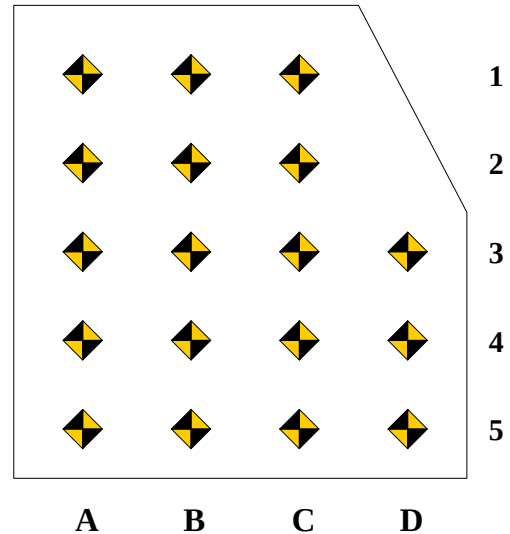
Test Date: 2/15/05

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	710	712	697		689	702	699		-21	-10	2	
2	615	617	617		597	615	625		-18	-2	8	
3	521	520	519	521	509	524	532	541	-12	4	13	20
4	417	418	419	420	413	425	432	441	4	7	13	21
5	322	320	319	325	318	322	331	340	-4	2	12	15

PASSENGER FLOOR PAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	-12	-11	-24		-23	-16	-30		-11	-5	-6	
2	31	35	38		23	38	36		-8	3	-2	
3	76	65	65	80	85	73	66	77	9	8	1	-3
4	78	58	59	76	86	62	58	71	8	4	-1	-5
5	75	59	58	74	77	60	54	65	2	1	-4	-9

DATA SHEET NO. 18
FIXED BARRIER LOAD CELL LOCATIONS

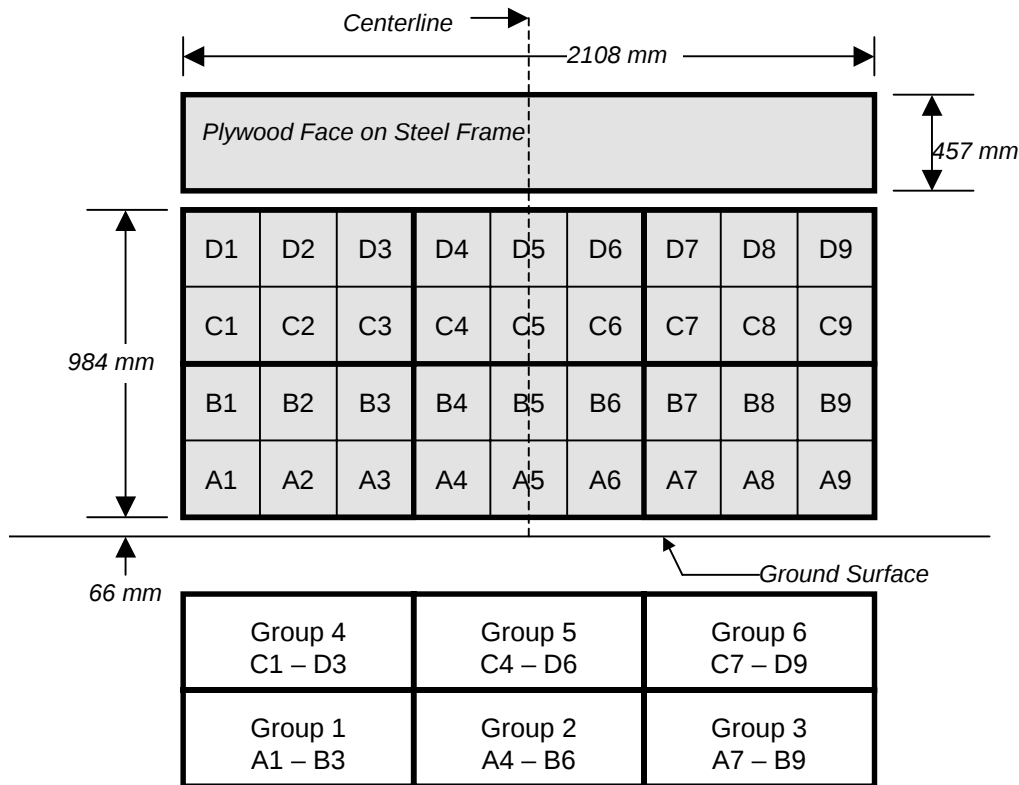
Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

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 Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

POST-TEST AIRBAG DATA

	DRIVER	PASSENGER
No. of vent holes	2	2
Size of vent (mm ²)	316	2389
Total vent area (mm ²)	632	4778

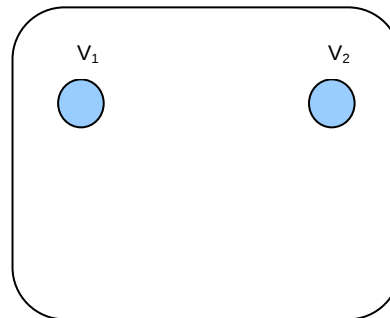
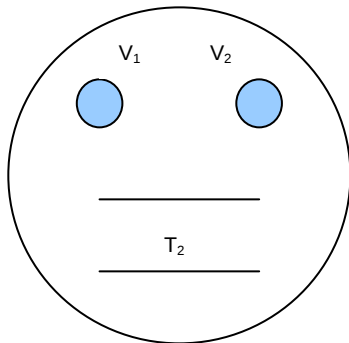
Deflated Airbag Length and Width Dimensions or, If Round, Diameter (mm)		
Length		600
Width		600
Depth or Diameter	480	510

Tethering Information		
Is the airbag tethered?	Yes	No
Record length of tether (mm)	200	

Airbag Manufacturing Information		
Manufacturer	*	*
Part No.	*	*
Gas Generator	*	*

* Manufacturer's, part no. and gas generator labels were burned due to airbag deployment.

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 Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

VEHICLE INFORMATION

VIN: 1N6AA07A05N506256

Wheelbase (mm): 3520

Vehicle Size Category: 4-Door Truck

Test Weight (kg): 2672

ACCELEROMETER DATA

Accelerometer Location: Left Rear Sill

Cal. Procedure/Interval: 6 months / drop test

Integration Algorithm: NHTSA Standard

Linearity: Good

Impact Velocity (km/h): 56.04

Velocity Change (km/h): 61.23

Time of Separation (msec): 68.5

CRUSH PROFILE

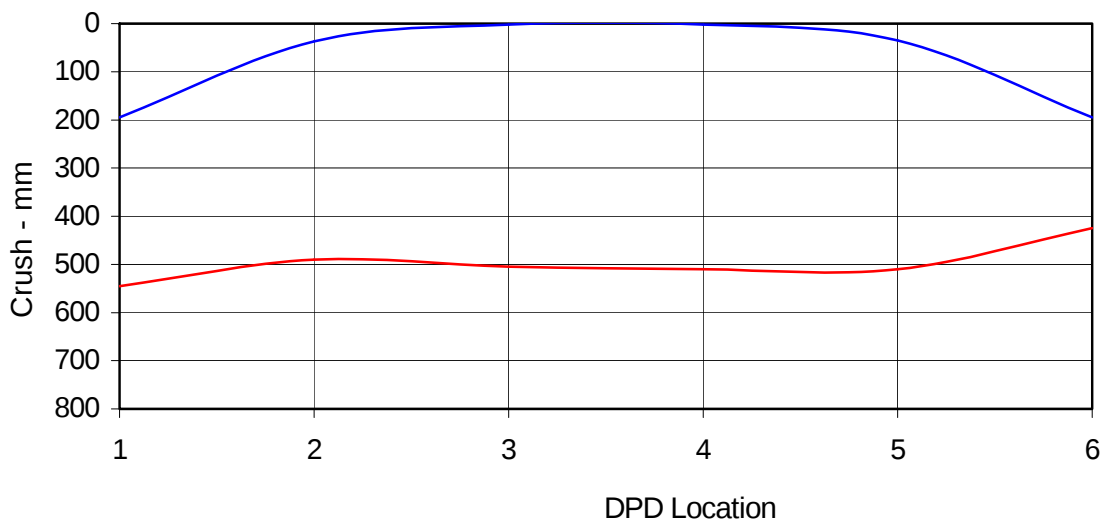
Collision Deformation Classification: 12FDEW6

Maximum Damage: Right Side of the Vehicle Centerline

Damage Region Length (mm): 1855

Impact Mode: Full Frontal

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	195	545	-350
C2	Crush zone 2 on left side	mm	37	490	-453
C3	Crush zone 3 on left side	mm	2	505	-503
C4	Crush zone 4 on right side	mm	2	510	-508
C5	Crush zone 5 on right side	mm	35	510	-475
C6	Crush zone 6 at right side	mm	195	425	-230



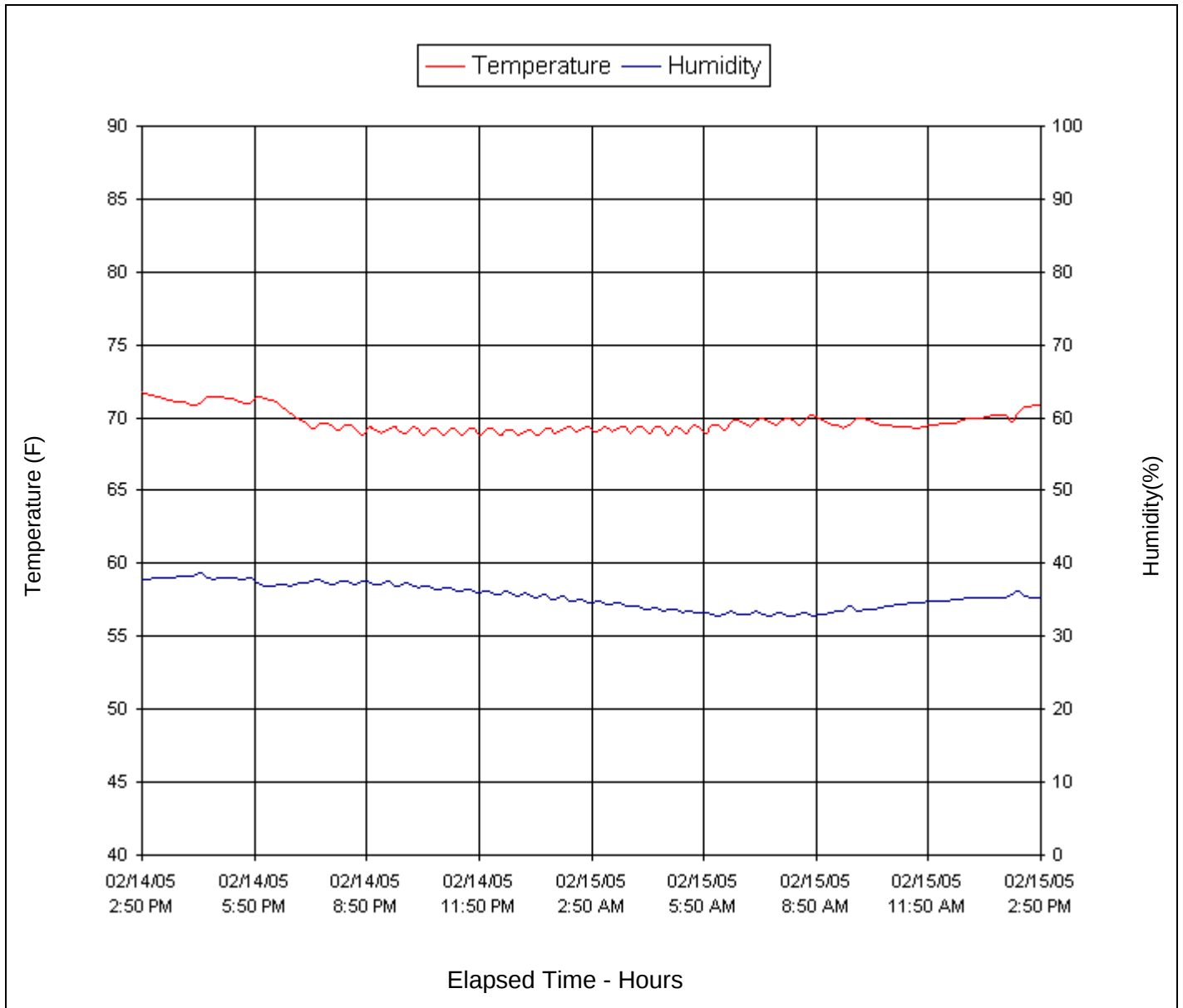
DATA SHEET NO. 21
DUMMY/VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05



APPENDIX A
PHOTOGRAPHS

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33	Pre-Test Driver Dummy (Door Open)	A-33

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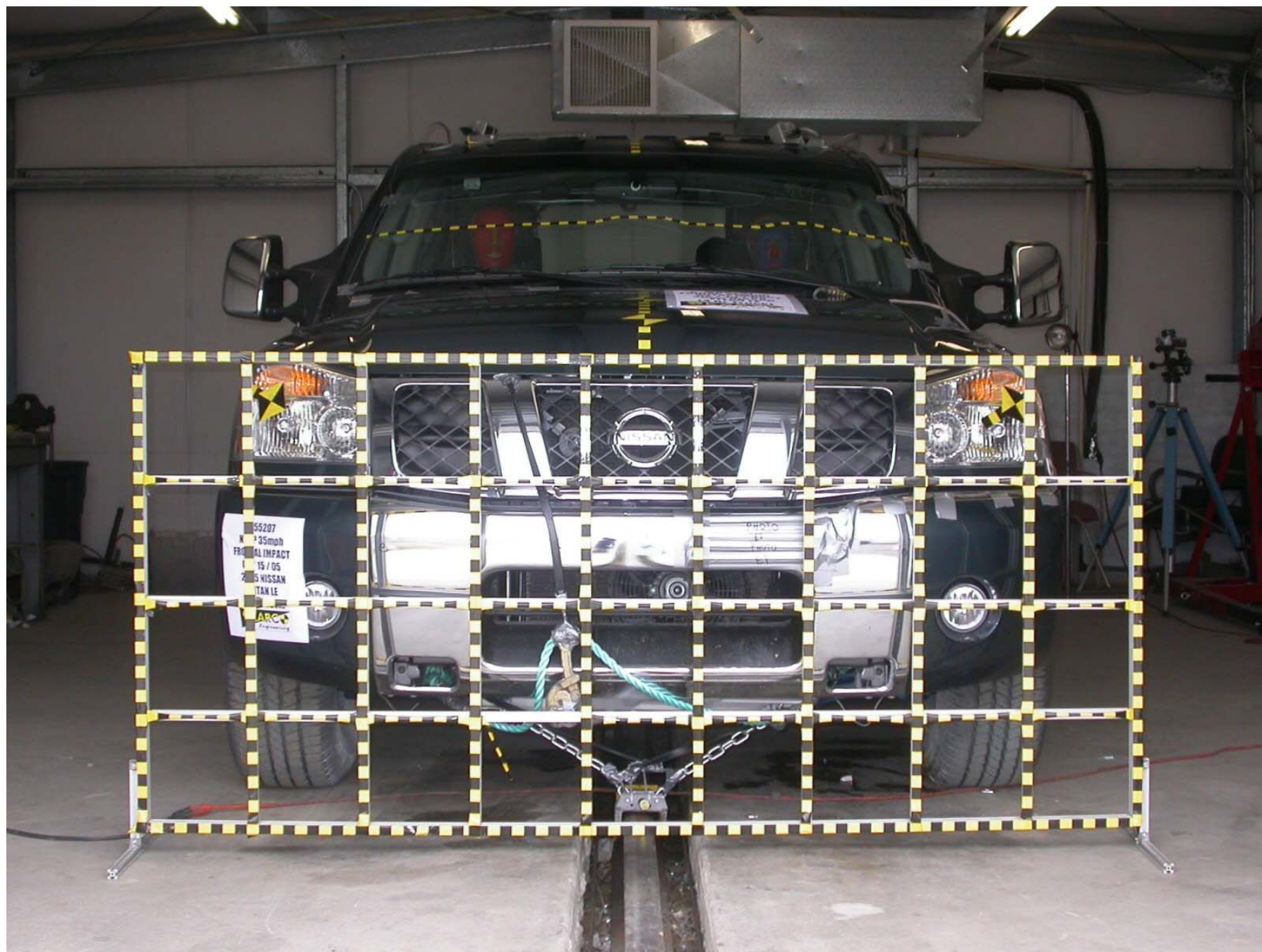


Figure A-1: Load Cell Location



Figure A-2: Manufacturer's Label



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



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



Figure A-5: Pre-Test Front View



Figure A-6: Post-Test Front View (Vehicle Moved)



Figure A-7: Pre-Test Left Side View



Figure A-8: Post-Test Left Side View



Figure A-9: Pre-Test Right Side View



Figure A-10: Post-Test Right Side View



Figure A-11: Pre-Test Right Front 3/4 View



Figure A-12: Post-Test Right Front ¾ View (Vehicle Moved)



Figure A-13: Pre-Test Left Rear $\frac{3}{4}$ View



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



Figure A-15: Post-Test Left Side $\frac{3}{4}$ View of Doors After Impact



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

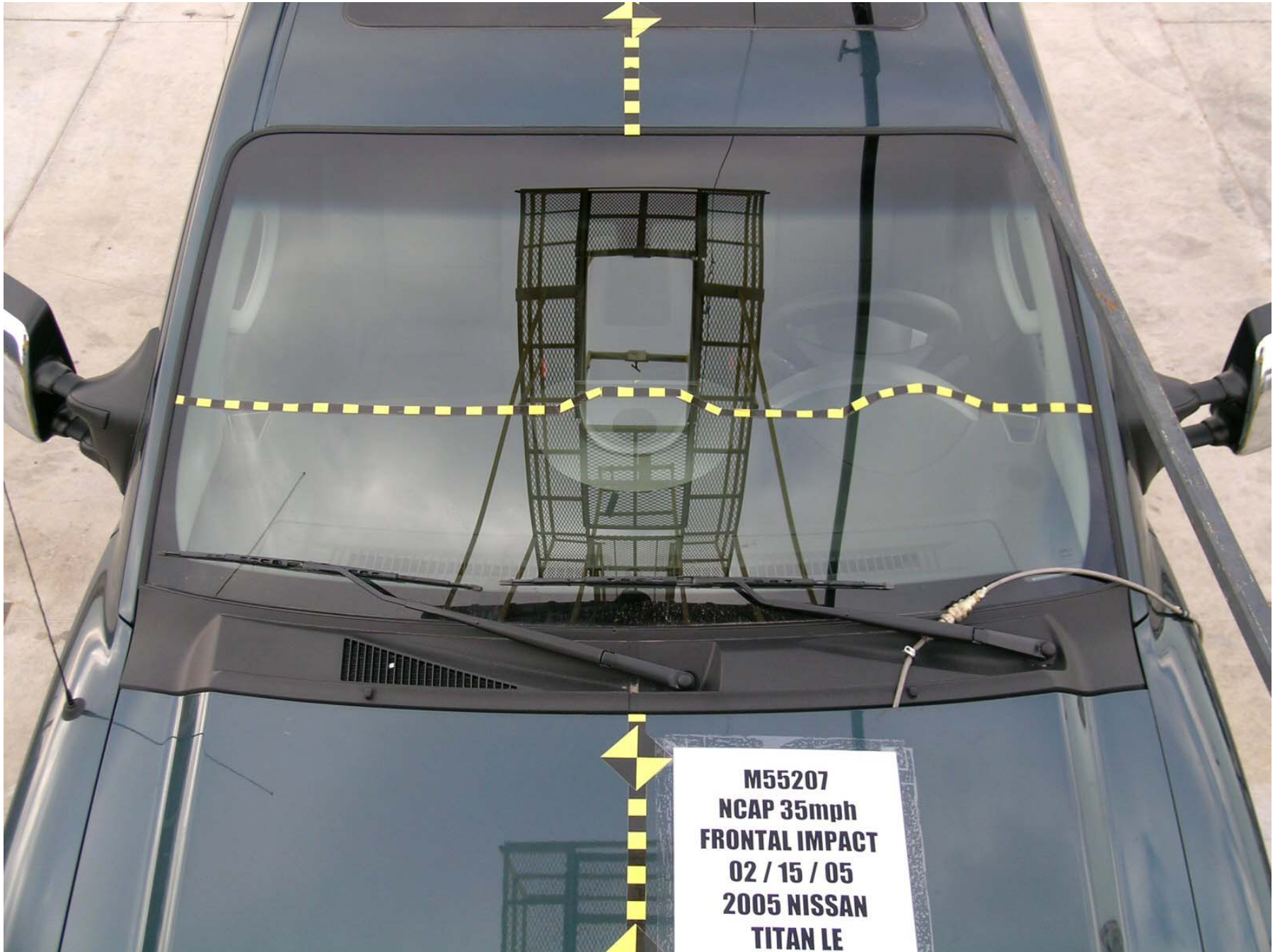


Figure A-17: Pre-Test Windshield



Figure A-18: Post-Test Windshield



Figure A-19: Pre-Test Engine Compartment



Figure A-20: Post-Test Engine Compartment (Vehicle Moved)



Figure A-21: Pre-Test Fuel Cap



Figure A-22: Post-Test Fuel Cap

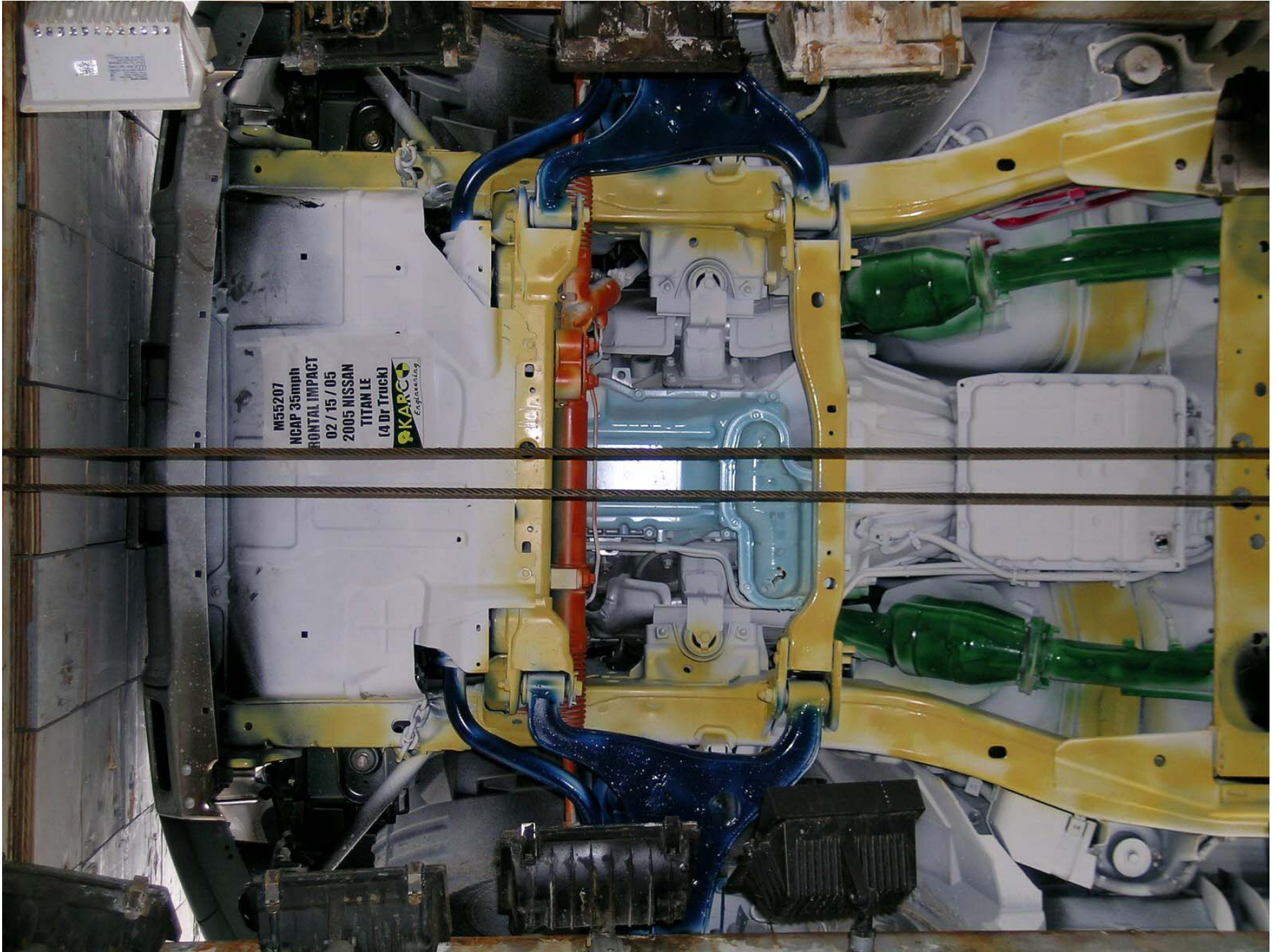


Figure A-23: Pre-Test Front Underbody



Figure A-24: Post-Test Front Underbody

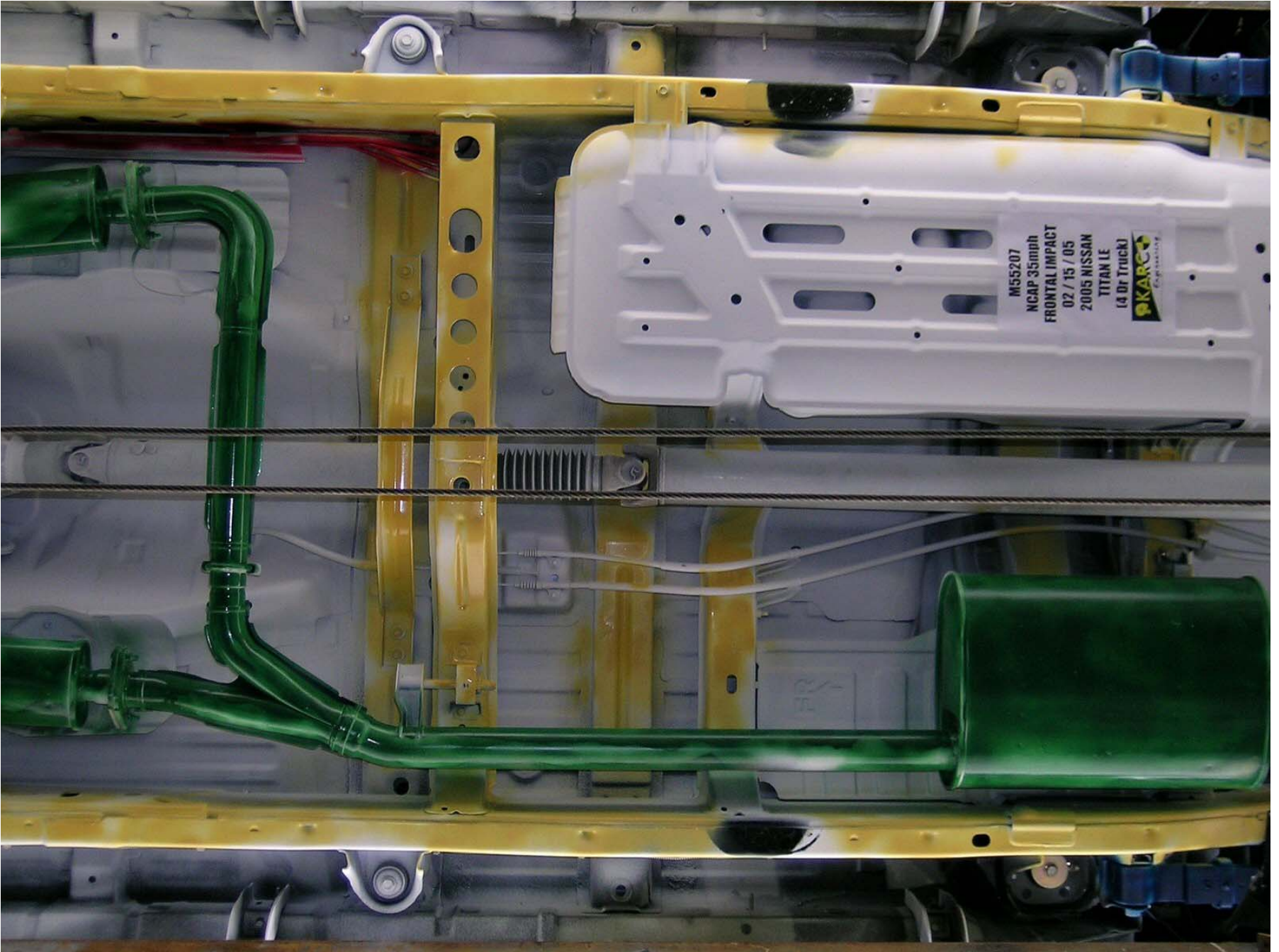


Figure A-25: Pre-Test Mid Underbody

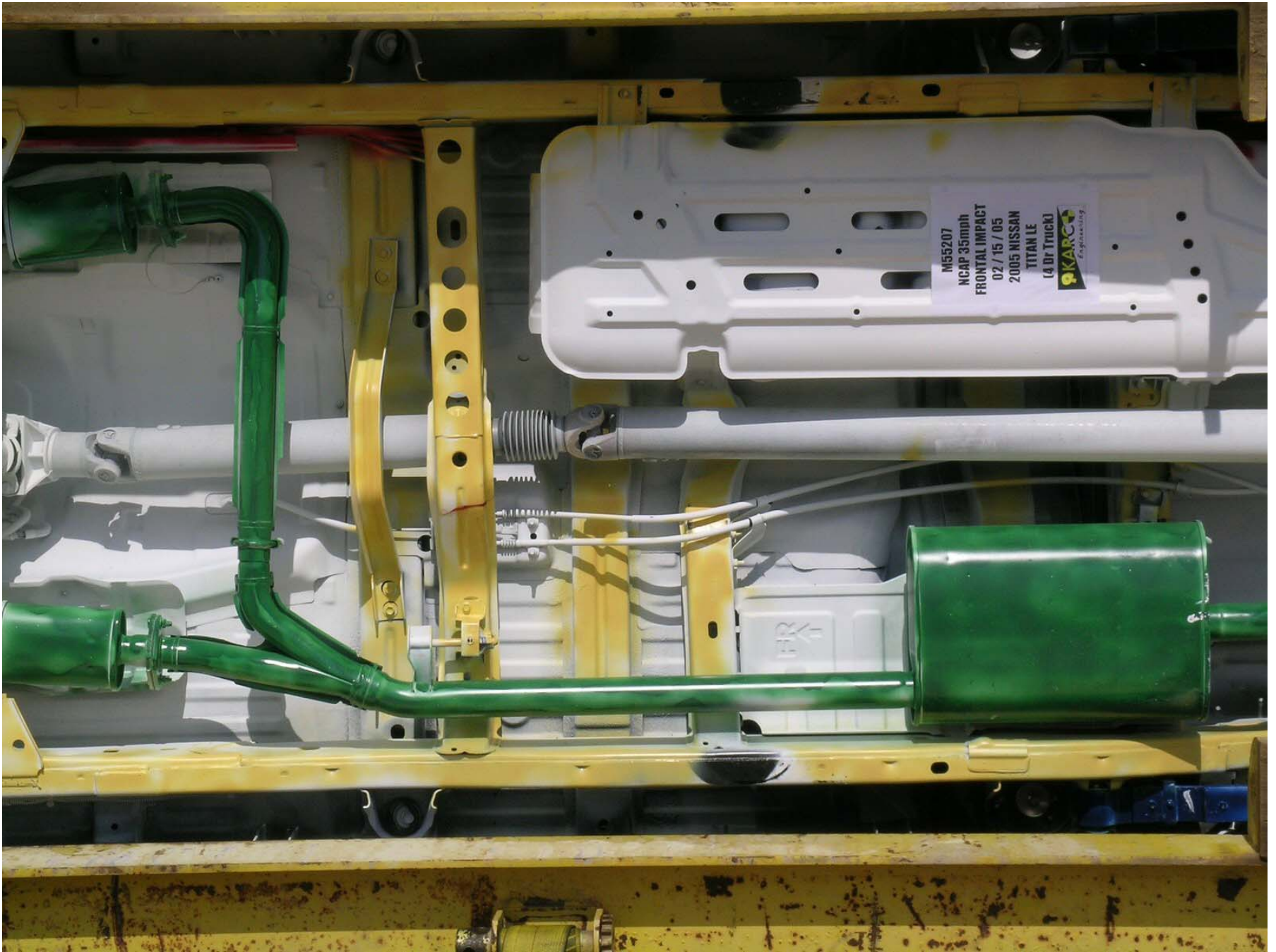


Figure A-26: Post-Test Mid Underbody

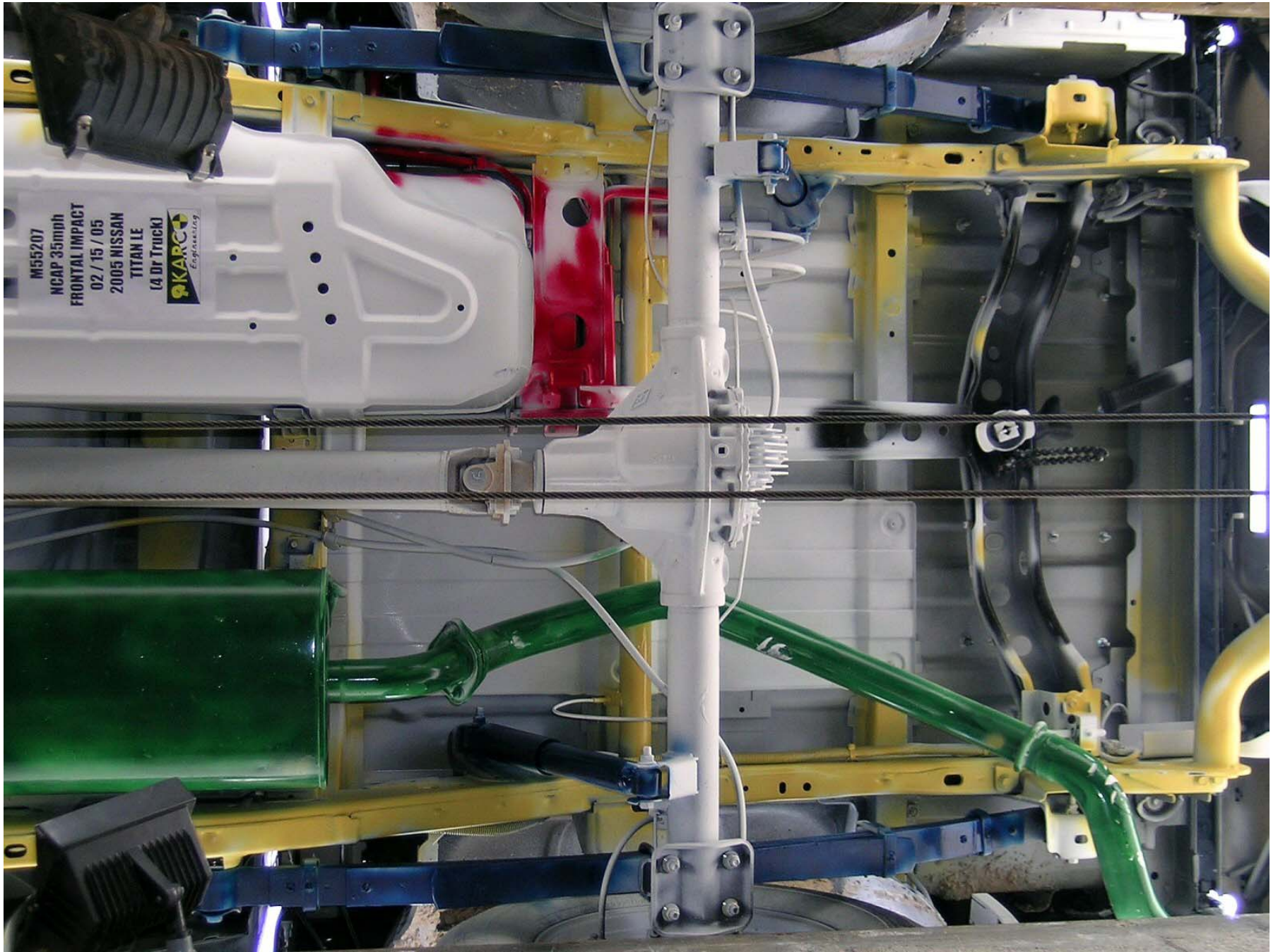


Figure A-27: Pre-Test Rear Underbody

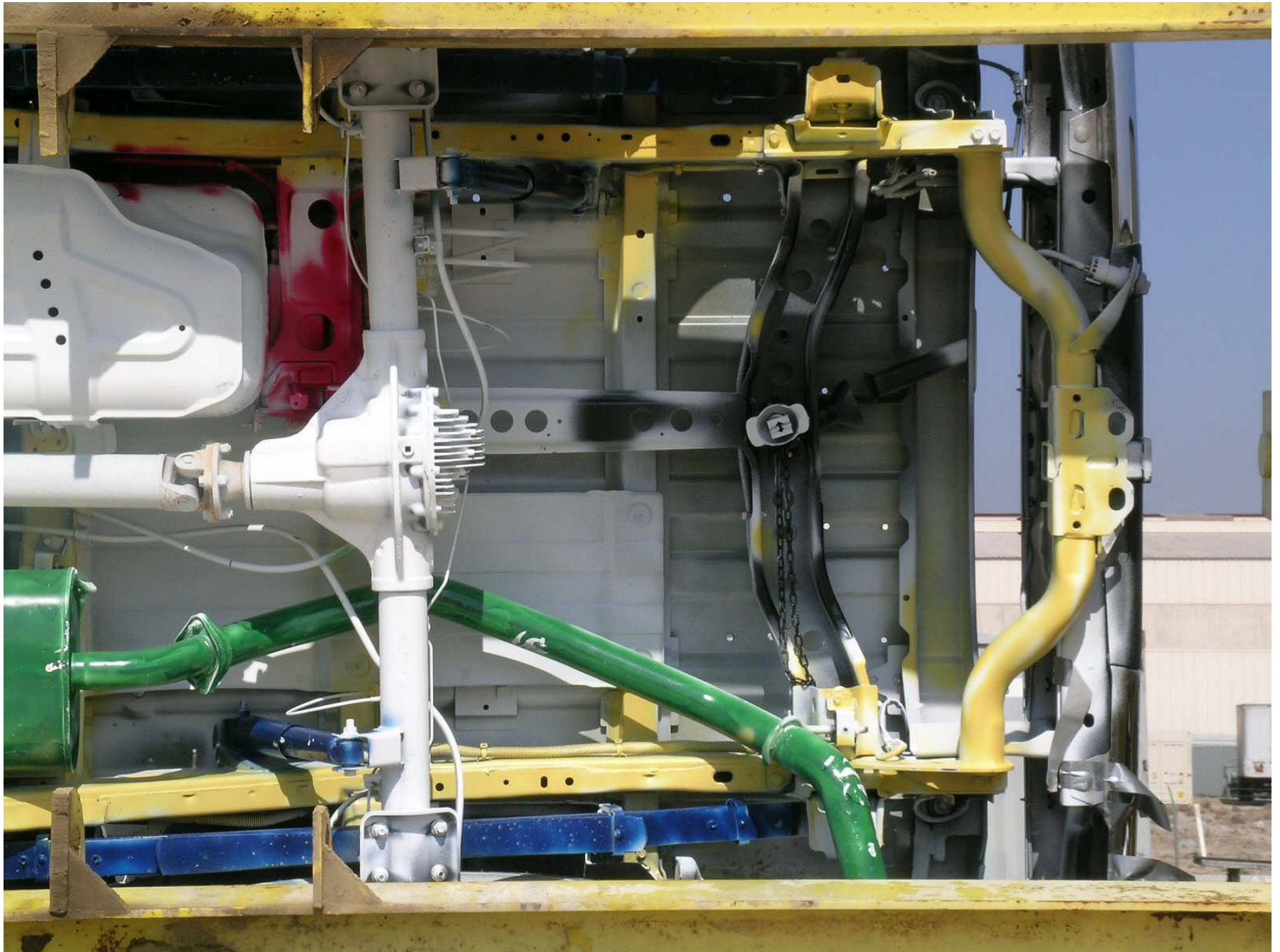


Figure A-28: Post-Test Rear Underbody



Figure A-29: Pre-Test Driver Dummy Front View (Head Position)



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



Figure A-31: Pre-Test Driver Dummy (Through Window)



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



Figure A-33: Pre-Test Driver Dummy (Door Open)



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



Figure A-35: Pre-Test Driver Dummy Feet



Figure A-36: Post-Test Driver Dummy Feet



Figure A-37: Pre-Test Driver Side Knee Bolster

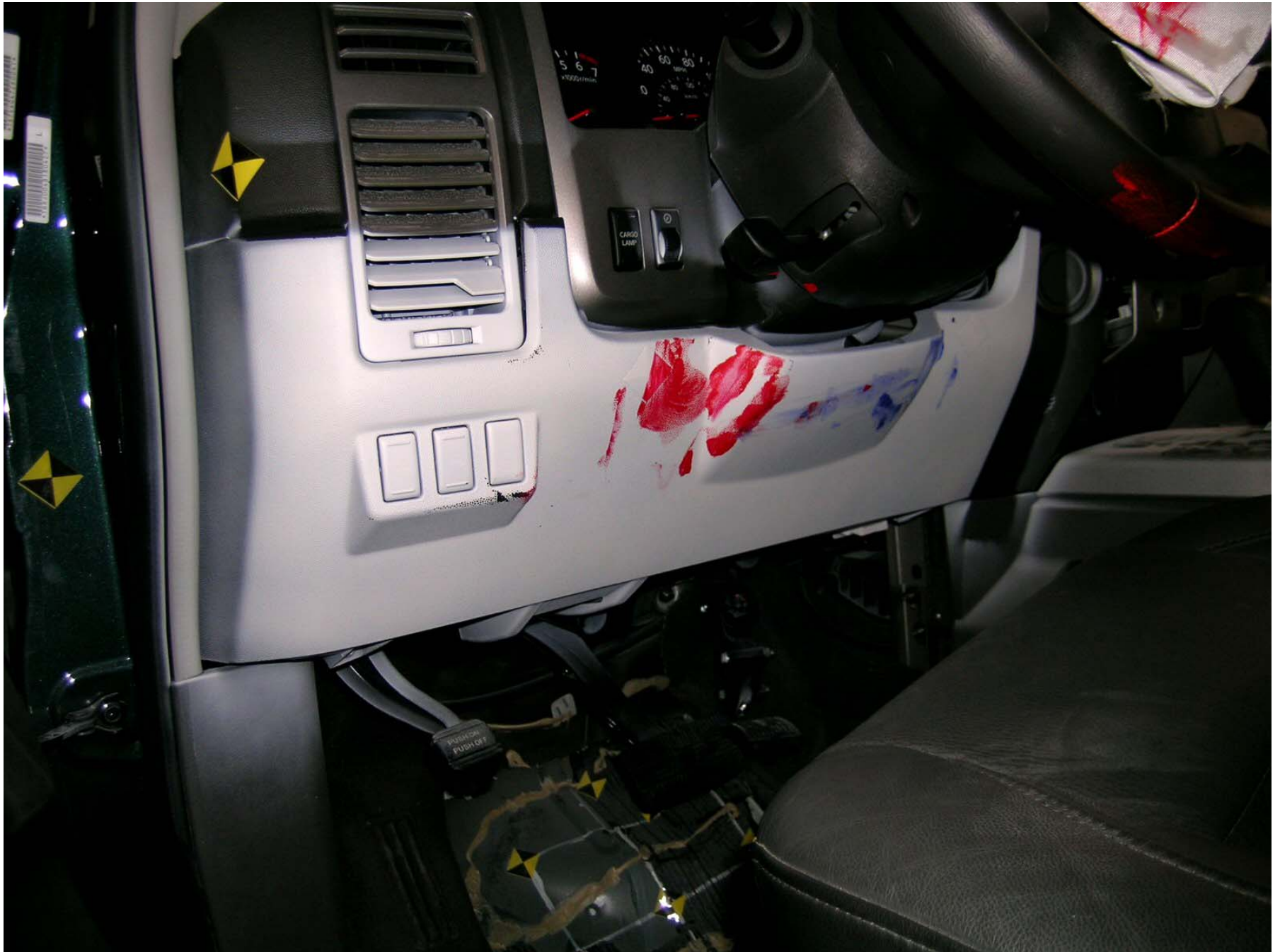


Figure A-38: Post-Test Driver Side Knee Bolster



Figure A-39: Pre-Test Driver Side Floor Pan



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



Figure A-41: Post-Test Driver Dummy Head



Figure A-42: Post-Test Driver Dummy Airbag Contact



Figure A-43: Pre-Test Passenger Dummy Front View (Head Position)



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



Figure A-45: Pre-Test Passenger Dummy (Through Window)



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



Figure A-47: Pre-Test Passenger Dummy (Door Open)



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

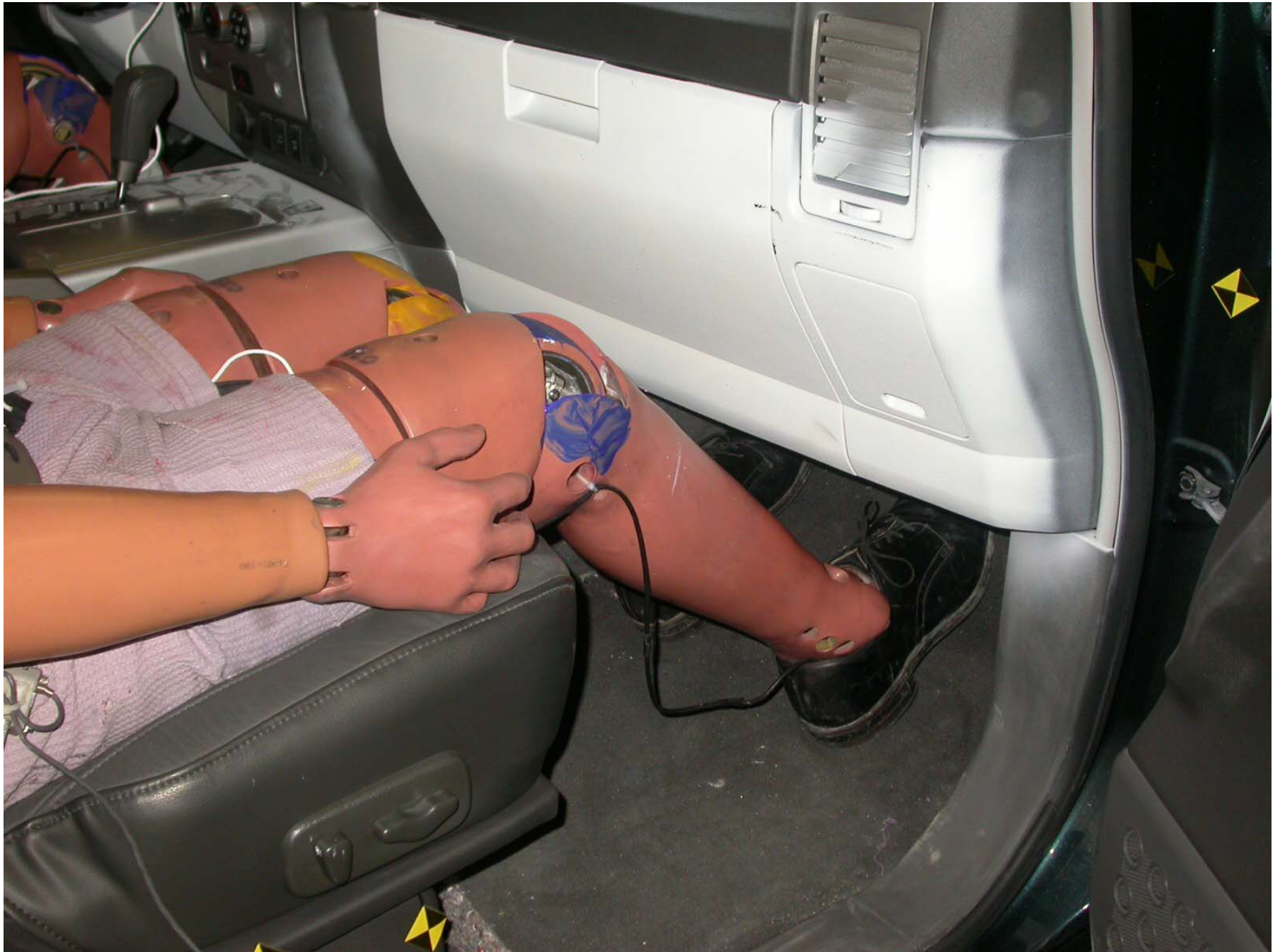


Figure A-49: Pre-Test Passenger Dummy Feet





Figure A-51: Pre-Test Passenger Side Glove Box



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



Figure A-53: Pre-Test Passenger Side Floor Pan



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



Figure A-55: Post-Test Passenger Dummy Head



Figure A-56: Post-Test Passenger Dummy Airbag Contact



Figure A-57: Vehicle on Rollover Device (0°)



Figure A-58: Vehicle on Rollover Device (90°)



Figure A-59: Vehicle on Rollover Device (180°)

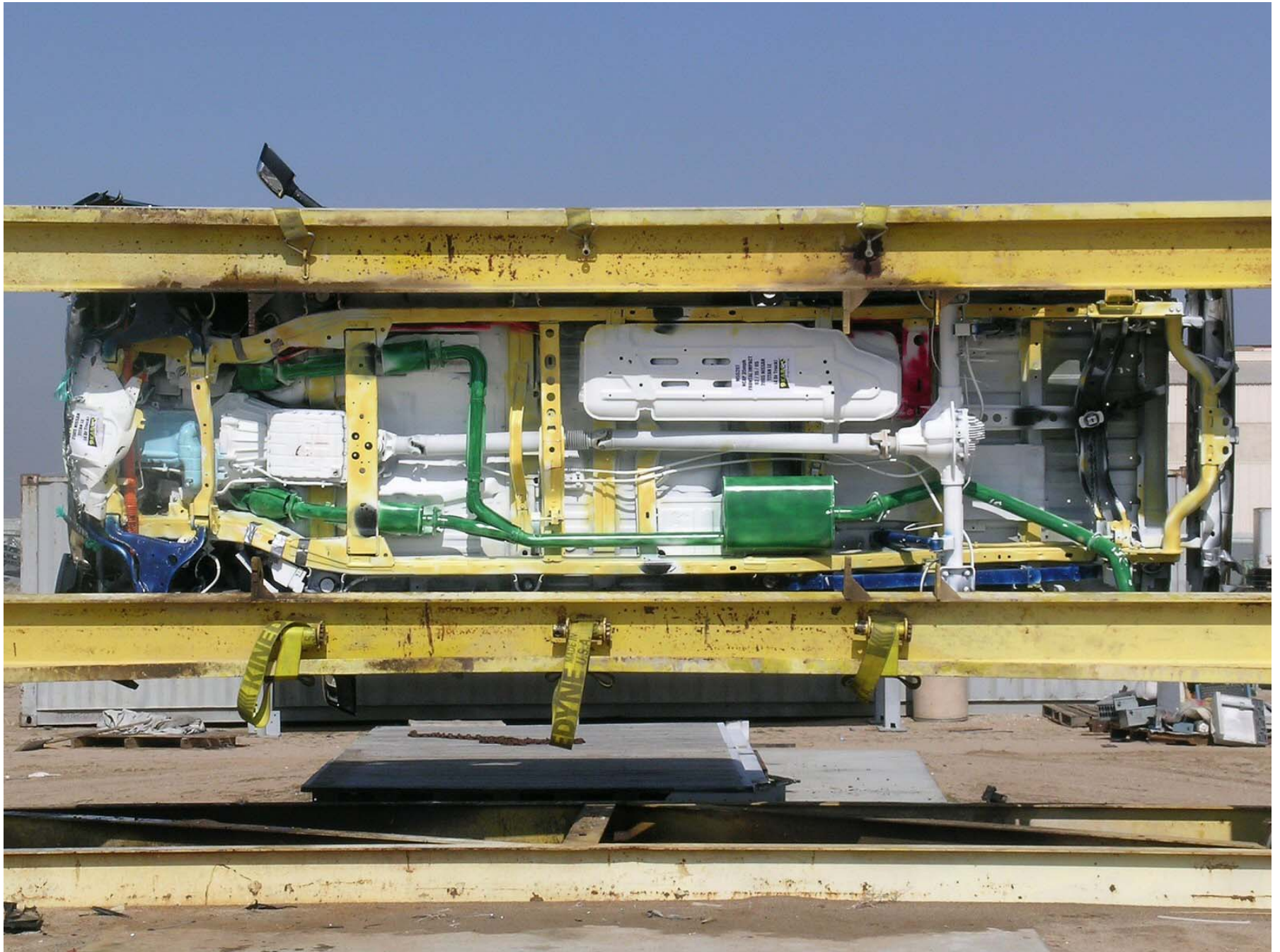


Figure A-60: Vehicle on Rollover Device (270°)



Figure A-61: Vehicle Impact

APPENDIX B

DATA PLOTS

LIST OF DATA PLOTS

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	Driver Head Primary Y
	Driver Head Primary Z
	Driver Head Resultant Primary
B-2	Driver Head Primary X Velocity
	Driver Head Primary X Displacement
B-3	Driver Head Redundant X
	Driver Head Redundant Y
	Driver Head Redundant Z
	Driver Head Resultant Redundant
B-4	Driver Head Redundant X Velocity
	Driver Head Redundant X Displacement
B-5	Driver Upper Neck Force X
	Driver Upper Neck Force Y
	Driver Upper Neck Force Z
	Driver Upper Neck Force Resultant
B-6	Driver Upper Neck Moment X
	Driver Upper Neck Moment Y
	Driver Upper Neck Moment Z
	Driver Upper Neck Moment Resultant
B-7	Driver Chest Primary X
	Driver Chest Primary Y
	Driver Chest Primary Z
	Driver Chest Resultant Primary
B-8	Driver Chest Primary X Velocity
	Driver Chest Primary X Displacement
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Passenger Head Resultant Primary	B-21
B-22 Passenger Head Primary X Velocity	B-22
Passenger Head Primary X Displacement	B-22

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	Passenger Head Redundant Y	B-23
	Passenger Head Redundant Z	B-23
	Passenger Head Resultant Redundant	B-23
B-24	Passenger Head Redundant X Velocity	B-24
	Passenger Head Redundant X Displacement	B-24
B-25	Passenger Upper Neck Force X	B-25
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	Passenger Chest Resultant Primary	B-27
B-28	Passenger Chest Primary X Velocity	B-28
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LIST OF DATA PLOTS...(CONTINUED)

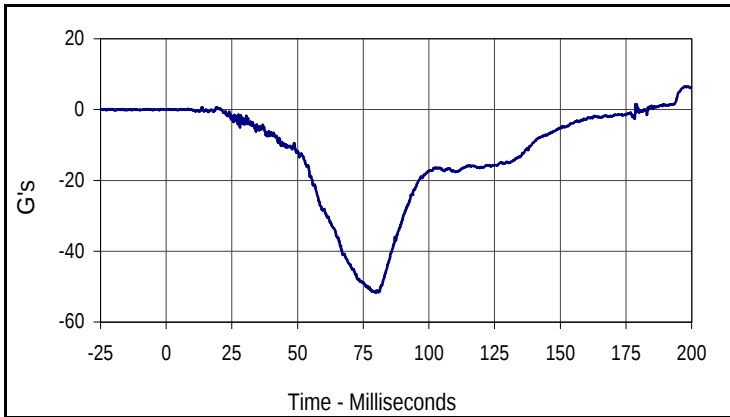
Data Plot		Page
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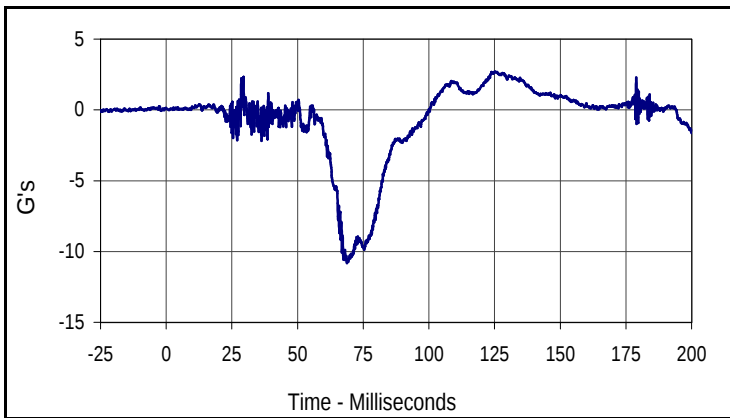
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	Vehicle Right Rear Z Velocity
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Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

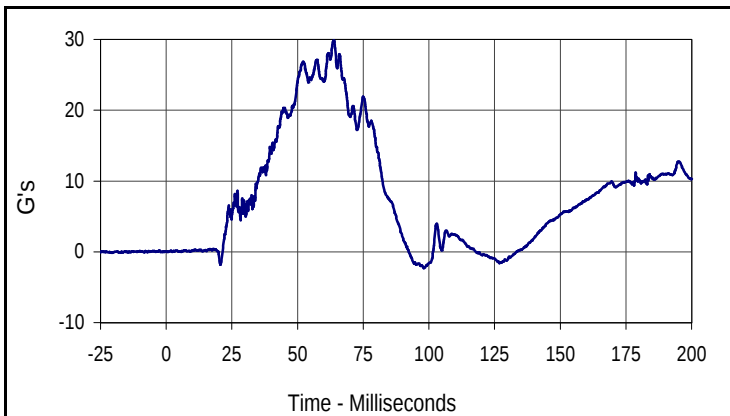
Test Date: 2/15/05
 NHTSA No.: M55207



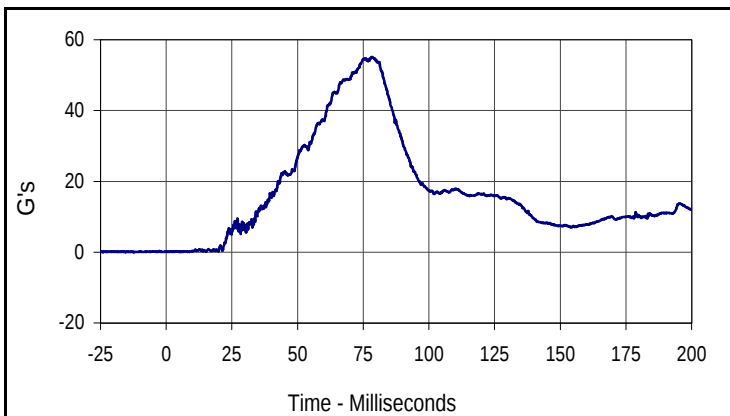
Curve Description			
Driver Head Primary X			
CURNO	Type	SAE Class	Units
001	FIL	1000	G's
Max	Time	Min	Time
6.6	197.6	-51.7	79.9



Curve Description			
Driver Head Primary Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
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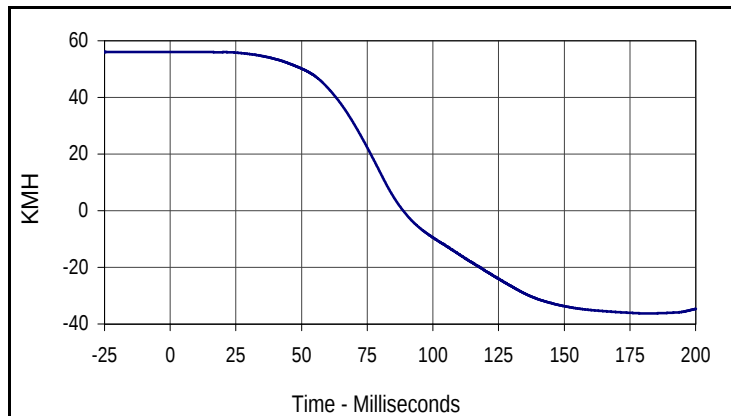
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003	FIL	1000	G's
Max	Time	Min	Time
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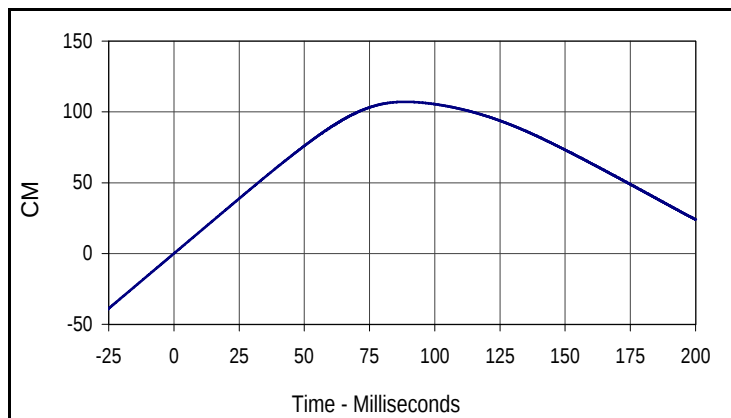
Curve Description			
Driver Head Resultant Primary			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
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Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05
 NHTSA No.: M55207



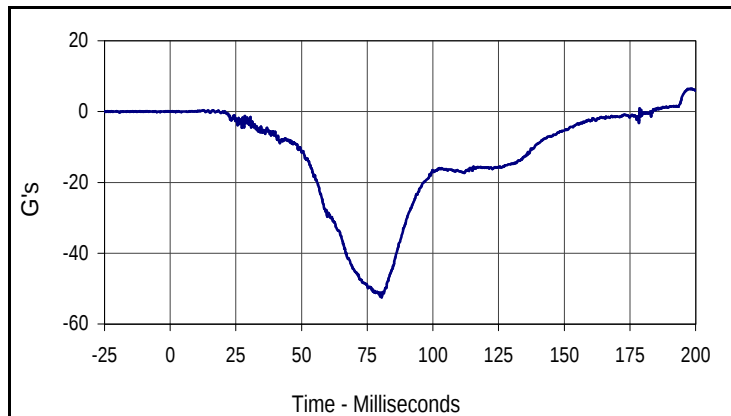
Curve Description			
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CURNO	Type	SAE Class	Units
001	IN1	180	KMH
Max	Time	Min	Time
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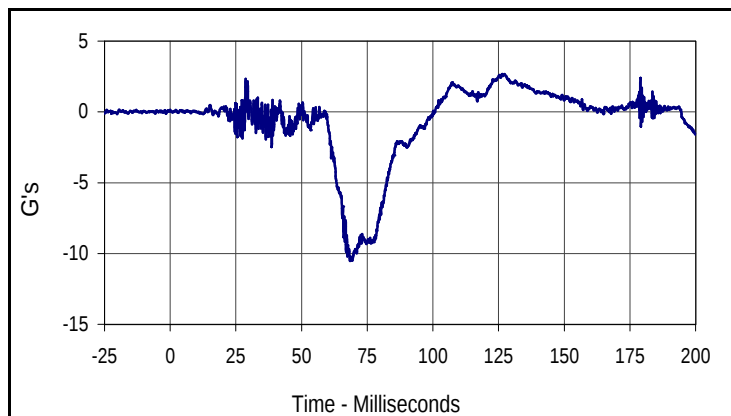
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Driver Head Primary X Displacement			
CURNO	Type	SAE Class	Units
001	IN2	180	CM
Max	Time	Min	Time
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Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

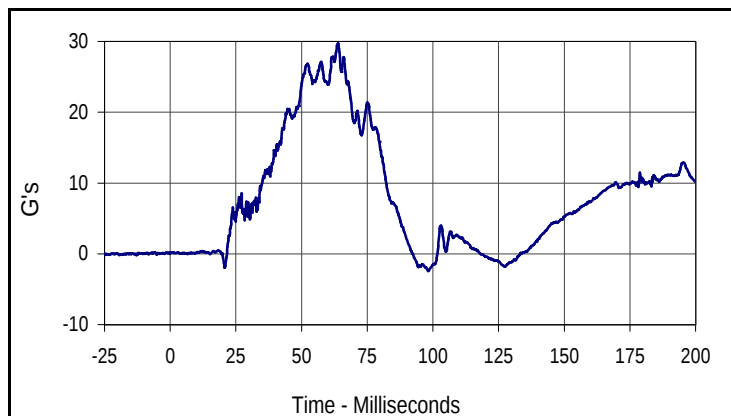
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 NHTSA No.: M55207



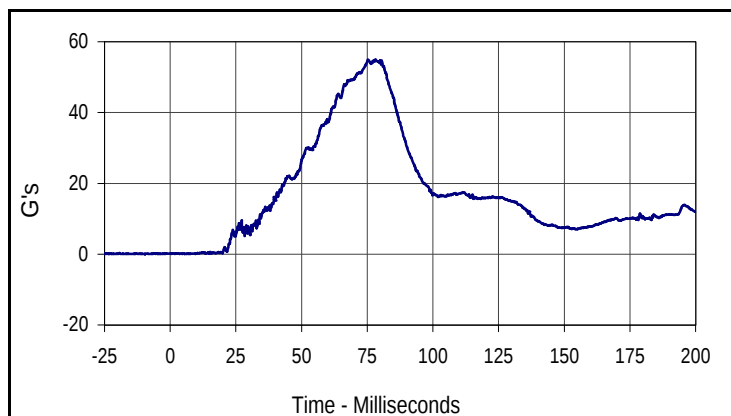
Curve Description			
Driver Head Redundant X			
CURNO	Type	SAE Class	Units
004	FIL	1000	G's
Max	Time	Min	Time
6.4	198.5	-52.5	80.5



Curve Description			
Driver Head Redundant Y			
CURNO	Type	SAE Class	Units
005	FIL	1000	G's
Max	Time	Min	Time
2.7	127.3	-10.5	68.4



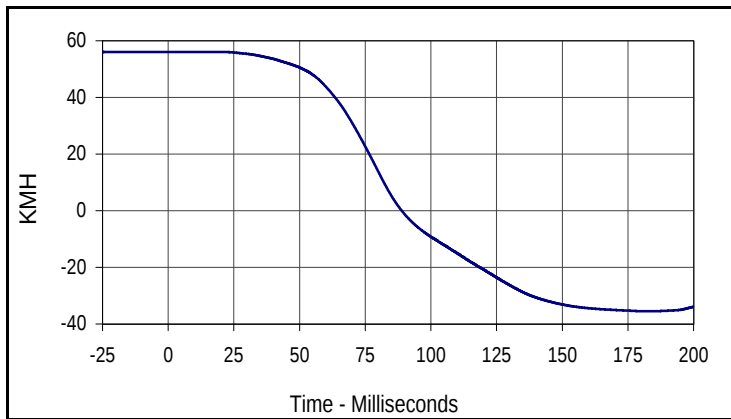
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Driver Head Redundant Z			
CURNO	Type	SAE Class	Units
006	FIL	1000	G's
Max	Time	Min	Time
29.7	63.9	-2.4	98.2



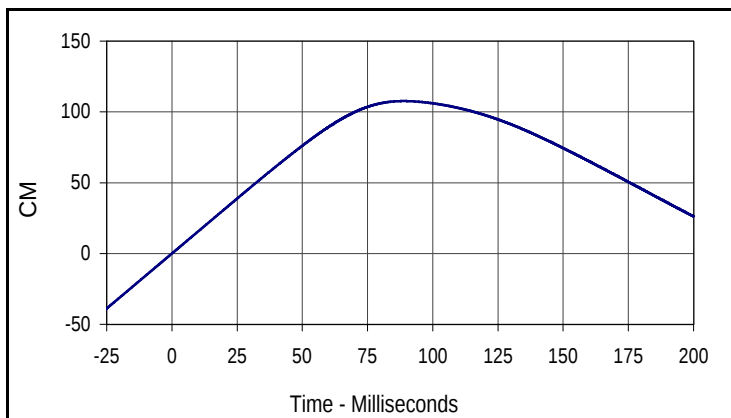
Curve Description			
Driver Head Resultant Redundant			
CURNO	Type	SAE Class	Units
004	RES	1000	G's
Max	Time	Min	Time
55.0	78.2	0.1	7.5

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05
 NHTSA No.: M55207



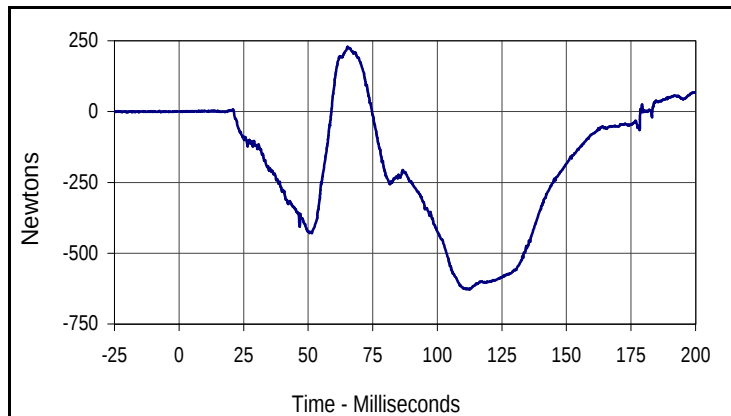
Curve Description			
Driver Head Redundant X Velocity			
CURNO	Type	SAE Class	Units
004	IN1	180	KMH
Max	Time	Min	Time
56.1	18.5	-35.5	183.6



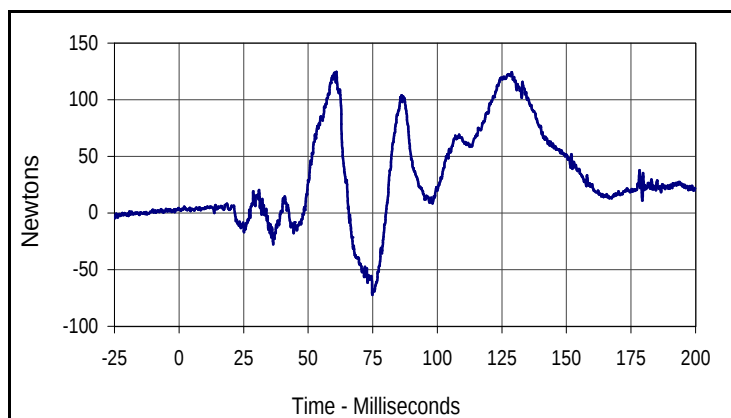
Curve Description			
Driver Head Redundant X Displacement			
CURNO	Type	SAE Class	Units
004	IN2	180	CM
Max	Time	Min	Time
107.6	88.9	0.0	0.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

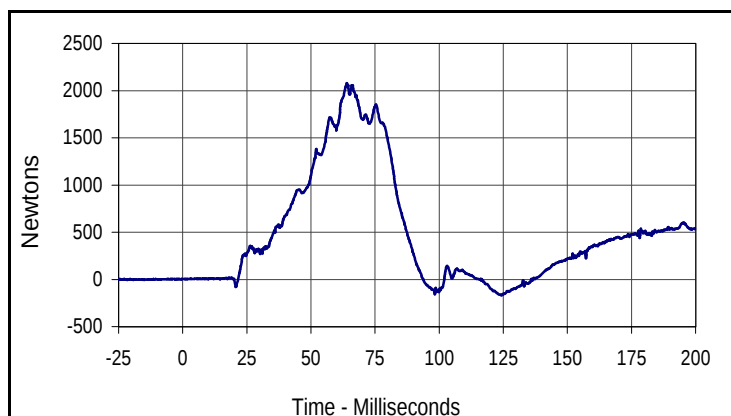
Test Date: 2/15/05
 NHTSA No.: M55207



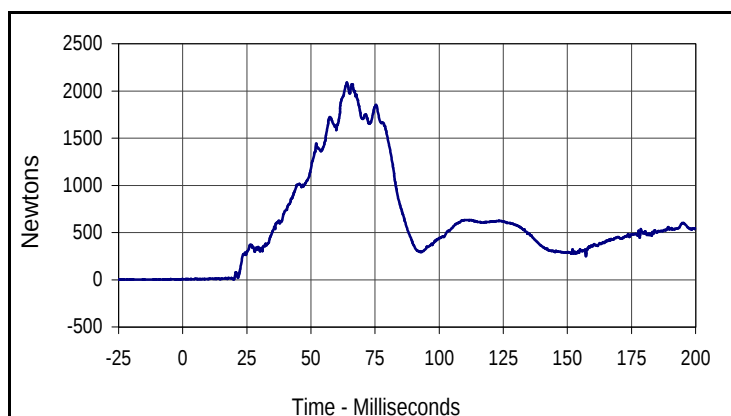
Curve Description			
Driver Upper Neck Force X			
CURNO	Type	SAE Class	Units
007	FIL	1000	Newtons
Max	Time	Min	Time
228.1	65.3	-627.9	112.5



Curve Description			
Driver Upper Neck Force Y			
CURNO	Type	SAE Class	Units
008	FIL	1000	Newtons
Max	Time	Min	Time
124.7	61.0	-72.4	74.9



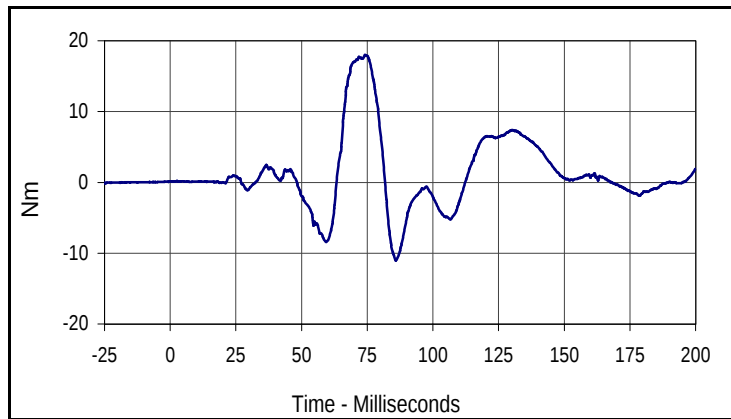
Curve Description			
Driver Upper Neck Force Z			
CURNO	Type	SAE Class	Units
009	FIL	1000	Newtons
Max	Time	Min	Time
2078.6	64.0	-166.3	124.4



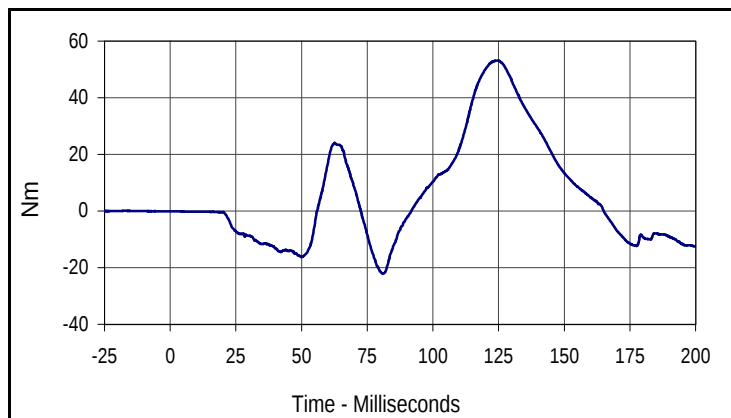
Curve Description			
Driver Upper Neck Force Res.			
CURNO	Type	SAE Class	Units
007	RES	1000	Newtons
Max	Time	Min	Time
2089.3	64.0	3.9	14.5

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

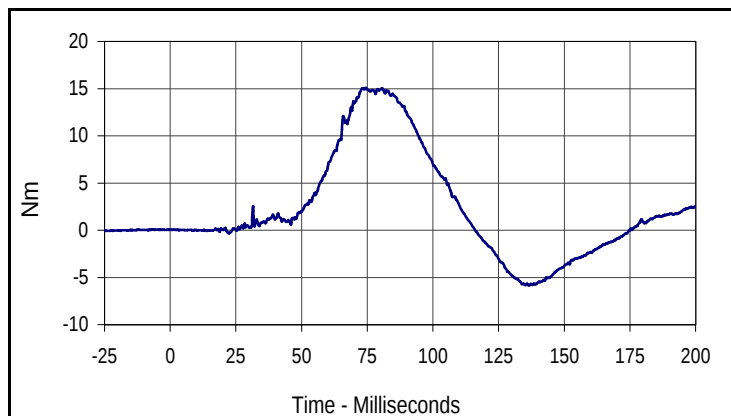
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 NHTSA No.: M55207



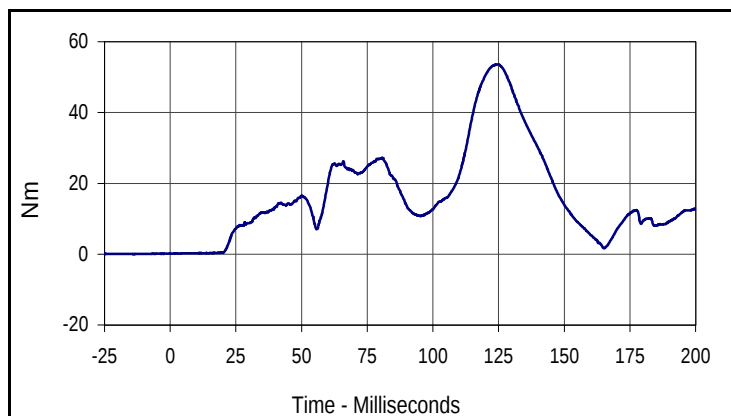
Curve Description			
Driver Upper Neck Moment X			
CURNO	Type	SAE Class	Units
010	FIL	600	Nm
Max	Time	Min	Time
18.0	74.1	-11.0	85.9



Curve Description			
Driver Upper Neck Moment Y			
CURNO	Type	SAE Class	Units
011	FIL	600	Nm
Max	Time	Min	Time
53.1	124.1	-22.2	80.9



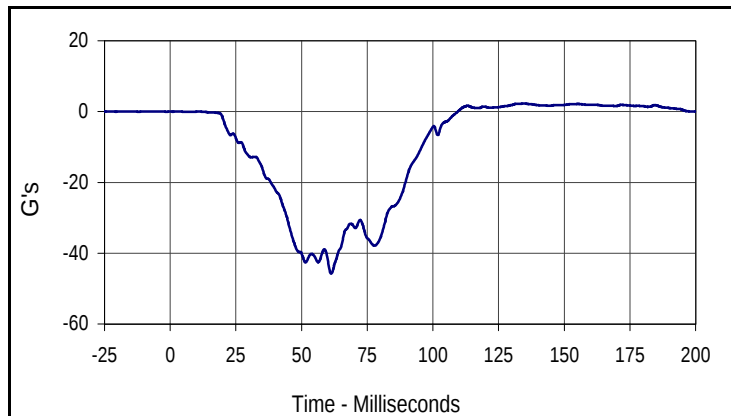
Curve Description			
Driver Upper Neck Moment Z			
CURNO	Type	SAE Class	Units
012	FIL	600	Nm
Max	Time	Min	Time
15.1	74.5	-5.9	136.7



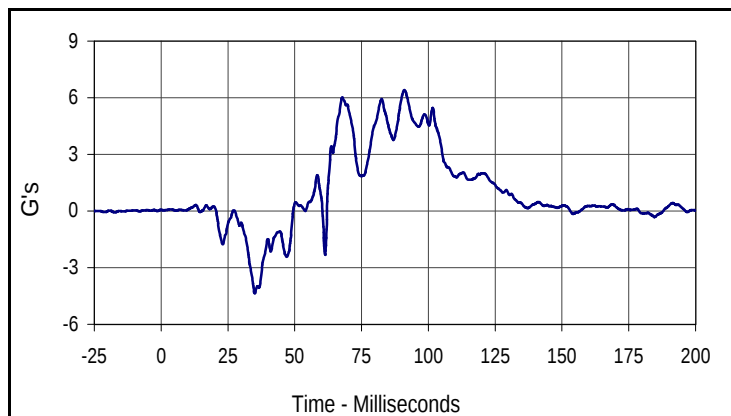
Curve Description			
Driver Upper Neck Moment Res.			
CURNO	Type	SAE Class	Units
010	RES	600	Nm
Max	Time	Min	Time
53.6	124.1	0.2	3.7

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

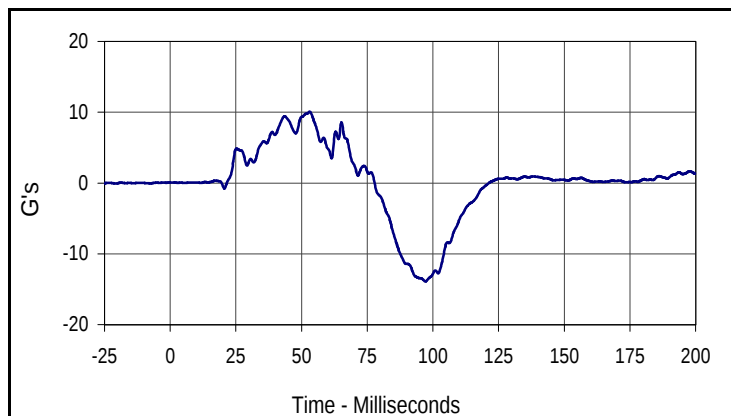
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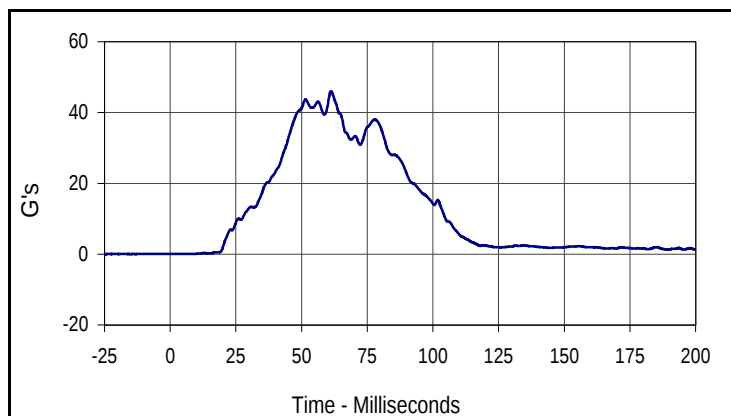
Curve Description			
Driver Chest Primary X			
CURNO	Type	SAE Class	Units
013	FIL	180	G's
Max	Time	Min	Time
2.3	134.7	-45.8	61.3



Curve Description			
Driver Chest Primary Y			
CURNO	Type	SAE Class	Units
014	FIL	180	G's
Max	Time	Min	Time
6.4	91.0	-4.4	35.0



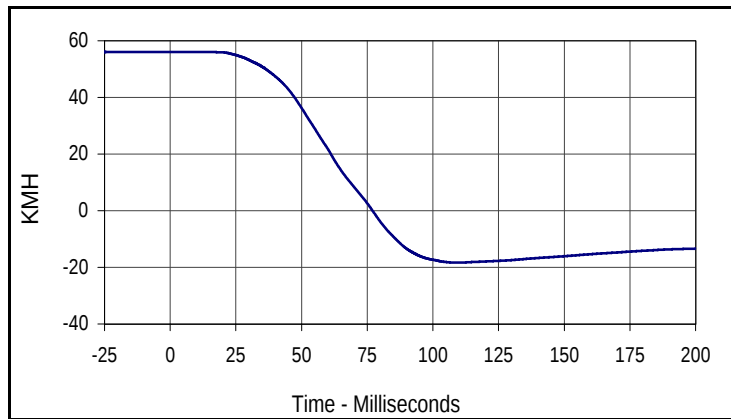
Curve Description			
Driver Chest Primary Z			
CURNO	Type	SAE Class	Units
015	FIL	180	G's
Max	Time	Min	Time
10.1	53.1	-13.9	97.1



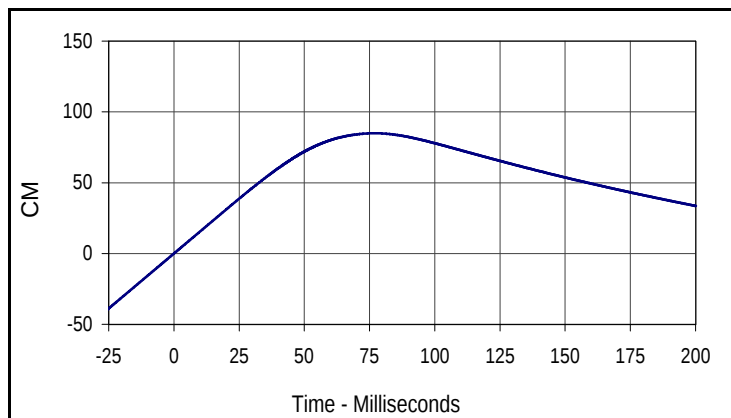
Curve Description			
Driver Chest Resultant Primary			
CURNO	Type	SAE Class	Units
013	RES	180	G's
Max	Time	Min	Time
46.0	61.2	0.1	4.9

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05
 NHTSA No.: M55207



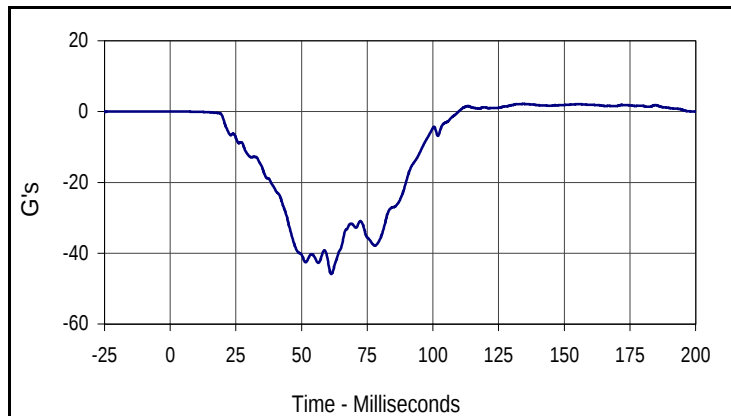
Curve Description			
Driver Chest Primary X Velocity			
CURNO	Type	SAE Class	Units
013	IN1	180	KMH
Max	Time	Min	Time
56.0	0.1	-18.3	109.5



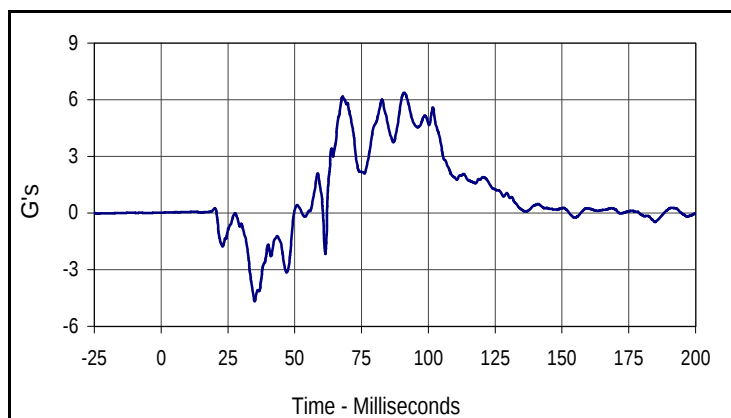
Curve Description			
Driver Chest Primary X Displacement			
CURNO	Type	SAE Class	Units
013	IN2	180	CM
Max	Time	Min	Time
84.9	77.0	0.0	0.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

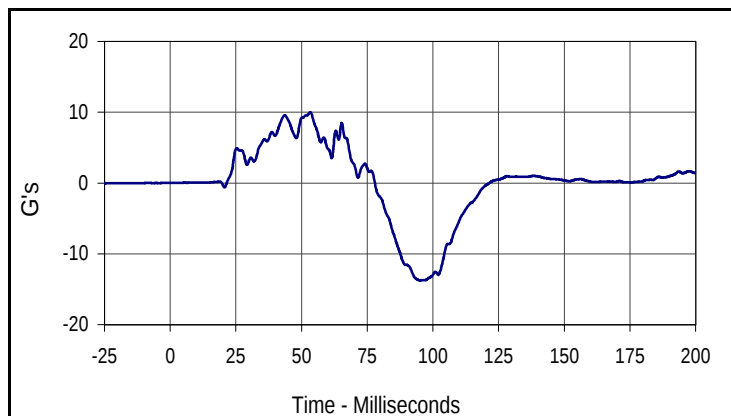
Test Date: 2/15/05
 NHTSA No.: M55207



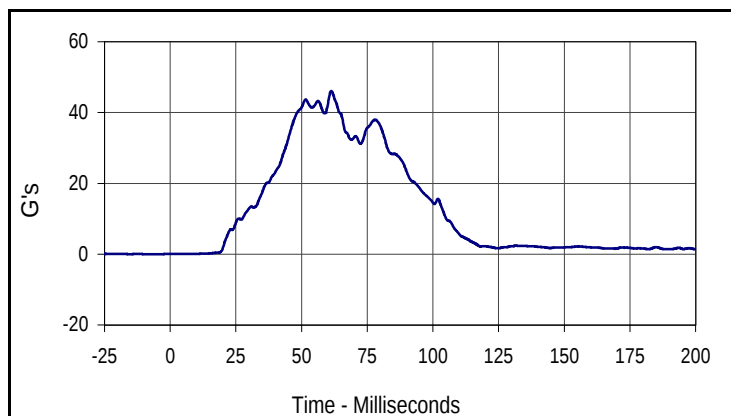
Curve Description			
Driver Chest Redundant X			
CURNO	Type	SAE Class	Units
016	FIL	180	G's
Max	Time	Min	Time
2.2	134.5	-45.9	61.3



Curve Description			
Driver Chest Redundant Y			
CURNO	Type	SAE Class	Units
017	FIL	180	G's
Max	Time	Min	Time
6.4	90.9	-4.7	35.0



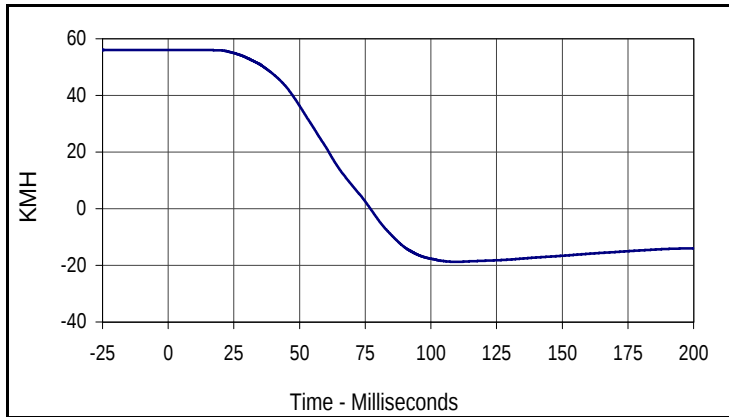
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Driver Chest Redundant Z			
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018	FIL	180	G's
Max	Time	Min	Time
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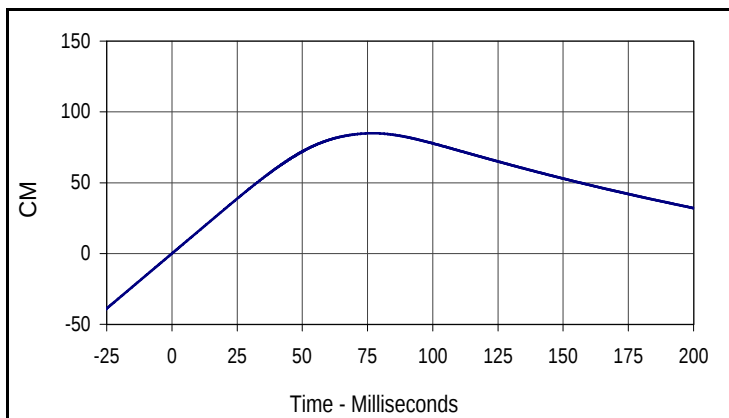
Curve Description			
Driver Chest Resultant Redundant			
CURNO	Type	SAE Class	Units
016	RES	180	G's
Max	Time	Min	Time
46.1	61.3	0.0	0.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05
 NHTSA No.: M55207



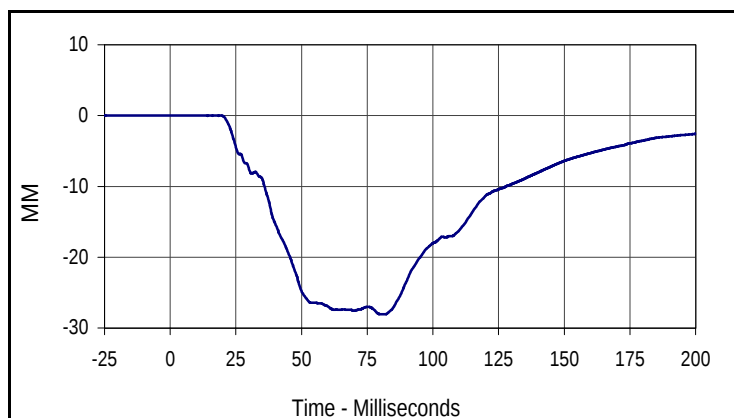
Curve Description			
Driver Chest Redundant X Velocity			
CURNO	Type	SAE Class	Units
016	IN1	180	KMH
Max	Time	Min	Time
56.0	0.0	-18.8	109.8



Curve Description			
Driver Chest Redundant X Displacement			
CURNO	Type	SAE Class	Units
016	IN2	180	CM
Max	Time	Min	Time
84.9	77.0	0.0	0.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

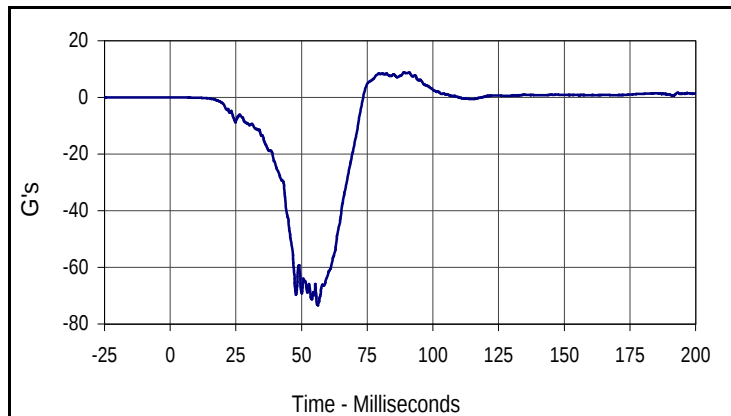
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 NHTSA No.: M55207



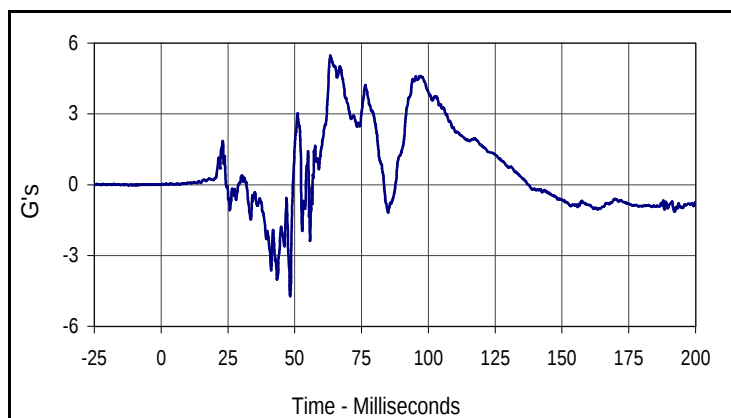
Curve Description			
Driver Chest Deflection			
CURNO	Type	SAE Class	Units
019	FIL	600	MM
Max	Time	Min	Time
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Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

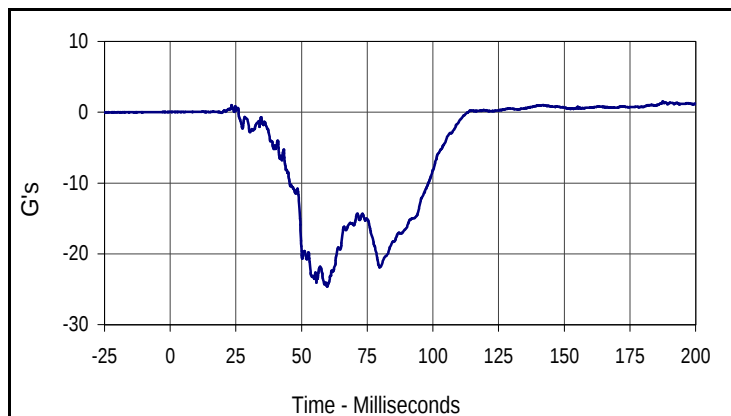
Test Date: 2/15/05
 NHTSA No.: M55207



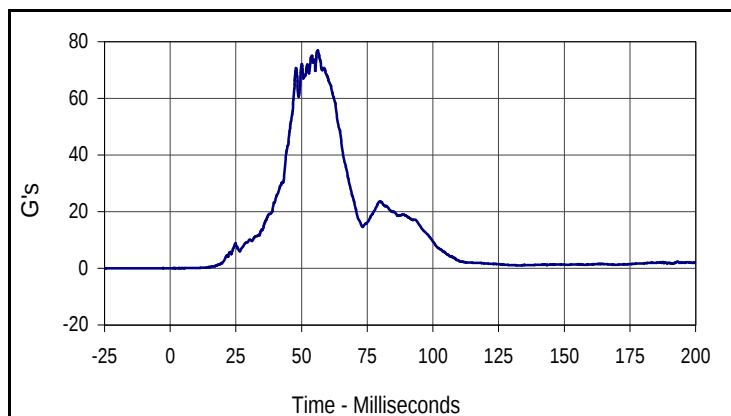
Curve Description			
Driver Pelvis X			
CURNO	Type	SAE Class	Units
020	FIL	1000	G's
Max	Time	Min	Time
8.9	90.9	-73.4	56.2



Curve Description			
Driver Pelvis Y			
CURNO	Type	SAE Class	Units
021	FIL	1000	G's
Max	Time	Min	Time
5.5	63.3	-4.7	48.3



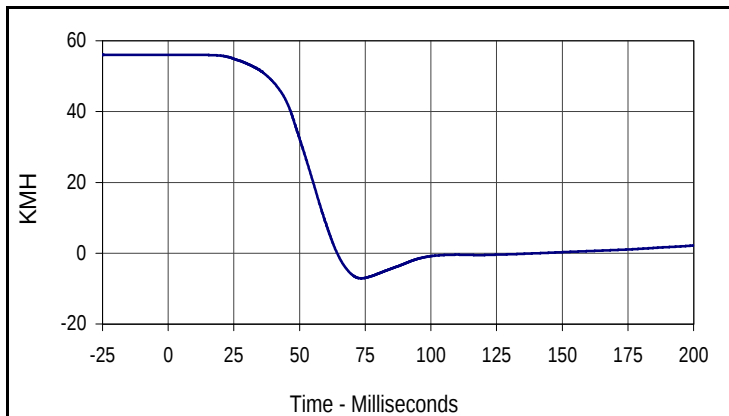
Curve Description			
Driver Pelvis Z			
CURNO	Type	SAE Class	Units
022	FIL	1000	G's
Max	Time	Min	Time
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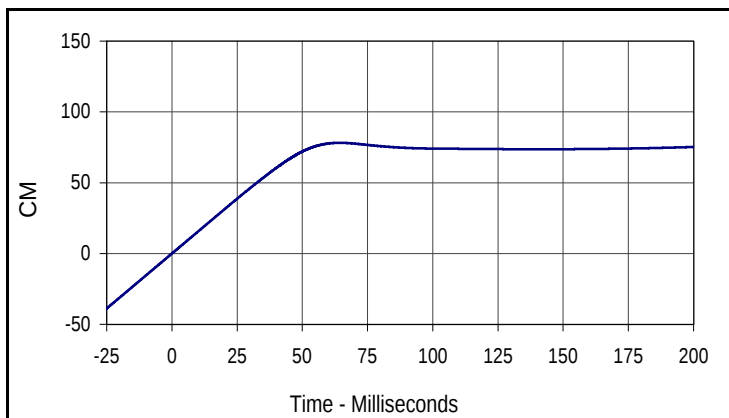
Curve Description			
Driver Pelvis Resultant			
CURNO	Type	SAE Class	Units
020	RES	1000	G's
Max	Time	Min	Time
77.0	56.2	0.0	0.7

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05
 NHTSA No.: M55207



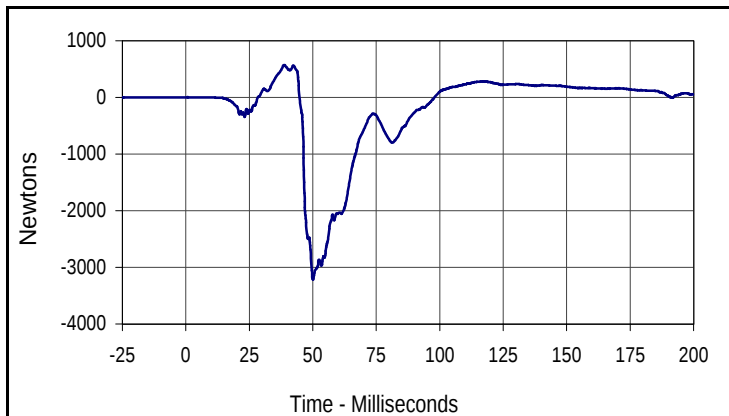
Curve Description			
Driver Pelvis X Velocity			
CURNO	Type	SAE Class	Units
020	IN1	180	KMH
Max	Time	Min	Time
56.0	1.0	-7.1	73.4



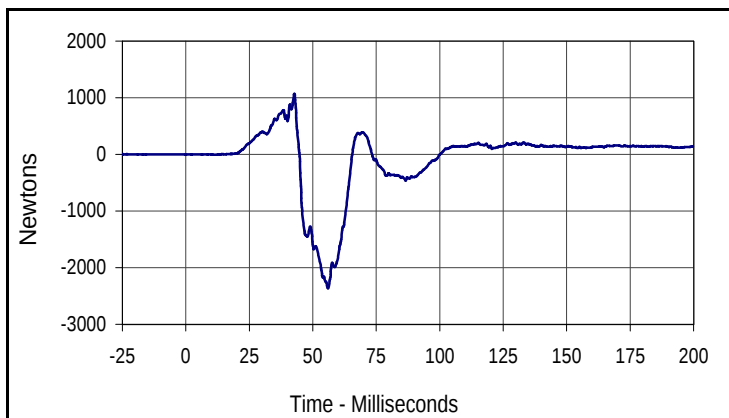
Curve Description			
Driver Pelvis X Displacement			
CURNO	Type	SAE Class	Units
020	IN2	180	CM
Max	Time	Min	Time
78.2	64.3	0.0	0.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

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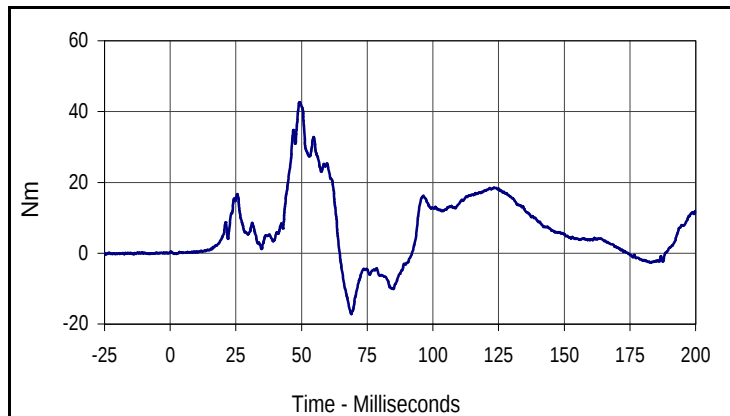
Curve Description			
Driver Left Femur Force			
CURNO	Type	SAE Class	Units
023	FIL	600	Newtons
Max	Time	Min	Time
568.1	38.6	-3217.1	50.1



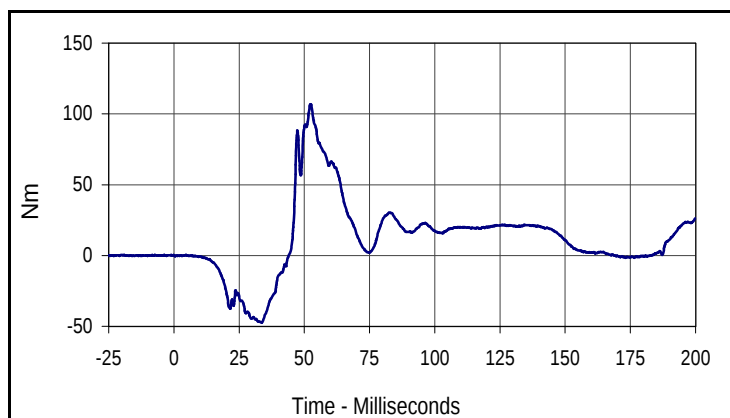
Curve Description			
Driver Right Femur Force			
CURNO	Type	SAE Class	Units
024	FIL	600	Newtons
Max	Time	Min	Time
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Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

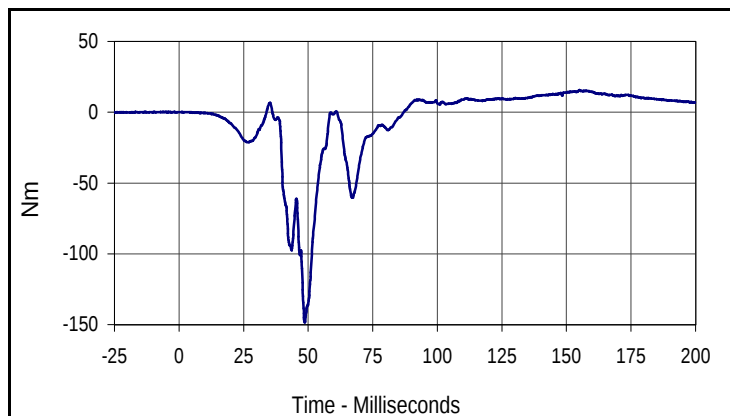
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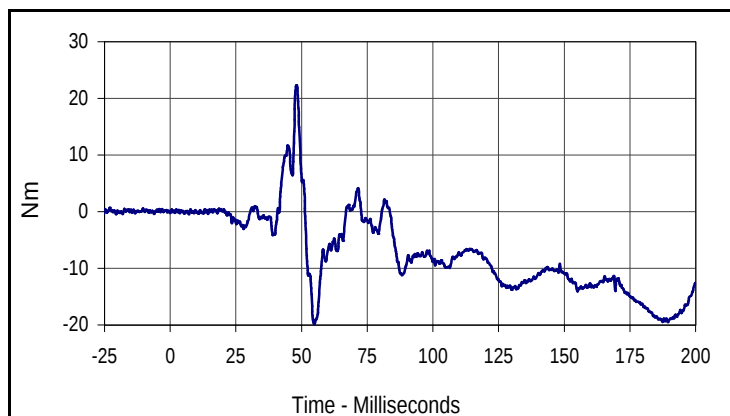
Curve Description			
Driver Left Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
025	FIL	600	Nm
Max	Time	Min	Time
42.7	49.3	-17.2	68.9



Curve Description			
Driver Left Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
026	FIL	600	Nm
Max	Time	Min	Time
106.8	52.4	-47.5	33.7



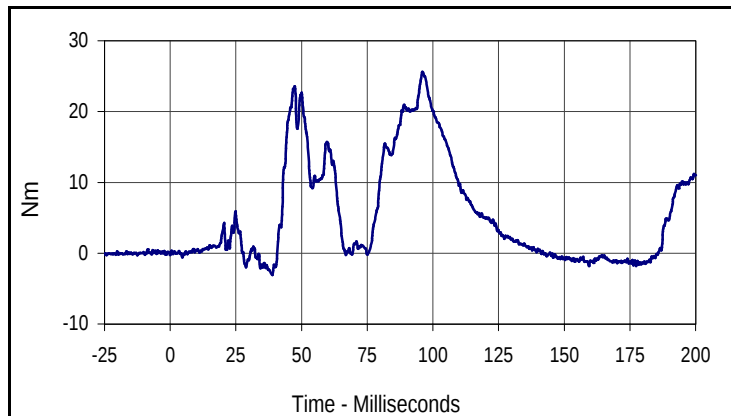
Curve Description			
Driver Right Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
027	FIL	600	Nm
Max	Time	Min	Time
15.6	155.0	-148.3	48.7



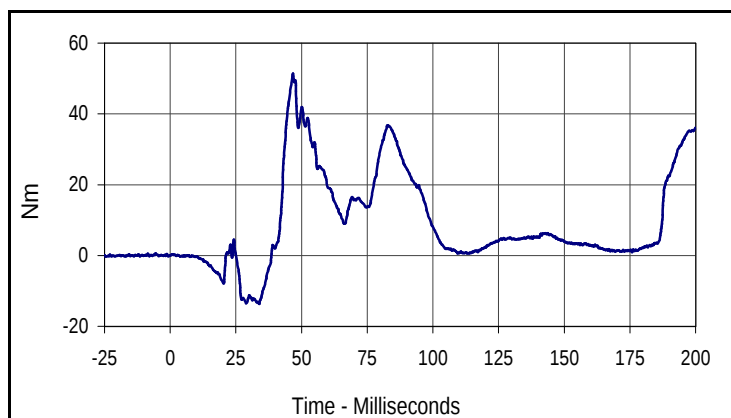
Curve Description			
Driver Right Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
028	FIL	600	Nm
Max	Time	Min	Time
22.3	48.1	-19.8	54.9

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

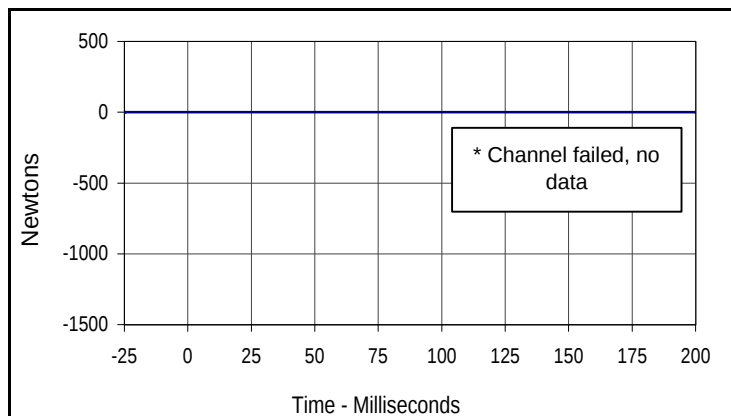
Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Driver Left Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
029	FIL	600	Nm
Max	Time	Min	Time
25.6	96.1	-3.1	38.9



Curve Description			
Driver Left Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
030	FIL	600	Nm
Max	Time	Min	Time
51.4	46.7	-13.6	33.8

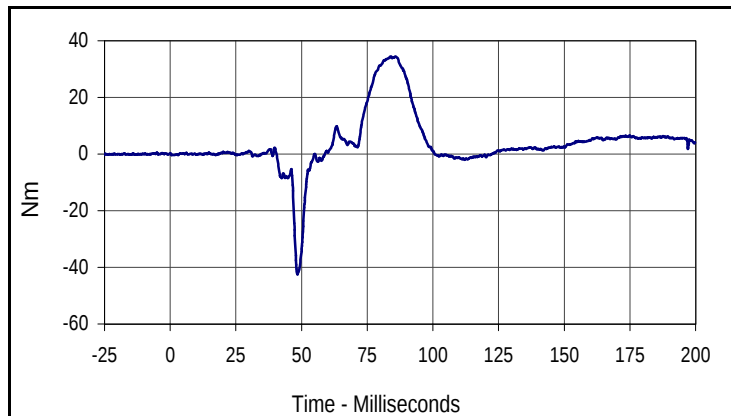


Curve Description			
Driver Left Lower Tibia Force Z			
CURNO	Type	SAE Class	Units
031	FIL	600	Newtons
Max	Time	Min	Time
0.0	0.0	0.0	0.0

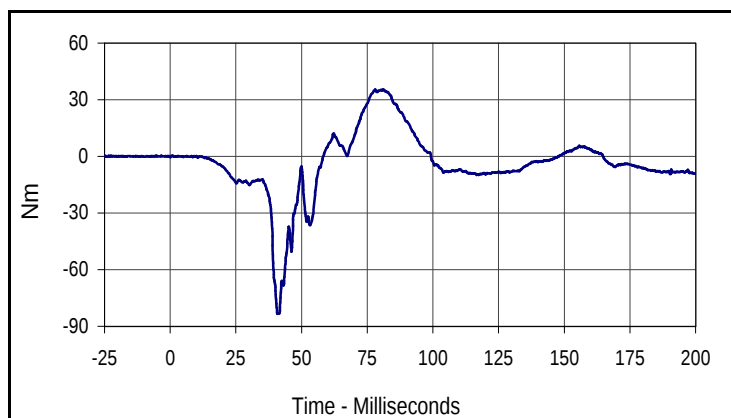
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Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

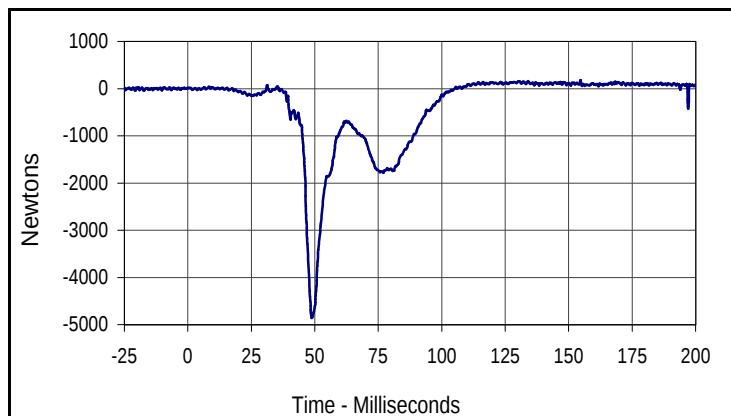
Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Driver Right Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
032	FIL	600	Nm
Max	Time	Min	Time
34.5	84.0	-42.5	48.4



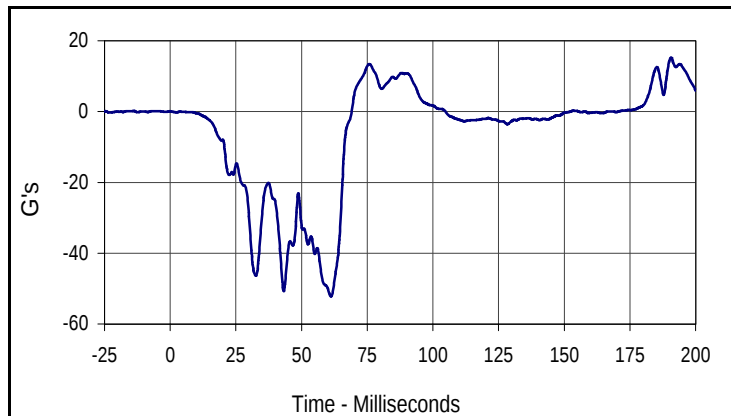
Curve Description			
Driver Right Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
033	FIL	600	Nm
Max	Time	Min	Time
35.6	81.0	-83.4	40.9



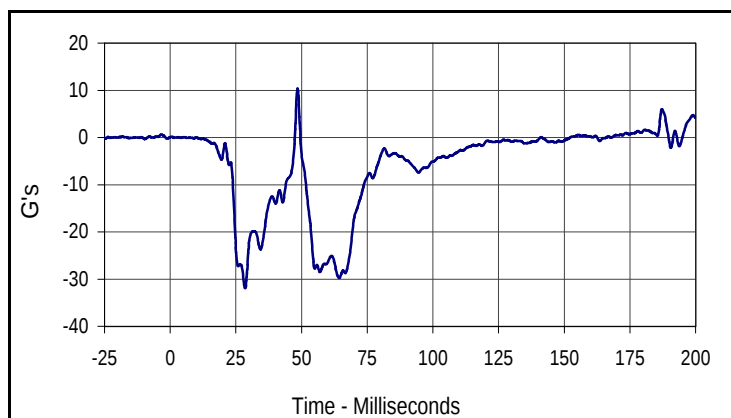
Curve Description			
Driver Right Lower Tibia Force Z			
CURNO	Type	SAE Class	Units
034	FIL	600	Newtons
Max	Time	Min	Time
181.2	154.7	-4854.4	48.9

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

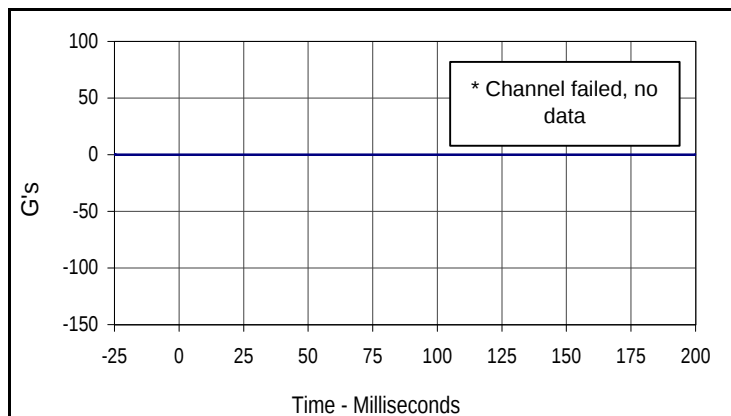
Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Driver Left Foot Aft X			
CURNO	Type	SAE Class	Units
035	FIL	180	G's
Max	Time	Min	Time
15.2	190.6	-52.2	61.2



Curve Description			
Driver Left Foot Aft Z			
CURNO	Type	SAE Class	Units
036	FIL	180	G's
Max	Time	Min	Time
10.4	48.5	-32.0	28.5

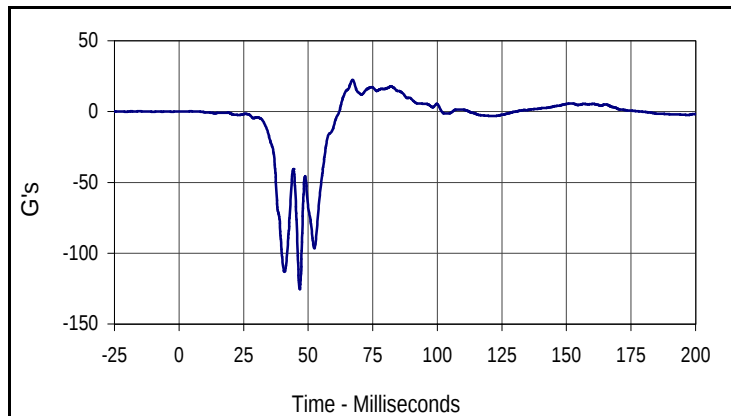


Curve Description			
Driver Left Foot Fore Z			
CURNO	Type	SAE Class	Units
037	FIL	180	G's
Max	Time	Min	Time
0.0	0.0	0.0	0.0

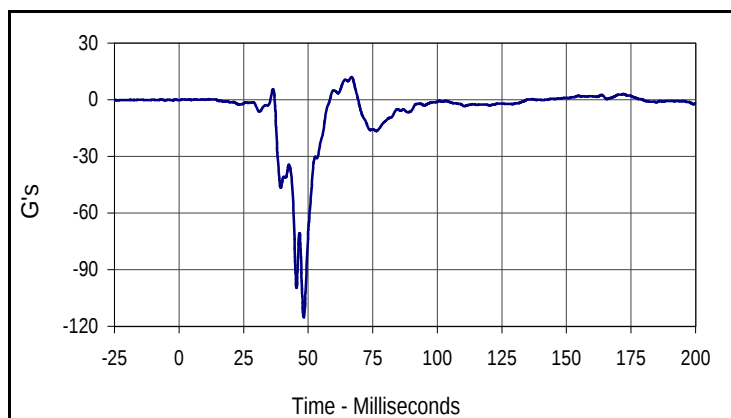
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Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

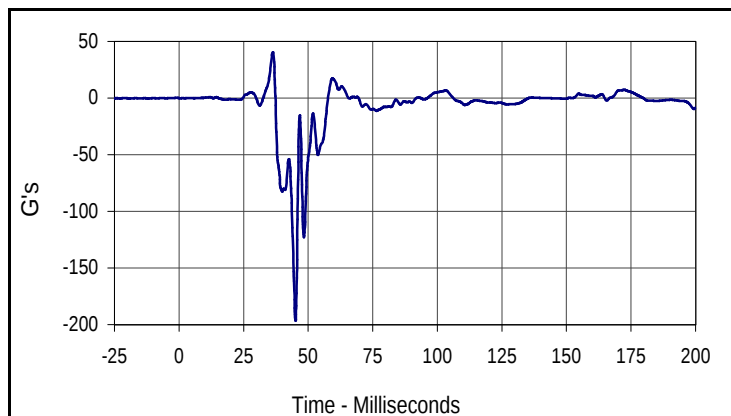
Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Driver Right Foot Aft X			
CURNO	Type	SAE Class	Units
038	FIL	180	G's
Max	Time	Min	Time
22.4	67.2	-125.3	46.8



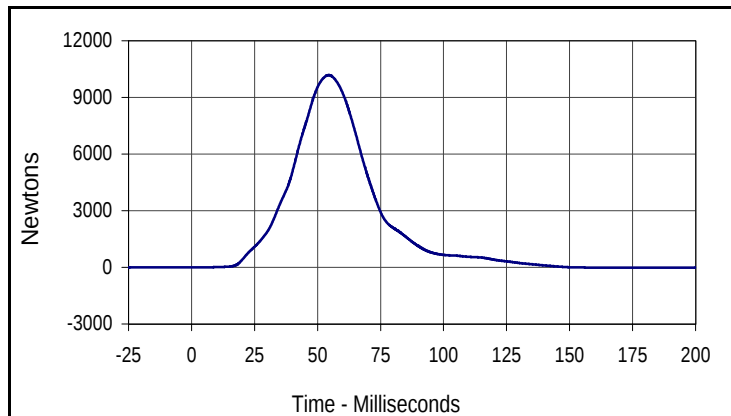
Curve Description			
Driver Right Foot Aft Z			
CURNO	Type	SAE Class	Units
039	FIL	180	G's
Max	Time	Min	Time
12.0	66.8	-115.2	48.3



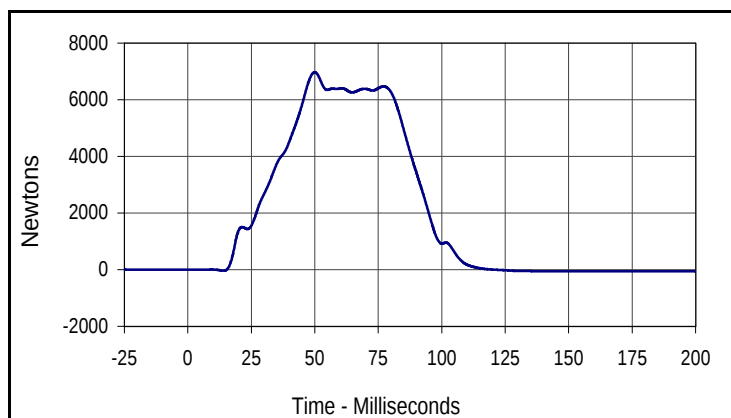
Curve Description			
Driver Right Foot Fore Z			
CURNO	Type	SAE Class	Units
040	FIL	180	G's
Max	Time	Min	Time
40.5	36.3	-196.7	45.1

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

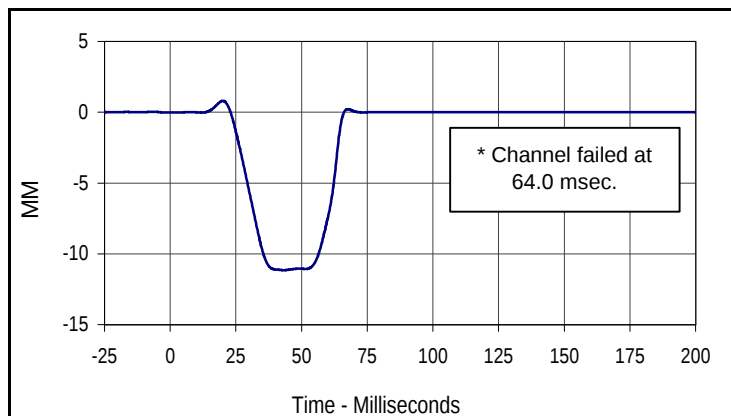
Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Driver Lap Belt Force			
CURNO	Type	SAE Class	Units
041	FIL	60	Newtons
Max	Time	Min	Time
10181.2	54.4	-13.7	177.7

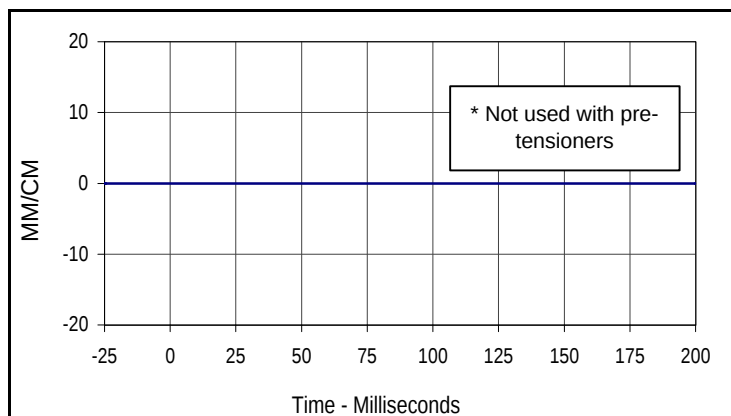


Curve Description			
Driver Shoulder Belt Force			
CURNO	Type	SAE Class	Units
042	FIL	60	Newtons
Max	Time	Min	Time
6967.4	50.0	-62.0	175.2



Curve Description			
Driver Shoulder Belt Pullout			
CURNO	Type	SAE Class	Units
043	FIL	60	MM
Max	Time	Min	Time
0.8	20.4	-11.2	43.7

* Channel failed at 64.0 msec.

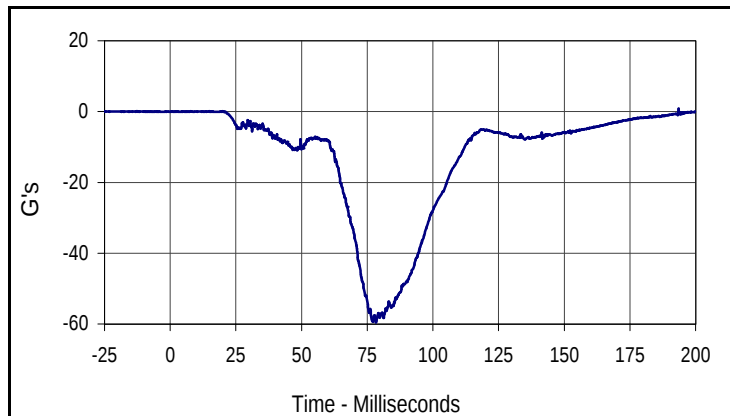


Curve Description			
Driver Shoulder Belt Elongation			
CURNO	Type	SAE Class	Units
044	FIL	60	MM/CM
Max	Time	Min	Time
0.0	0.0	0.0	0.0

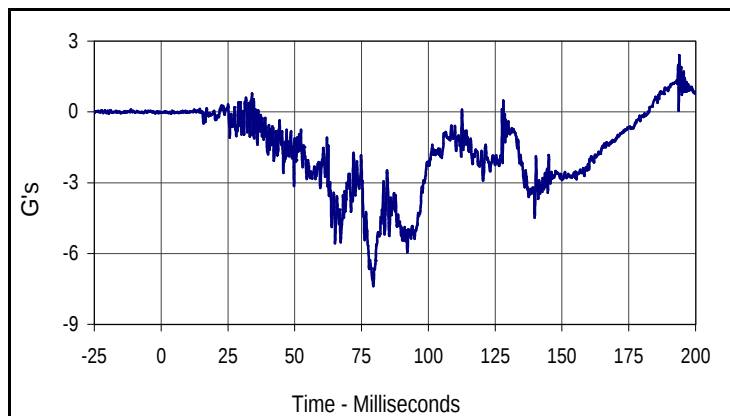
* Not used with pre-tensioners

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

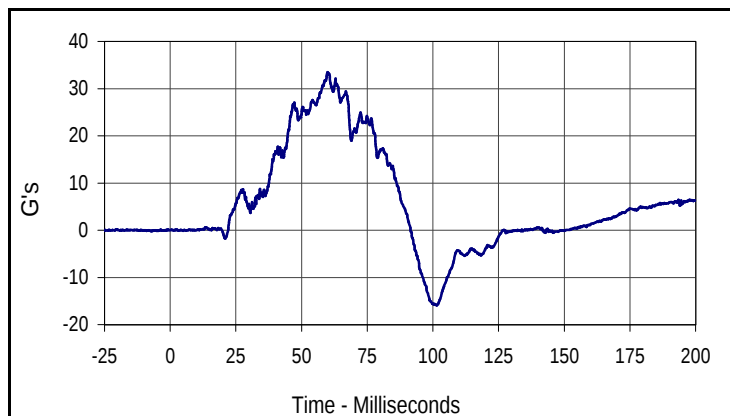
Test Date: 2/15/05
 NHTSA No.: M55207



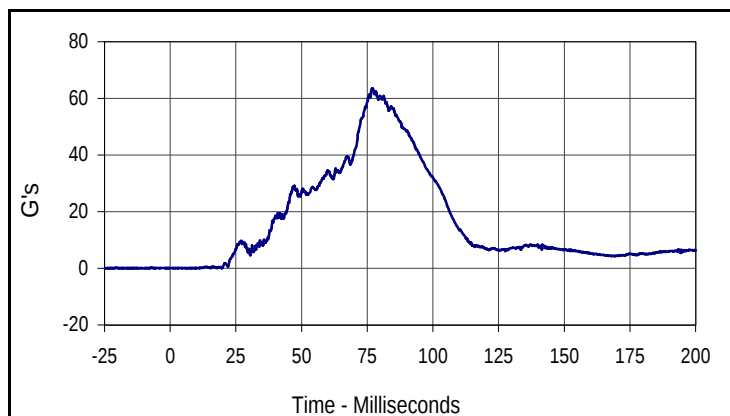
Curve Description			
Passenger Head Primary X			
CURNO	Type	SAE Class	Units
045	FIL	1000	G's
Max	Time	Min	Time
0.9	193.5	-59.6	78.3



Curve Description			
Passenger Head Primary Y			
CURNO	Type	SAE Class	Units
046	FIL	1000	G's
Max	Time	Min	Time
2.4	193.9	-7.4	79.4



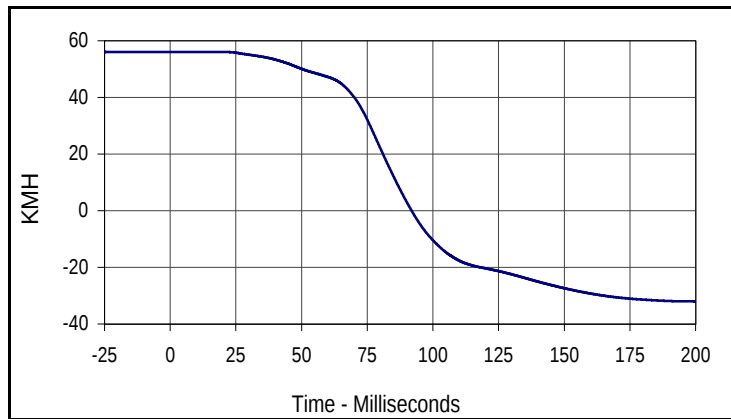
Curve Description			
Passenger Head Primary Z			
CURNO	Type	SAE Class	Units
047	FIL	1000	G's
Max	Time	Min	Time
33.5	59.9	-15.9	101.5



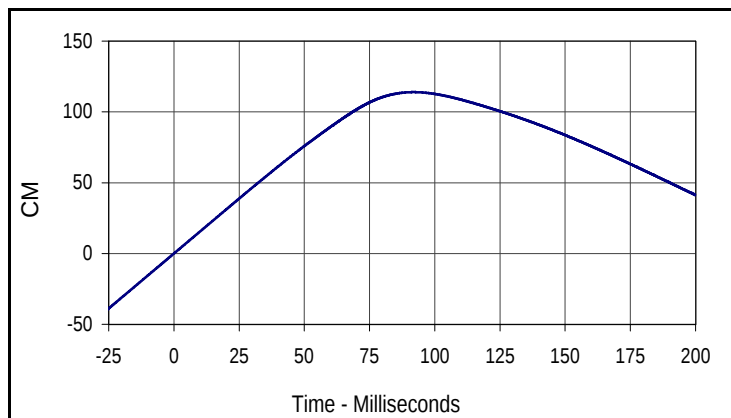
Curve Description			
Passenger Head Resultant Primary			
CURNO	Type	SAE Class	Units
045	RES	1000	G's
Max	Time	Min	Time
63.5	76.8	0.0	8.5

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05
 NHTSA No.: M55207



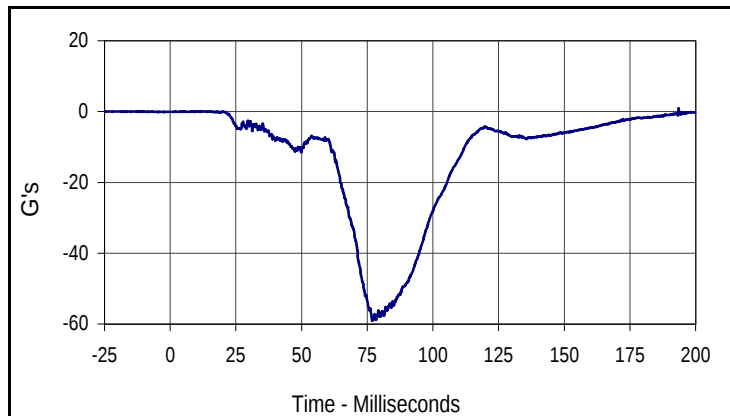
Curve Description			
Passenger Head Primary X Velocity			
CURNO	Type	SAE Class	Units
045	IN1	180	KMH
Max	Time	Min	Time
56.0	0.0	-32.0	200.0



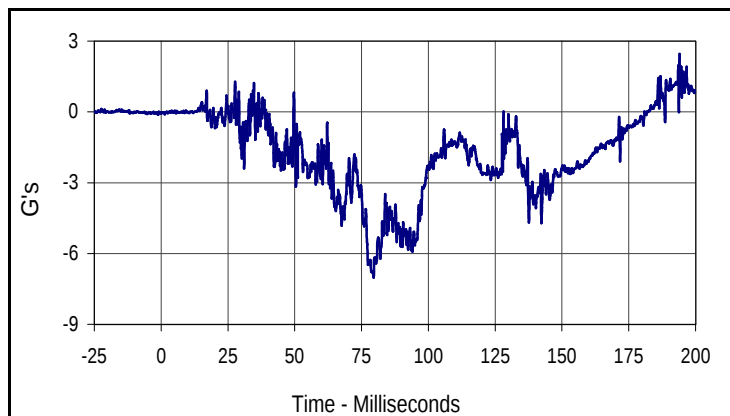
Curve Description			
Passenger Head Primary X Displacement			
CURNO	Type	SAE Class	Units
045	IN2	180	CM
Max	Time	Min	Time
114.0	91.9	0.0	0.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

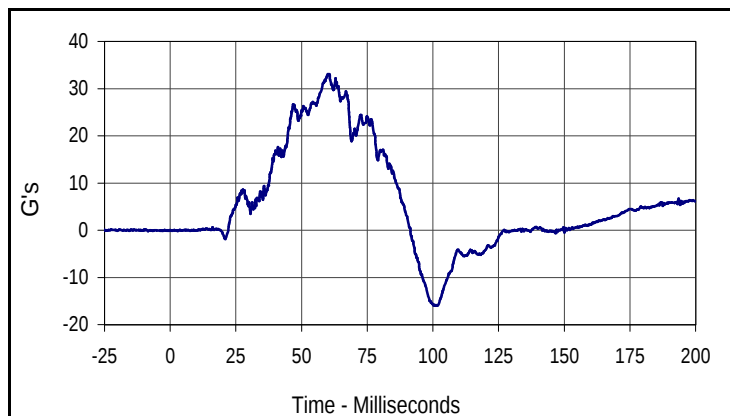
Test Date: 2/15/05
 NHTSA No.: M55207



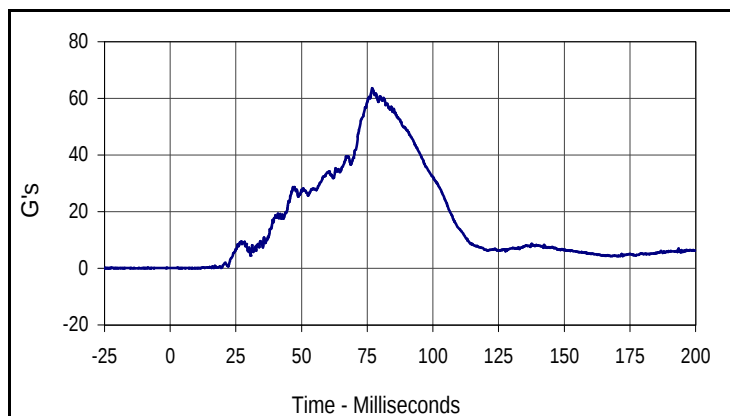
Curve Description			
Passenger Head Redundant X			
CURNO	Type	SAE Class	Units
048	FIL	1000	G's
Max	Time	Min	Time
0.9	193.6	-59.1	76.9



Curve Description			
Passenger Head Redundant Y			
CURNO	Type	SAE Class	Units
049	FIL	1000	G's
Max	Time	Min	Time
2.5	194.0	-7.0	79.5



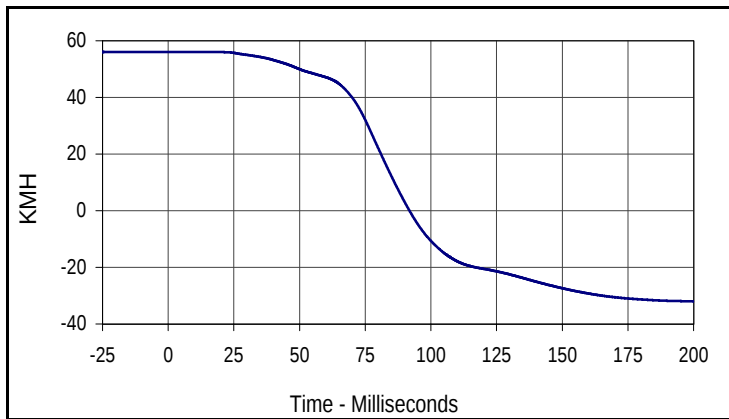
Curve Description			
Passenger Head Redundant Z			
CURNO	Type	SAE Class	Units
050	FIL	1000	G's
Max	Time	Min	Time
33.1	60.5	-16.0	101.8



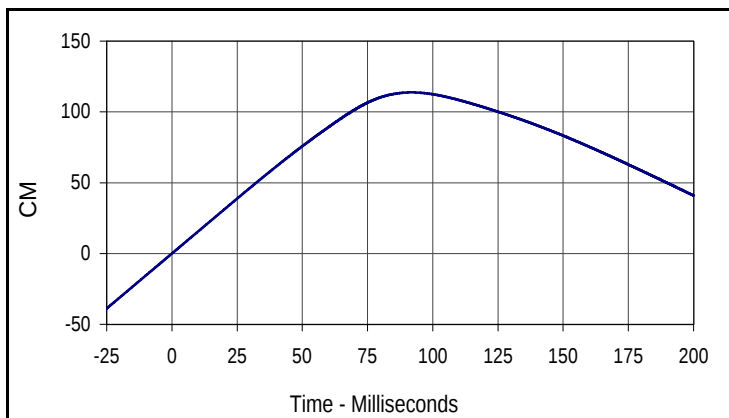
Curve Description			
Passenger Head Resultant Redundant			
CURNO	Type	SAE Class	Units
048	RES	1000	G's
Max	Time	Min	Time
63.6	76.9	0.0	8.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05
 NHTSA No.: M55207



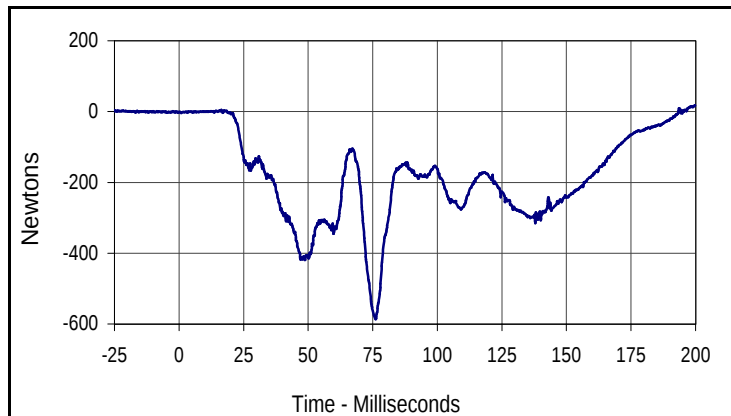
Curve Description			
Passenger Head Redundant X Velocity			
CURNO	Type	SAE Class	Units
048	IN1	180	KMH
Max	Time	Min	Time
56.0	0.0	-32.0	200.0



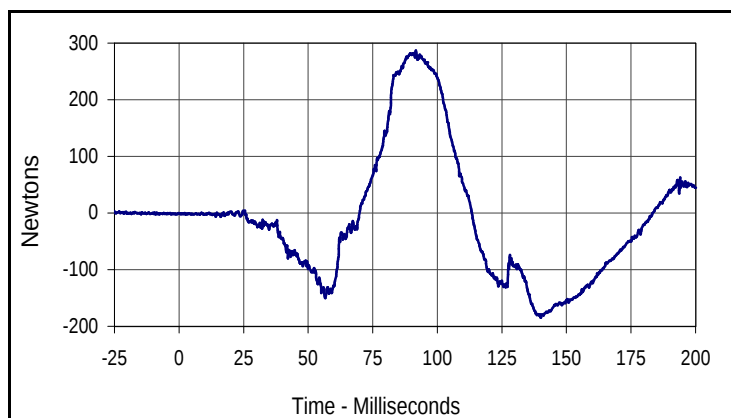
Curve Description			
Passenger Head Redundant X Displacement			
CURNO	Type	SAE Class	Units
048	IN2	180	CM
Max	Time	Min	Time
113.8	91.8	0.0	0.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

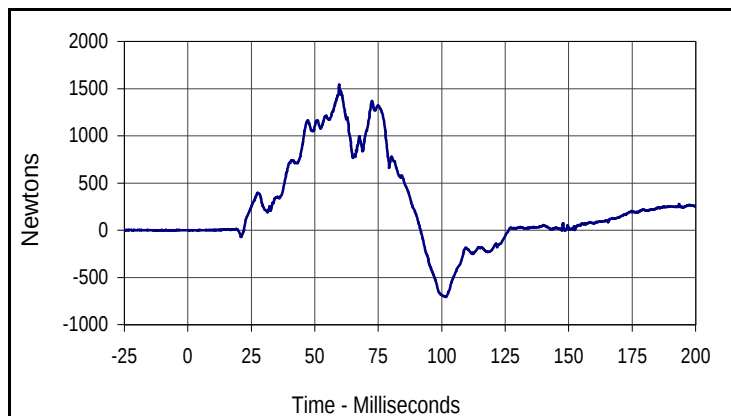
Test Date: 2/15/05
 NHTSA No.: M55207



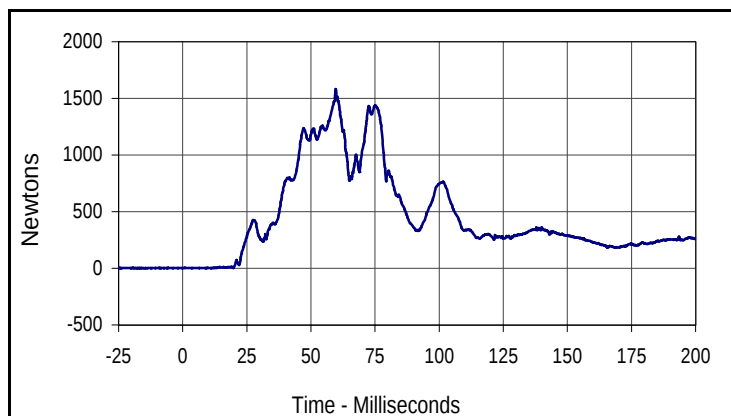
Curve Description			
Passenger Upper Neck Force X			
CURNO	Type	SAE Class	Units
051	FIL	1000	Newtons
Max	Time	Min	Time
17.0	199.7	-586.6	76.2



Curve Description			
Passenger Upper Neck Force Y			
CURNO	Type	SAE Class	Units
052	FIL	1000	Newtons
Max	Time	Min	Time
286.9	91.7	-184.8	140.0



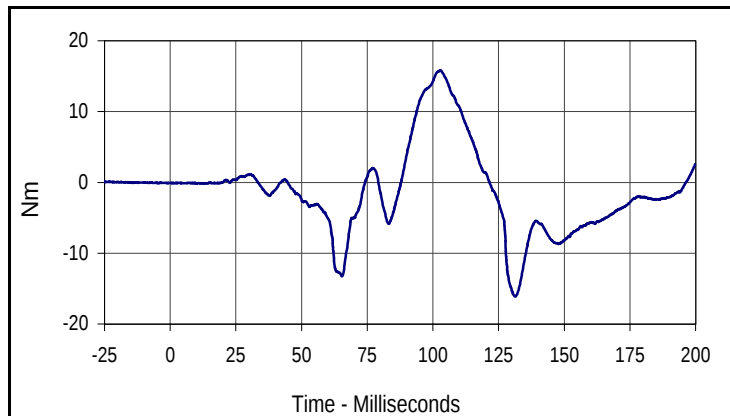
Curve Description			
Passenger Upper Neck Force Z			
CURNO	Type	SAE Class	Units
053	FIL	1000	Newtons
Max	Time	Min	Time
1544.0	59.6	-709.1	101.6



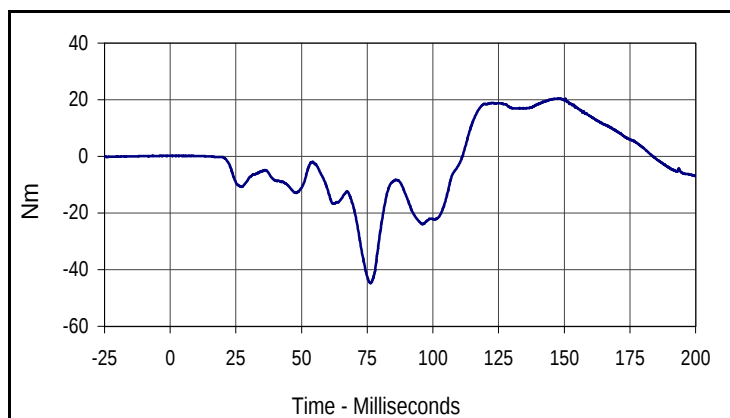
Curve Description			
Passenger Upper Neck Force Res.			
CURNO	Type	SAE Class	Units
051	RES	1000	Newtons
Max	Time	Min	Time
1582.7	59.6	1.0	9.1

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

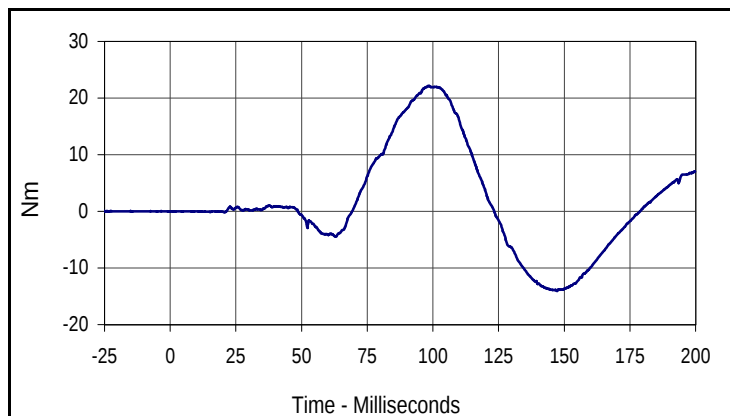
Test Date: 2/15/05
 NHTSA No.: M55207



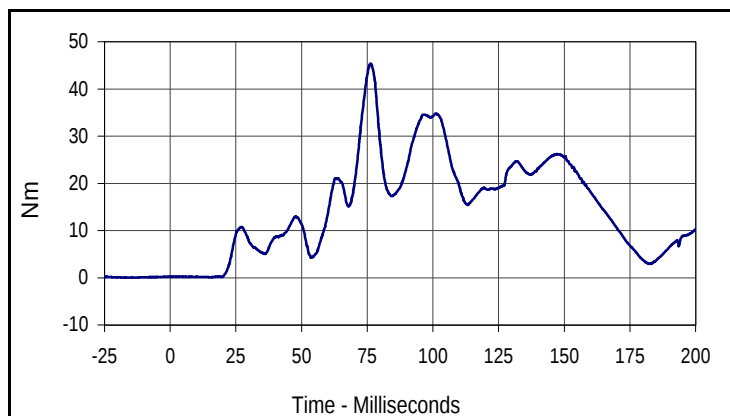
Curve Description			
Passenger Upper Neck Moment X			
CURNO	Type	SAE Class	Units
054	FIL	600	Nm
Max	Time	Min	Time
15.8	102.9	-16.1	131.4



Curve Description			
Passenger Upper Neck Moment Y			
CURNO	Type	SAE Class	Units
055	FIL	600	Nm
Max	Time	Min	Time
20.4	148.0	-44.7	76.3



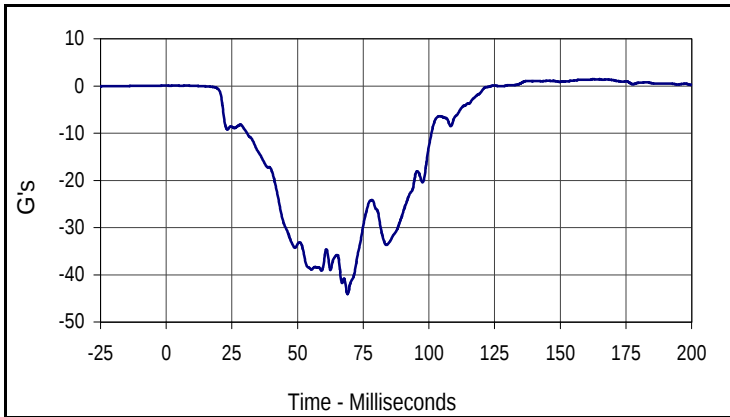
Curve Description			
Passenger Upper Neck Moment Z			
CURNO	Type	SAE Class	Units
056	FIL	600	Nm
Max	Time	Min	Time
22.2	98.4	-14.1	147.2



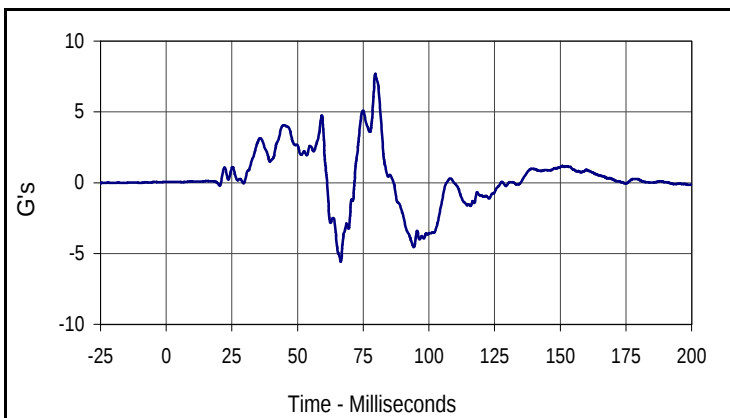
Curve Description			
Passenger Upper Neck Moment Res.			
CURNO	Type	SAE Class	Units
054	RES	600	Nm
Max	Time	Min	Time
45.4	76.3	0.1	14.9

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

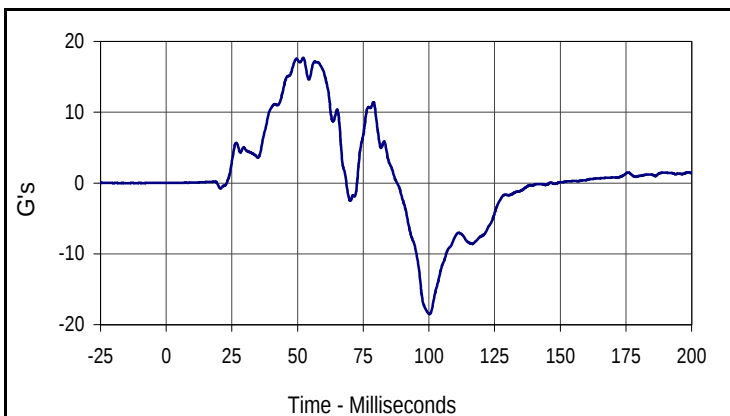
Test Date: 2/15/05
 NHTSA No.: M55207



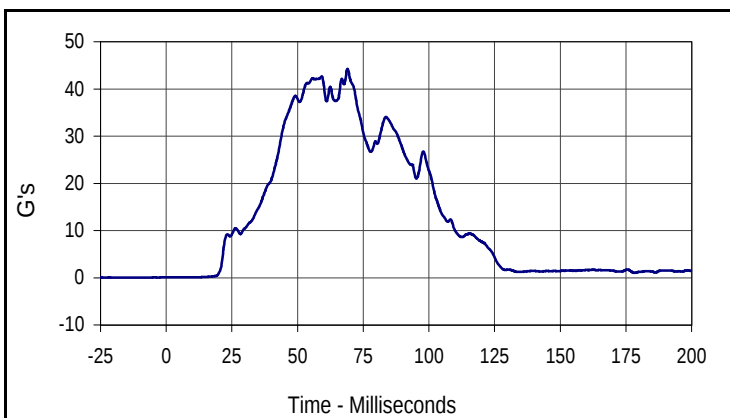
Curve Description			
Passenger Chest Primary X			
CURNO	Type	SAE Class	Units
057	FIL	180	G's
Max	Time	Min	Time
1.5	162.6	-44.1	69.0



Curve Description			
Passenger Chest Primary Y			
CURNO	Type	SAE Class	Units
058	FIL	180	G's
Max	Time	Min	Time
7.7	79.6	-5.6	66.4



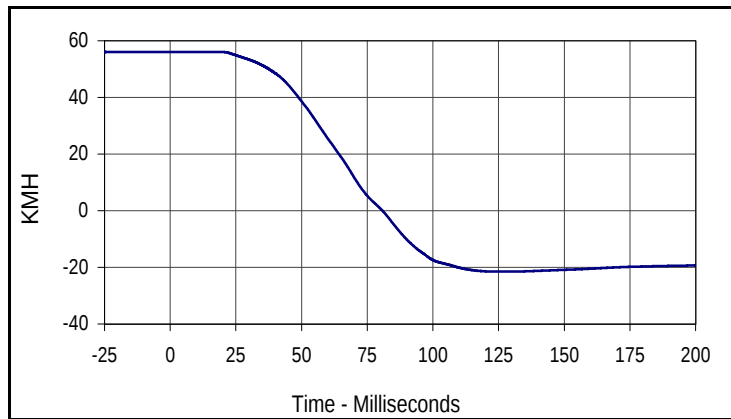
Curve Description			
Passenger Chest Primary Z			
CURNO	Type	SAE Class	Units
059	FIL	180	G's
Max	Time	Min	Time
17.7	52.2	-18.5	100.3



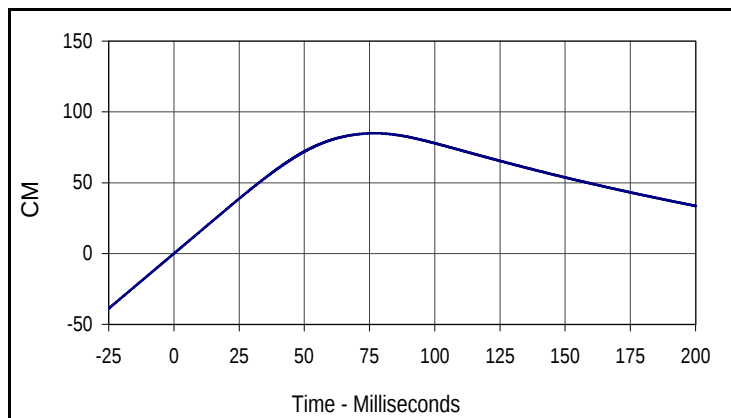
Curve Description			
Passenger Chest Resultant Primary			
CURNO	Type	SAE Class	Units
057	RES	180	G's
Max	Time	Min	Time
44.2	69.0	0.1	5.9

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05
 NHTSA No.: M55207



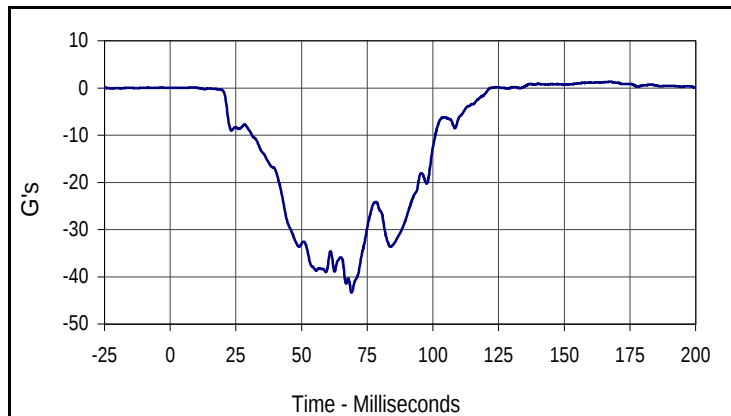
Curve Description			
Passenger Chest Primary X Velocity			
CURNO	Type	SAE Class	Units
057	IN1	180	KMH
Max	Time	Min	Time
56.1	12.1	-21.5	123.8



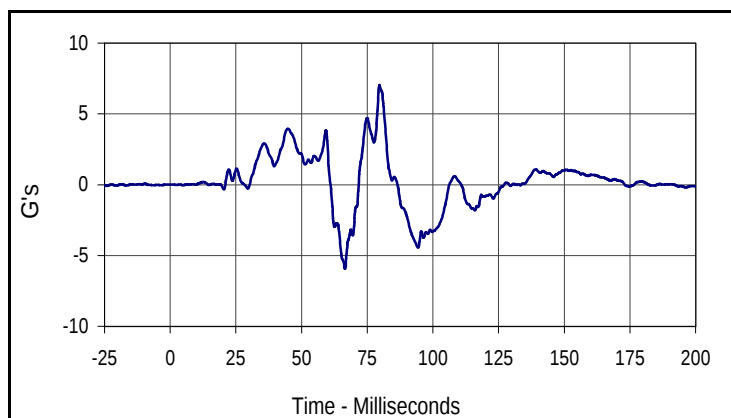
Curve Description			
Passenger Chest Primary X Displacement			
CURNO	Type	SAE Class	Units
057	IN2	180	CM
Max	Time	Min	Time
84.9	77.0	0.0	0.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

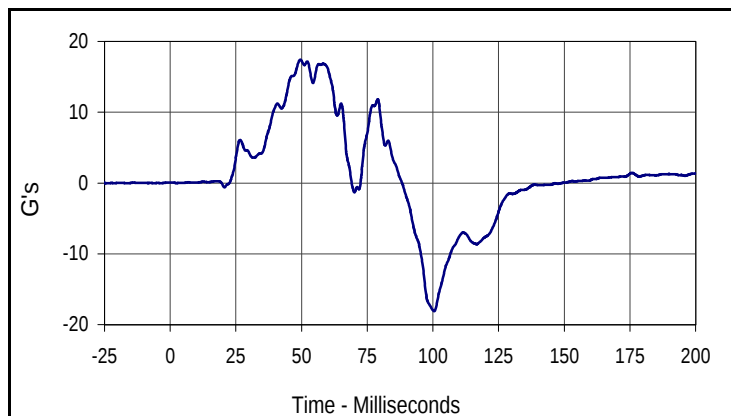
Test Date: 2/15/05
 NHTSA No.: M55207



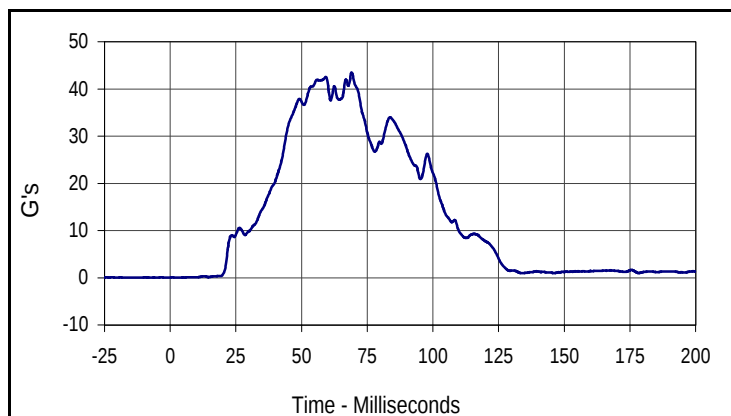
Curve Description			
Passenger Chest Redundant X			
CURNO	Type	SAE Class	Units
060	FIL	180	G's
Max	Time	Min	Time
1.3	167.5	-43.4	69.0



Curve Description			
Passenger Chest Redundant Y			
CURNO	Type	SAE Class	Units
061	FIL	180	G's
Max	Time	Min	Time
7.0	79.7	-5.9	66.5



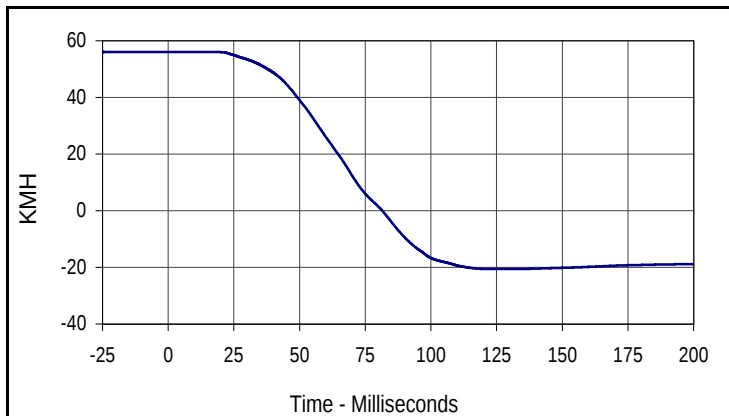
Curve Description			
Passenger Chest Redundant Z			
CURNO	Type	SAE Class	Units
062	FIL	180	G's
Max	Time	Min	Time
17.4	49.6	-18.1	100.5



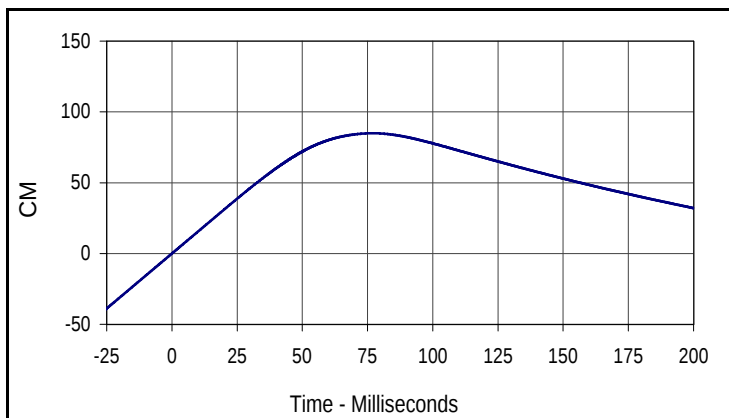
Curve Description			
Passenger Chest Resultant Redundant			
CURNO	Type	SAE Class	Units
060	RES	180	G's
Max	Time	Min	Time
43.5	69.0	0.0	2.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05
 NHTSA No.: M55207



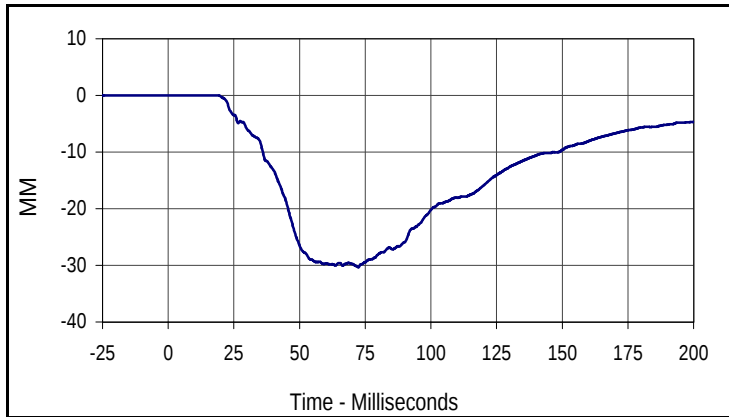
Curve Description			
Passenger Chest Redundant X Velocity			
CURNO	Type	SAE Class	Units
060	IN1	180	KMH
Max	Time	Min	Time
56.1	10.7	-20.6	122.0



Curve Description			
Passenger Chest Redundant X Displacement			
CURNO	Type	SAE Class	Units
060	IN2	180	CM
Max	Time	Min	Time
84.9	77.0	0.0	0.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

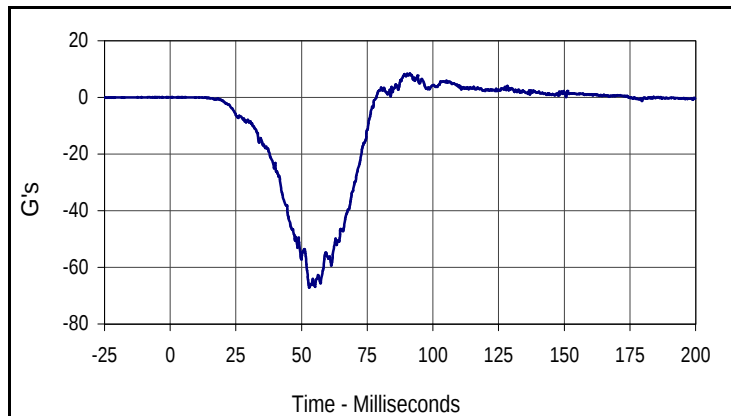
Test Date: 2/15/05
 NHTSA No.: M55207



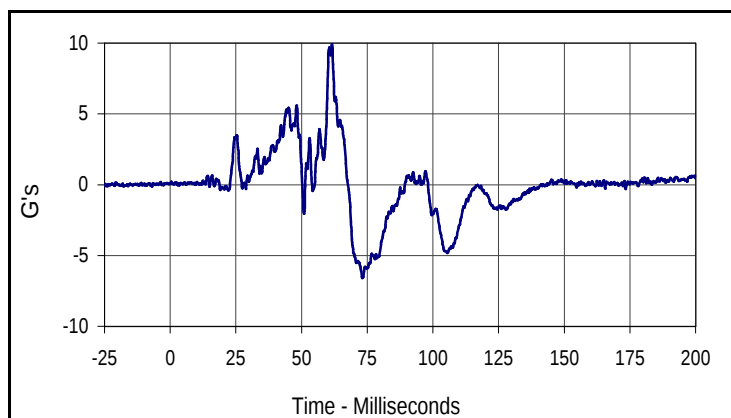
Curve Description			
Passenger Chest Deflection			
CURNO	Type	SAE Class	Units
063	FIL	600	MM
Max	Time	Min	Time
0.0	13.6	-30.3	72.3

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

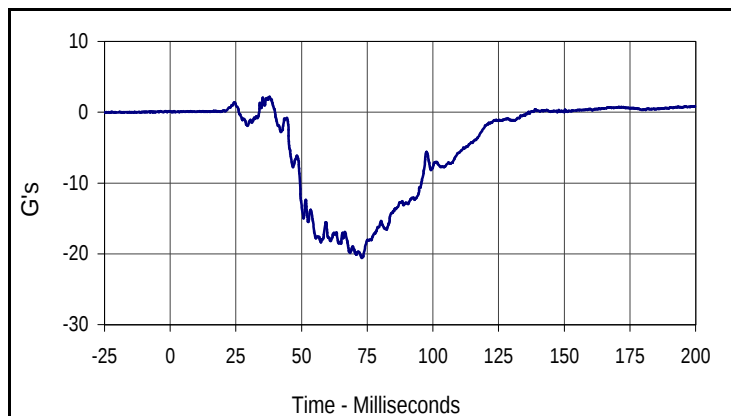
Test Date: 2/15/05
 NHTSA No.: M55207



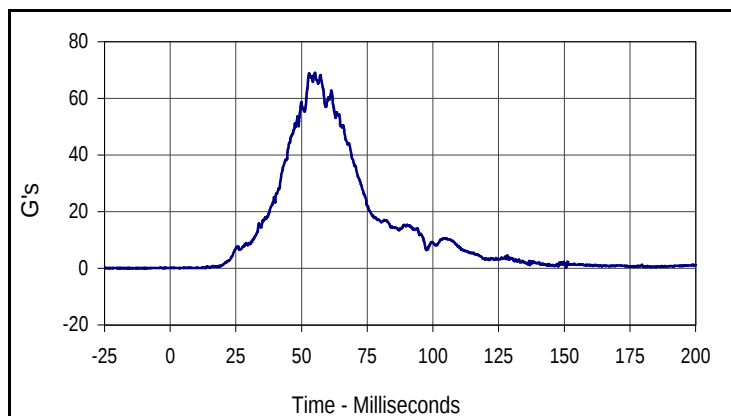
Curve Description			
Passenger Pelvis X			
CURNO	Type	SAE Class	Units
064	FIL	1000	G's
Max	Time	Min	Time
8.4	91.2	-67.1	52.9



Curve Description			
Passenger Pelvis Y			
CURNO	Type	SAE Class	Units
065	FIL	1000	G's
Max	Time	Min	Time
9.9	61.6	-6.6	73.2



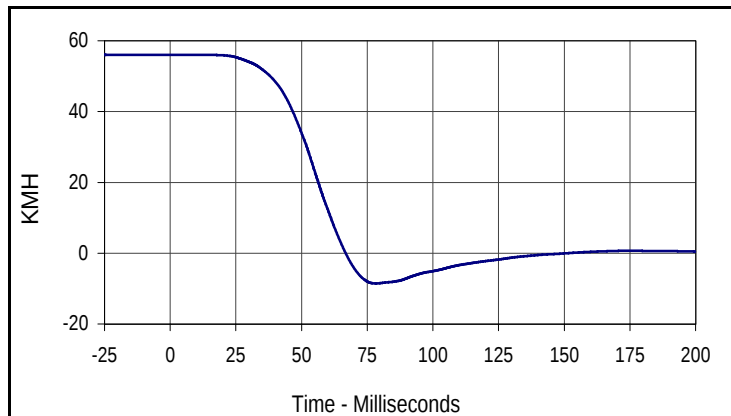
Curve Description			
Passenger Pelvis Z			
CURNO	Type	SAE Class	Units
066	FIL	1000	G's
Max	Time	Min	Time
2.2	37.8	-20.6	73.0



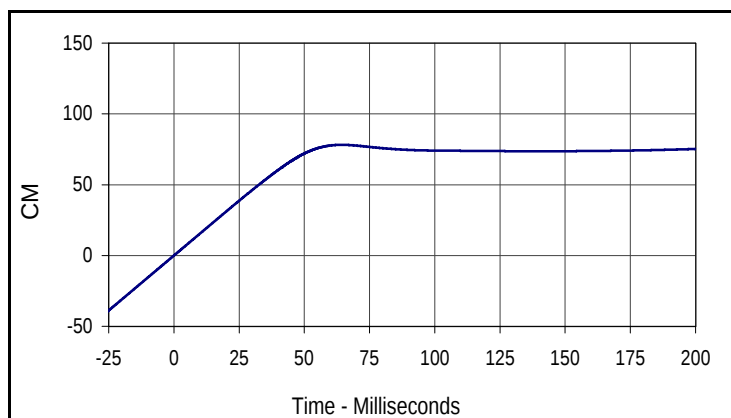
Curve Description			
Passenger Pelvis Resultant			
CURNO	Type	SAE Class	Units
064	RES	1000	G's
Max	Time	Min	Time
69.1	55.1	0.0	3.6

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05
 NHTSA No.: M55207



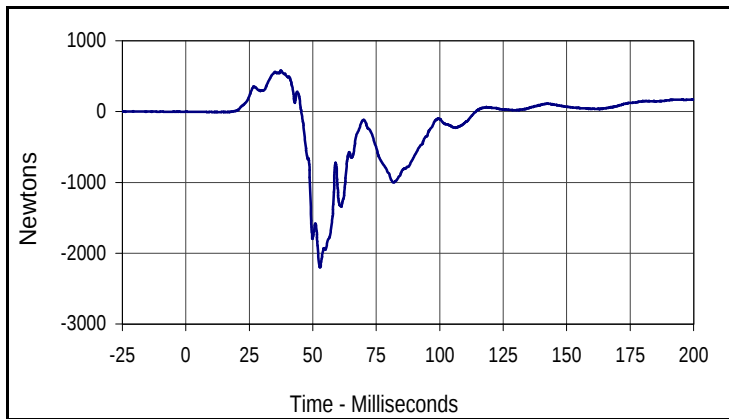
Curve Description			
Passenger Pelvis X Velocity			
CURNO	Type	SAE Class	Units
064	IN1	180	KMH
Max	Time	Min	Time
56.0	7.8	-8.6	78.3



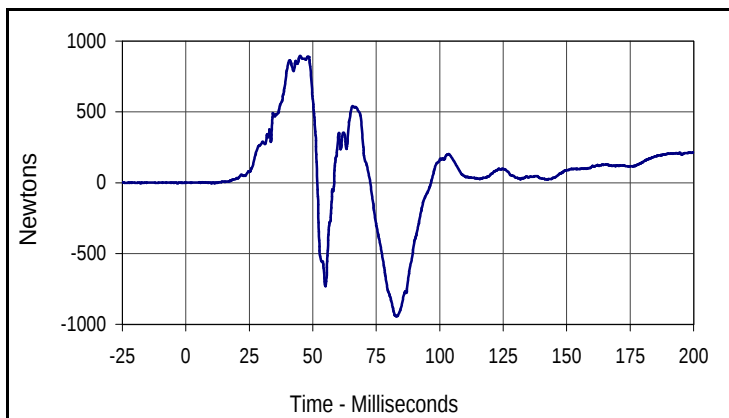
Curve Description			
Passenger Pelvis X Displacement			
CURNO	Type	SAE Class	Units
064	IN2	180	CM
Max	Time	Min	Time
78.2	64.3	0.0	0.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05
 NHTSA No.: M55207



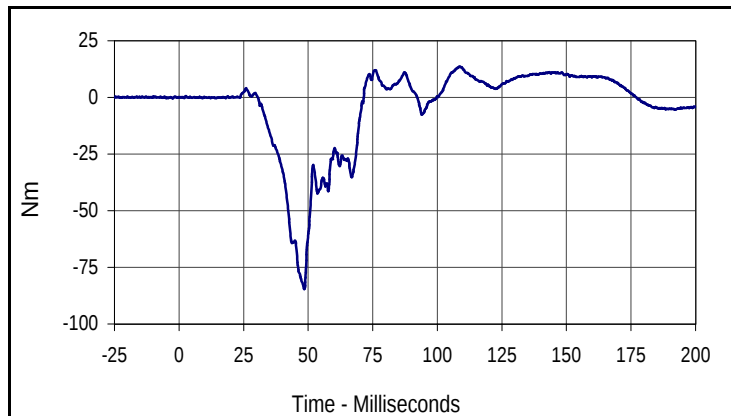
Curve Description			
Passenger Left Femur Force			
CURNO	Type	SAE Class	Units
067	FIL	600	Newtons
Max	Time	Min	Time
578.5	37.4	-2200.9	52.9



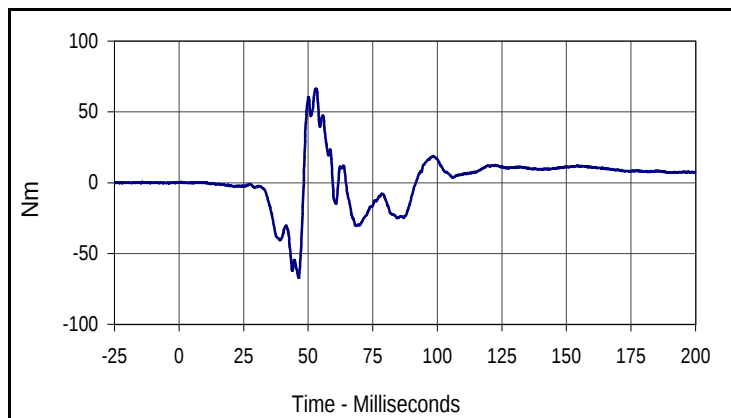
Curve Description			
Passenger Right Femur Force			
CURNO	Type	SAE Class	Units
068	FIL	600	Newtons
Max	Time	Min	Time
896.6	45.0	-942.6	82.9

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

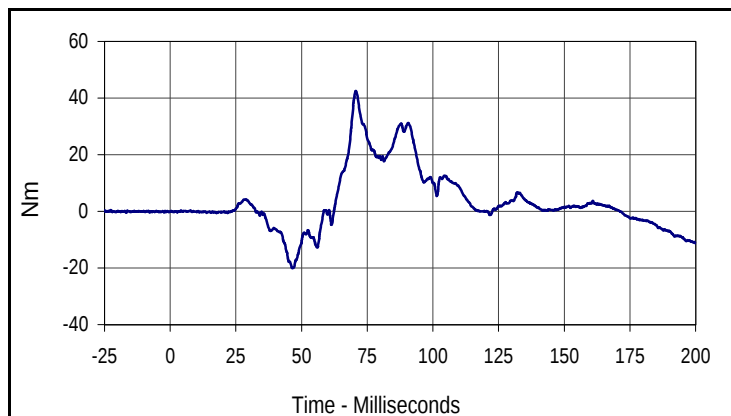
Test Date: 2/15/05
 NHTSA No.: M55207



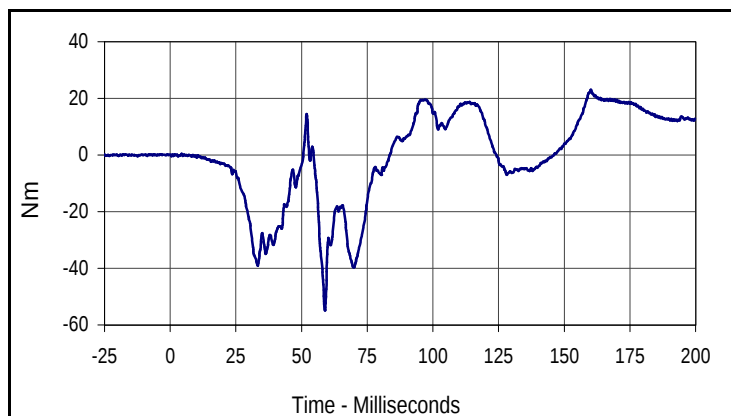
Curve Description			
Passenger Left Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
069	FIL	600	Nm
Max	Time	Min	Time
13.7	108.7	-84.5	48.5



Curve Description			
Passenger Left Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
070	FIL	600	Nm
Max	Time	Min	Time
66.2	52.9	-67.1	46.3



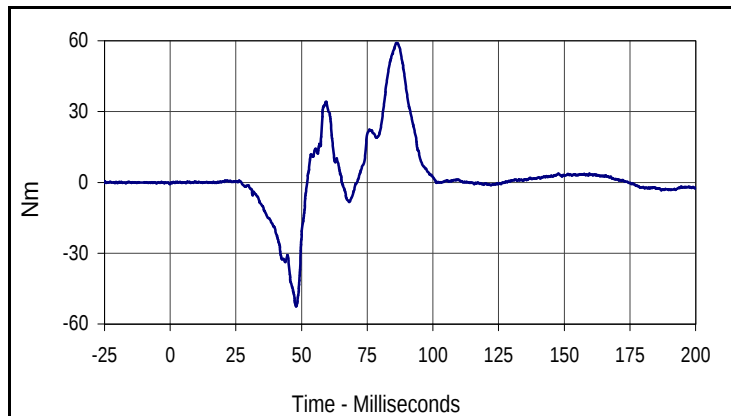
Curve Description			
Passenger Right Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
071	FIL	600	Nm
Max	Time	Min	Time
42.5	70.7	-20.1	46.7



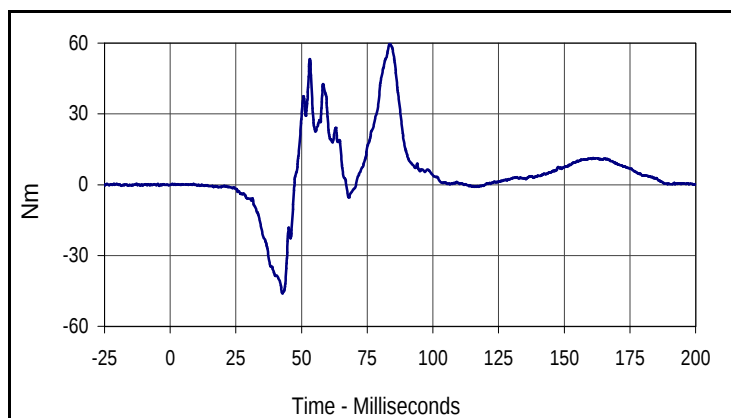
Curve Description			
Passenger Right Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
072	FIL	600	Nm
Max	Time	Min	Time
23.1	160.1	-55.0	58.9

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

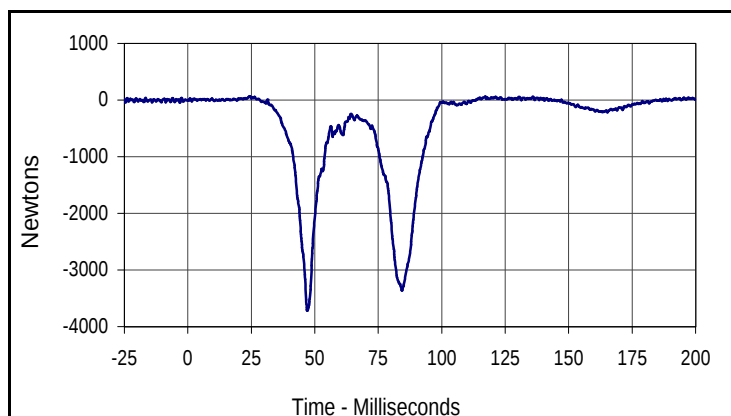
Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Passenger Left Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
073	FIL	600	Nm
Max	Time	Min	Time
59.1	86.2	-52.5	47.9



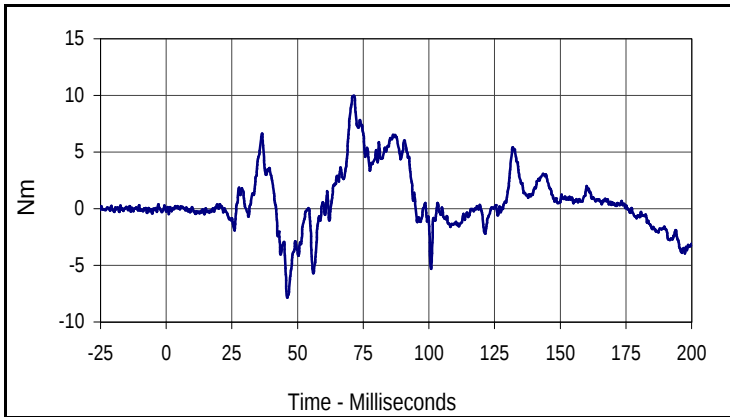
Curve Description			
Passenger Left Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
074	FIL	600	Nm
Max	Time	Min	Time
59.7	83.6	-46.0	42.7



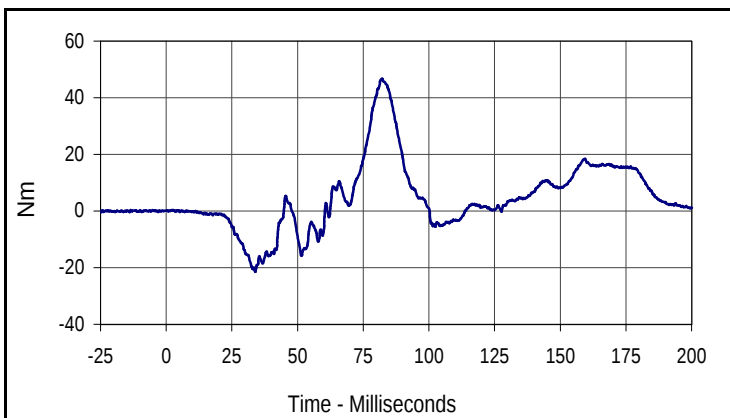
Curve Description			
Passenger Left Lower Tibia Force Z			
CURNO	Type	SAE Class	Units
075	FIL	600	Newtons
Max	Time	Min	Time
70.5	24.4	-3716.4	47.1

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

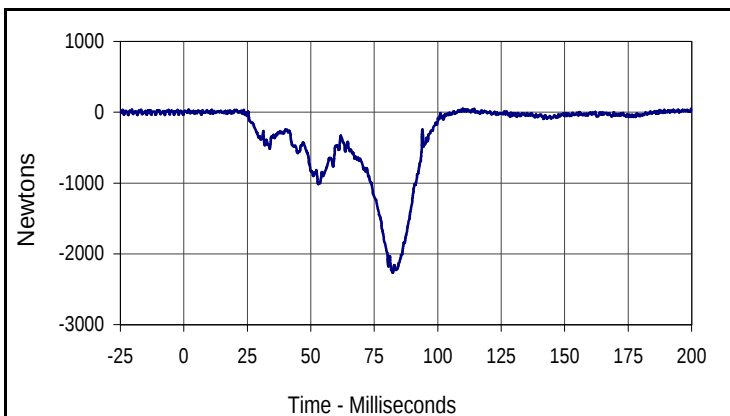
Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Passenger Right Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
076	FIL	600	Nm
Max	Time	Min	Time
10.0	71.5	-7.9	46.1



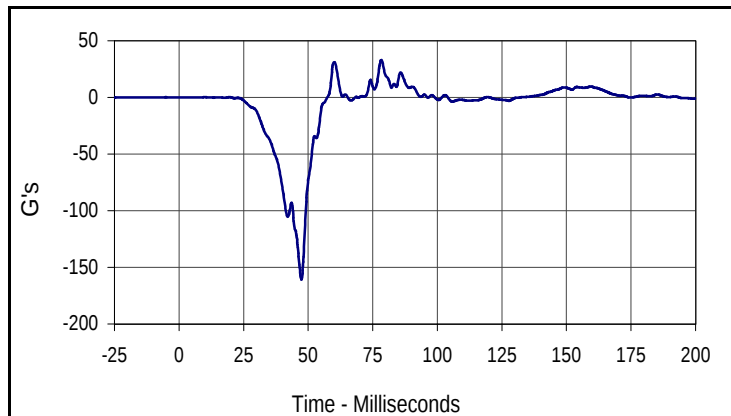
Curve Description			
Passenger Right Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
077	FIL	600	Nm
Max	Time	Min	Time
46.8	82.2	-21.5	33.9



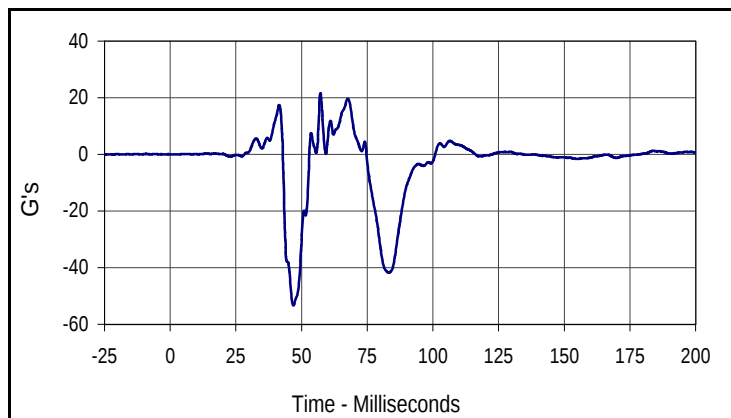
Curve Description			
Passenger Right lower Tibia Force Z			
CURNO	Type	SAE Class	Units
078	FIL	600	Newtons
Max	Time	Min	Time
50.9	200.0	-2268.0	82.3

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

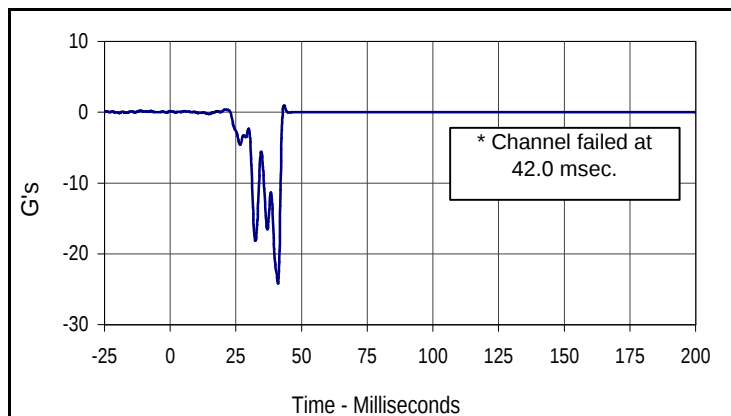
Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Passenger Left Foot Aft X			
CURNO	Type	SAE Class	Units
079	FIL	180	G's
Max	Time	Min	Time
33.1	78.3	-160.8	47.4



Curve Description			
Passenger Left Foot Aft Z			
CURNO	Type	SAE Class	Units
080	FIL	180	G's
Max	Time	Min	Time
21.6	57.2	-53.4	46.9

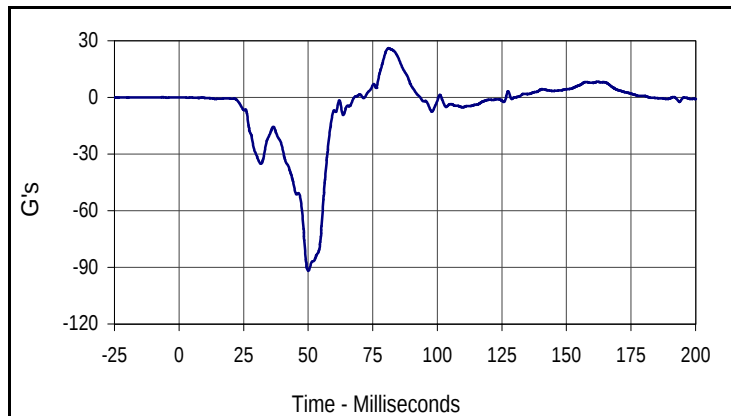


Curve Description			
Passenger Left Foot Fore Z			
CURNO	Type	SAE Class	Units
081	FIL	180	G's
Max	Time	Min	Time
0.9	43.3	-24.2	41.1

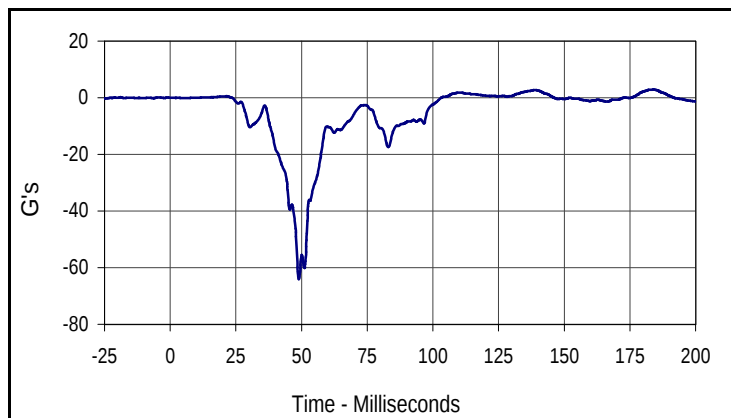
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Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

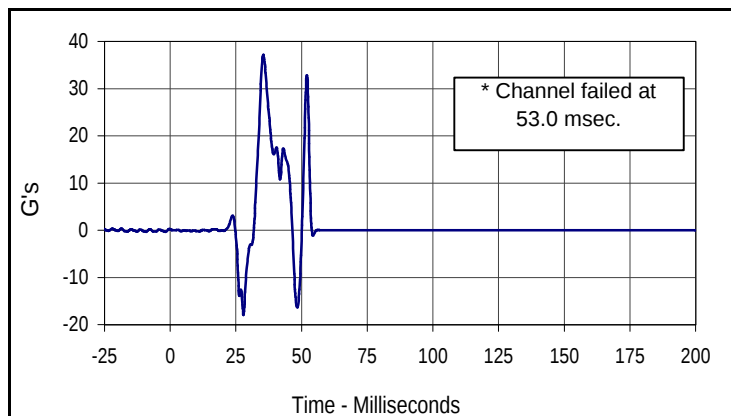
Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Passenger Right Foot Aft X			
CURNO	Type	SAE Class	Units
082	FIL	180	G's
Max	Time	Min	Time
26.0	81.1	-91.9	50.0



Curve Description			
Passenger Right Foot Aft Z			
CURNO	Type	SAE Class	Units
083	FIL	180	G's
Max	Time	Min	Time
2.9	184.0	-64.1	49.0

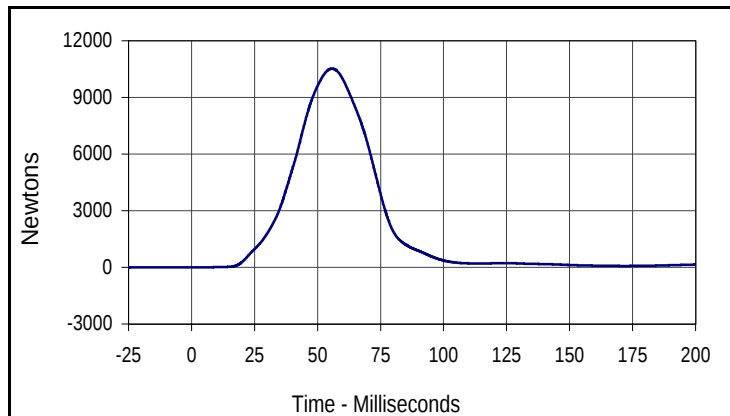


Curve Description			
Passenger Right Foot Fore Z			
CURNO	Type	SAE Class	Units
084	FIL	180	G's
Max	Time	Min	Time
37.2	35.4	-17.9	27.9

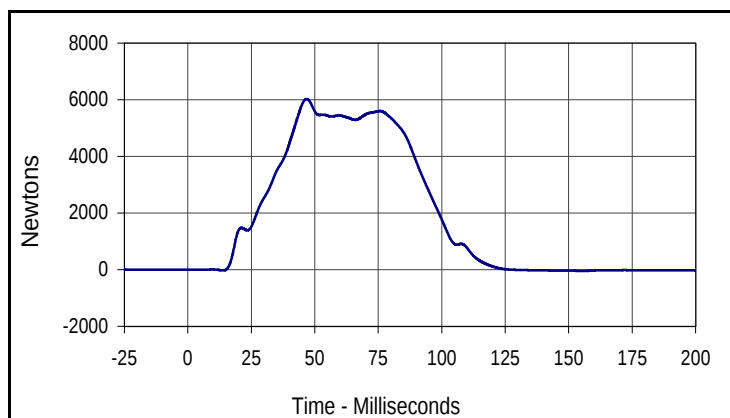
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Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

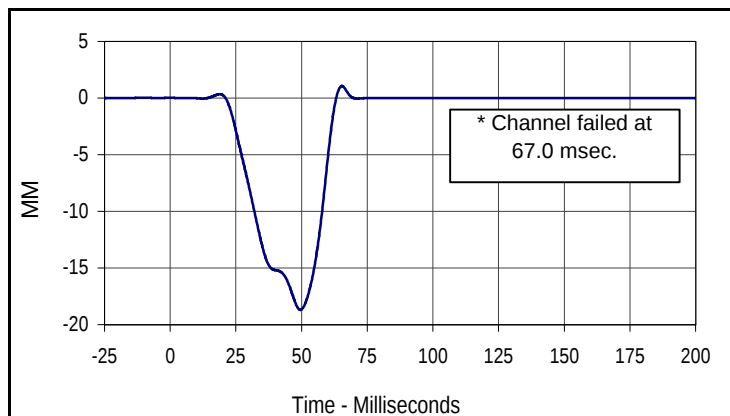
Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Passenger Lap Belt Force			
CURNO	Type	SAE Class	Units
085	FIL	60	Newtons
Max	Time	Min	Time
10524.4	55.7	1.8	0.0

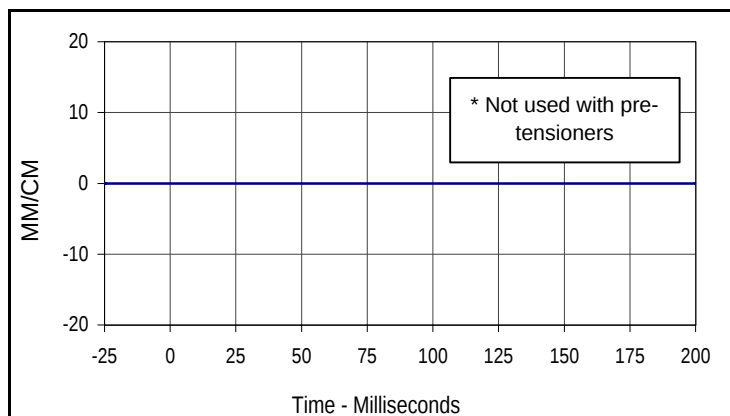


Curve Description			
Passenger Shoulder Belt Force			
CURNO	Type	SAE Class	Units
086	FIL	60	Newtons
Max	Time	Min	Time
6027.5	46.8	-41.6	156.0



Curve Description			
Passenger Shoulder Belt Pullout			
CURNO	Type	SAE Class	Units
087	FIL	60	MM
Max	Time	Min	Time
1.1	65.8	-18.7	50.0

* Channel failed at 67.0 msec.

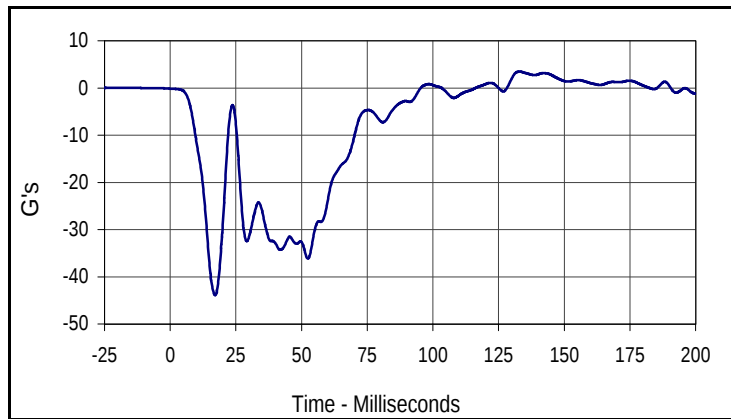


Curve Description			
Passenger Shoulder Belt Elongation			
CURNO	Type	SAE Class	Units
088	FIL	60	MM/CM
Max	Time	Min	Time
0.0	0.0	0.0	0.0

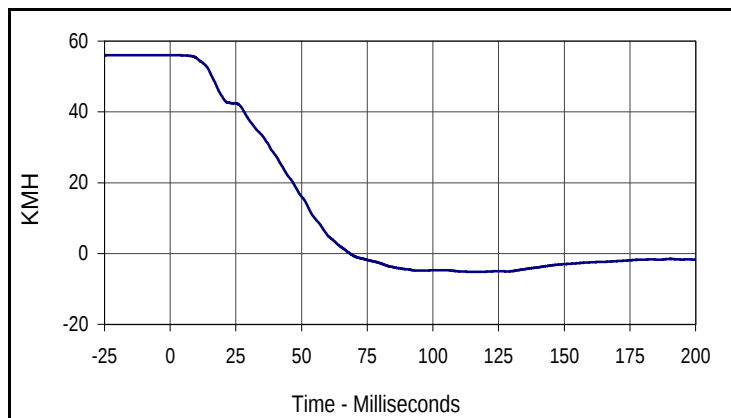
* Not used with pre-tensioners

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

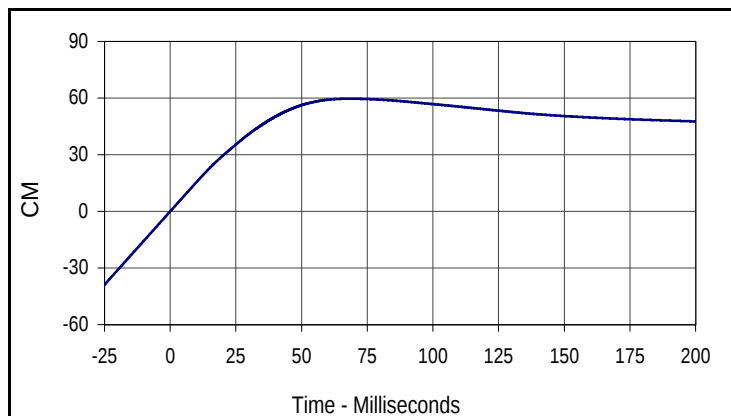
Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Vehicle Left Rear X			
CURNO	Type	SAE Class	Units
089	FIL	60	G's
Max	Time	Min	Time
3.5	133.1	-43.9	17.1



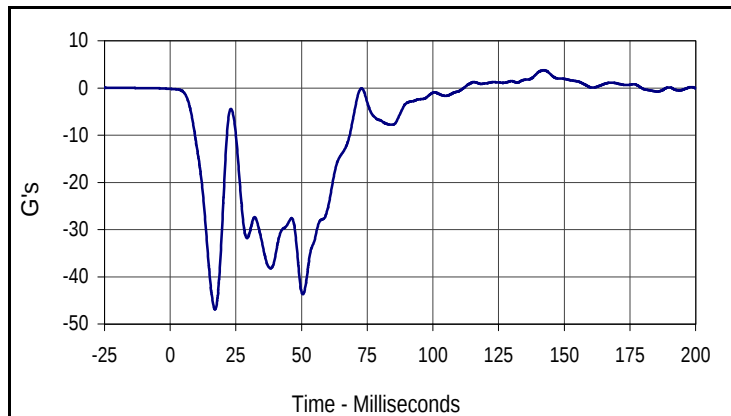
Curve Description			
Vehicle Left Rear X Velocity			
CURNO	Type	SAE Class	Units
089	IN1	180	KMH
Max	Time	Min	Time
56.0	0.0	-5.2	116.1



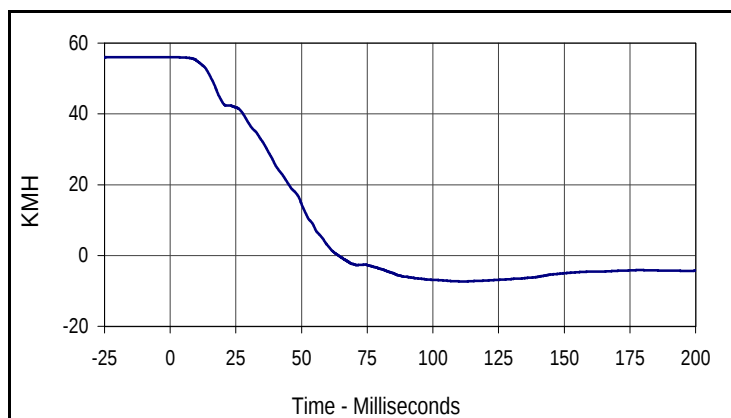
Curve Description			
Vehicle Left Rear X Displacement			
CURNO	Type	SAE Class	Units
089	IN2	180	CM
Max	Time	Min	Time
59.7	68.4	0.0	0.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

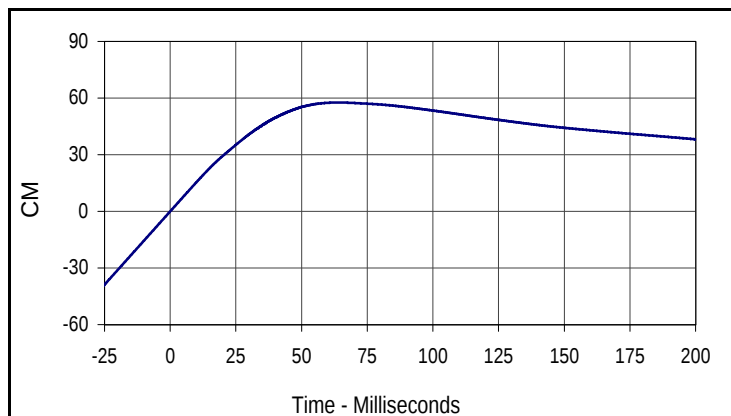
Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Vehicle Right Rear X			
CURNO	Type	SAE Class	Units
090	FIL	60	G's
Max	Time	Min	Time
3.8	142.3	-46.9	17.1



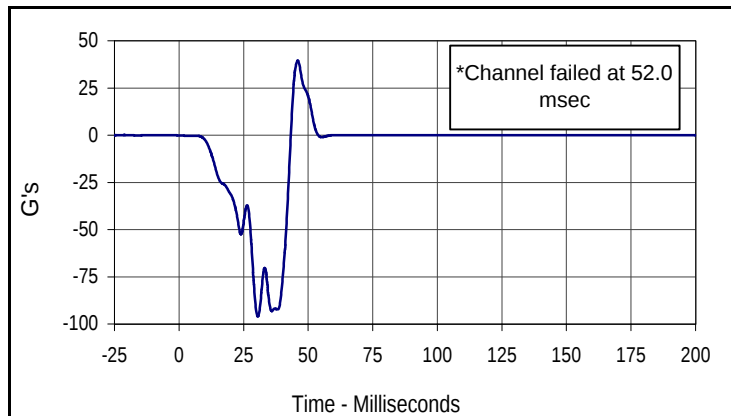
Curve Description			
Vehicle Right Rear X Velocity			
CURNO	Type	SAE Class	Units
090	IN1	180	KMH
Max	Time	Min	Time
56.0	0.0	-7.3	112.3



Curve Description			
Vehicle Right Rear X Displacement			
CURNO	Type	SAE Class	Units
090	IN2	180	CM
Max	Time	Min	Time
57.6	64.1	0.0	0.0

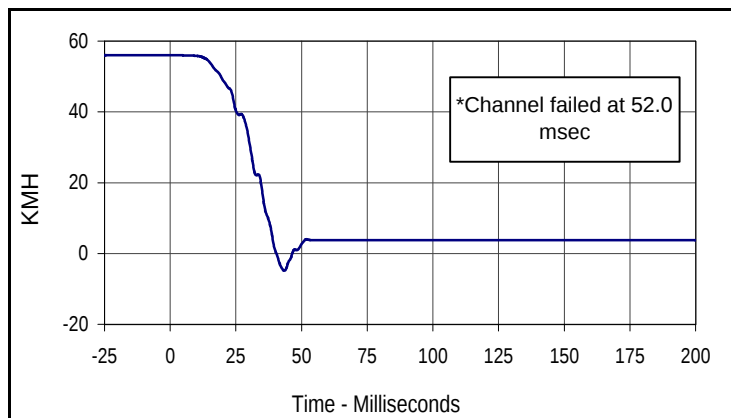
Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05
 NHTSA No.: M55207



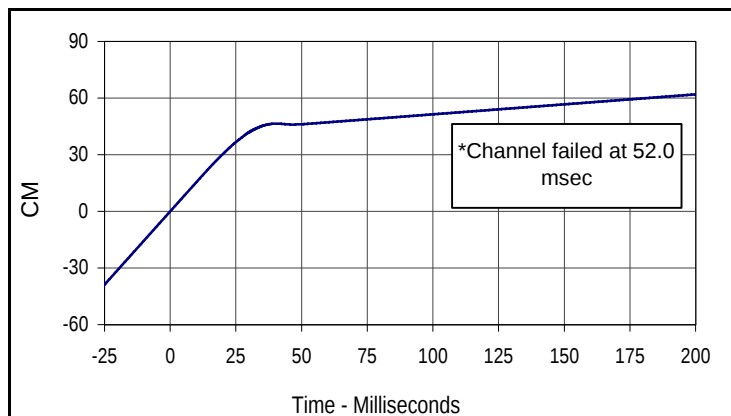
Curve Description			
Vehicle Engine Top X			
CURNO	Type	SAE Class	Units
091	FIL	60	G's
Max	Time	Min	Time
39.4	46.0	-96.0	30.5

* Channel failed at 52.0 msec.



Curve Description			
Vehicle Engine Top X Velocity			
CURNO	Type	SAE Class	Units
091	IN1	180	KMH
Max	Time	Min	Time
56.0	0.0	-4.9	43.5

* Channel failed at 52.0 msec.

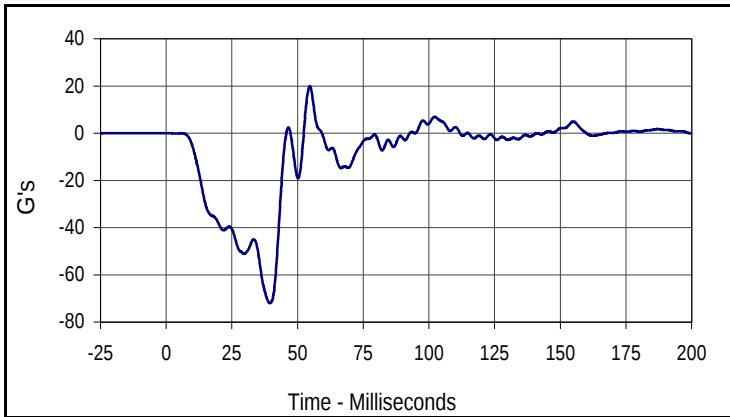


Curve Description			
Vehicle Engine Top X Displacement			
CURNO	Type	SAE Class	Units
091	IN2	180	CM
Max	Time	Min	Time
62.0	200.0	0.0	0.0

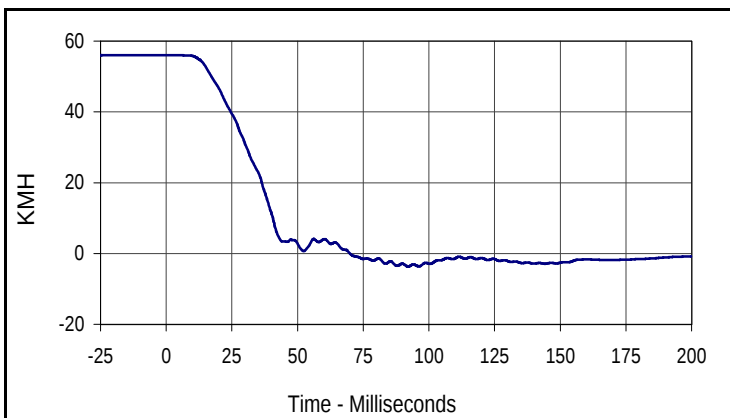
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Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

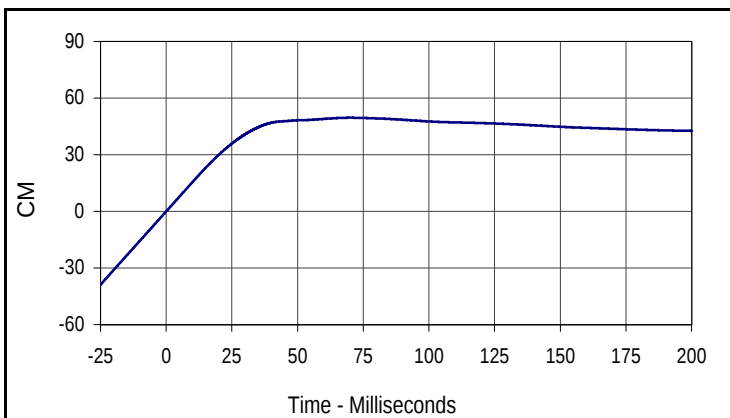
Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Vehicle Engine Bottom X			
CURNO	Type	SAE Class	Units
092	FIL	60	G's
Max	Time	Min	Time
19.8	54.6	-72.1	39.4



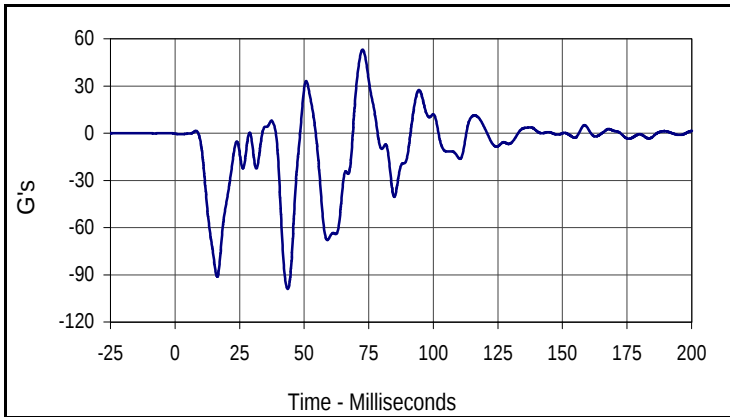
Curve Description			
Vehicle Engine Bottom X Velocity			
CURNO	Type	SAE Class	Units
092	IN1	180	KMH
Max	Time	Min	Time
56.0	1.7	-3.7	92.1



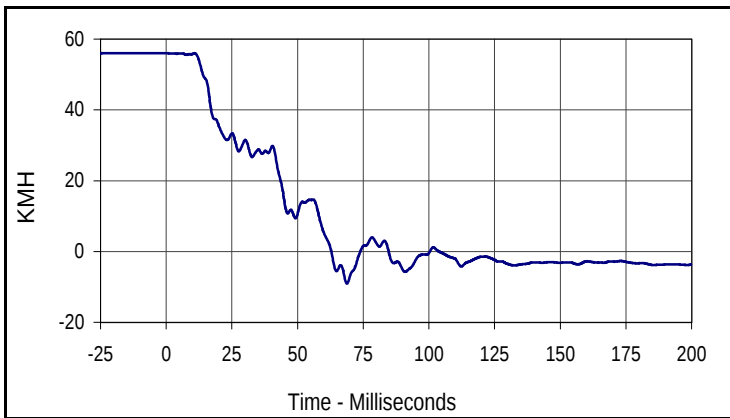
Curve Description			
Vehicle Engine Bottom X Displacement			
CURNO	Type	SAE Class	Units
092	IN2	180	CM
Max	Time	Min	Time
49.6	69.9	0.0	0.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

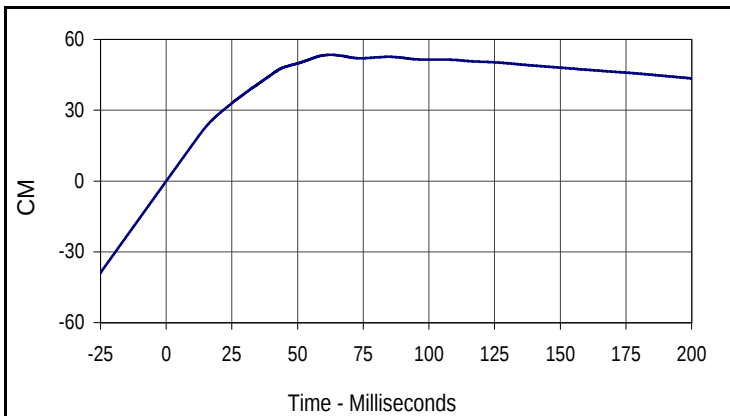
Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Vehicle Left Brake Caliper X			
CURNO	Type	SAE Class	Units
093	FIL	60	G's
Max	Time	Min	Time
53.1	72.6	-99.0	43.6



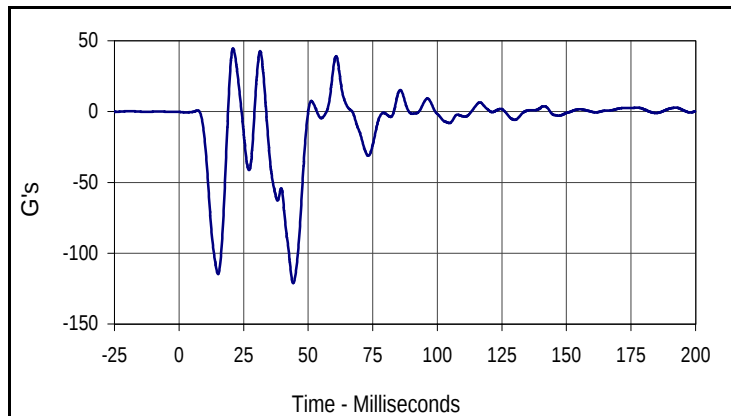
Curve Description			
Vehicle Left Brake Caliper X Velocity			
CURNO	Type	SAE Class	Units
093	IN1	180	KMH
Max	Time	Min	Time
56.0	0.0	-9.1	68.8



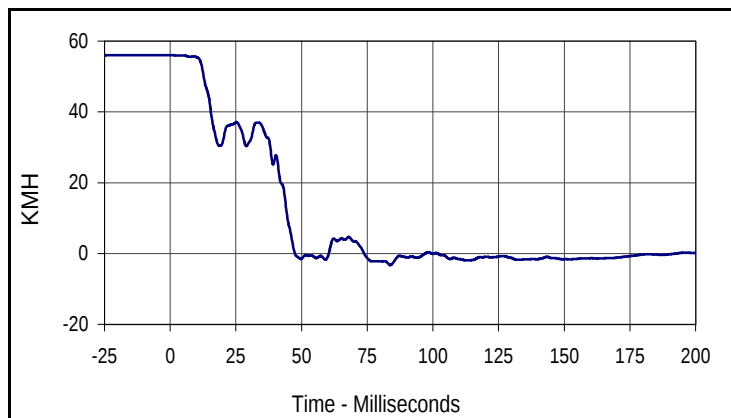
Curve Description			
Vehicle Left Brake Caliper X Displacement			
CURNO	Type	SAE Class	Units
093	IN2	180	CM
Max	Time	Min	Time
53.5	62.9	0.0	0.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

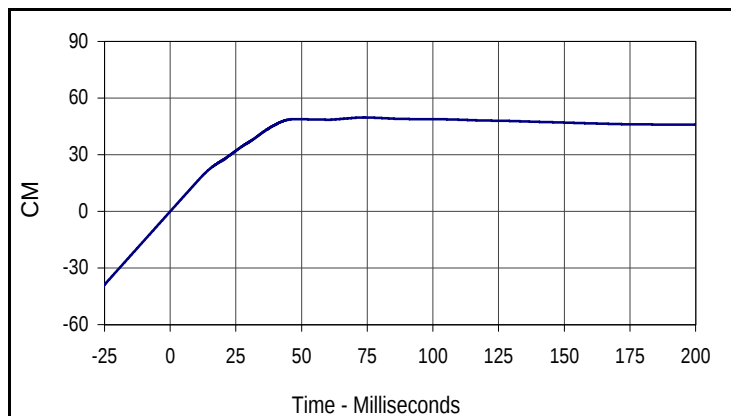
Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Vehicle Right Brake Caliper X			
CURNO	Type	SAE Class	Units
094	FIL	60	G's
Max	Time	Min	Time
44.6	20.9	-121.1	44.2



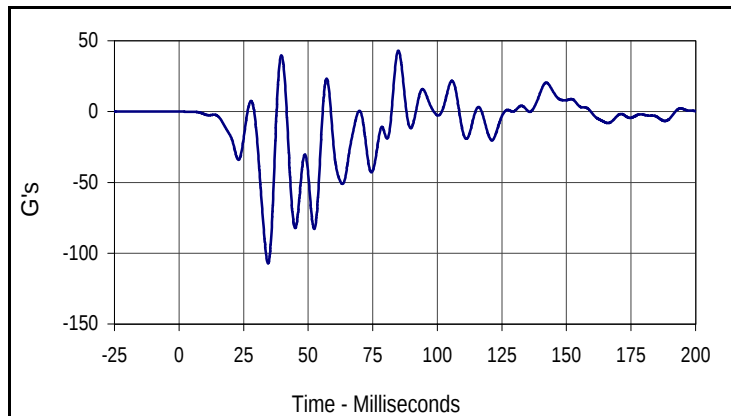
Curve Description			
Vehicle Right Brake Caliper X Velocity			
CURNO	Type	SAE Class	Units
094	IN1	180	KMH
Max	Time	Min	Time
56.0	0.7	-3.3	83.8



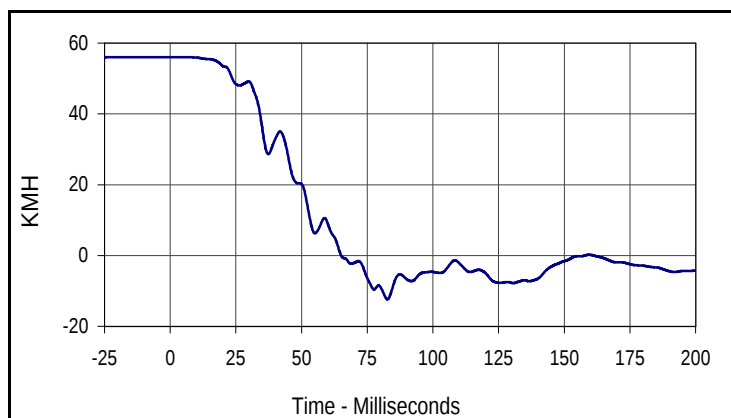
Curve Description			
Vehicle Right Brake Caliper X Displacement			
CURNO	Type	SAE Class	Units
094	IN2	180	CM
Max	Time	Min	Time
49.7	73.8	0.0	0.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

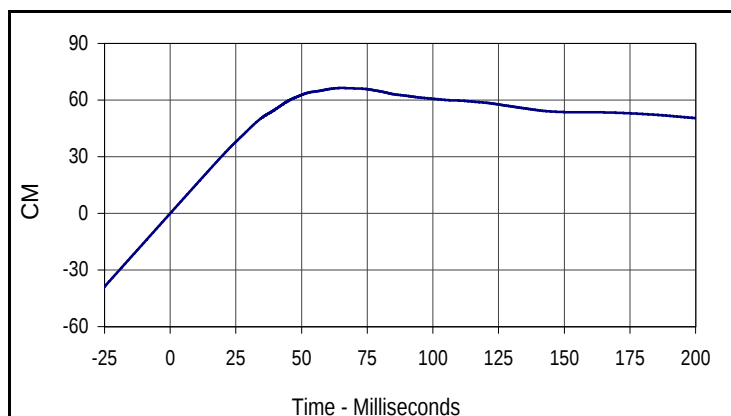
Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Vehicle Instrument Panel X			
CURNO	Type	SAE Class	Units
095	FIL	60	G's
Max	Time	Min	Time
43.1	84.9	-107.2	34.5



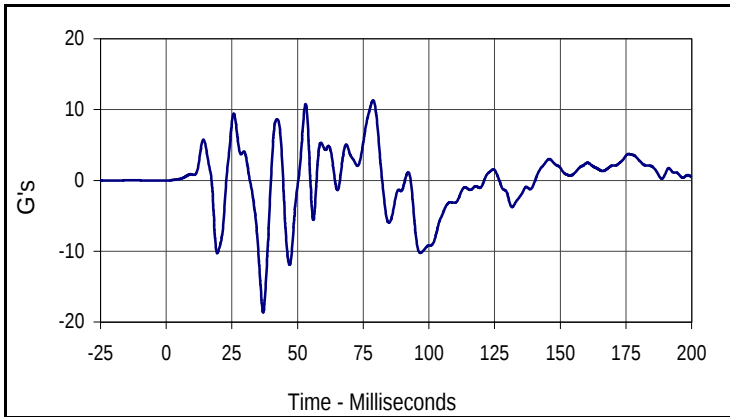
Curve Description			
Vehicle Instrument Panel X Velocity			
CURNO	Type	SAE Class	Units
095	IN1	180	KMH
Max	Time	Min	Time
56.0	1.4	-12.4	82.7



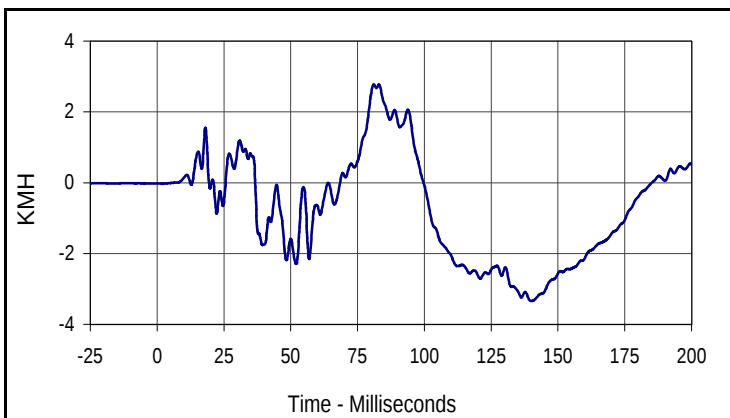
Curve Description			
Vehicle Instrument Panel X Displacement			
CURNO	Type	SAE Class	Units
095	IN2	180	CM
Max	Time	Min	Time
66.4	65.0	0.0	0.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

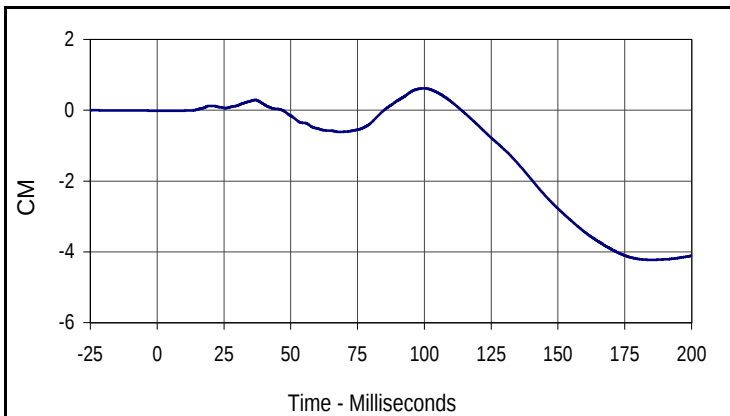
Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Vehicle Left Rear Z			
CURNO	Type	SAE Class	Units
096	FIL	60	G's
Max	Time	Min	Time
11.3	78.7	-18.6	36.9



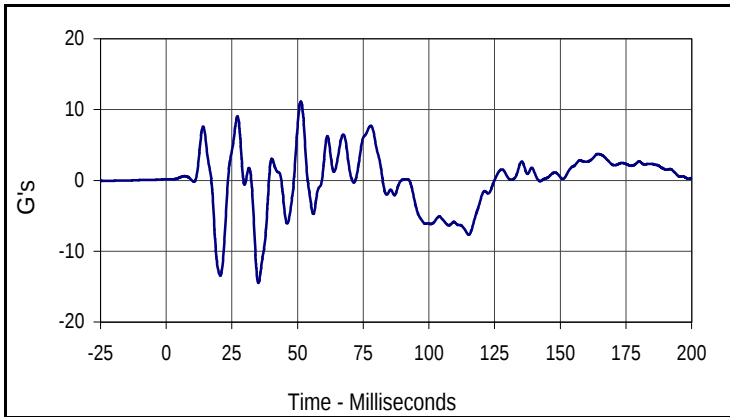
Curve Description			
Vehicle Left Rear Z Velocity			
CURNO	Type	SAE Class	Units
096	IN1	180	KMH
Max	Time	Min	Time
2.8	81.1	-3.3	139.8



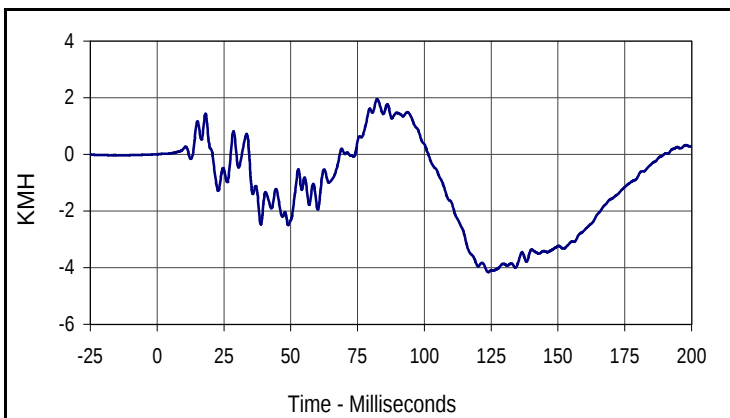
Curve Description			
Vehicle Left Rear Z Displacement			
CURNO	Type	SAE Class	Units
096	IN2	180	CM
Max	Time	Min	Time
0.6	99.7	-4.2	185.1

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

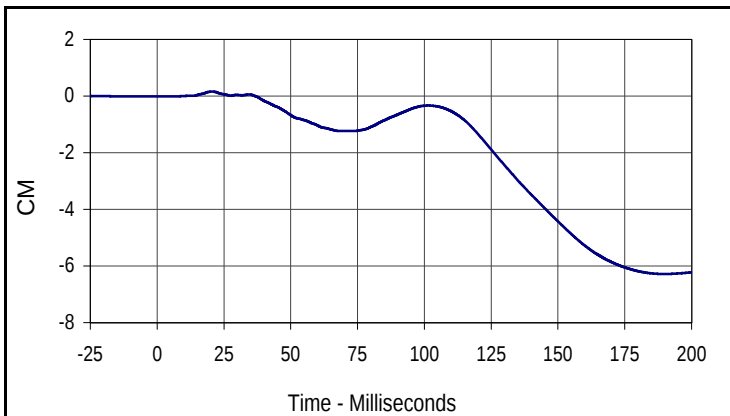
Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Vehicle Right Rear Z			
CURNO	Type	SAE Class	Units
097	FIL	60	G's
Max	Time	Min	Time
11.1	51.2	-14.5	35.1



Curve Description			
Vehicle Right Rear Z Velocity			
CURNO	Type	SAE Class	Units
097	IN1	180	KMH
Max	Time	Min	Time
2.0	82.3	-4.2	123.9



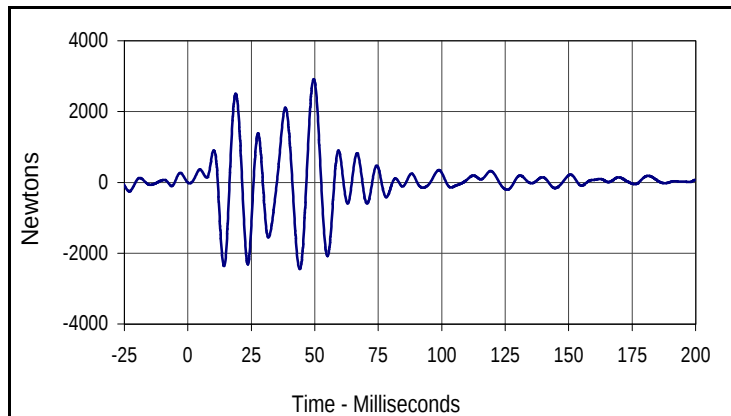
Curve Description			
Vehicle Right Rear Z Displacement			
CURNO	Type	SAE Class	Units
097	IN2	180	CM
Max	Time	Min	Time
0.2	20.7	-6.3	189.7

APPENDIX C

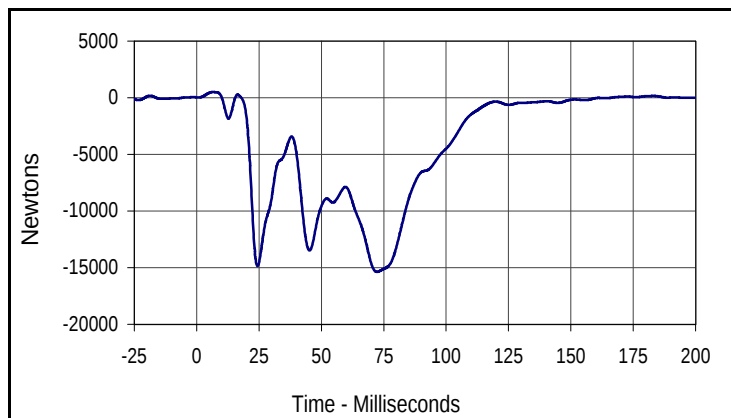
LOAD CELL BARRIER DATA PLOTS

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

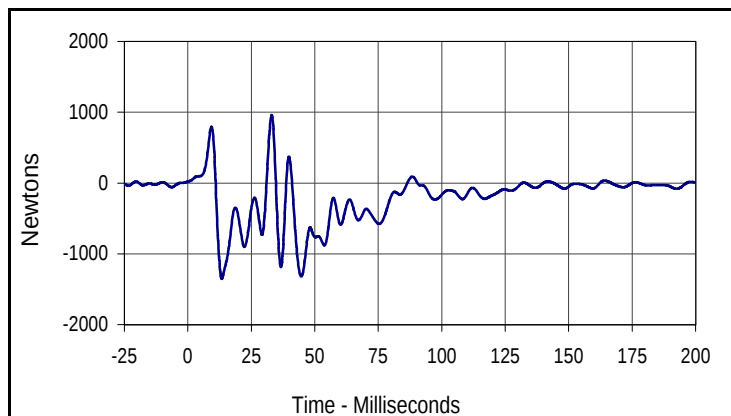
Test Date: 2/15/05
 NHTSA No.: M55207



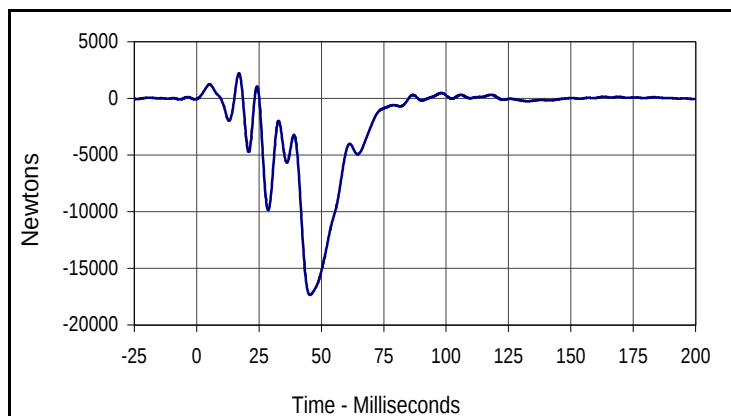
Curve Description			
Barrier Force A1			
CURNO	Type	SAE Class	Units
098	FIL	60	Newtons
Max	Time	Min	Time
2912.9	49.6	-2447.3	44.1



Curve Description			
Barrier Force B1			
CURNO	Type	SAE Class	Units
107	FIL	60	Newtons
Max	Time	Min	Time
505.6	6.6	-15365.9	72.3



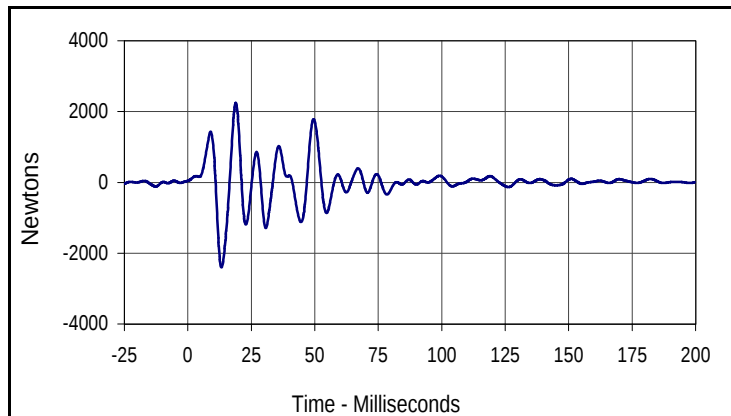
Curve Description			
Barrier Force C1			
CURNO	Type	SAE Class	Units
116	FIL	60	Newtons
Max	Time	Min	Time
958.3	33.0	-1351.7	13.4



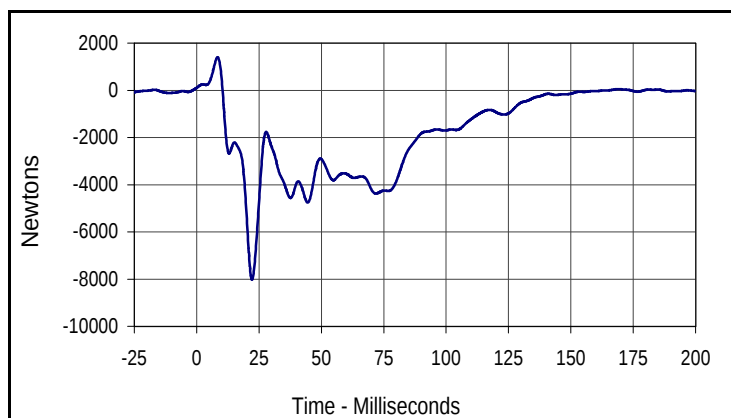
Curve Description			
Barrier Force D1			
CURNO	Type	SAE Class	Units
125	FIL	60	Newtons
Max	Time	Min	Time
2214.3	16.9	-17358.4	45.4

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

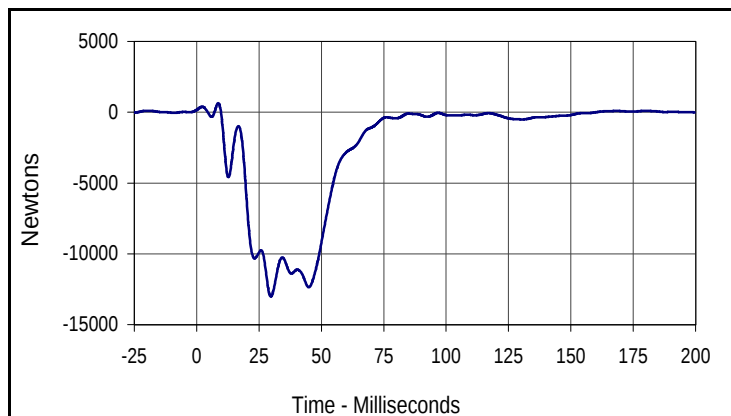
Test Date: 2/15/05
 NHTSA No.: M55207



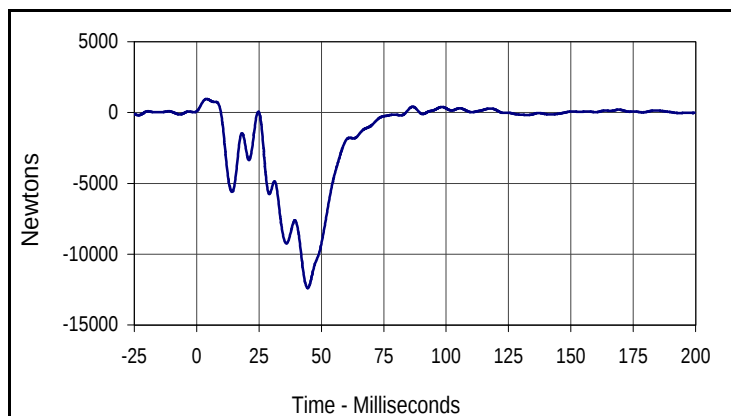
Curve Description			
Barrier Force A2			
CURNO	Type	SAE Class	Units
099	FIL	60	Newtons
Max	Time	Min	Time
2243.2	18.9	-2403.7	13.2



Curve Description			
Barrier Force B2			
CURNO	Type	SAE Class	Units
108	FIL	60	Newtons
Max	Time	Min	Time
1399.9	8.4	-8018.1	22.2



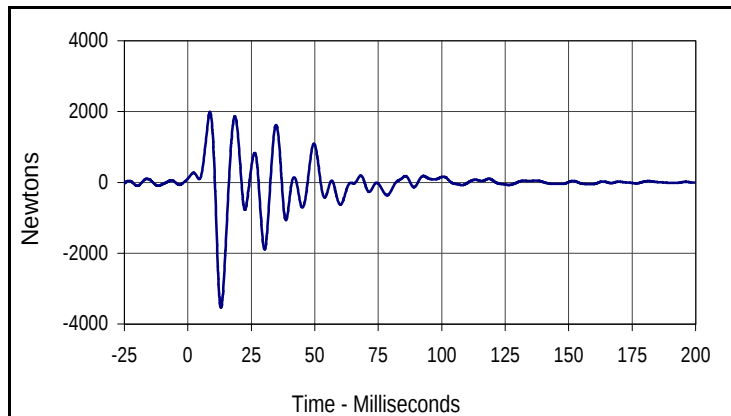
Curve Description			
Barrier Force C2			
CURNO	Type	SAE Class	Units
117	FIL	60	Newtons
Max	Time	Min	Time
640.6	8.6	-13009.9	29.7



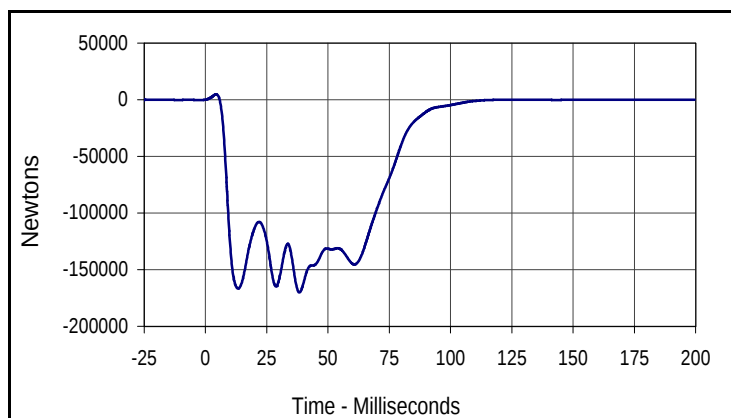
Curve Description			
Barrier Force D2			
CURNO	Type	SAE Class	Units
126	FIL	60	Newtons
Max	Time	Min	Time
958.7	4.0	-12390.6	44.5

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

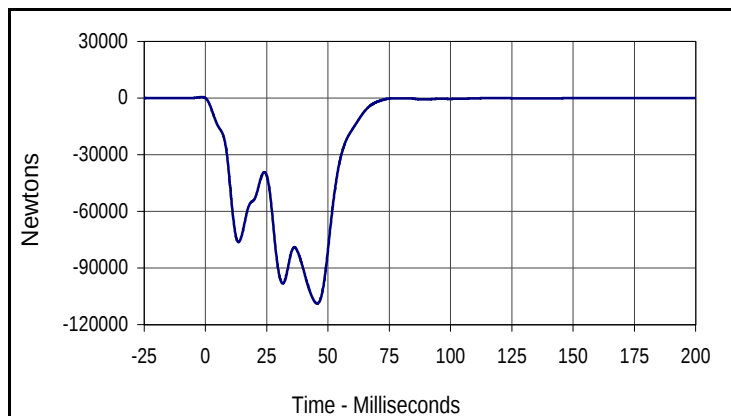
Test Date: 2/15/05
 NHTSA No.: M55207



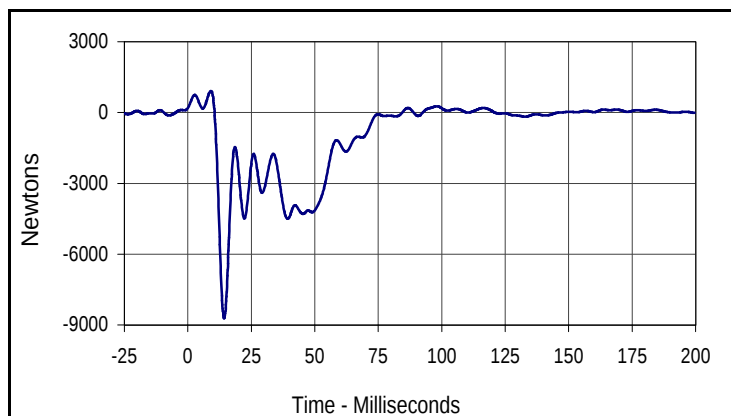
Curve Description			
Barrier Force A3			
CURNO	Type	SAE Class	Units
100	FIL	60	Newtons
Max	Time	Min	Time
1995.3	8.7	-3540.7	13.0



Curve Description			
Barrier Force B3			
CURNO	Type	SAE Class	Units
109	FIL	60	Newtons
Max	Time	Min	Time
4813.8	4.4	-170188.4	38.3



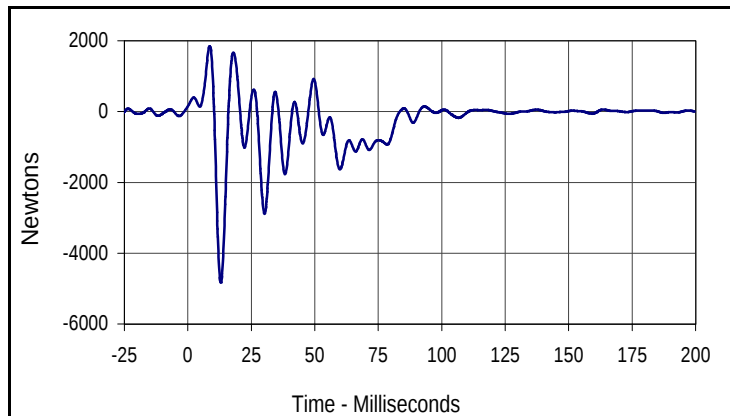
Curve Description			
Barrier Force C3			
CURNO	Type	SAE Class	Units
118	FIL	60	Newtons
Max	Time	Min	Time
27.5	116.1	-108790.3	45.6



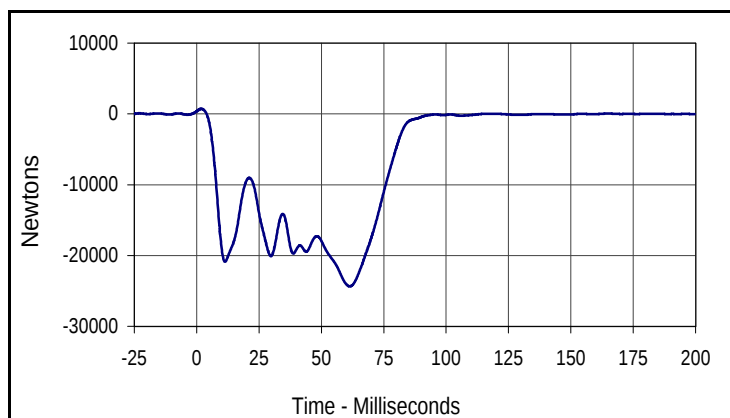
Curve Description			
Barrier Force D3			
CURNO	Type	SAE Class	Units
127	FIL	60	Newtons
Max	Time	Min	Time
916.7	9.1	-8719.0	14.3

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

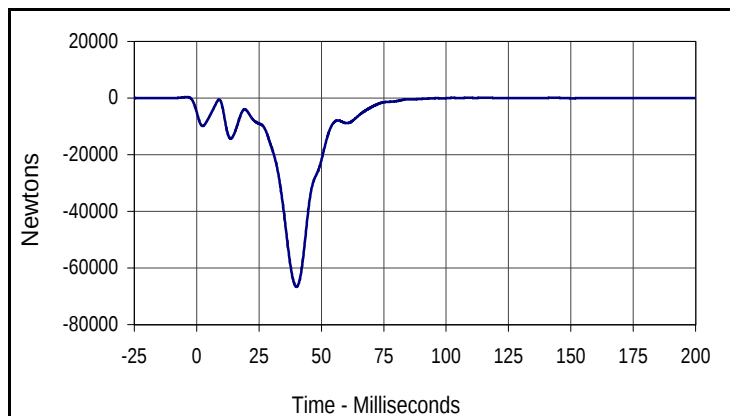
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 NHTSA No.: M55207



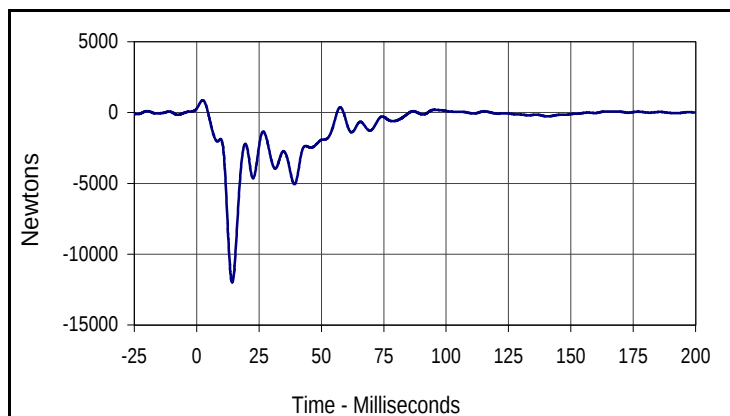
Curve Description			
Barrier Force A4			
CURNO	Type	SAE Class	Units
101	FIL	60	Newtons
Max	Time	Min	Time
1845.6	8.6	-4825.5	13.0



Curve Description			
Barrier Force B4			
CURNO	Type	SAE Class	Units
110	FIL	60	Newtons
Max	Time	Min	Time
719.2	1.8	-24354.3	61.4



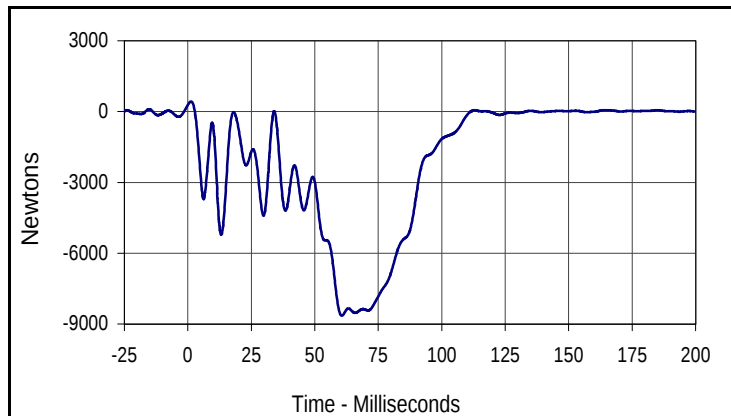
Curve Description			
Barrier Force C4			
CURNO	Type	SAE Class	Units
119	FIL	60	Newtons
Max	Time	Min	Time
116.0	115.7	-66627.7	40.0



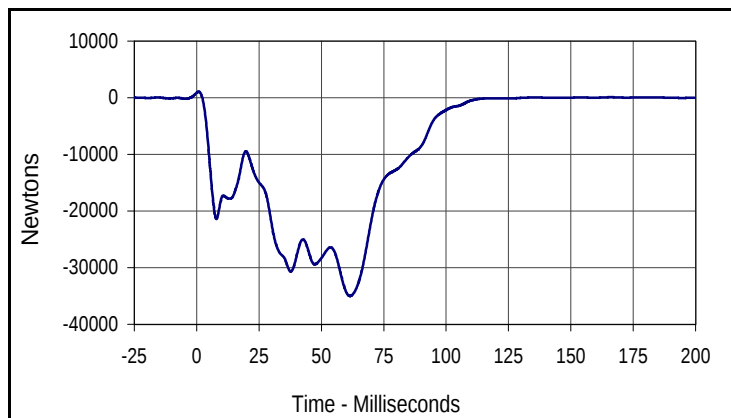
Curve Description			
Barrier Force D4			
CURNO	Type	SAE Class	Units
128	FIL	60	Newtons
Max	Time	Min	Time
861.0	2.4	-11985.4	14.2

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

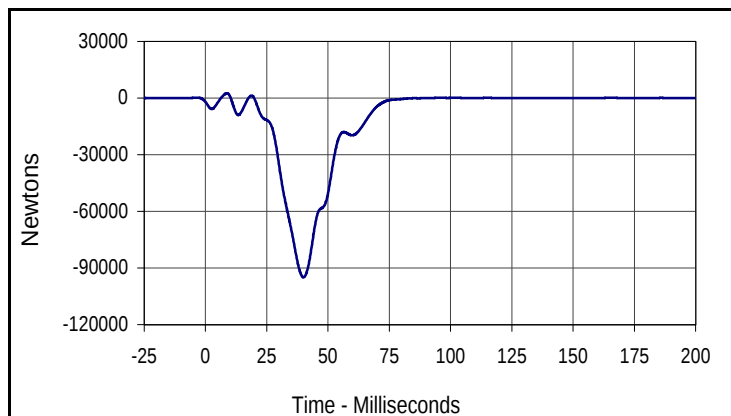
Test Date: 2/15/05
 NHTSA No.: M55207



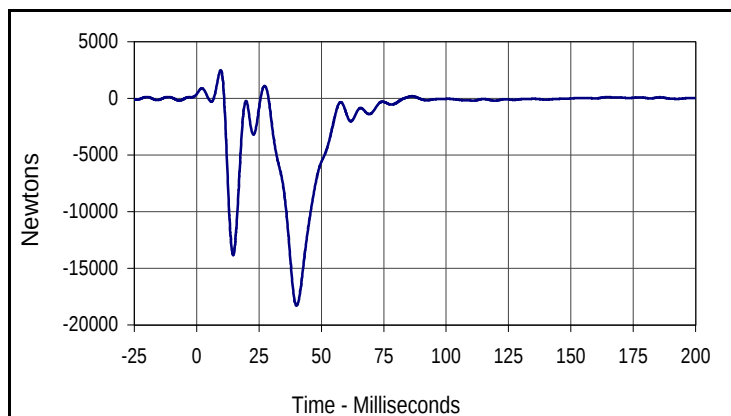
Curve Description			
Barrier Force A5			
CURNO	Type	SAE Class	Units
102	FIL	60	Newtons
Max	Time	Min	Time
428.7	1.3	-8652.7	60.6



Curve Description			
Barrier Force B5			
CURNO	Type	SAE Class	Units
111	FIL	60	Newtons
Max	Time	Min	Time
1063.5	0.8	-35005.3	61.5



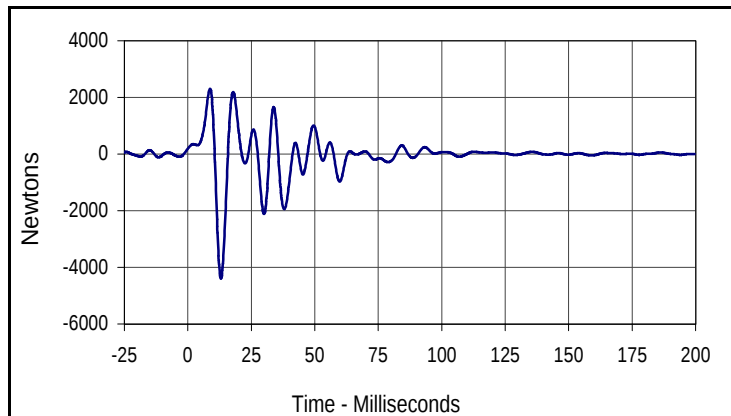
Curve Description			
Barrier Force C5			
CURNO	Type	SAE Class	Units
120	FIL	60	Newtons
Max	Time	Min	Time
2550.9	8.8	-94914.0	40.0



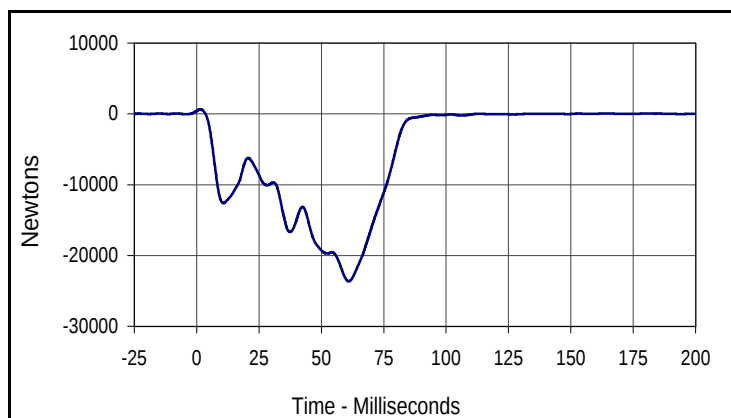
Curve Description			
Barrier Force D5			
CURNO	Type	SAE Class	Units
129	FIL	60	Newtons
Max	Time	Min	Time
2498.7	9.6	-18308.6	40.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

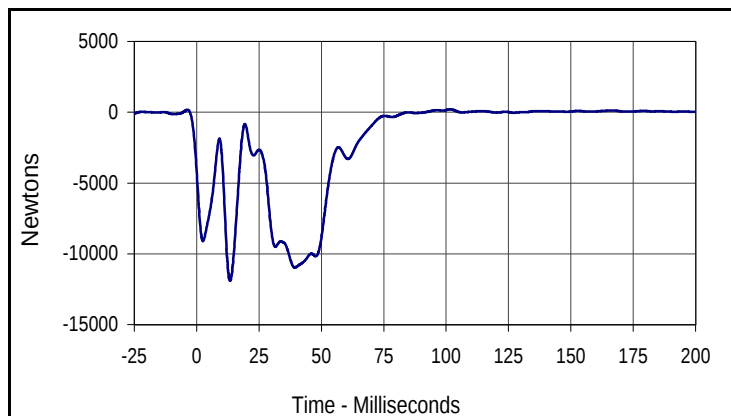
Test Date: 2/15/05
 NHTSA No.: M55207



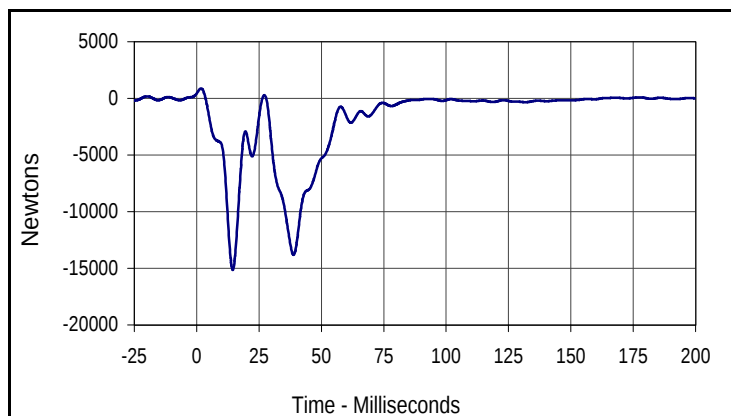
Curve Description			
Barrier Force A6			
CURNO	Type	SAE Class	Units
103	FIL	60	Newtons
Max	Time	Min	Time
2308.3	8.8	-4400.5	13.0



Curve Description			
Barrier Force B6			
CURNO	Type	SAE Class	Units
112	FIL	60	Newtons
Max	Time	Min	Time
644.4	1.4	-23647.6	60.9



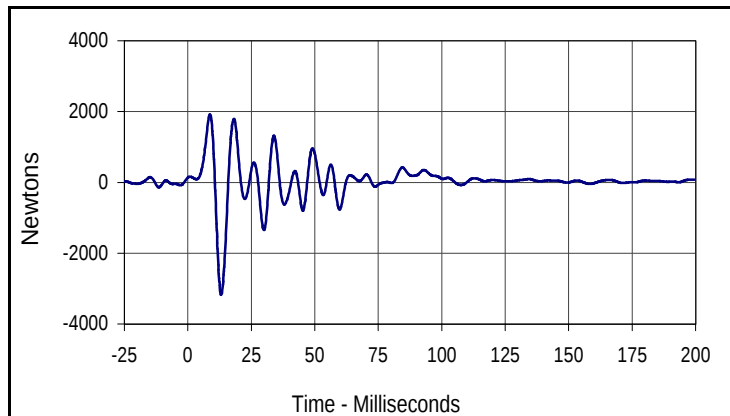
Curve Description			
Barrier Force C6			
CURNO	Type	SAE Class	Units
121	FIL	60	Newtons
Max	Time	Min	Time
204.9	101.6	-11907.8	13.4



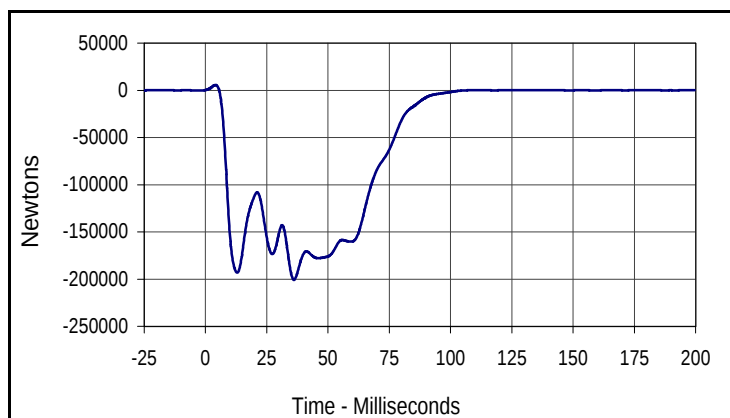
Curve Description			
Barrier Force D6			
CURNO	Type	SAE Class	Units
130	FIL	60	Newtons
Max	Time	Min	Time
879.7	1.8	-15127.7	14.5

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

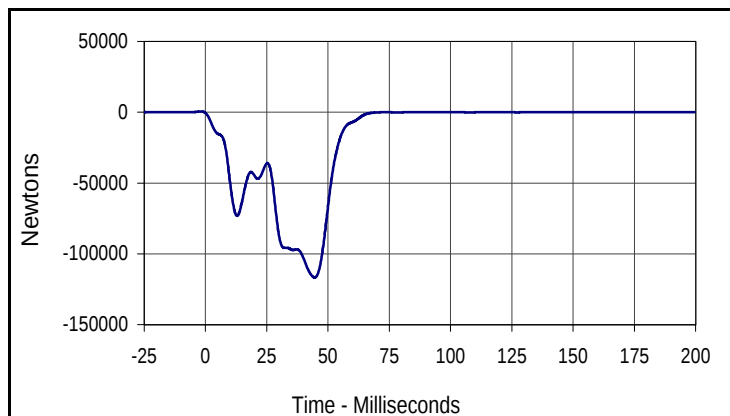
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 NHTSA No.: M55207



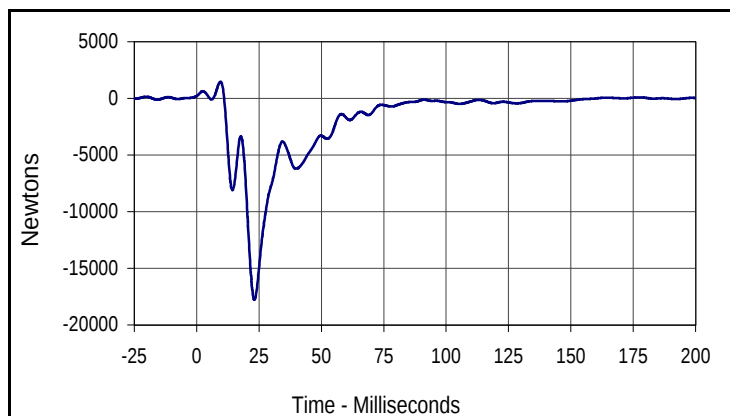
Curve Description			
Barrier Force A7			
CURNO	Type	SAE Class	Units
104	FIL	60	Newtons
Max	Time	Min	Time
1918.5	8.7	-3176.3	13.1



Curve Description			
Barrier Force B7			
CURNO	Type	SAE Class	Units
113	FIL	60	Newtons
Max	Time	Min	Time
5621.1	4.1	-200705.7	36.1



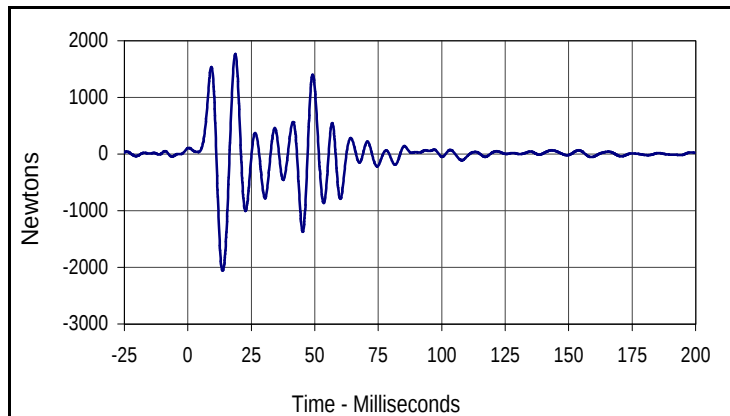
Curve Description			
Barrier Force C7			
CURNO	Type	SAE Class	Units
122	FIL	60	Newtons
Max	Time	Min	Time
113.5	94.2	-116695.0	44.5



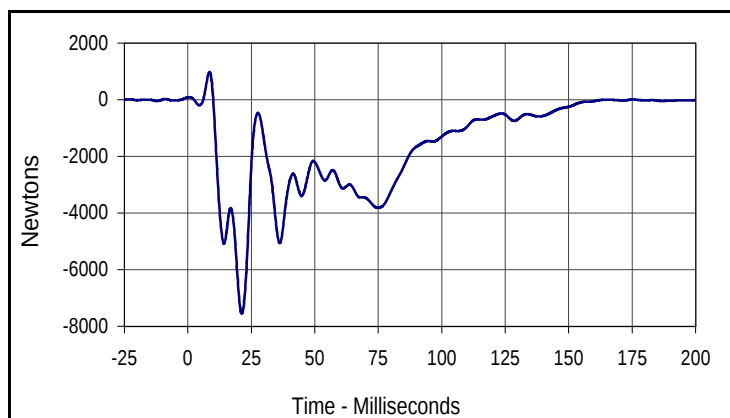
Curve Description			
Barrier Force D7			
CURNO	Type	SAE Class	Units
131	FIL	60	Newtons
Max	Time	Min	Time
1473.0	9.5	-17774.1	23.1

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

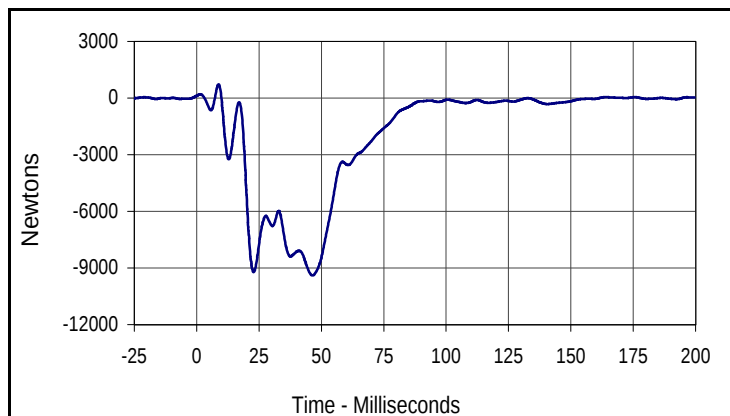
Test Date: 2/15/05
 NHTSA No.: M55207



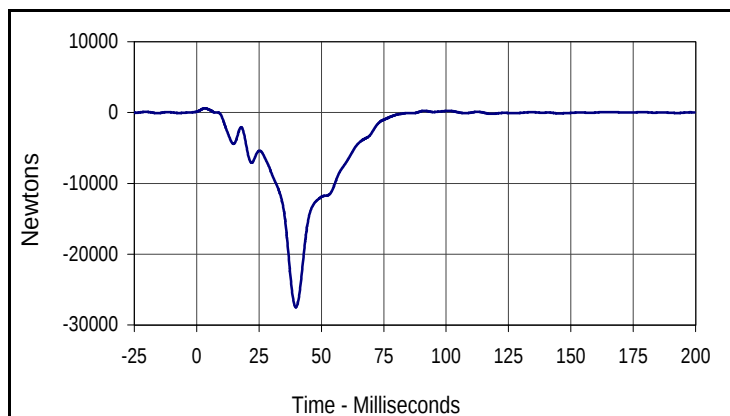
Curve Description			
Barrier Force A8			
CURNO	Type	SAE Class	Units
105	FIL	60	Newtons
Max	Time	Min	Time
1766.2	18.7	-2053.8	13.7



Curve Description			
Barrier Force B8			
CURNO	Type	SAE Class	Units
114	FIL	60	Newtons
Max	Time	Min	Time
982.1	8.5	-7555.2	21.2



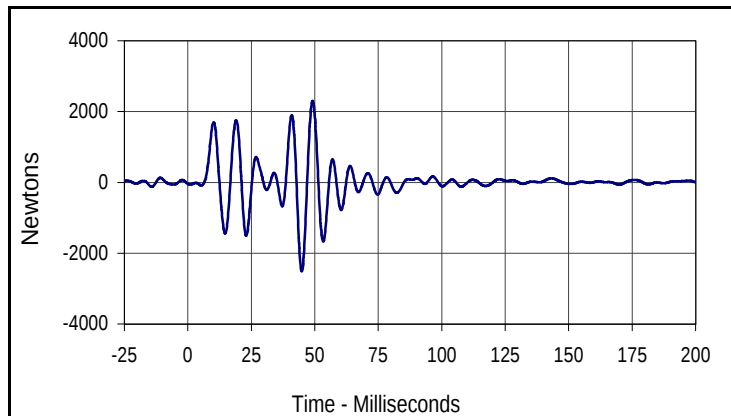
Curve Description			
Barrier Force C8			
CURNO	Type	SAE Class	Units
123	FIL	60	Newtons
Max	Time	Min	Time
729.5	8.8	-9398.1	46.4



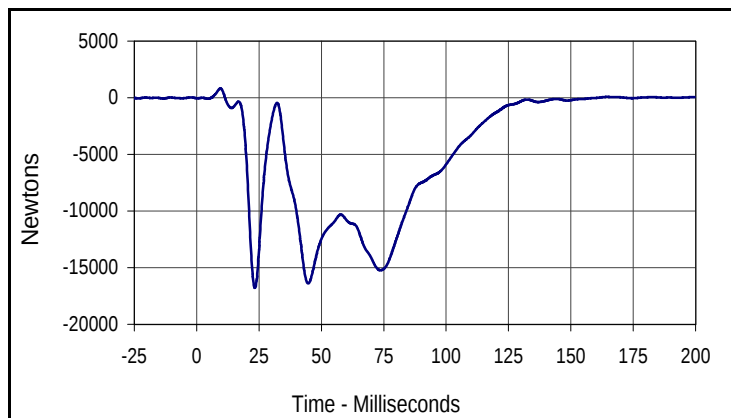
Curve Description			
Barrier Force D8			
CURNO	Type	SAE Class	Units
132	FIL	60	Newtons
Max	Time	Min	Time
596.2	3.3	-27492.1	39.8

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

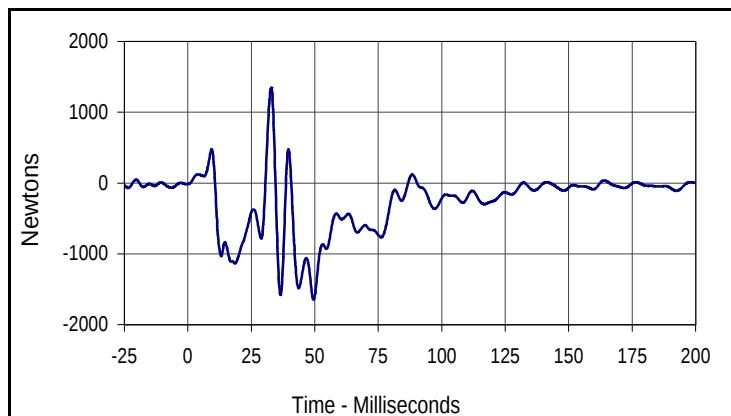
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 NHTSA No.: M55207



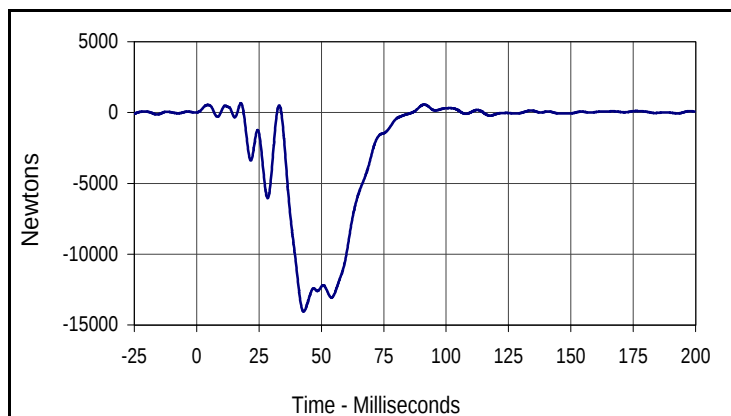
Curve Description			
Barrier Force A9			
CURNO	Type	SAE Class	Units
106	FIL	60	Newtons
Max	Time	Min	Time
2296.9	49.1	-2508.7	44.9



Curve Description			
Barrier Force B9			
CURNO	Type	SAE Class	Units
115	FIL	60	Newtons
Max	Time	Min	Time
817.0	9.5	-16789.2	23.3



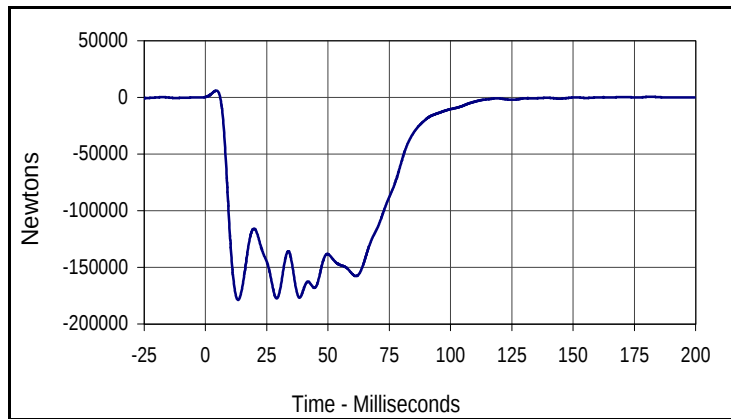
Curve Description			
Barrier Force C9			
CURNO	Type	SAE Class	Units
124	FIL	60	Newtons
Max	Time	Min	Time
1344.4	32.8	-1641.6	49.5



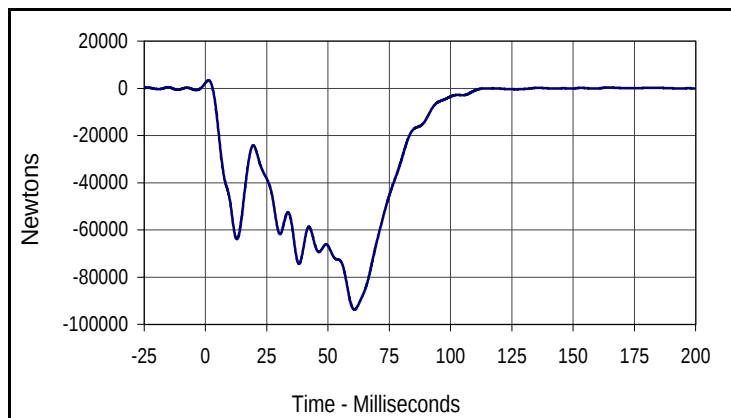
Curve Description			
Barrier Force D9			
CURNO	Type	SAE Class	Units
133	FIL	60	Newtons
Max	Time	Min	Time
650.4	17.7	-14048.0	42.9

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

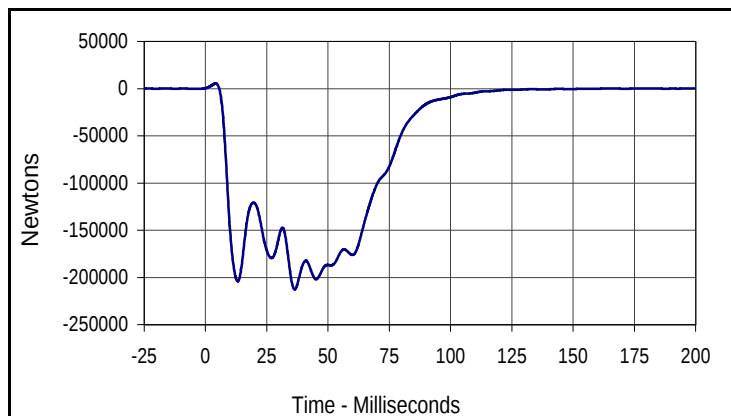
Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Barrier Force Sum Group 1			
CURNO	Type	SAE Class	Units
001	SUM	60	Newtons
Max	Time	Min	Time
6032.8	4.4	-178786.6	13.3



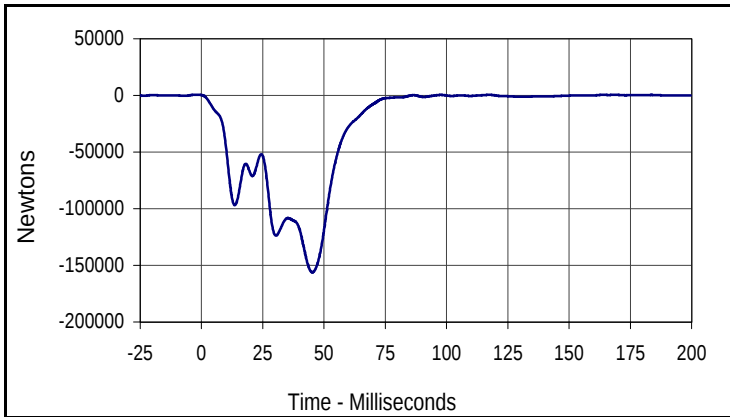
Curve Description			
Barrier Force Sum Group 2			
CURNO	Type	SAE Class	Units
002	SUM	60	Newtons
Max	Time	Min	Time
3363.2	1.3	-93734.8	60.8



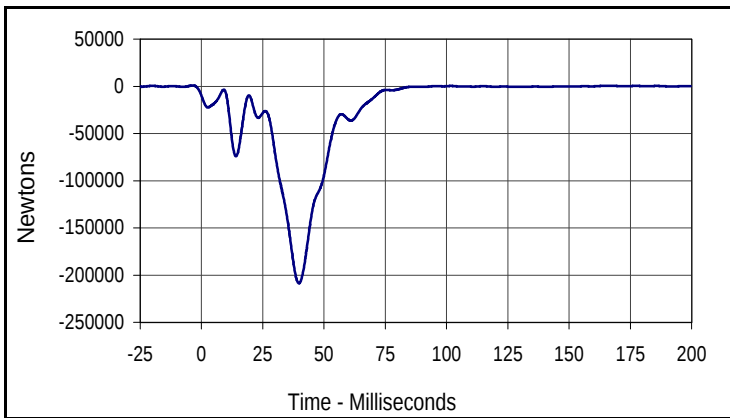
Curve Description			
Barrier Force Sum Group 3			
CURNO	Type	SAE Class	Units
003	SUM	60	Newtons
Max	Time	Min	Time
5463.1	4.1	-212754.5	36.4

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

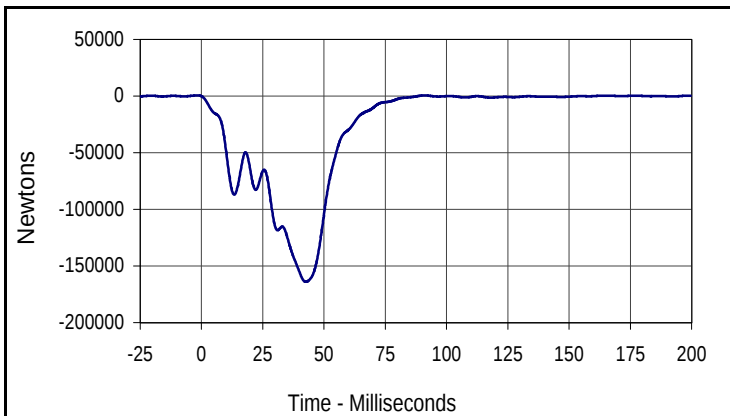
Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Barrier Force Sum Group 4			
CURNO	Type	SAE Class	Units
004	SUM	60	Newtons
Max	Time	Min	Time
541.1	168.8	-156134.1	45.2



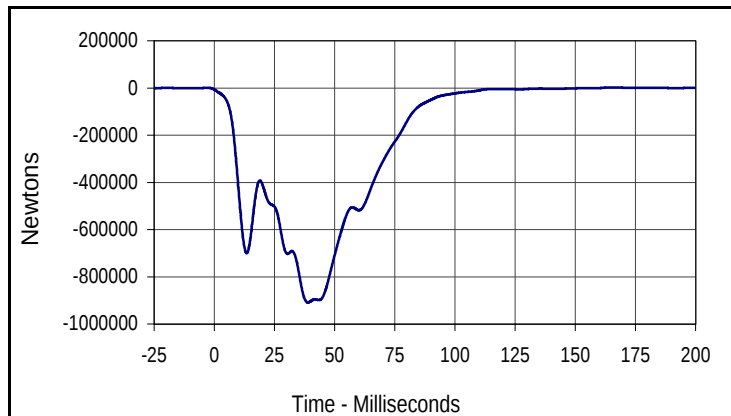
Curve Description			
Barrier Force Sum Group 5			
CURNO	Type	SAE Class	Units
005	SUM	60	Newtons
Max	Time	Min	Time
466.7	165.1	-208728.3	39.8



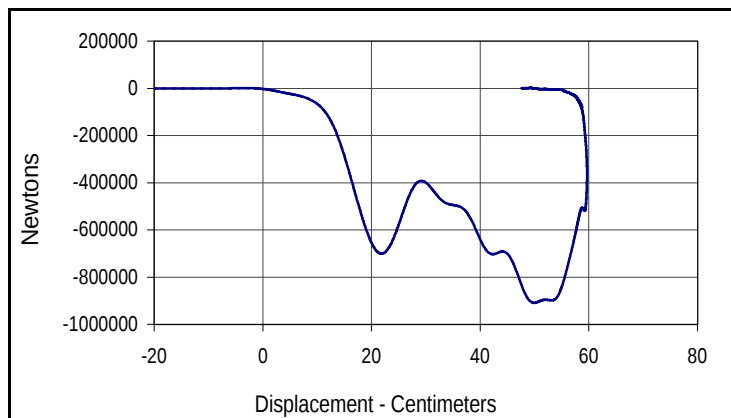
Curve Description			
Barrier Force Sum Group 6			
CURNO	Type	SAE Class	Units
006	SUM	60	Newtons
Max	Time	Min	Time
579.0	91.2	-163886.8	42.6

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05
 NHTSA No.: M55207



Curve Description			
Barrier Force Total Sum			
CURNO	Type	SAE Class	Units
007	SUM	60	Newtons
Max	Time	Min	Time
1969.2	163.9	-909040.4	38.9



Curve Description			
Barrier Force Total Sum vs. Displ.			
CURNO	Type	SAE Class	Units
001	XVY	60	Newtons
Max	CM	Min	CM
1969.2	49.5	-909040.4	49.3

BARRIER LOAD CELL SUMMARY DATA

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

Location	Units	Max	Time	Min	Time
Barrier Force A1	Newtons	2912.9	49.6	-2447.3	44.1
Barrier Force A2	Newtons	2243.2	18.9	-2403.7	13.2
Barrier Force A3	Newtons	1995.3	8.7	-3540.7	13.0
Barrier Force A4	Newtons	1845.6	8.6	-4825.5	13.0
Barrier Force A5	Newtons	428.7	1.3	-8652.7	60.6
Barrier Force A6	Newtons	2308.3	8.8	-4400.5	13.0
Barrier Force A7	Newtons	1918.5	8.7	-3176.3	13.1
Barrier Force A8	Newtons	1766.2	18.7	-2053.8	13.7
Barrier Force A9	Newtons	2296.9	49.1	-2508.7	44.9
Barrier Force B1	Newtons	505.6	6.6	-15365.9	72.3
Barrier Force B2	Newtons	1399.9	8.4	-8018.1	22.2
Barrier Force B3	Newtons	4813.8	4.4	-170188.4	38.3
Barrier Force B4	Newtons	719.2	1.8	-24354.3	61.4
Barrier Force B5	Newtons	1063.5	0.8	-35005.3	61.5
Barrier Force B6	Newtons	644.4	1.4	-23647.6	60.9
Barrier Force B7	Newtons	5621.1	4.1	-200705.7	36.1
Barrier Force B8	Newtons	982.1	8.5	-7555.2	21.2
Barrier Force B9	Newtons	817.0	9.5	-16789.2	23.3
Barrier Force C1	Newtons	958.3	33.0	-1351.7	13.4
Barrier Force C2	Newtons	640.6	8.6	-13009.9	29.7
Barrier Force C3	Newtons	27.5	116.1	-108790.3	45.6
Barrier Force C4	Newtons	116.0	115.7	-66627.7	40.0
Barrier Force C5	Newtons	2550.9	8.8	-94914.0	40.0
Barrier Force C6	Newtons	204.9	101.6	-11907.8	13.4
Barrier Force C7	Newtons	113.5	94.2	-116695.0	44.5
Barrier Force C8	Newtons	729.5	8.8	-9398.1	46.4
Barrier Force C9	Newtons	1344.4	32.8	-1641.6	49.5
Barrier Force D1	Newtons	2214.3	16.9	-17358.4	45.4
Barrier Force D2	Newtons	958.7	4.0	-12390.6	44.5
Barrier Force D3	Newtons	916.7	9.1	-8719.0	14.3
Barrier Force D4	Newtons	861.0	2.4	-11985.4	14.2
Barrier Force D5	Newtons	2498.7	9.6	-18308.6	40.0
Barrier Force D6	Newtons	879.7	1.8	-15127.7	14.5
Barrier Force D7	Newtons	1473.0	9.5	-17774.1	23.1
Barrier Force D8	Newtons	596.2	3.3	-27492.1	39.8
Barrier Force D9	Newtons	650.4	17.7	-14048.0	42.9
Barrier Force Sum Group 1	Newtons	6032.8	4.4	-178786.6	13.3
Barrier Force Sum Group 2	Newtons	3363.2	1.3	-93734.8	60.8
Barrier Force Sum Group 3	Newtons	5463.1	4.1	-212754.5	36.4
Barrier Force Sum Group 4	Newtons	541.1	168.8	-156134.1	45.2
Barrier Force Sum Group 5	Newtons	466.7	165.1	-208728.3	39.8
Barrier Force Sum Group 6	Newtons	579.0	91.2	-163886.8	42.6
Barrier Force Total Sum	Newtons	1969.2	163.9	-909040.4	38.9

APPENDIX D

INSTRUMENTATION DATA CHANNEL ASSIGNMENTS

2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 34
2/15/05
2005 Nissan Titan LE 4-Door Truck

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
1	HEAD, PRIMARY	X	KEAC039	Accel.,1/2 bridge	Endevco	7264-2000	G
2	HEAD, PRIMARY	Y	KEAC038	Accel.,1/2 bridge	Endevco	7264-2000	G
3	HEAD, PRIMARY	Z	KEAC027	Accel.,1/2 bridge	Endevco	7264-2000	G
4	HEAD, REDUNDANT	X	KEAC031	Accel.,1/2 bridge	Endevco	7264-2000	G
5	HEAD, REDUNDANT	Y	KEAC032	Accel.,1/2 bridge	Endevco	7264-2000	G
6	HEAD, REDUNDANT	Z	KEAC026	Accel.,1/2 bridge	Endevco	7264-2000	G
7	NECK FORCE	X	GPUN02FX	Load cell, six axis neck	R. A. Denton	1716A	N
8	NECK FORCE	Y	GPUN02FY	Load cell, six axis neck	R. A. Denton	1716A	N
9	NECK FORCE	Z	GPUN02FZ	Load cell, six axis neck	R. A. Denton	1716A	N
10	NECK MOMENT	X	GPUN02MX	Load cell, six axis neck	R. A. Denton	1716A	Nm
11	NECK MOMENT	Y	GPUN02MY	Load cell, six axis neck	R. A. Denton	1716A	Nm
12	NECK MOMENT	Z	GPUN02MZ	Load cell, six axis neck	R. A. Denton	1716A	Nm
13	CHEST, PRIMARY	X	GPAC031	Accel., 1/2 bridge	Endevco	7264-2000	G
14	CHEST, PRIMARY	Y	GPAC024	Accel., 1/2 bridge	Endevco	7264-2000	G
15	CHEST, PRIMARY	Z	GPAC029	Accel., 1/2 bridge	Endevco	7264-2000	G
16	CHEST, REDUNDANT	X	KEAC023	Accel.,1/2 bridge	Endevco	7264-200	G
17	CHEST, REDUNDANT	Y	KEAC022	Accel.,1/2 bridge	Endevco	7264-200	G
18	CHEST, REDUNDANT	Z	KEAC024	Accel.,1/2 bridge	Endevco	7264-200	G
19	CHEST DEFLECTION	X	GPCP001	Rotary Pot Chest	Servo	14CBI	MM
20	PELVIS, PRIMARY	X	KEAC019	Accel.,1/2 bridge	Endevco	7264-200	G
21	PELVIS, PRIMARY	Y	KEAC020	Accel.,1/2 bridge	Endevco	7264-200	G
22	PELVIS, PRIMARY	Z	KEAC021	Accel.,1/2 bridge	Endevco	7264-200	G
23	LEFT FEMUR FORCE	Z	KEFF001	Load cell, Femur	R.A. Denton	2121	N
24	RIGHT FEMUR FORCE	Z	KEFF002	Load cell, Femur	R.A. Denton	2121	N

2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 34
2/15/05
2005 Nissan Titan LE 4-Door Truck

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
25	UP. TIBIA LEFT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
26	UP. TIBIA LEFT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
27	UP. TIBIA RIGHT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
28	UP. TIBIA RIGHT MOM.	Y	GPUT09MY	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	KEIC003X	Accel., Foot Triax	I.C. Sensor	3031-500	G
36	FOOT LEFT, AFT	Z	KEIC003Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
37	FOOT LEFT, FORE	Z	KEIC003Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
38	FOOT RIGHT, AFT	X	KEIC004X	Accel., Foot Triax	I.C. Sensor	3031-500	G
39	FOOT RIGHT, AFT	Z	KEIC004Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
40	FOOT RIGHT, FORE	Z	KEIC004Z	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 35
2/15/05
2005 Nissan Titan LE 4-Door Truck

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
45	HEAD, PRIMARY	X	GPAC027	Accel., 1/2 bridge	Endevco	7264-2000	G
46	HEAD, PRIMARY	Y	GPAC002	Accel., 1/2 bridge	Endevco	7264-2000	G
47	HEAD, PRIMARY	Z	GPAC003	Accel., 1/2 bridge	Endevco	7264-2000	G
48	HEAD, REDUNDANT	X	GPAC032	Accel., 1/2 bridge	Endevco	7264-2000	G
49	HEAD, REDUNDANT	Y	GPAC021	Accel., 1/2 bridge	Endevco	7264-2000	G
50	HEAD, REDUNDANT	Z	GPAC026	Accel., 1/2 bridge	Endevco	7264-2000	G
51	NECK FORCE	X	GPUN01FX	Load cell, six axis neck	R. A. Denton	1716A	N
52	NECK FORCE	Y	GPUN01FY	Load cell, six axis neck	R. A. Denton	1716A	N
53	NECK FORCE	Z	GPUN01FZ	Load cell, six axis neck	R. A. Denton	1716A	N
54	NECK MOMENT	X	GPUN01MX	Load cell, six axis neck	R. A. Denton	1716A	Nm
55	NECK MOMENT	Y	GPUN01MY	Load cell, six axis neck	R. A. Denton	1716A	Nm
56	NECK MOMENT	Z	GPUN01MZ	Load cell, six axis neck	R. A. Denton	1716A	Nm
57	CHEST, PRIMARY	X	GPAC005	Accel., 1/2 bridge	Endevco	7264-2000	G
58	CHEST, PRIMARY	Y	GPAC011	Accel., 1/2 bridge	Endevco	7264-2000	G
59	CHEST, PRIMARY	Z	GPAC010	Accel., 1/2 bridge	Endevco	7264-2000	G
60	CHEST, REDUNDANT	X	GPAC034	Accel., 1/2 bridge	Endevco	7264-2000	G
61	CHEST, REDUNDANT	Y	GPAC023	Accel., 1/2 bridge	Endevco	7264-2000	G
62	CHEST, REDUNDANT	Z	GPAC020	Accel., 1/2 bridge	Endevco	7264-2000	G
63	CHEST DEFLECTION	X	GPCP002	Rotary Pot Chest	Servo	14CBI	MM
64	PELVIS, PRIMARY	X	GPAC025	Accel., 1/2 bridge	Endevco	7264-2000	G
65	PELVIS, PRIMARY	Y	GPAC022	Accel., 1/2 bridge	Endevco	7264-2000	G
66	PELVIS, PRIMARY	Z	GPAC019	Accel., 1/2 bridge	Endevco	7264-2000	G
67	LEFT FEMUR FORCE	Z	KEFF003	Load cell, Femur	R.A. Denton	2121	N
68	RIGHT FEMUR FORCE	Z	KEFF004	Load cell, Femur	R.A. Denton	2121	N

2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Passenger A.T.D. Serial Number 35
2/15/05
2005 Nissan Titan LE 4-Door Truck

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	KEIC002X	Accel., Foot Triax	I.C. Sensor	3031-500	G
80	FOOT LEFT, AFT	Z	KEIC002Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
81	FOOT LEFT, FORE	Z	KEIC002Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
82	FOOT RIGHT, AFT	X	KEIC001X	Accel., Foot Triax	I.C. Sensor	3031-500	G
83	FOOT RIGHT, AFT	Z	KEIC001Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
84	FOOT RIGHT, FORE	Z	KEIC001Z	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
2/15/05
2005 Nissan Titan LE 4-Door Truck**

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
2/15/05
2005 Nissan Titan LE 4-Door Truck**

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
2/15/05
2005 Nissan Titan LE 4-Door Truck**

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

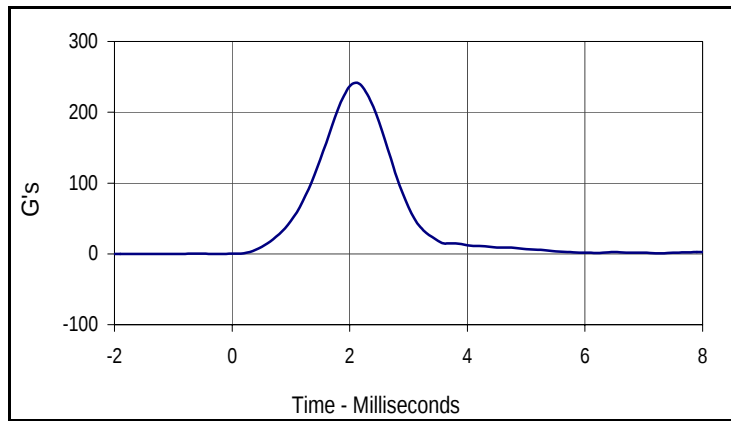
Test Date: 1/18/05

ATD Serial No.: 034

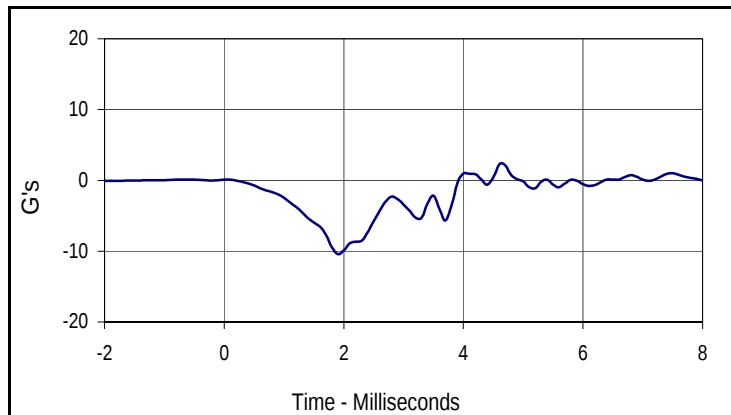
Test I.D.: HD01A



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	241.8	Pass
Peak Lateral Acceleration	G's	≤15.0	10.4	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results			Pass	



Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
241.8	2.1	0.0	-1.4



Curve Description			
Head Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
2.3	4.6	-10.4	1.9

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

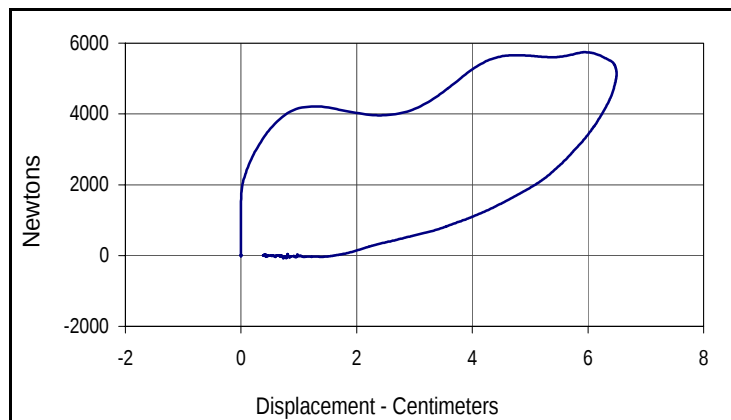
Test Date: 1/19/05

ATD Serial No.: 034

Test I.D.: CH01A



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	6.64	Pass
Peak Probe Force	Newtons	5159 to 5893	5743	Pass
Peak Sternum Deflection	CM	6.35 to 7.26	6.49	Pass
Internal Hysteresis	%	69 to 85	75.9	Pass
Overall Test Results				Pass



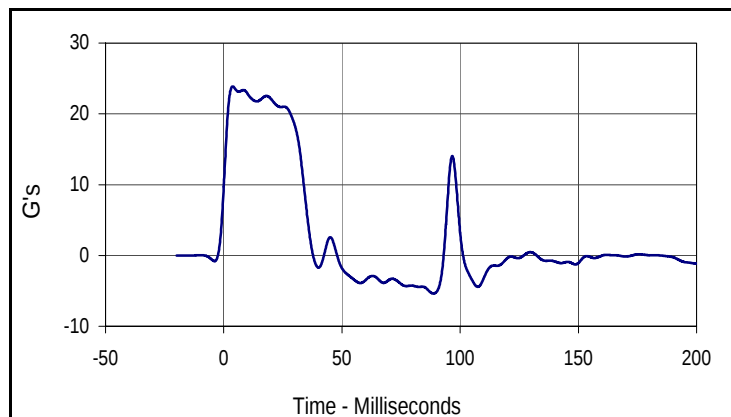
Curve Description			
Probe Force vs. Chest Deflection			
CURNO	Type	SAE Class	Hysteresis
001	FIL	180	75.9
Peak Probe Force		Peak Chest Deflection	
5743		6.49	

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

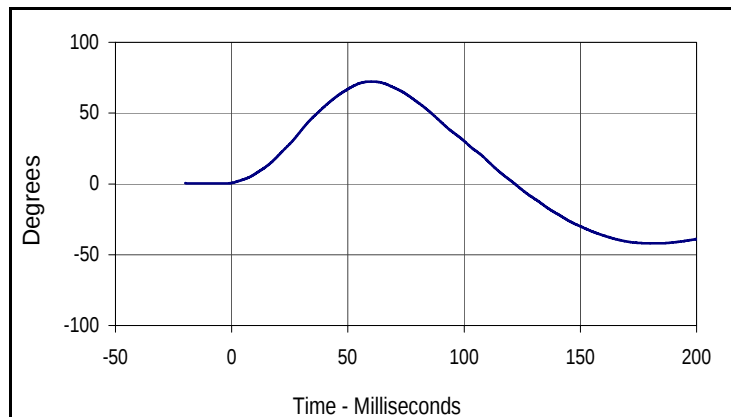
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 Test I.D.: NF01A



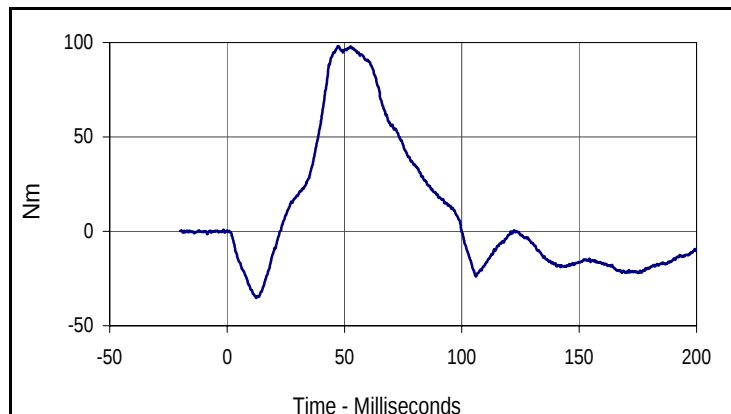
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	6.89 to 7.13	7.04	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	22.9	Pass
	20 Msec.	G's	17.6 to 22.6	22.1	Pass
	30 Msec.	G's	12.5 to 18.5	18.4	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	18.4	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	35.6	Pass
Maximum "D" Plane Rotation	Max	Degrees	64.0 to 78.0	72.3	Pass
	Time	Msec.	57.0 to 64.0	59.7	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	121.9	Pass
Moment About Occ. Condyle	Max	Nm	84.1 to 108.5	98.2	Pass
	Time	Msec.	47.0 to 58.0	47.3	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	100.0	Pass
Overall Test Results				Pass	



Curve Description			
Pendulum Deceleration			
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
23.9	3.7	-5.4	88.7



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
72.3	59.7	-42.0	181.3



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
98.2	47.3	-35.2	12.4

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

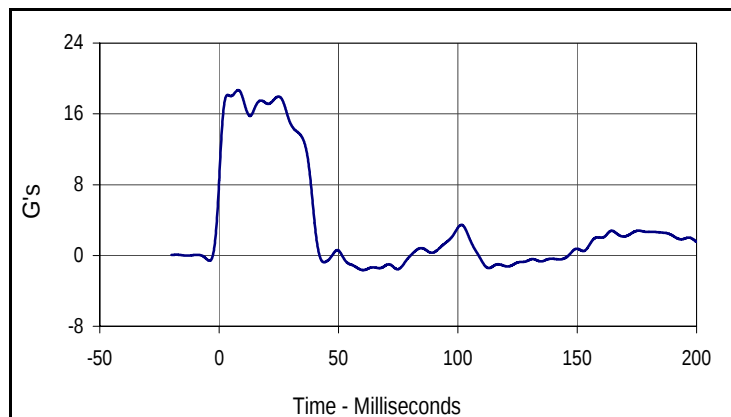
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ATD Serial No.: 034

Test I.D.: NE01A



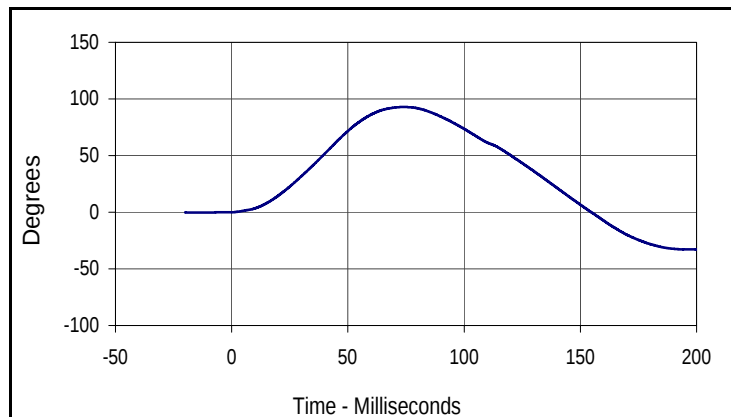
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	5.94 to 6.19	6.08	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	17.7	Pass
	20 Msec.	G's	14.0 to 19.0	17.2	Pass
	30 Msec.	G's	11.0 to 16.0	14.8	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	14.8	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	39.6	Pass
Maximum "D" Plane Rotation	Max	Degrees	81.0 to 106.0	92.9	Pass
	Time	Msec.	72.0 to 82.0	73.9	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	154.7	Pass
Moment About Occ. Condyle	Max	Nm	-52.9 to- 79.9	-63.1	Pass
	Time	Msec.	65.0 to 79.0	66.2	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	135.1	Pass
Overall Test Results				Pass	



Curve Description

Pendulum Deceleration

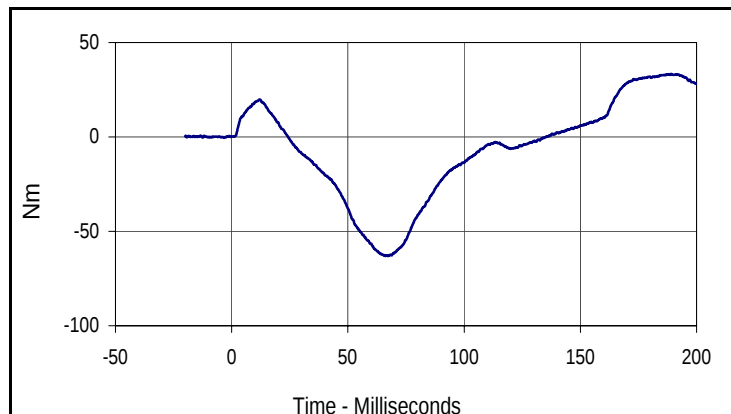
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
18.7	8.0	-1.7	60.3



Curve Description

"D" Plane Rotation

CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
92.9	73.9	-32.8	196.7



Curve Description

Moment About Occipital Condyle

CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
33.5	189.0	-63.1	66.2

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

Test Date: 1/18/05

ATD Serial No.: 034

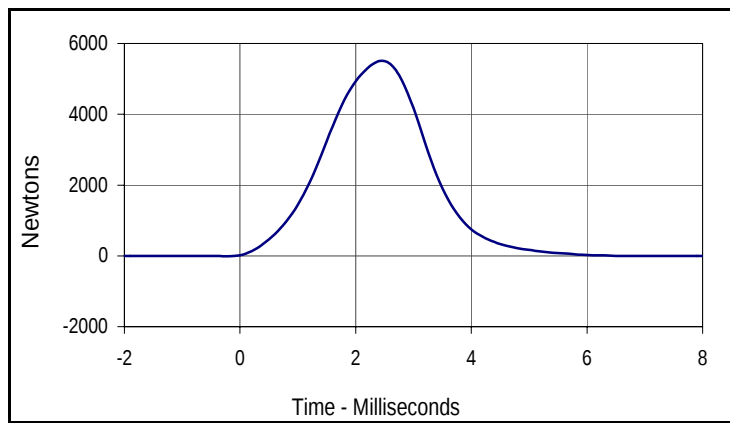
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**Left Knee**

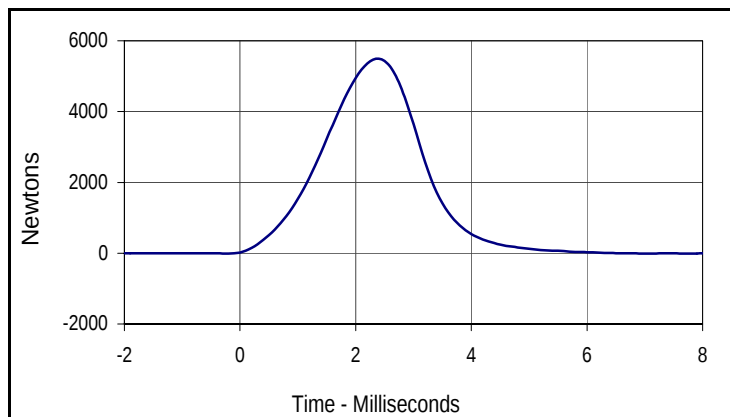
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.09	Pass
Peak Probe Force	Newtons	4715 to 5782	5505	Pass
Overall Test Results				Pass

Right Knee

Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.13	Pass
Peak Probe Force	Newtons	4715 to 5782	5493	Pass
Overall Test Results				Pass

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

CURNO	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
5505.0	2.5	-10.1	-0.2

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

CURNO	Type	SAE Class	Units
002	FIL	600	Newtons
Max	Time	Min	Time
5492.6	2.4	-18.3	9.7

Test Program: Hybrid III 50th Percentile Male External Measurements

Test Date: 1/19/05

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	887	Pass
B - Shoulder pivot height	mm	505 to 521	512	Pass
C - "H" point height	mm	84 to 89	86	Pass
D - "H" point from seat back	mm	135 to 140	138	Pass
E - Shoulder pivot from back	mm	84 to 94	89	Pass
F - Thigh clearance	mm	140 to 155	150	Pass
G - Elbow back to wrist pivot	mm	290 to 305	298	Pass
H - Skull cap to back line	mm	41 to 46	44	Pass
I - Shoulder to elbow length	mm	330 to 345	341	Pass
J - Elbow rest height	mm	190 to 211	198	Pass
K - Buttock to knee length	mm	579 to 604	600	Pass
L - Popliteal length	mm	429 to 455	445	Pass
M - Knee pivot height	mm	485 to 500	498	Pass
N - Buttock popliteal length	mm	452 to 477	470	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	105	Pass
Y - Chest circumference	mm	970 to 1001	987	Pass
Z - Waist circumference	mm	836 to 866	860	Pass
AA - Location for chest circumference	mm	429 to 434	430	Pass
BB - Location for waist circumference	mm	226 to 231	229	Pass
Overall Test Results				Pass

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

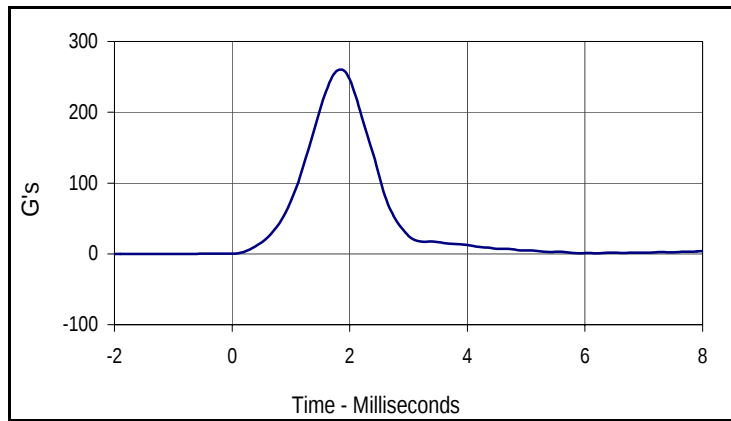
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ATD Serial No.: 035

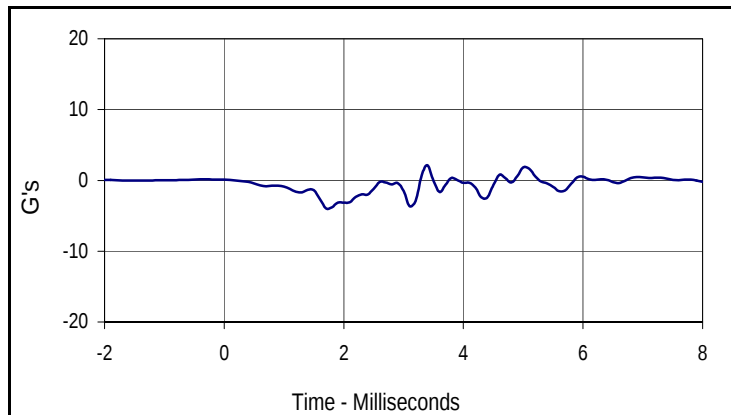
Test I.D.: HD01B



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	259.3	Pass
Peak Lateral Acceleration	G's	≤15.0	4.0	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results			Pass	



Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
259.3	1.8	0.0	-1.4



Curve Description			
Head Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
2.1	3.4	-4.0	1.7

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

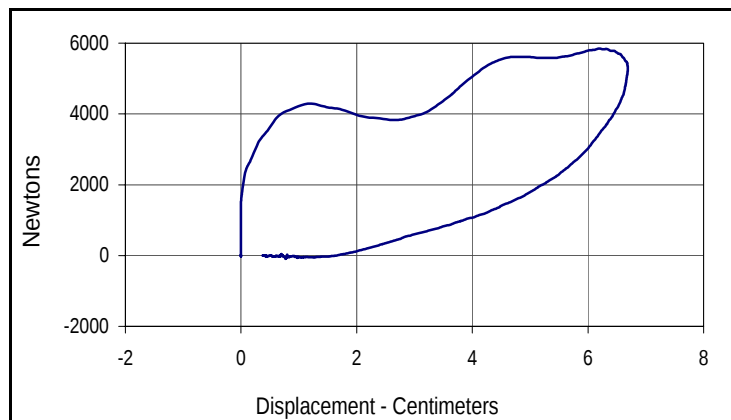
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ATD Serial No.: 035

Test I.D.: CH01B



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	6.72	Pass
Peak Probe Force	Newtons	5159 to 5893	5846	Pass
Peak Sternum Deflection	CM	6.35 to 7.26	6.69	Pass
Internal Hysteresis	%	69 to 85	75.5	Pass
Overall Test Results				Pass



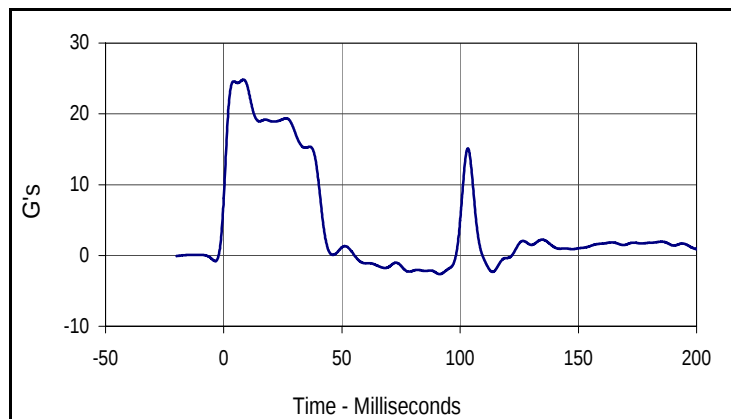
Curve Description			
Probe Force vs. Chest Deflection			
CURNO	Type	SAE Class	Hysteresis
001	FIL	180	75.5
Peak Probe Force		Peak Chest Deflection	
5846		6.69	

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

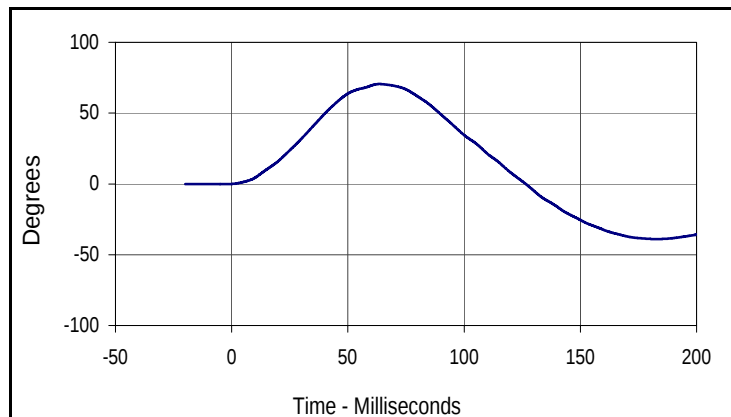
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 Test I.D.: NF01B



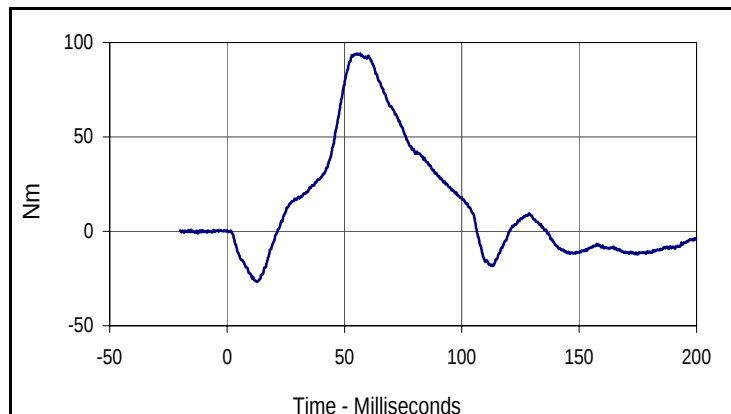
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	6.89 to 7.13	6.98	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	23.9	Pass
	20 Msec.	G's	17.6 to 22.6	19.0	Pass
	30 Msec.	G's	12.5 to 18.5	17.5	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	17.5	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	41.9	Pass
Maximum "D" Plane Rotation	Max	Degrees	64.0 to 78.0	70.5	Pass
	Time	Msec.	57.0 to 64.0	63.6	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	126.5	Pass
Moment About Occ. Condyle	Max	Nm	84.1 to 108.5	94.3	Pass
	Time	Msec.	47.0 to 58.0	56.7	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	106.4	Pass
Overall Test Results				Pass	



Curve Description			
Pendulum Deceleration			
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
24.8	8.3	-2.6	91.3



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
70.5	63.6	-38.9	182.4



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
94.3	56.7	-26.7	13.0

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

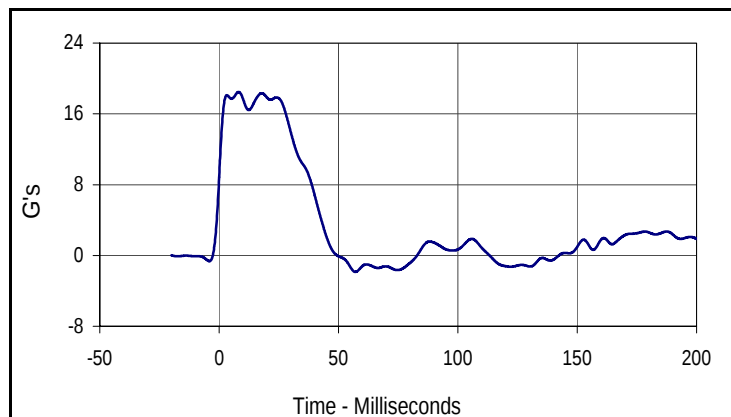
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ATD Serial No.: 035

Test I.D.: NE01B



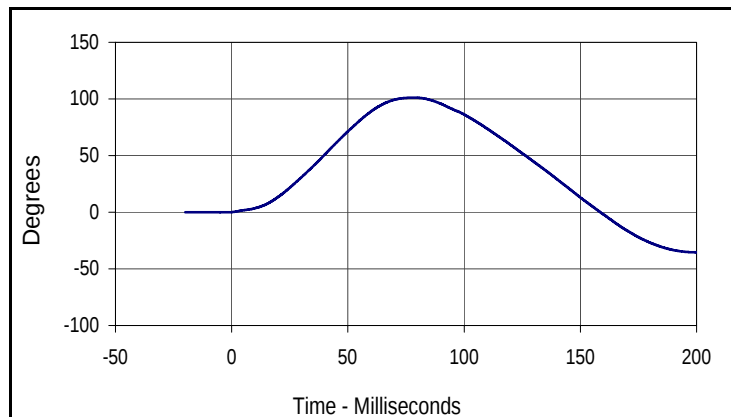
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	5.94 to 6.19	6.11	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	17.7	Pass
	20 Msec.	G's	14.0 to 19.0	17.9	Pass
	30 Msec.	G's	11.0 to 16.0	13.9	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	13.9	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	41.8	Pass
Maximum "D" Plane Rotation	Max	Degrees	81.0 to 106.0	101.1	Pass
	Time	Msec.	72.0 to 82.0	78.1	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	158.6	Pass
Moment About Occ. Condyle	Max	Nm	-52.9 to- 79.9	-64.4	Pass
	Time	Msec.	65.0 to 79.0	68.3	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	137.6	Pass
Overall Test Results				Pass	



Curve Description

Pendulum Deceleration

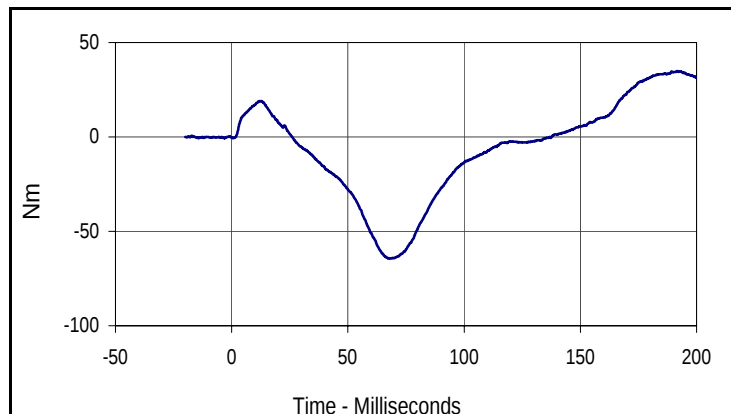
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
18.5	8.1	-1.9	57.1



Curve Description

"D" Plane Rotation

CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
101.1	78.1	-35.4	200.0



Curve Description

Moment About Occipital Condyle

CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
34.8	191.6	-64.4	68.3

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

Test Date: 1/18/05

ATD Serial No.: 035

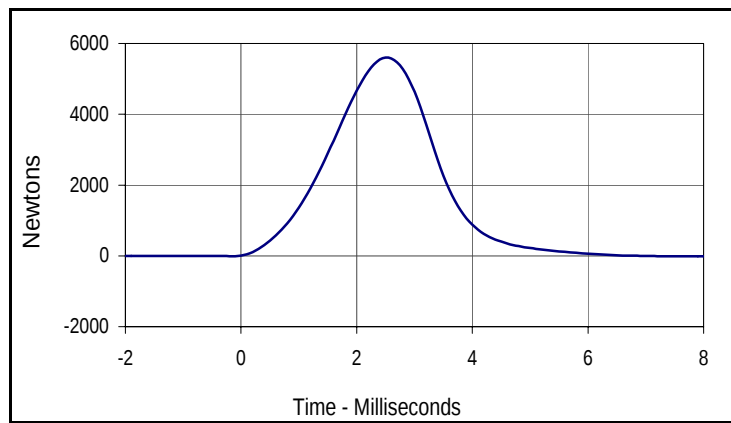
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**Left Knee**

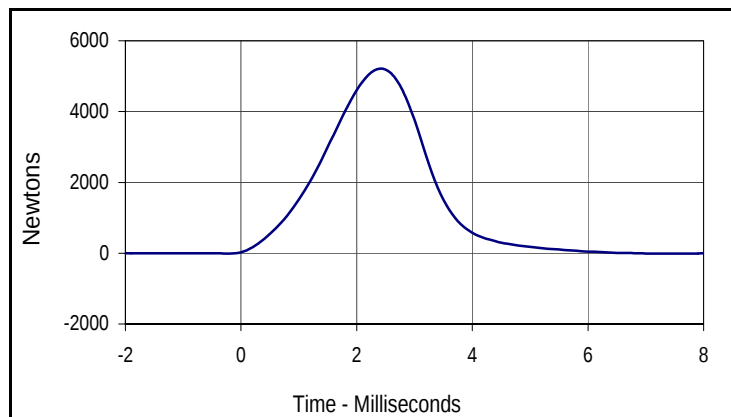
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.13	Pass
Peak Probe Force	Newtons	4715 to 5782	5601	Pass
Overall Test Results				Pass

Right Knee

Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.10	Pass
Peak Probe Force	Newtons	4715 to 5782	5212	Pass
Overall Test Results				Pass

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

CURNO	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
5600.9	2.5	-10.3	-0.2

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

CURNO	Type	SAE Class	Units
002	FIL	600	Newtons
Max	Time	Min	Time
5212.4	2.4	-12.1	-0.2

Test Program: Hybrid III 50th Percentile Male External Measurements

Test Date: 1/19/05

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	882	Pass
B - Shoulder pivot height	mm	505 to 521	516	Pass
C - "H" point height	mm	84 to 89	88	Pass
D - "H" point from seat back	mm	135 to 140	138	Pass
E - Shoulder pivot from back	mm	84 to 94	91	Pass
F - Thigh clearance	mm	140 to 155	149	Pass
G - Elbow back to wrist pivot	mm	290 to 305	301	Pass
H - Skull cap to back line	mm	41 to 46	45	Pass
I - Shoulder to elbow length	mm	330 to 345	344	Pass
J - Elbow rest height	mm	190 to 211	205	Pass
K - Buttock to knee length	mm	579 to 604	584	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	470	Pass
O - Chest depth	mm	213 to 229	228	Pass
P - Foot length	mm	251 to 267	255	Pass
V - Shoulder breadth	mm	422 to 437	431	Pass
W - Foot breadth	mm	91 to 107	106	Pass
Y - Chest circumference	mm	970 to 1001	994	Pass
Z - Waist circumference	mm	836 to 866	860	Pass
AA - Location for chest circumference	mm	429 to 434	431	Pass
BB - Location for waist circumference	mm	226 to 231	228	Pass
Overall Test Results				Pass

APPENDIX F

CHILD RESTRAINT SYSTEM

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

**NISSAN MOTOR COMPANY, LTD
2005 NISSAN TITAN LE
4-DOOR TRUCK**

NHTSA NUMBER: M55207

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



FEBRUARY 15, 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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Prepared by: _____
Mr. Biren J. Patel, Project Engineer
KARCO Engineering, LLC

Date: 3/1/05

Reviewed by: _____
Mr. Michael L. Dunlap, Quality Assurance Manager
KARCO Engineering, LLC

Date: 3/1/05

Approved by: _____
Mr. Frank D. Richardson, Program Manager
KARCO Engineering, LLC

Date: 3/1/05

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-P25001-13-NC	2. Government Accession No.	3. Recipients Catalog No.		
4. Title and Subtitle Final Report of a Graco Hi-Back TurboBooster CRS Final Report of a Graco Low-Back TurboBooster CRS NHTSA NO. M55207		5. Report Date February 15, 2005		
		6. Performing Organization Code KAR		
7. Authors Mr. Biren J. Patel, Project Engineer, Karco Mr. Frank Richardson, Program Manager, Karco		8. Performing Organization Report No. TR-P25001-13-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 4		
		14. Sponsoring Agency Code DOT/NHTSA/NRM/OCS		
15. Supplementary Notes				
16. Abstract A frontal test was conducted on the subject CRS's Graco Hi-Back TurboBooster and Graco Low-Back TurboBooster in conjunction with frontal NCAP testing on a 2005 Nissan Titan LE 4-Door Truck and in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure for the determination of CRS crashworthiness. This test was conducted at Karco Engineering, LLC on February 15, 2005				
Measurement Description	Units		Left Rear	Right Rear
Head Injury Criteria (HIC) 36			2023.2	1532.4
Head Injury Criteria (HIC) 15			1495.7	1190.7
3 msec. Chest Clip	G's		58.8	68.5
Peak Chest Deflection	mm		-36.0	-41.2
17. Key Words 56.3 km/h NCAP Frontal Barrier Impact Test New Car Assessment Program (NCAP) Final Report of a Graco Hi-Back TurboBooster CRS Final Report of a Graco Low-Back TurboBooster CRS			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 45	22. Price	

Form DOT F1700.7 (8-72)

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SECTION F-1

PURPOSE AND SUMMARY OF TEST M55207

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

The 56.04 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 (P3 and P4) 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. Seat belt load cells were placed on the shoulder and lap belts. Shoulder belt spool-out and elongation was also measured.

The right rear (Serial No. 009) child dummy was calibrated prior to this test and left rear (Serial No. 011) child dummy was calibrated two tests prior to this test. Child dummy calibration information is found in Section F-5.

CHILD DUMMY VALUES

Location	HIC 36 Values	HIC 15 Values	3 Msec. Chest Clip	Peak Chest Deflection
Right Rear Child (10 Yr.)	1532.4	1190.7	8.5	-41.2
Left Rear Child (10 Yr.)	2023.2	1495.7	58.8	-36.0

DATA SHEET NO.1
CRASH TEST SUMMARY

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

CHILD RESTRAINT SYSTEM INFORMATION

Description	Position #3 CRS	Position #4 CRS
Manufacturer	Graco Children's Products, Inc.	Graco Children's Products, Inc.
Model Name	TurboBooster	TurboBooster
Serial No.	JJ 1117042350904	JJ 1202042319233
Type	Low-Back Booster	Hi-Back Booster
Forward/Rearward	Forward	Forward

VISIBLE DUMMY CONTACT POINTS

Description	Position #3 CRS	Position #4 CRS
Head Contact	Side Sill, Head Rest, Head to Hand	CRS Seat Back
Chest Contact	None	None
Abdomen Contact	None	None
Left Knee Contact	None	None
Right Knee Contact	None	None
Left Toe Contact	Front Passenger Seat Back	Driver Seat Back
Right Toe Contact	Front Passenger Seat Back	Driver Seat Back

POST-TEST DOOR OPENINGS

Description	Position #3 CRS	Position #4 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		

POST-TEST SEAT DATA

Location	Seat Movement (mm)	Seat Back Failure
Left Rear	0	No
Right Rear	0	No

CAMERA COVERAGE

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

DATA CHANNELS

Child Sensors	64
Belt Sensors	8
CRS Sensors	9
Total	81

DATA SHEET NO.2
CRS PARAMETER DATA

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

RETAINING CLIP INFORMATION

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

CHILD HARNESS STRETCH

Description	Position #3 CRS	Position #4 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	665	553	1218	730	623	1353
Right	kg	628	545	1173	696	623	1319
Ratio	%	54.1	45.9	100	53.4	46.6	100
Totals	kg	1293	1098	2391	1426	1246	2672

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	2391
Weight of 2 P572 ATD's	kg	152
Rated Cargo/Luggage Wt. (RCLW)	kg	136
Calculated Vehicle Target Wt. (TVTW)	kg	2679

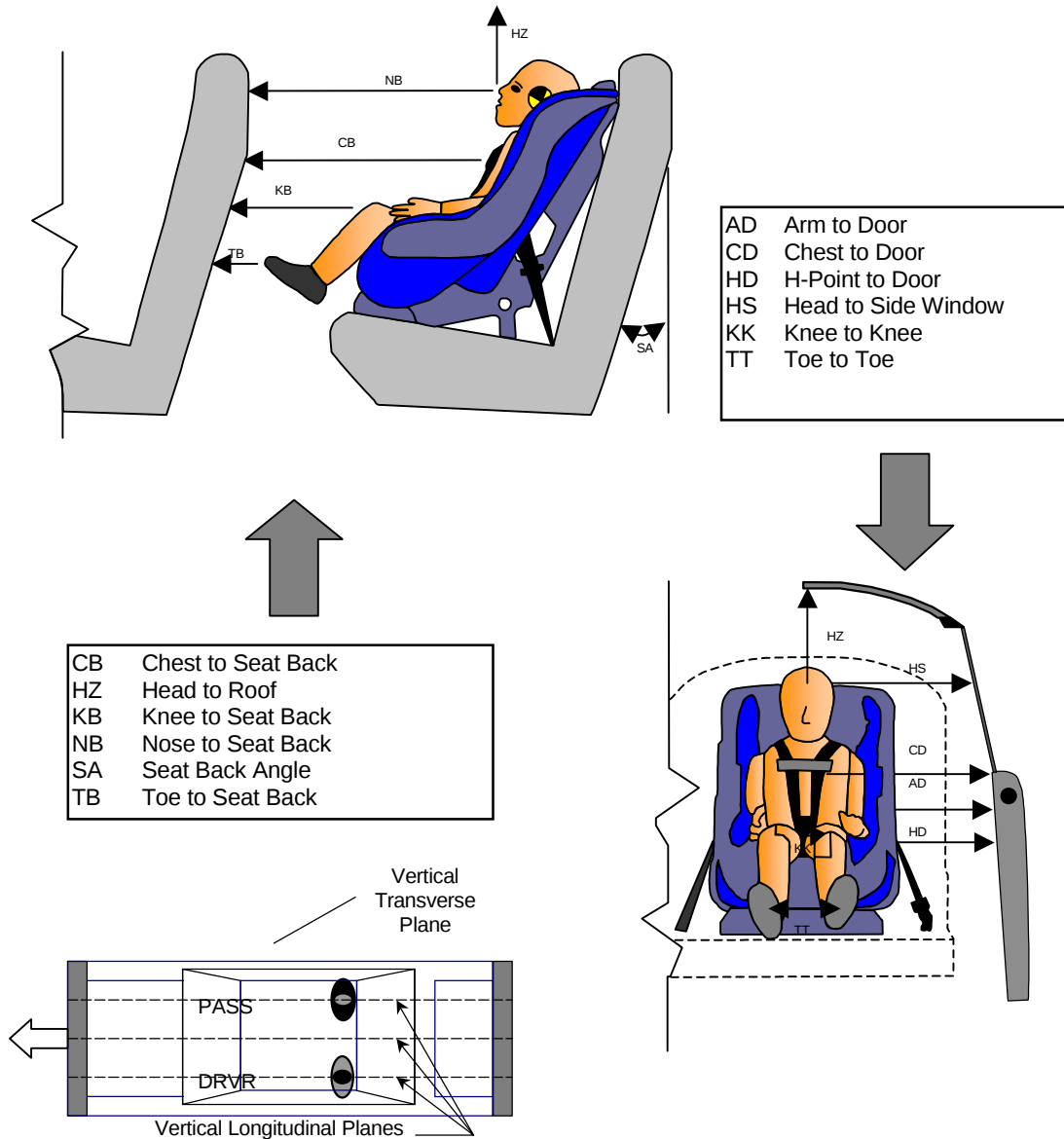
DATA SHEET NO.3 **CHILD DUMMY POSITIONING IN VEHICLE**

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program 2005 NHTSA 35mph NCAP

Test Date: 2/15/05



DUMMY MEASUREMENTS FOR REAR SEAT OCCUPANTS

DATA SHEET NO.3
CHILD DUMMY POSITIONING IN VEHICLE...(CONTINUED)

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

CHILD DUMMY POSITION MEASUREMENTS

Code	Measurement	Units	P3 CRS Serial No. 009			P4 CRS Serial No. 011		
			Pre-Test	Post-Test	Diff.	Pre-Test	Post-Test	Diff.
SA	Seat Back Angle	deg.	25.7	23.5	-2.2	25.7	19.2	-6.5
HZ	Head to Roof (Z)	mm	265	360	95	265	330	65
CD	Chest to Dash	mm	455	460	5	470	380	-90
KK	Knee to Knee (Y)	mm	165	156	-9	180	155	-25
HS	Head to Side Window	mm	265	430	165	380	390	10
HD	H-Point to Door (Y)	mm	180	230	50	190	200	10
AD	Arm to Door	mm	210	0	-210	220	80	-140
NB	Nose to Seat Back	mm	690	610	-80	615	330	-285
CB	Chest to Seat Back	mm	650	680	30	570	445	-125
FF	Foot to Foot	mm	190	295	105	185	140	-45
KB-Left	Knee to Seat Back	mm	435	475	40	360	350	-10
KB-Right	Knee to Seat Back	mm	420	400	-20	370	365	-5
TB-Left	Toe to Seat Back	mm	250	330	80	280	240	-40
TB-Right	Toe to Seat Back	mm	255	330	75	275	80	-195

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

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

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	43.0	170.2	-70.3	101.2	1.1	38.6	-52.5	74.9
Head CG	Y	G's	12.0	138.1	-34.7	170.0	5.3	96.2	-6.5	83.7
Head CG	Z	G's	103.1	83.3	-26.0	169.9	89.7	75.2	-3.0	53.5
Head CG Resultant	N/A	G's	112.5	83.3			103.9	75.2		

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)	2023.2	68.9	104.9	79.3	1532.4	64.5	97.3	73.7
Head CG (HIC15)	1495.7	74.4	89.4	99.8	1190.7	69.8	84.8	91.1

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	11.1	104.1	-62.3	77.4	4.7	107.5	-82.9	66.9
Chest CG	Y	G's	16.3	129.4	-19.5	59.0	8.0	53.5	-17.2	71.8
Chest CG	Z	G's	16.5	100.7	-31.4	136.5	13.6	68.1	-11.0	134.1
Chest CG Resultant	N/A	G's	62.6	77.4			83.2	66.9		

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	58.8	67.0	70.0	68.5	65.8	68.8

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	0.7	39.0	-36.2	85.9	0.0	13.6	-41.2	80.6

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	37.3	125.5	-63.0	69.7	18.6	123.8	-68.4	69.7
Pelvis	Y	G's	27.6	107.7	-24.9	73.4	10.6	79.9	-12.8	93.4
Pelvis	Z	G's	8.1	102.5	-29.0	79.1	3.3	105.9	-25.4	59.7
Pelvis Resultant	N/A	G's	71.5	73.8			69.0	69.7		

DATA SHEET NO. 4...(CONTINUED)

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

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	19.2	34.8	-1549.8	78.2	53.8	27.7	-1440.6	74.3
Neck Force	Y	Newtons	316.3	169.8	-63.8	67.3	154.2	95.8	-187.5	170.9
Neck Force	Z	Newtons	3745.8	83.1	-10.0	23.9	3142.7	80.6	-163.8	52.0
Neck Force Resultant	N/A	Newtons	4053.2	83.1			3336.6	77.7		
Neck Moment	X	Nm	31.8	153.3	-22.0	79.6	13.5	83.8	-12.6	187.8
Neck Moment	Y	Nm	43.7	96.6	-80.3	76.5	28.0	101.1	-74.6	73.2
Neck Moment	Z	Nm	2.1	139.6	-5.2	187.2	2.1	31.2	-3.3	107.9
Neck Moment Resultant	N/A	Nm	82.4	76.6			74.6	73.2		

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	2239.6	68.8	-449.4	127.3	1881.5	70.7	-221.5	99.3
Right Femur Force	Z	Newtons	2954.5	71.0	-502.5	115.8	2312.7	64.0	-438.4	126.0

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	1711.7	103.8	-1828.3	66.3	1212.5	58.7	-697.4	107.1
Lumbar Force	Y	Newtons	86.5	137.4	-1126.4	54.5	1005.4	60.9	-349.2	123.4
Lumbar Force	Z	Newtons	2492.6	83.9	-921.1	115.0	2981.6	70.4	-208.0	133.3
Lumbar Force Resultant	N/A	Newtons	2850.1	72.2			3113.3	70.4		
Lumbar Moment	X	Nm	4.9	189.3	-113.0	57.4	9.2	79.1	-96.5	95.2
Lumbar Moment	Y	Nm	148.9	67.6	-70.7	103.4	120.1	124.9	-2.4	24.0
Lumbar Moment	Z	Nm	19.1	128.6	-15.9	61.1	21.1	163.2	-42.3	65.0
Lumbar Moment Res.	N/A	Nm	163.0	67.7			136.6	125.5		

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	913.8	76.2	-22.9	190.1	192.1	89.0	-586.0	92.6
Left Clavicle Force	Z	Newtons	220.2	75.8	-376.9	113.9	150.5	90.9	-332.8	95.2
Right Clavicle Force	X	Newtons	215.5	98.6	-246.1	83.1	3397.5	77.4	-3.2	30.2
Right Clavicle Force	Z	Newtons	115.9	80.1	-341.2	67.8	5.7	29.1	-1504.4	116.1

DATA SHEET NO.5
CRS PERFORMANCE DATA

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

CRS PERFORMANCE DATA

Location	P3 CRS Serial No. 009		P4 CRS Serial No. 011	
	Damage	Post-Test	Damage	Post-Test
Upper Tether Strap				
Upper Tether Buckle				
Upper Tether Hook				
Veh. Upper Tether Anchor				
Lower Anchor Strap				
Lower Anchor Buckle				
Lower Anchor Hooks				
Veh. Lower CRS Anchors				
5-Point Harness Connections				
Cracks on CRS	Yes	Broken Left Armrest	Yes	Broken Right Armrest, Cracked Left, Right CRS Base
Fabric Tears on CRS	No	None	No	None
Vehicle Seat Structure	No	None	No	None
Vehicle Seat Fabric Tears	No	None	No	None

DATA SHEET NO.6
CRS CAMERA DATA

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck

NHTSA No.: M55207

Test Program 2005 NHTSA 35mph NCAP

Test Date: 2/15/05

CAMERA LOCATIONS

No.	Camera View	Location(mm)			Angle (Deg.)	Film Plane to Head	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Left Rear Dummy Onboard	-2819	888	-1775	-10	1381	13	1000
2	Right Rear Dummy Onboard	2819	-888	-1775	-10	1381	12	1000

ADDITIONAL CAMERAS

1	Left Rear Dummy Onboard	-2134	443	-1900	0	1548	8.5	1000
2	Right Rear Dummy Onboard	-2134	-443	-1900	-10	1548	8.5	1000

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

SECTION F-2

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fabricación del asiento a Graco Children's Products Inc., 150 Oaklands Blvd
Exton, PA 19341 EE.UU. o llame al 1-800-345-4109.
Para información sobre retiradas, llame a la línea de información sobre
seguridad automotriz del gobierno de EE.UU. al 1-800-424-9393
(202-366-0123 en el Distrito de Columbia).

LAPB0095B

MODEL 8491SCT NAME: TurboBooster
SERIAL JJ 1117042350904
Manufactured in 111704
GRACO CHILDREN'S PRODUCTS, INC.
EXTON, PA 19341 1-888-224-6549
Made in China

LAPZ00004B

Figure F2-1: Close-up, Position 3 CRS Label



Figure F2-2: Pre-Test Frontal View of Position 3 CRS



Figure F2-3: Post-Test Frontal View of Position 3 CRS



Figure F2-4: Pre-Test Rear View of Position 3 CRS



Figure F2-5: Post-Test Rear View of Position 3 CRS



Figure F2-6: Pre-Test Left Side View of Position 3 CRS



Figure F2-7: Post-Test Left Side View of Position 3 CRS



Figure F2-8: Pre-Test Right Side View of Position 3 CRS



Figure F2-9: Post-Test Right Side View of Position 3 CRS

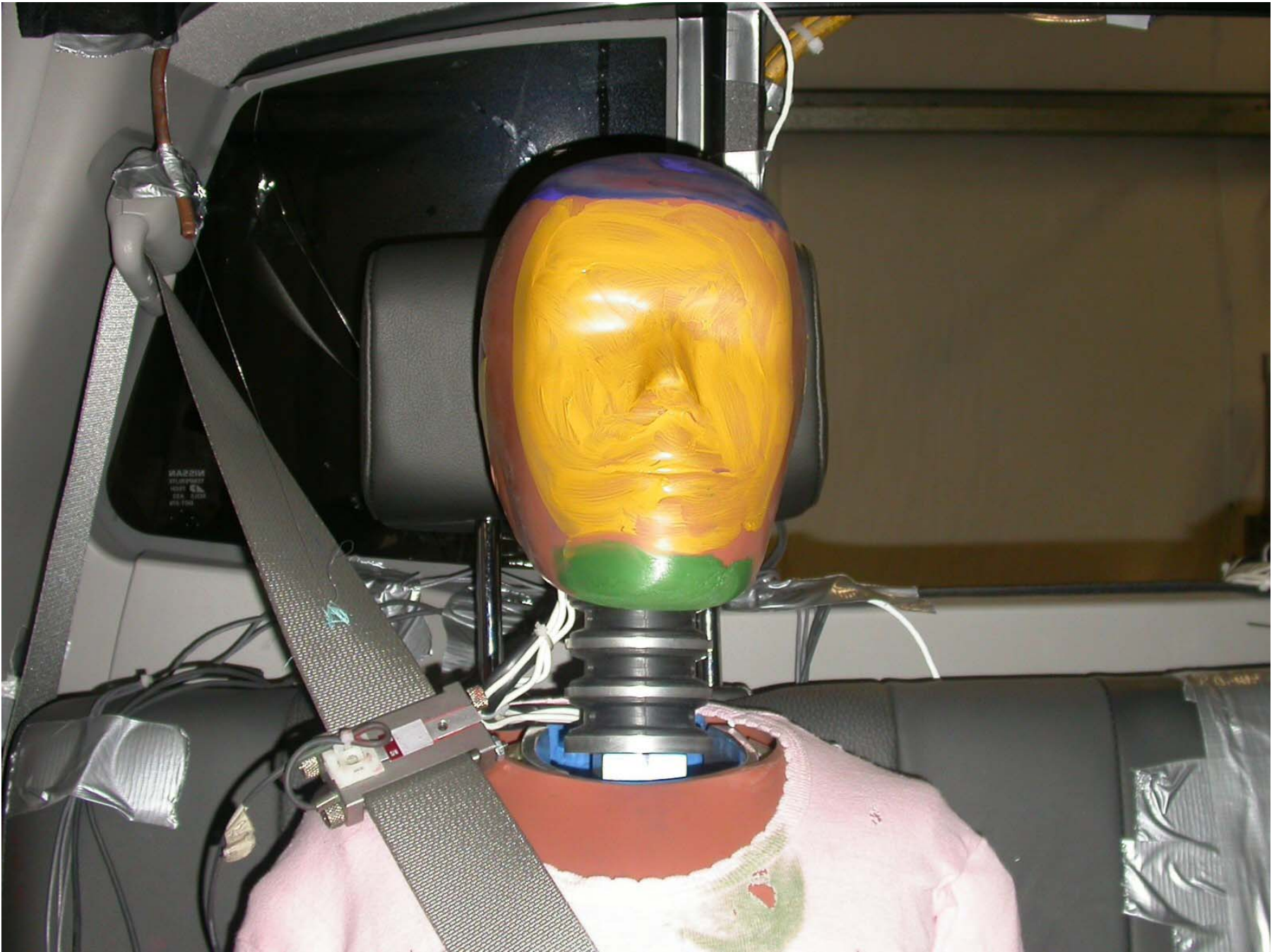


Figure F2-10: Pre-Test Position 3 Front View (Head Position)



Figure F2-11: Post-Test Position 3 Front View (Head Position)



Figure F2-12: Pre-Test Position 3 Front View (Seat Belt Position)



Figure F2-13: Post-Test Position 3 Front View (Seat Belt Position)



Figure F2-14: Pre-Test Position 3 Right Side View



Figure F2-15: Post-Test Position 3 Right Side View



Figure F2-16: Pre-Test Position 3 Left Side View



Figure F2-17: Post-Test Position 3 Left Side View



Figure F2-18: Post-Test Position 3 Dummy Feet Contacts



Figure F2-19: Close-up, Position 4 CRS Label



Figure F2-20: Pre-Test Frontal View of Position 4 CRS



Figure F2-21: Post-Test Frontal View of Position 4 CRS

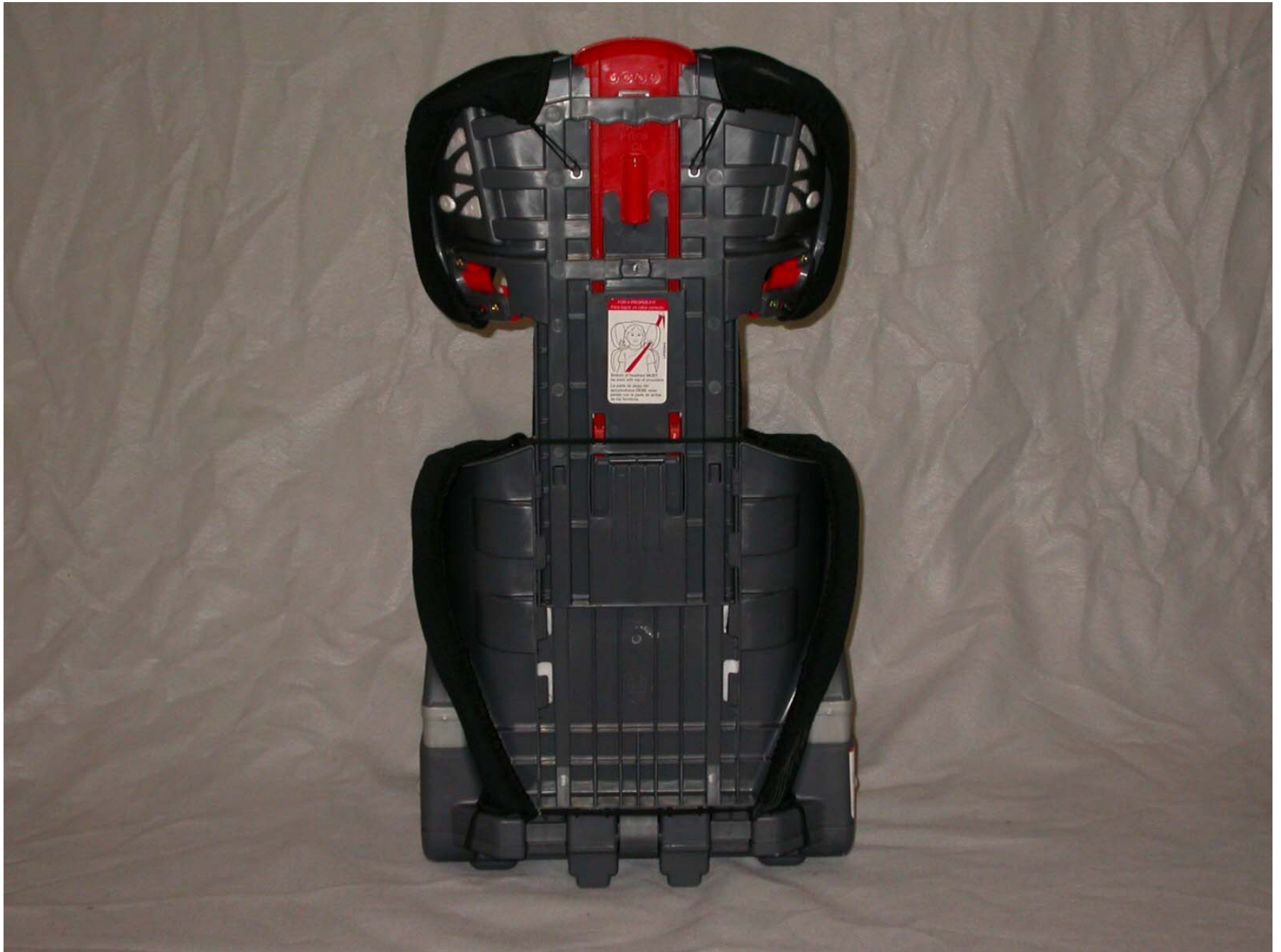


Figure F2-22: Pre-Test Rear View of Position 4 CRS



Figure F2-23: Post-Test Rear View of Position 4 CRS



Figure F2-24: Pre-Test Left Side View of Position 4 CRS



Figure F2-25: Post-Test Left Side View of Position 4 CRS



Figure F2-26: Pre-Test Right Side View of Position 4 CRS



Figure F2-27: Post-Test Right Side View of Position 4 CRS



Figure F2-28: Pre-Test Position 4 Front View (Head Position)



Figure F2-29: Post-Test Position 4 Front View (Head Position)



Figure F2-30: Pre-Test Position 4 Front View (Seat Belt Position)

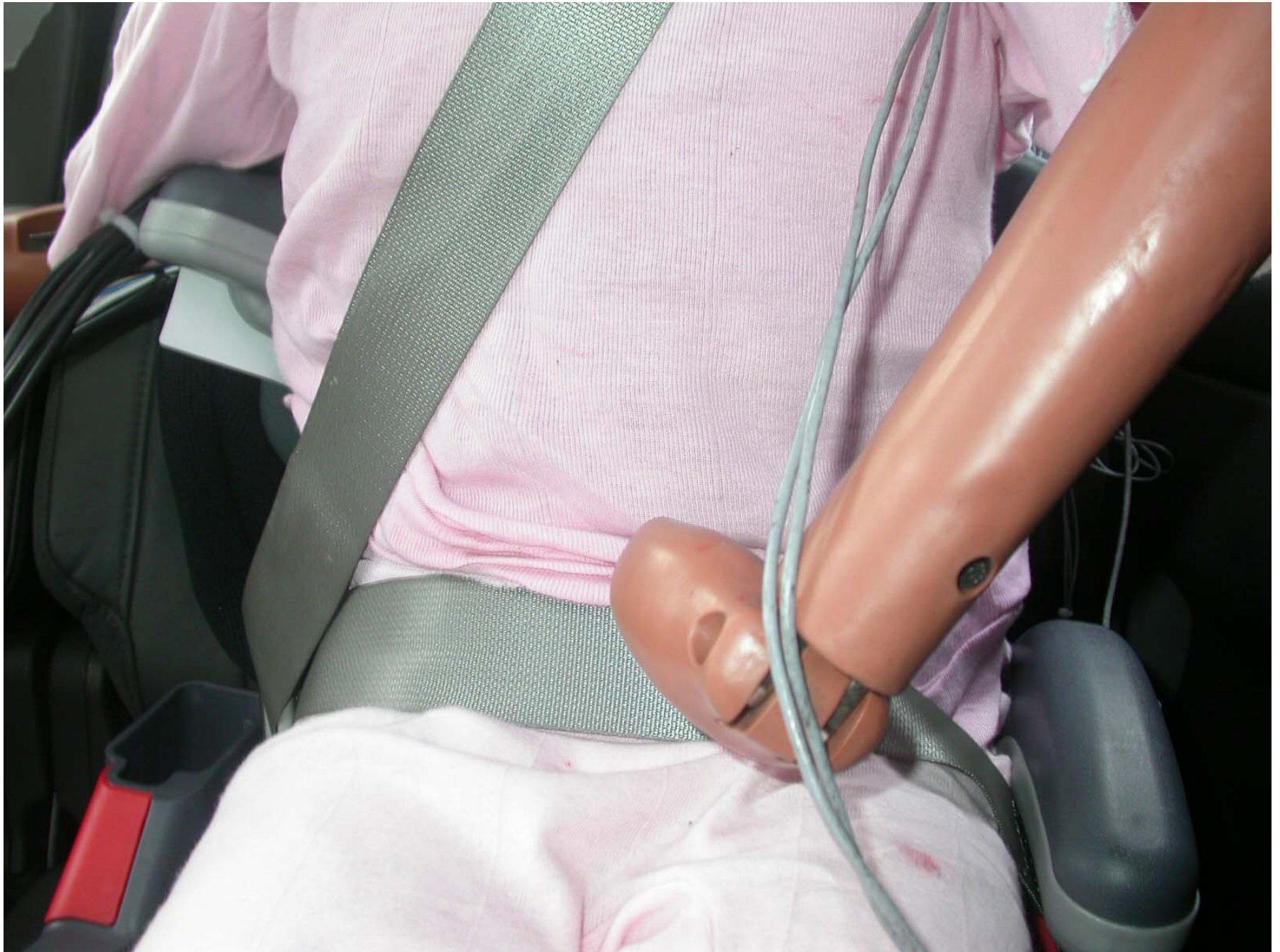


Figure F2-31: Post-Test Position 4 Front View (Seat Belt Position)



Figure F2-32: Pre-Test Position 4 Left Side View



Figure F2-33: Post-Test Position 4 Left Side View



Figure F2-34: Pre-Test Position 4 Right Side View



Figure F2-35: Post-Test Position 4 Right Side View



Figure F2-36: Post-Test Position 4 Dummy Legs

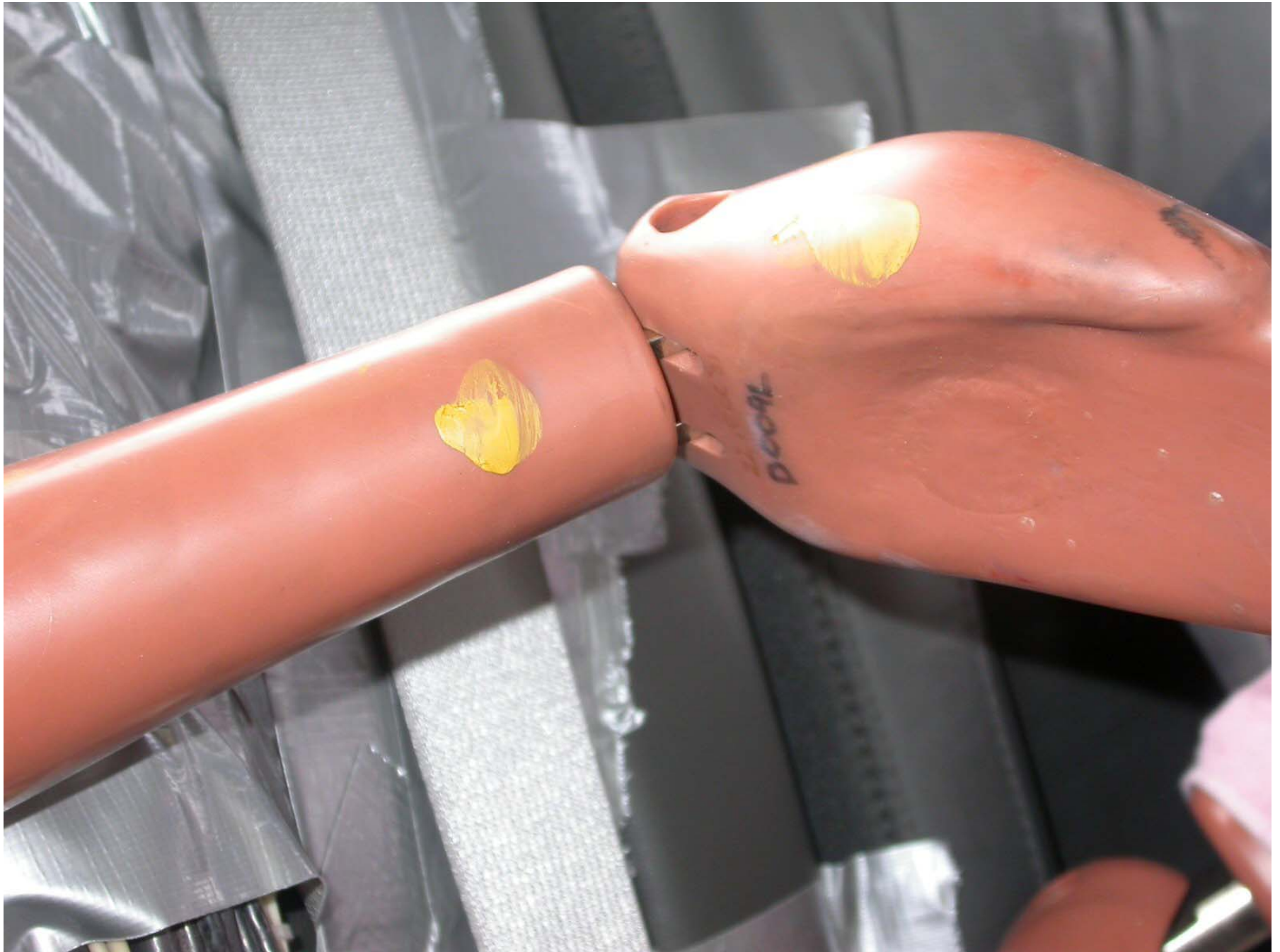


Figure F2-37: Post-Test Position 3 Dummy Head to Hand Contacts



Figure F2-38: Post-Test Position 3 Dummy Head to Door Panel Contact



Figure F2-39: Post-Test Position 3 CRS Damage



Figure F2-40: Post-Test Position 3 CRS Damage



Figure F2-41: Post-Test Position 4 CRS Damage





Figure F2-43: Post-Test Position 4 CRS (Base Separation at Left Rear)



Figure F2-44: Post-Test Position 4 CRS (Base Separation at Right Rear)

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CHILD DUMMY RESPONSE AND CRS DATA TRACES

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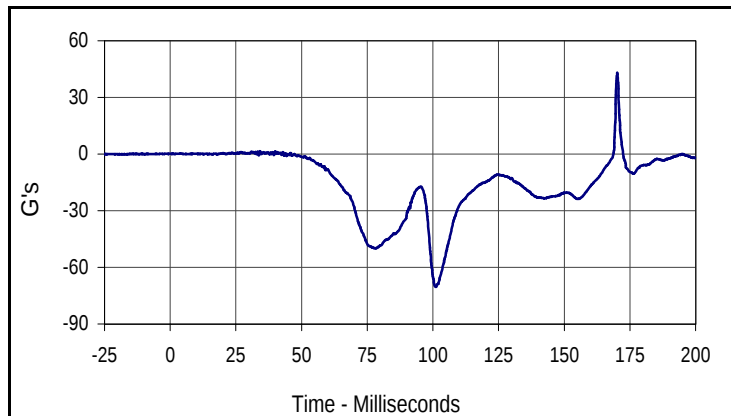
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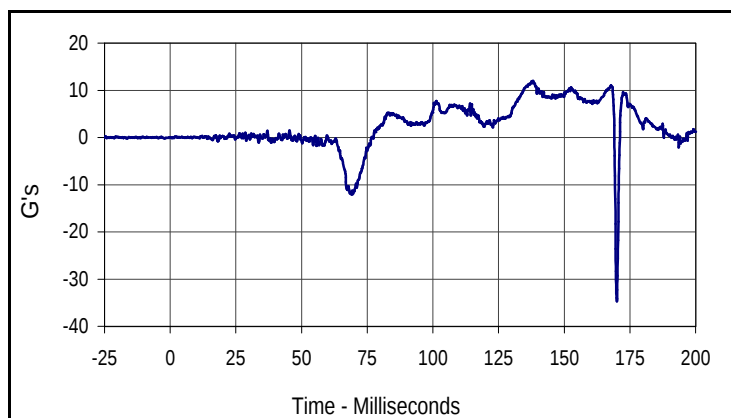
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Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
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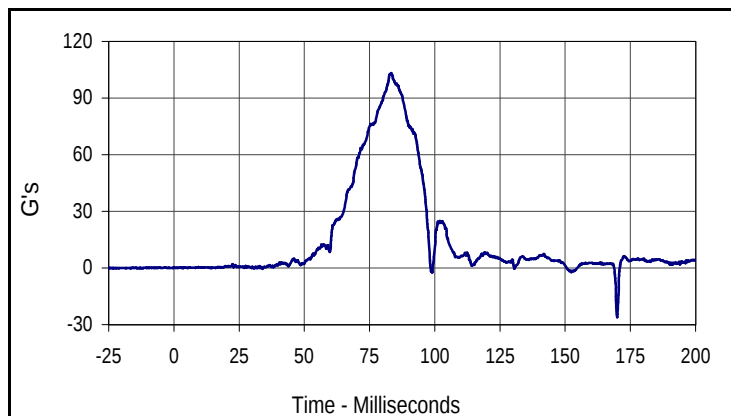
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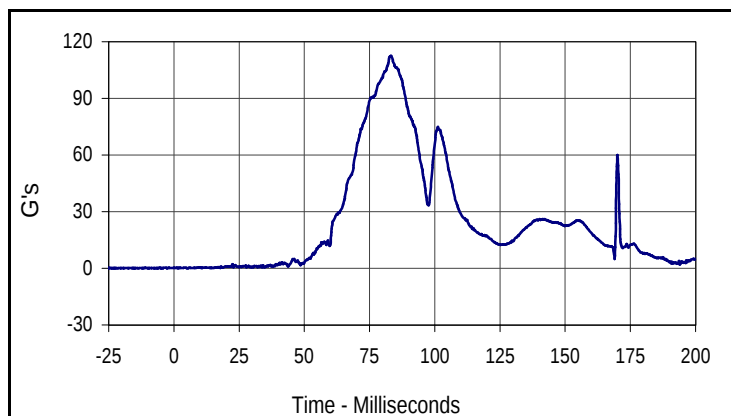
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Curve Description			
Left Rear (10 Yr.) Head Y			
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Max	Time	Min	Time
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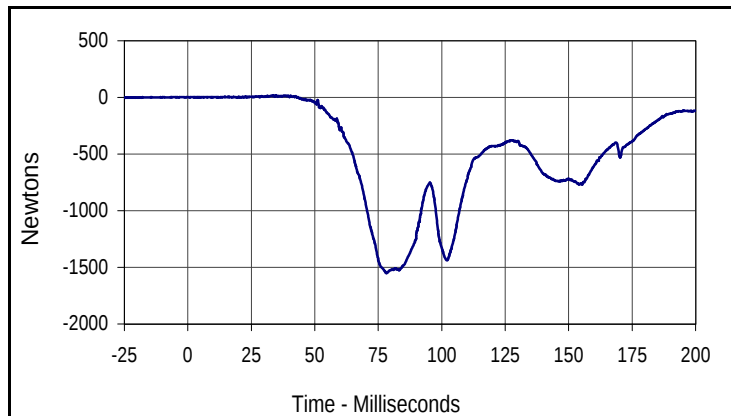
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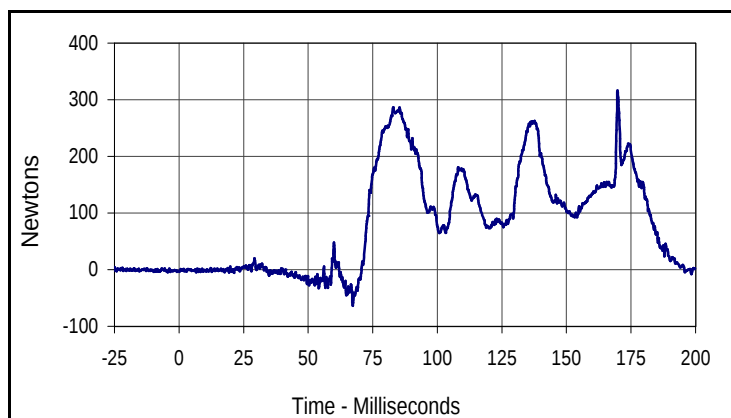
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Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

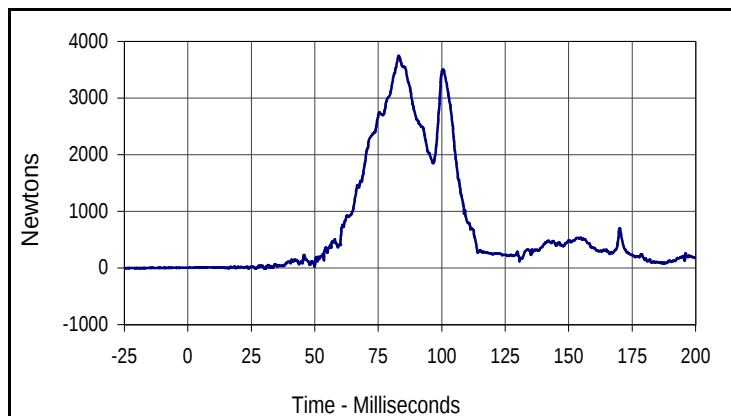
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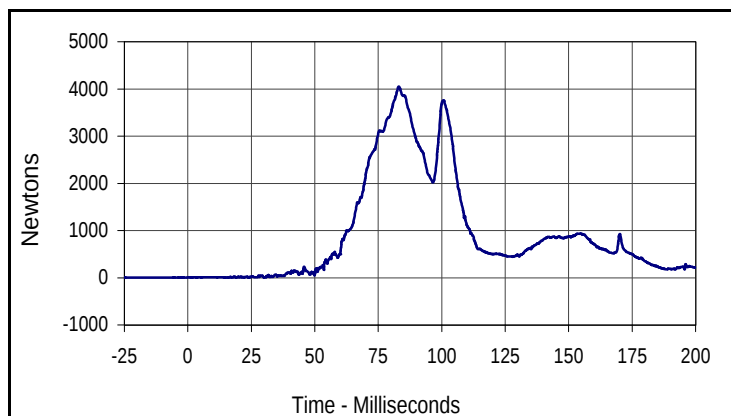
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Max	Time	Min	Time
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Curve Description			
Left Rear (10 Yr.) Upper Neck Force Y			
CURNO	Type	SAE Class	Units
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Max	Time	Min	Time
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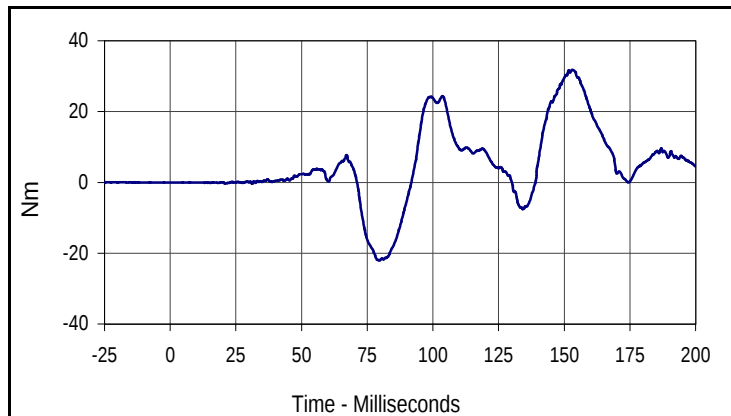
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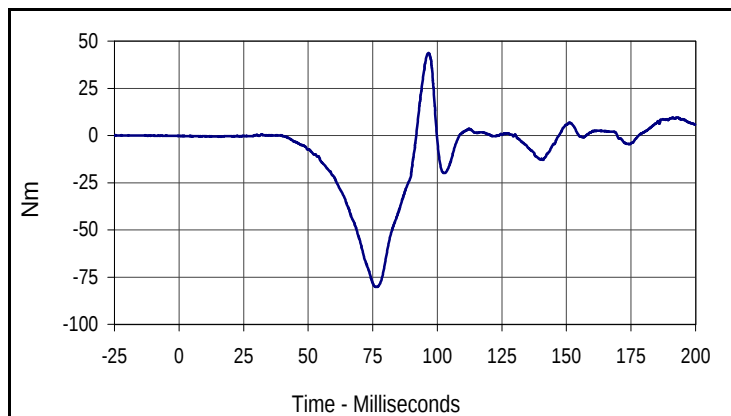
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Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

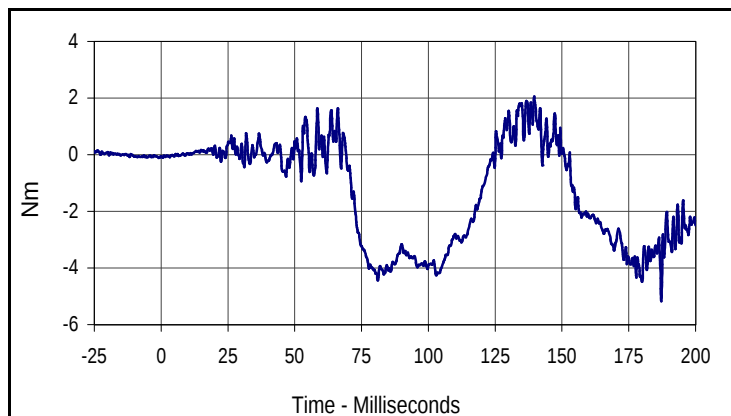
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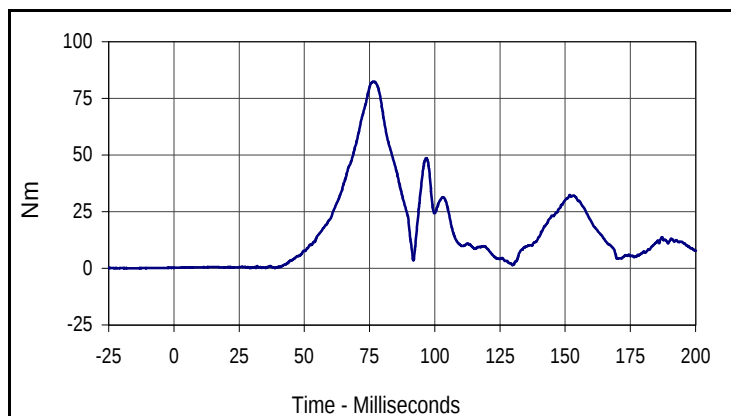
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Max	Time	Min	Time
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Curve Description			
Left Rear (10 Yr.) Upper Neck Moment Y			
CURNO	Type	SAE Class	Units
141	FIL	600	Nm
Max	Time	Min	Time
43.7	96.6	-80.3	76.5



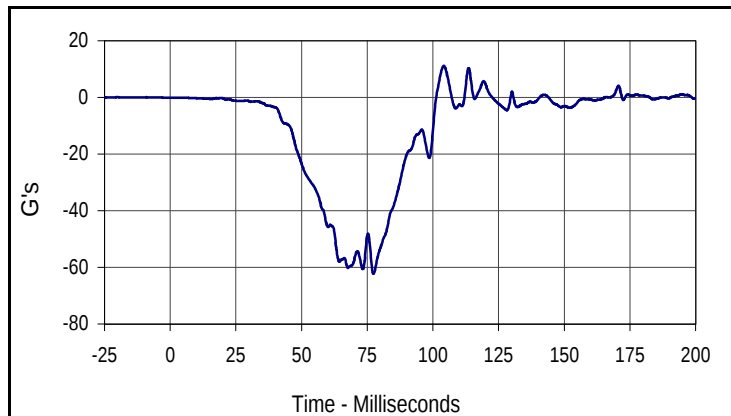
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Max	Time	Min	Time
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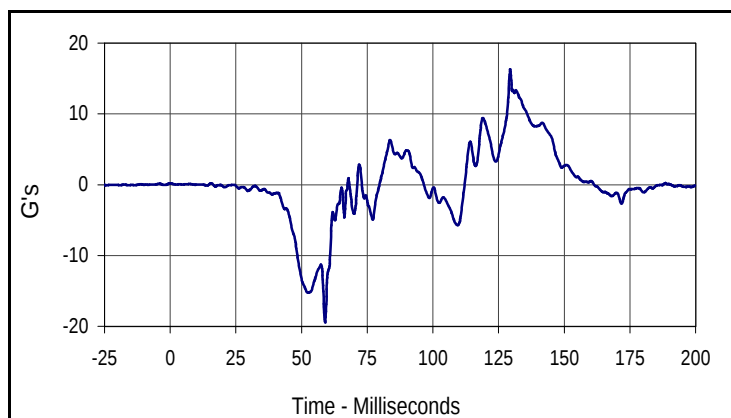
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Max	Time	Min	Time
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Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

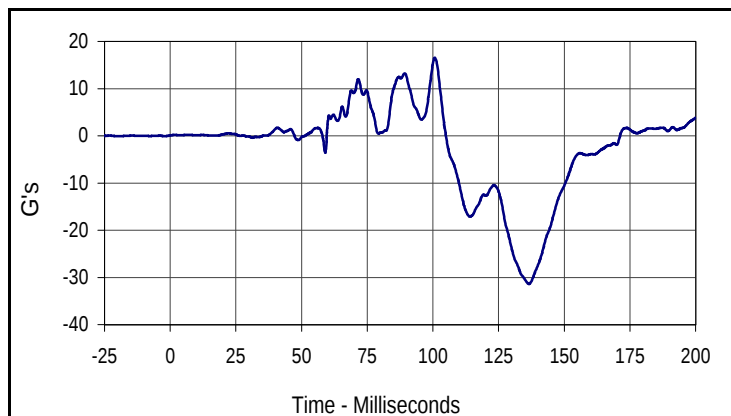
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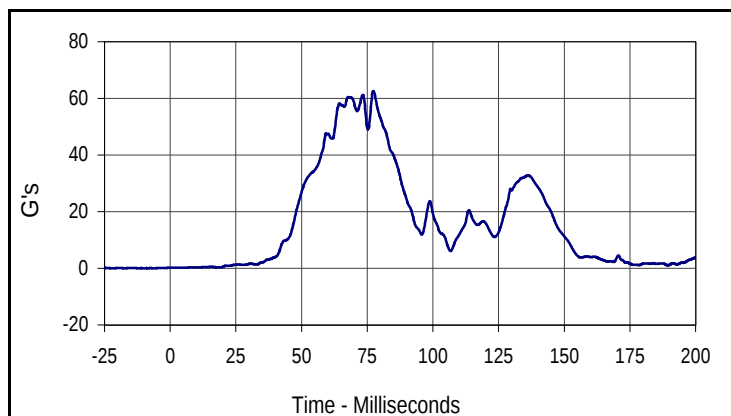
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Left Rear (10 Yr.) Chest X			
CURNO	Type	SAE Class	Units
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Max	Time	Min	Time
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Curve Description			
Left Rear (10 Yr.) Chest Y			
CURNO	Type	SAE Class	Units
144	FIL	180	G's
Max	Time	Min	Time
16.3	129.4	-19.5	59.0



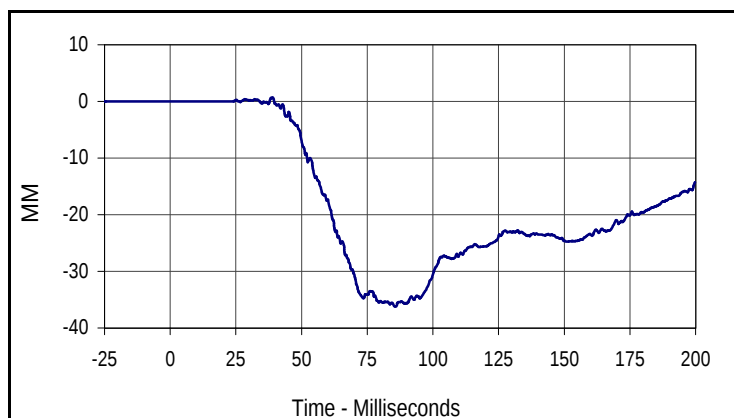
Curve Description			
Left Rear (10 Yr.) Chest Z			
CURNO	Type	SAE Class	Units
145	FIL	180	G's
Max	Time	Min	Time
16.5	100.7	-31.4	136.5



Curve Description			
Left Rear (10 Yr.) Chest Resultant			
CURNO	Type	SAE Class	Units
143	RES	180	G's
Max	Time	Min	Time
62.6	77.4	0.2	3.4

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

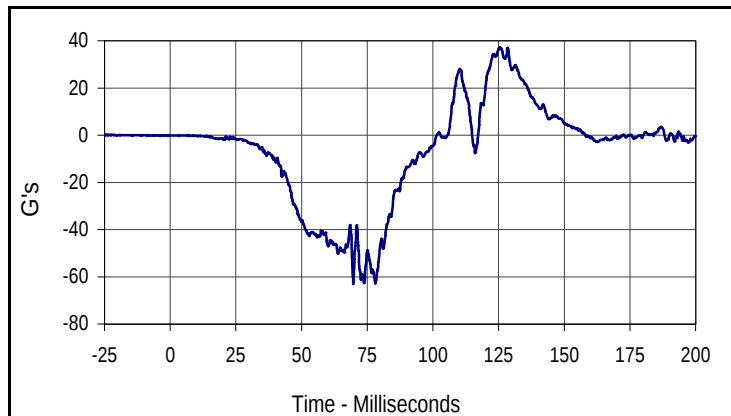
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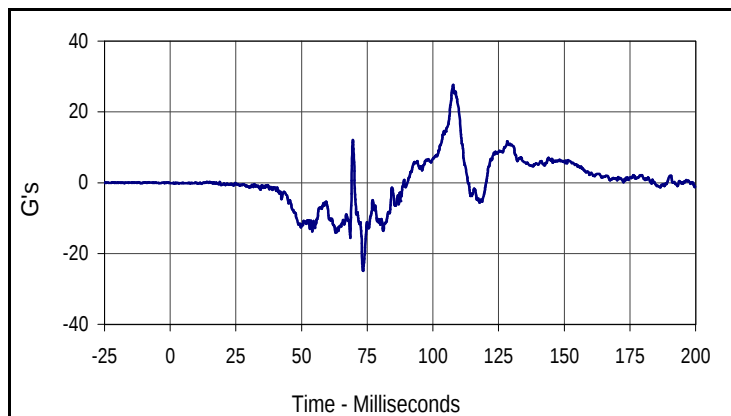
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Left Rear (10 Yr.) Chest Deflection			
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Max	Time	Min	Time
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Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

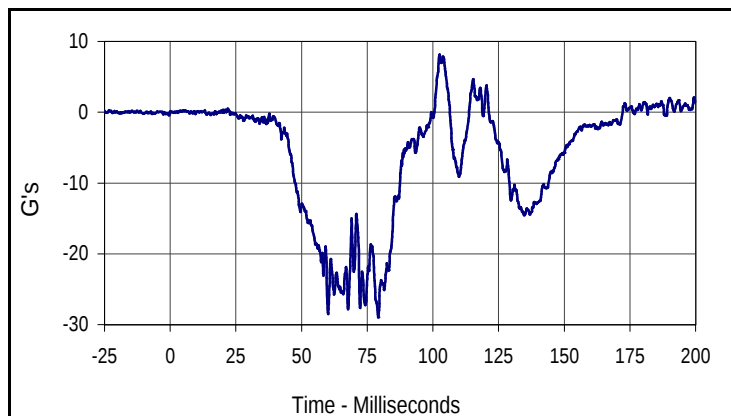
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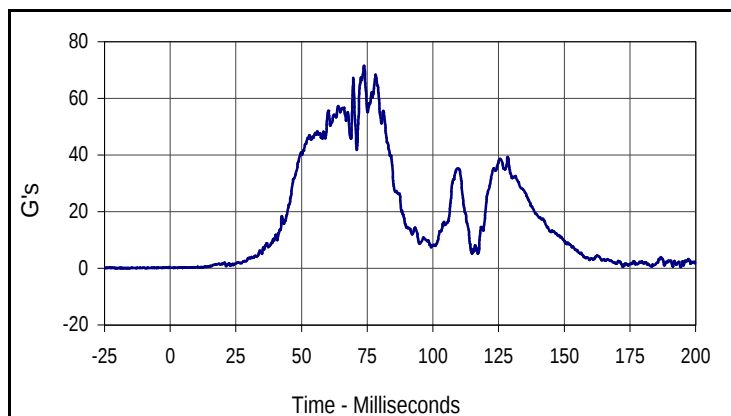
Curve Description			
Left Rear (10 Yr.) Pelvis X			
CURNO	Type	SAE Class	Units
147	FIL	1000	G's
Max	Time	Min	Time
37.3	125.5	-63.0	69.7



Curve Description			
Left Rear (10 Yr.) Pelvis Y			
CURNO	Type	SAE Class	Units
148	FIL	1000	G's
Max	Time	Min	Time
27.6	107.7	-24.9	73.4



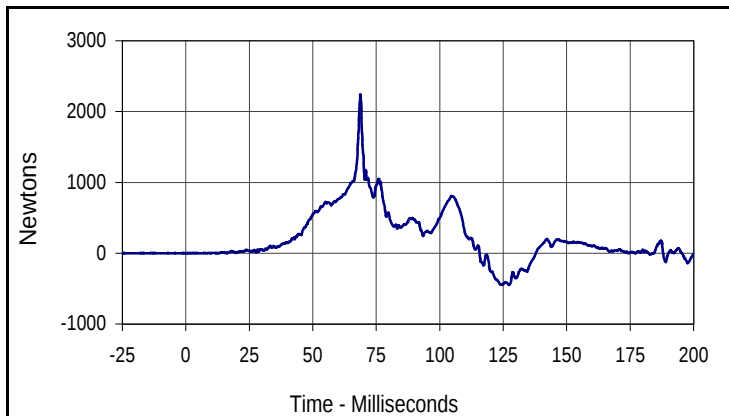
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Left Rear (10 Yr.) Pelvis Z			
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Max	Time	Min	Time
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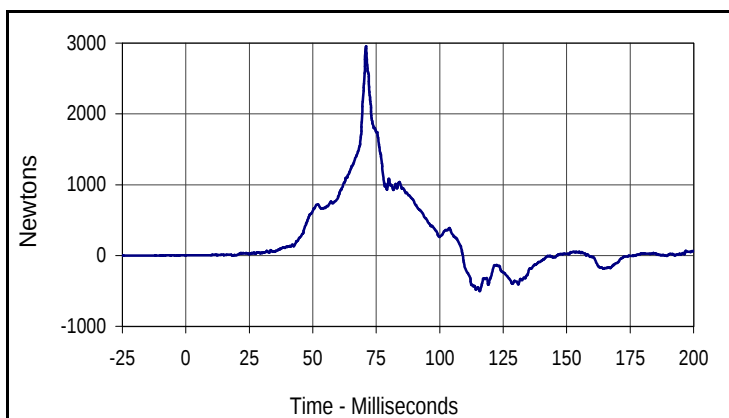
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Left Rear (10 Yr.) Pelvis Resultant			
CURNO	Type	SAE Class	Units
147	RES	1000	G's
Max	Time	Min	Time
71.5	73.8	0.1	3.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05
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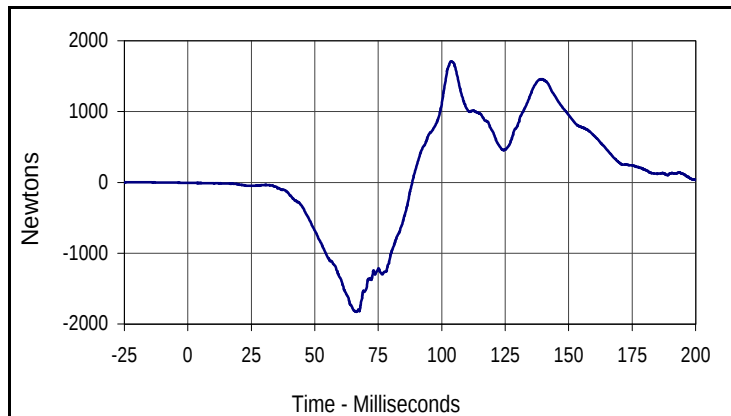
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Left Rear (10 Yr.) Left Femur Force			
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Max	Time	Min	Time
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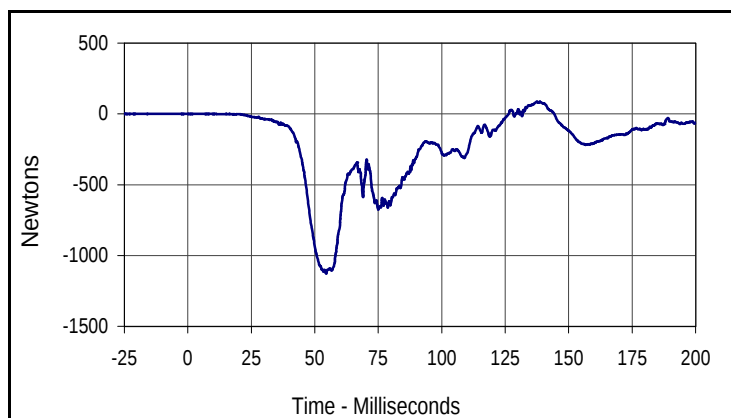
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Left Rear (10 Yr.) Right Femur Force			
CURNO	Type	SAE Class	Units
151	FIL	600	Newtons
Max	Time	Min	Time
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Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

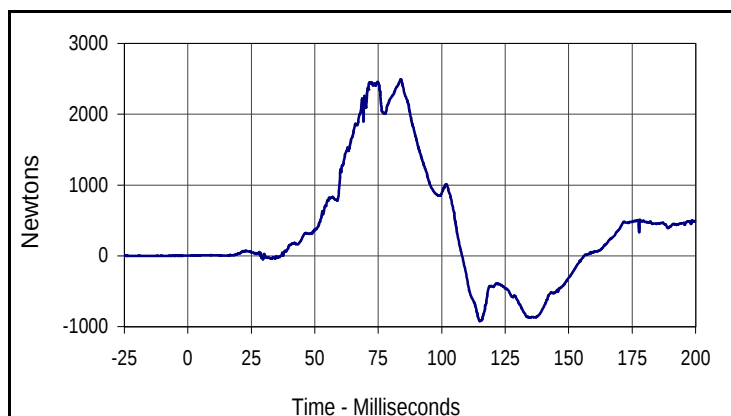
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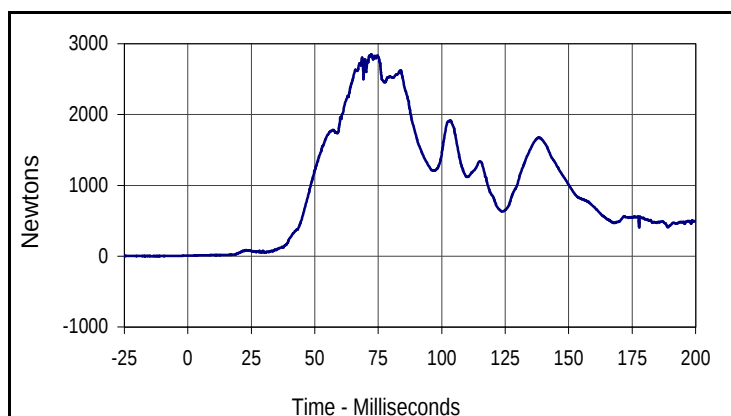
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CURNO	Type	SAE Class	Units
152	FIL	1000	Newtons
Max	Time	Min	Time
1711.7	103.8	-1828.3	66.3



Curve Description			
Left Rear (10 Yr.) Lumbar Force Y			
CURNO	Type	SAE Class	Units
153	FIL	1000	Newtons
Max	Time	Min	Time
86.5	137.4	-1126.4	54.5



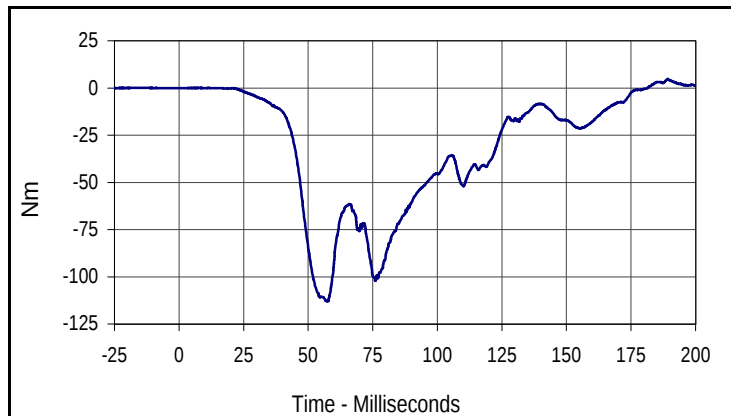
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Max	Time	Min	Time
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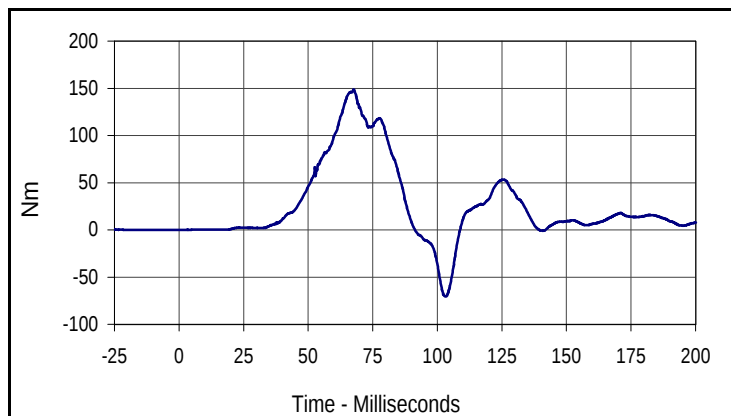
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Max	Time	Min	Time
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Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

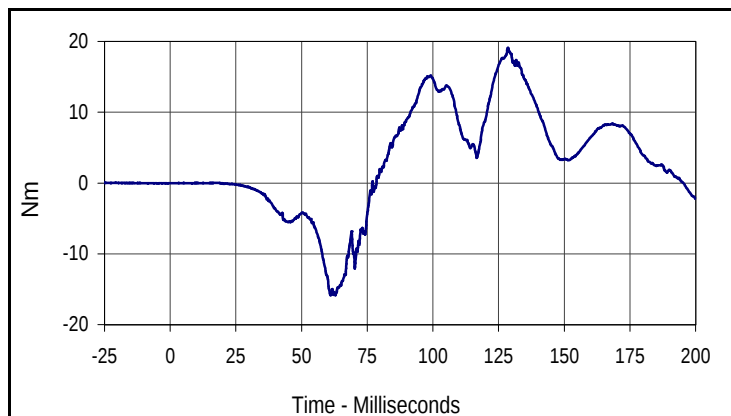
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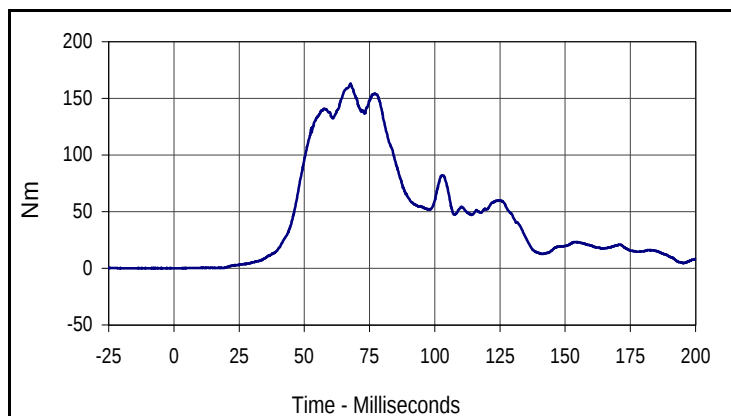
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Max	Time	Min	Time
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Curve Description			
Left Rear (10 Yr.) Lumbar Moment Y			
CURNO	Type	SAE Class	Units
156	FIL	1000	Nm
Max	Time	Min	Time
148.9	67.6	-70.7	103.4



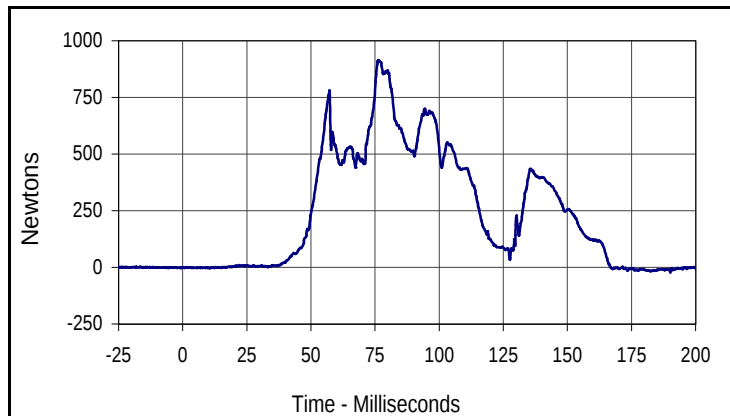
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Max	Time	Min	Time
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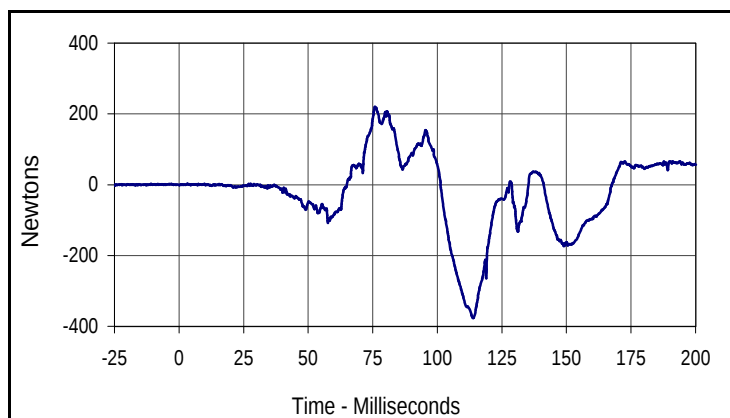
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Left Rear (10 Yr.) Lumbar Moment Resultant			
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Max	Time	Min	Time
163.0	67.7	0.1	1.9

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

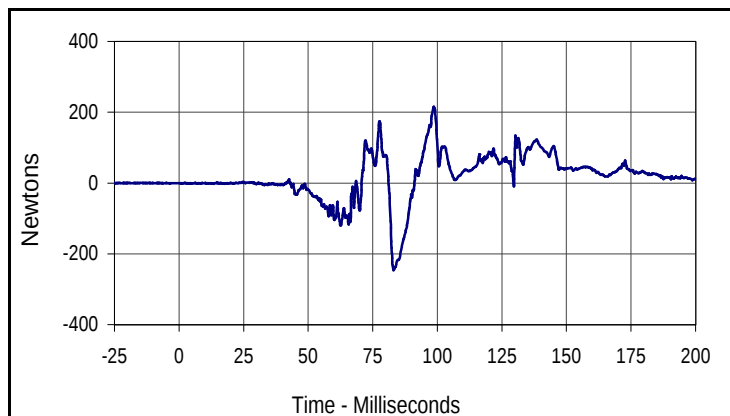
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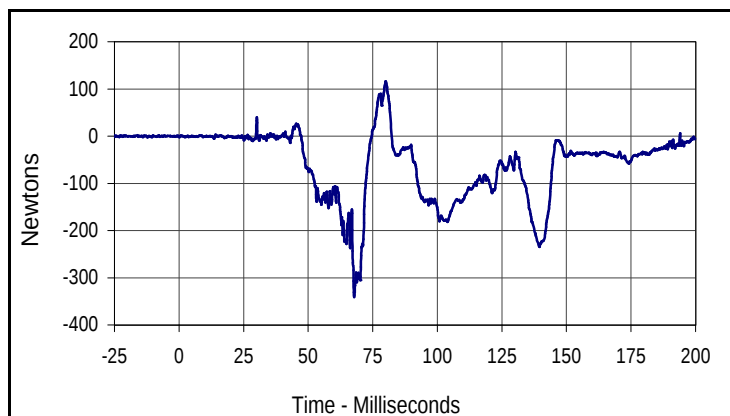
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Max	Time	Min	Time
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Curve Description			
Left Rear (10 Yr.) Left Clavicle Force Z			
CURNO	Type	SAE Class	Units
159	FIL	1000	Newtons
Max	Time	Min	Time
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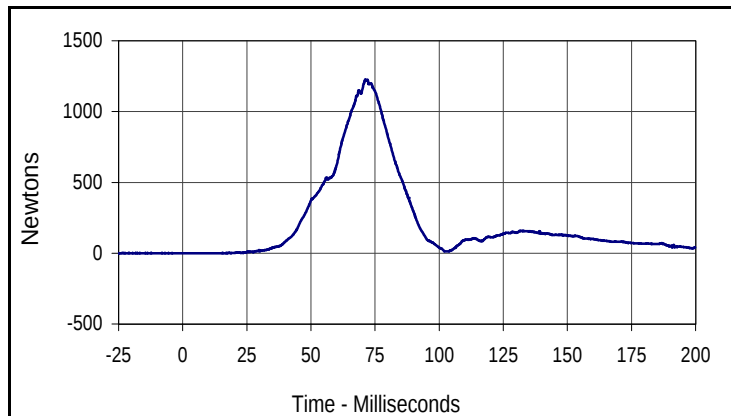
Curve Description			
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CURNO	Type	SAE Class	Units
160	FIL	1000	Newtons
Max	Time	Min	Time
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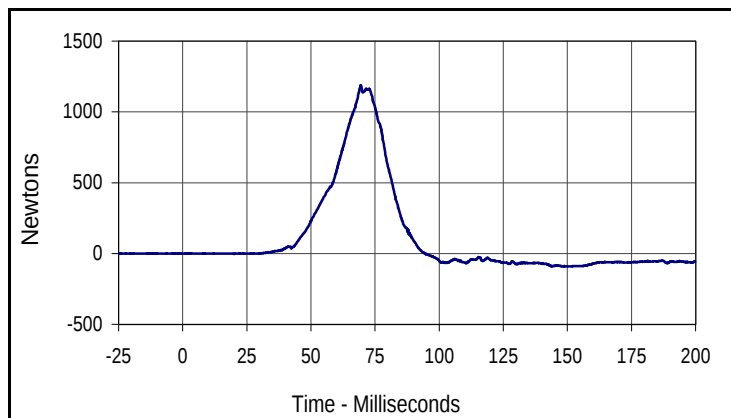
Curve Description			
Left Rear (10 Yr.) Right Clavicle Force Z			
CURNO	Type	SAE Class	Units
161	FIL	1000	Newtons
Max	Time	Min	Time
115.9	80.1	-341.2	67.8

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

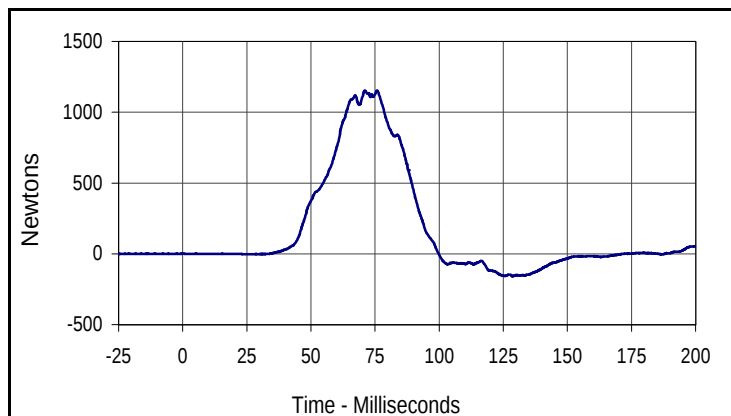
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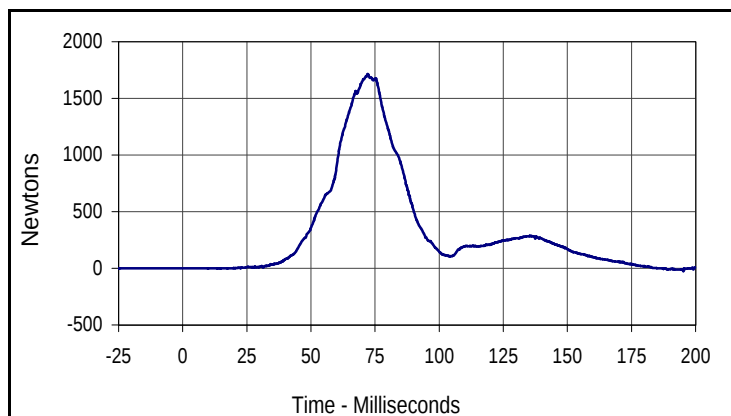
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CURNO	Type	SAE Class	Units
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Max	Time	Min	Time
1225.5	71.2	-1.4	8.9



Curve Description			
Left Rear (10 Yr.) Left Lower ASIS Force			
CURNO	Type	SAE Class	Units
163	FIL	1000	Newtons
Max	Time	Min	Time
1187.4	69.5	-91.9	149.6



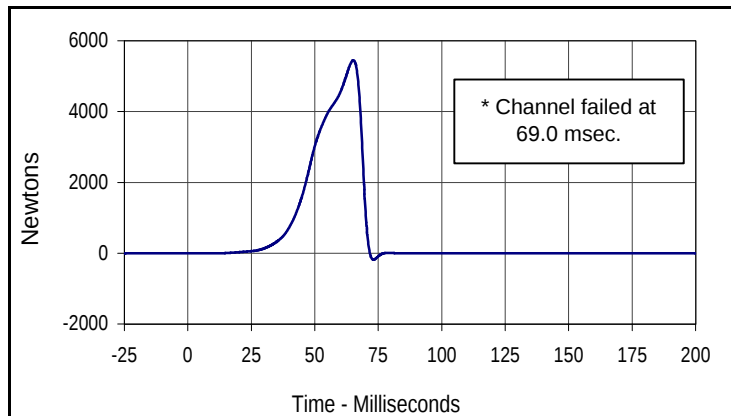
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CURNO	Type	SAE Class	Units
164	FIL	1000	Newtons
Max	Time	Min	Time
1152.0	70.9	-158.6	128.6



Curve Description			
Left Rear (10 Yr.) Right Lower ASIS Force			
CURNO	Type	SAE Class	Units
165	FIL	1000	Newtons
Max	Time	Min	Time
1715.6	72.2	-24.5	195.2

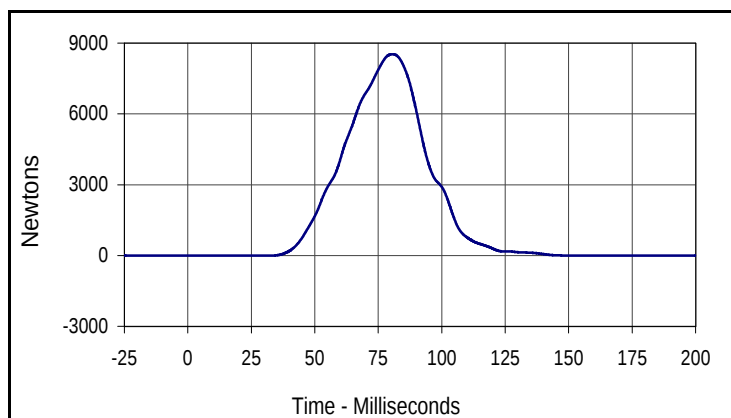
Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
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Test Date: 2/15/05
 NHTSA No.: M55207

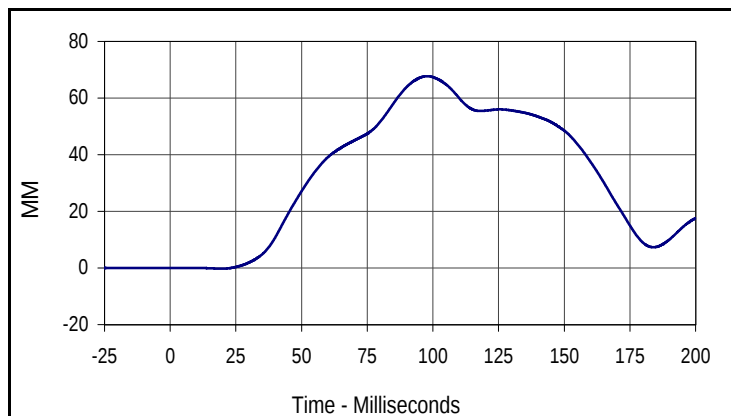


Curve Description			
Left Rear (10 Yr.) Lap Belt Force			
CURNO	Type	SAE Class	Units
166	FIL	60	Newtons
Max	Time	Min	Time
5450.1	65.2	-182.4	73.1

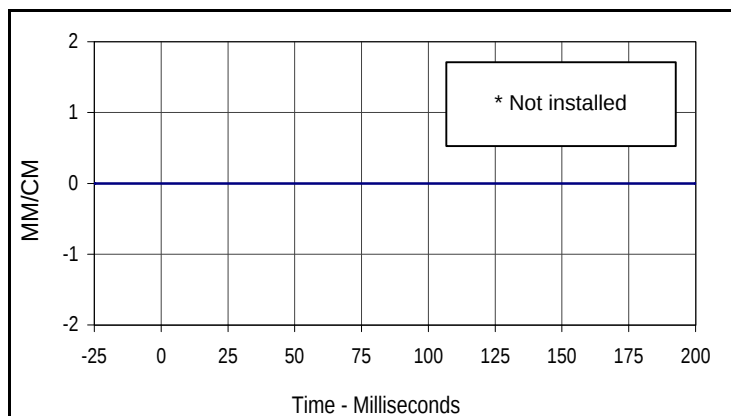
* Channel failed at 69.0 msec.



Curve Description			
Left Rear (10 Yr.) Shoulder Belt Force			
CURNO	Type	SAE Class	Units
167	FIL	60	Newtons
Max	Time	Min	Time
8527.9	80.5	-8.4	181.8



Curve Description			
Left Rear (10 Yr.) Shoulder Belt Pullout (10Yr.)			
CURNO	Type	SAE Class	Units
168	FIL	60	MM
Max	Time	Min	Time
67.7	97.9	-0.2	19.5

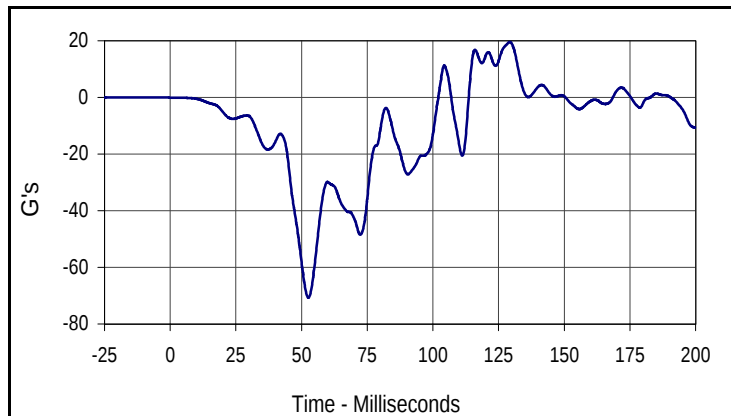


Curve Description			
Left Rear (10 Yr.) Shoulder Belt Elongation			
CURNO	Type	SAE Class	Units
169	FIL	60	MM/CM
Max	Time	Min	Time
0.00	0.0	0.00	0.0

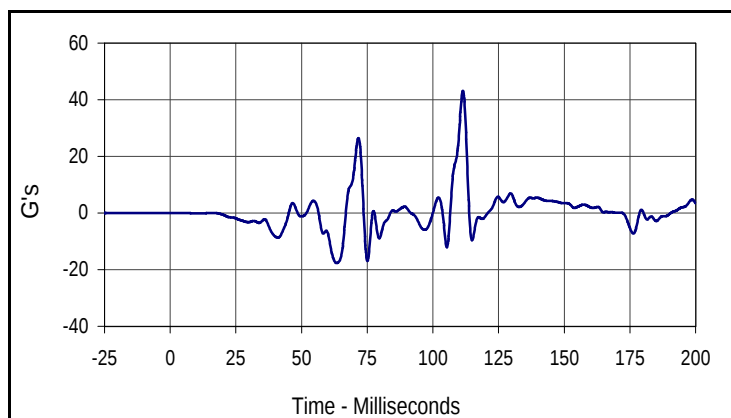
* Not installed

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

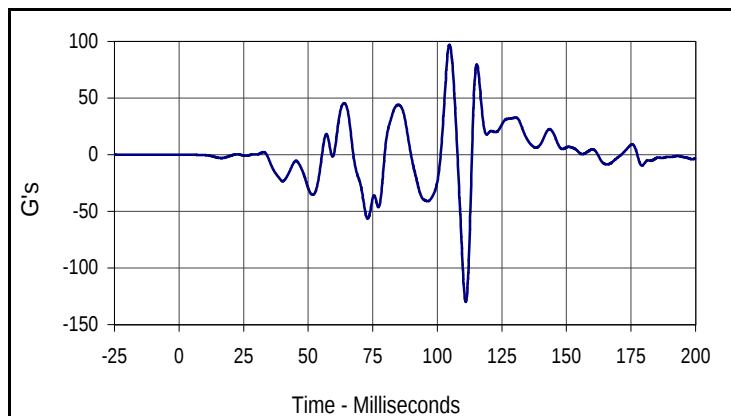
Test Date: 2/15/05
 NHTSA No.: M55207



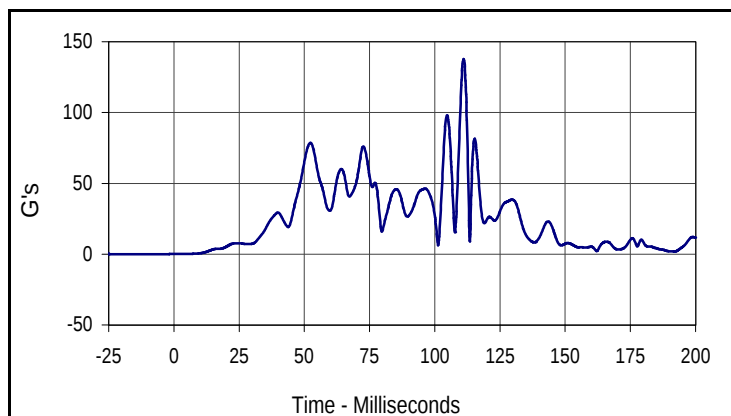
Curve Description			
Left Rear (10 Yr.) CRS X			
CURNO	Type	SAE Class	Units
170	FIL	60	G's
Max	Time	Min	Time
19.6	129.3	-70.7	52.6



Curve Description			
Left Rear (10 Yr.) CRS Y			
CURNO	Type	SAE Class	Units
171	FIL	60	G's
Max	Time	Min	Time
43.1	111.4	-17.7	63.4



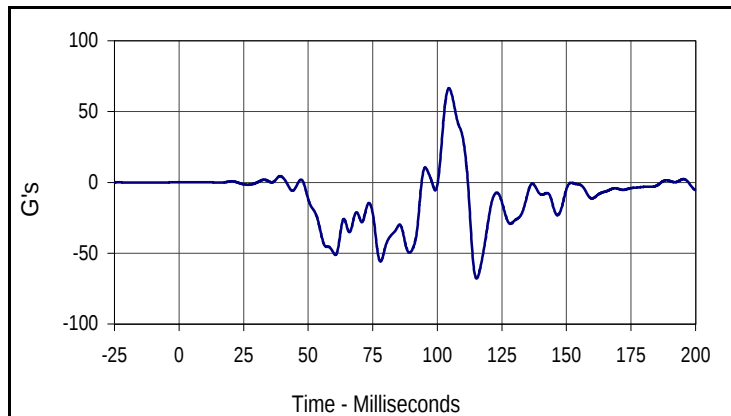
Curve Description			
Left Rear (10 Yr.) CRS Z			
CURNO	Type	SAE Class	Units
172	FIL	60	G's
Max	Time	Min	Time
97.0	104.7	-129.9	111.0



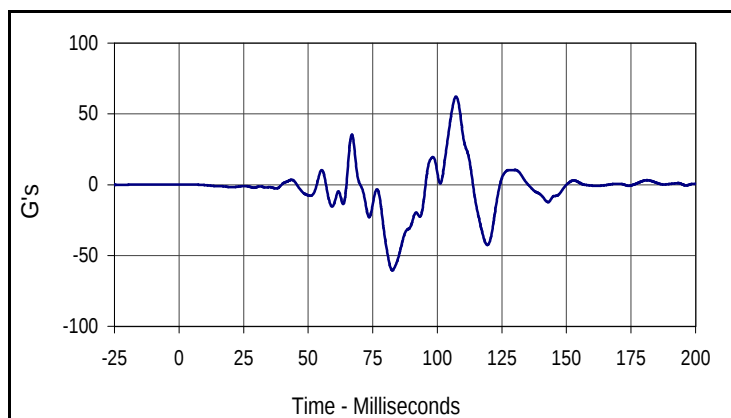
Curve Description			
Left Rear (10 Yr.) CRS Resultant			
CURNO	Type	SAE Class	Units
170	RES	60	G's
Max	Time	Min	Time
137.9	111.1	0.1	0.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

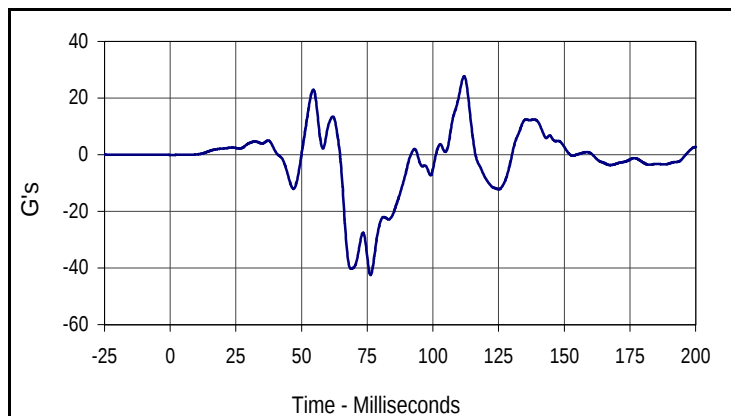
Test Date: 2/15/05
 NHTSA No.: M55207



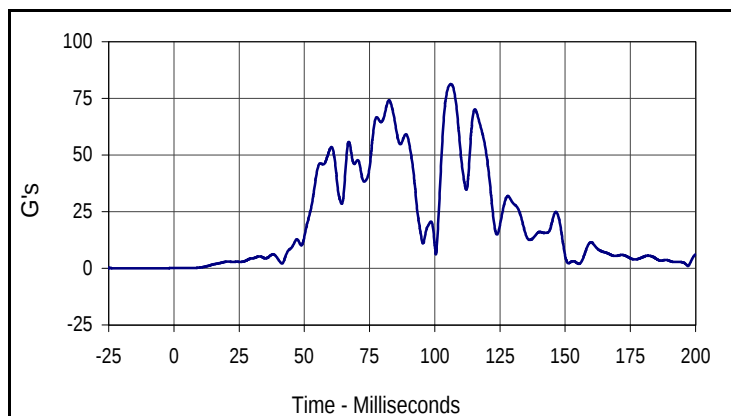
Curve Description			
Left Rear (10 Yr.) CRS Seat Back X			
CURNO	Type	SAE Class	Units
173	FIL	60	G's
Max	Time	Min	Time
66.4	104.5	-68.0	115.2



Curve Description			
Left Rear (10 Yr.) CRS Seat Back Y			
CURNO	Type	SAE Class	Units
174	FIL	60	G's
Max	Time	Min	Time
62.2	107.2	-60.4	82.6



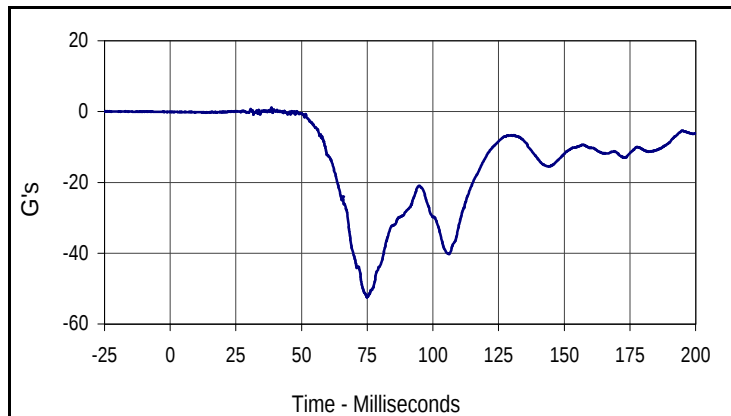
Curve Description			
Left Rear (10 Yr.) CRS Seat Back Z			
CURNO	Type	SAE Class	Units
175	FIL	60	G's
Max	Time	Min	Time
27.6	111.9	-42.4	76.3



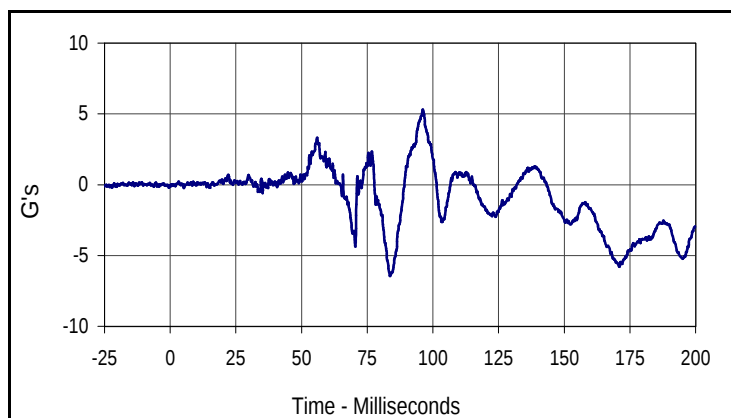
Curve Description			
Left Rear (10 Yr.) CRS Seat Back Resultant			
CURNO	Type	SAE Class	Units
173	RES	60	G's
Max	Time	Min	Time
81.3	106.2	0.1	0.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

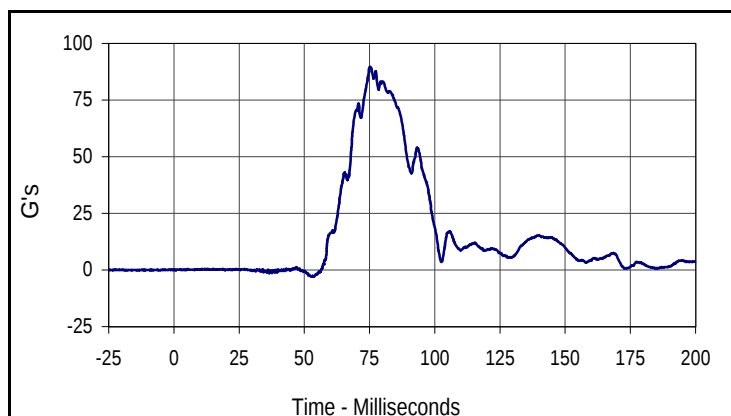
Test Date: 2/15/05
 NHTSA No.: M55207



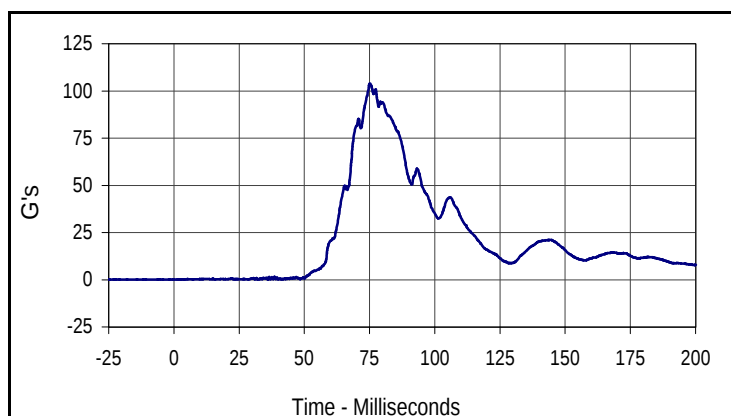
Curve Description			
Right Rear (10 Yr.) Head X			
CURNO	Type	SAE Class	Units
176	FIL	1000	G's
Max	Time	Min	Time
1.1	38.6	-52.5	74.9



Curve Description			
Right Rear (10 Yr.) Head Y			
CURNO	Type	SAE Class	Units
177	FIL	1000	G's
Max	Time	Min	Time
5.3	96.2	-6.5	83.7



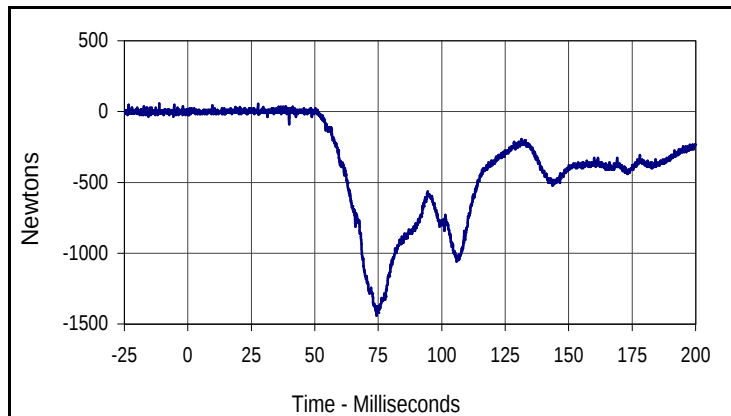
Curve Description			
Right Rear (10 Yr.) Head Z			
CURNO	Type	SAE Class	Units
178	FIL	1000	G's
Max	Time	Min	Time
89.7	75.2	-3.0	53.5



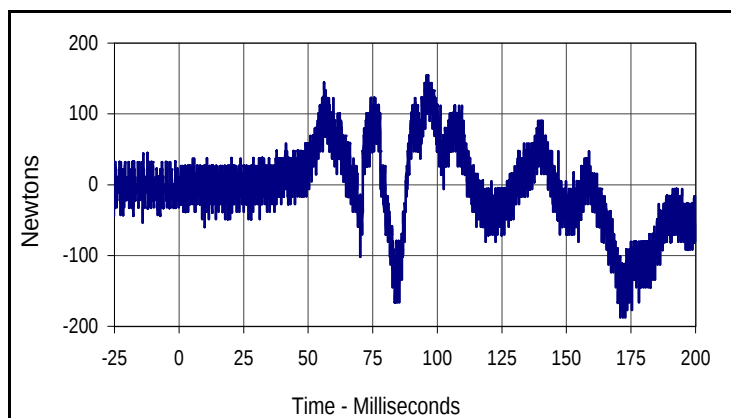
Curve Description			
Right Rear (10 Yr.) Head Resultant			
CURNO	Type	SAE Class	Units
176	RES	1000	G's
Max	Time	Min	Time
103.9	75.2	0.1	0.9

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

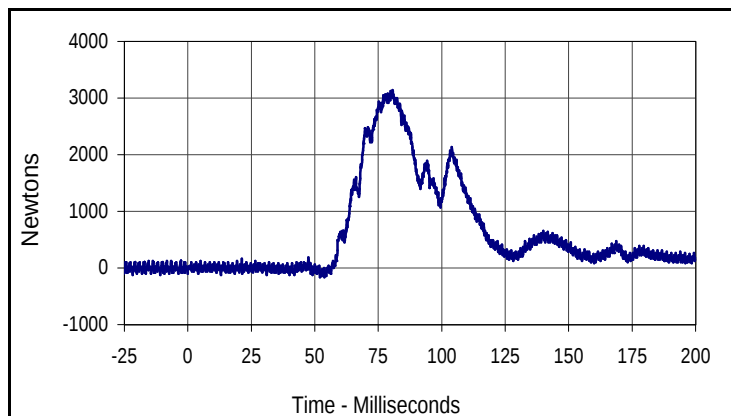
Test Date: 2/15/05
 NHTSA No.: M55207



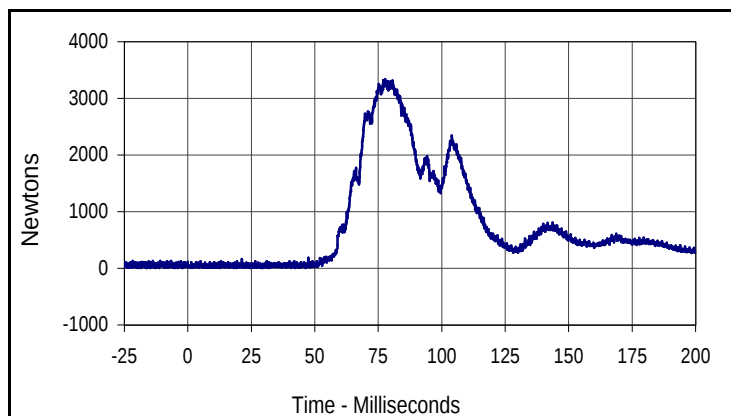
Curve Description			
Right Rear (10 Yr.) Upper Neck Force X			
CURNO	Type	SAE Class	Units
179	FIL	1000	Newtons
Max	Time	Min	Time
53.8	27.7	-1440.6	74.3



Curve Description			
Right Rear (10 Yr.) Upper Neck Force Y			
CURNO	Type	SAE Class	Units
180	FIL	1000	Newtons
Max	Time	Min	Time
154.2	95.8	-187.5	170.9



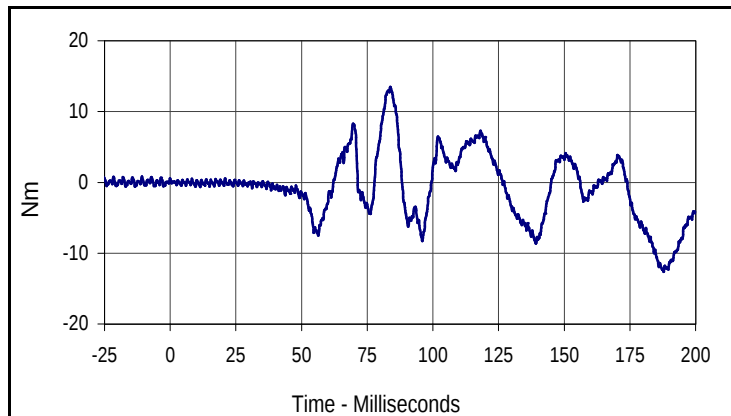
Curve Description			
Right Rear (10 Yr.) Upper Neck Force Z			
CURNO	Type	SAE Class	Units
181	FIL	1000	Newtons
Max	Time	Min	Time
3142.7	80.6	-163.8	52.0



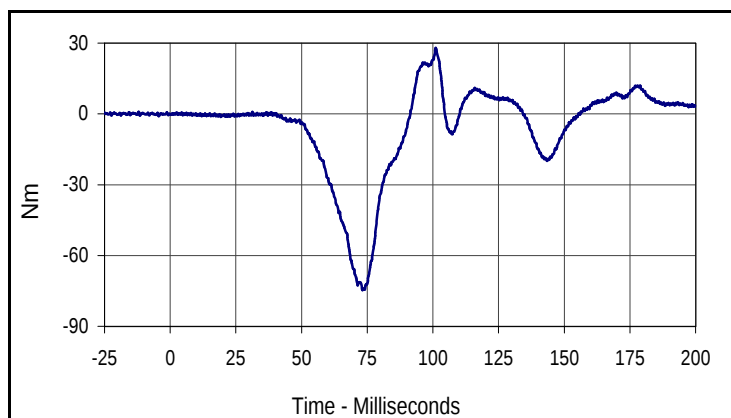
Curve Description			
Right Rear (10 Yr.) Upper Neck Force Resultant			
CURNO	Type	SAE Class	Units
179	RES	1000	Newtons
Max	Time	Min	Time
3336.6	77.7	5.2	12.7

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

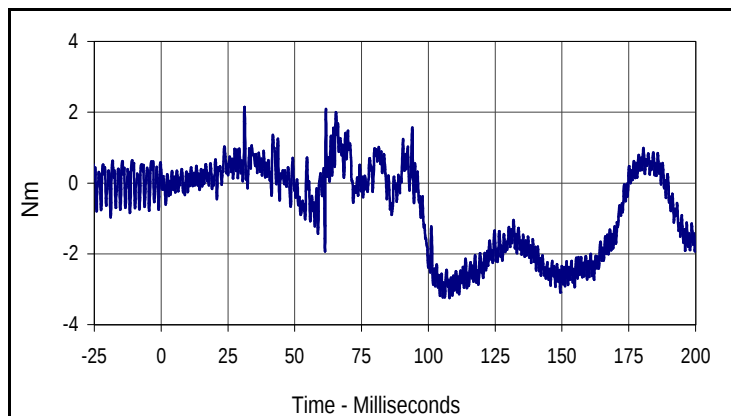
Test Date: 2/15/05
 NHTSA No.: M55207



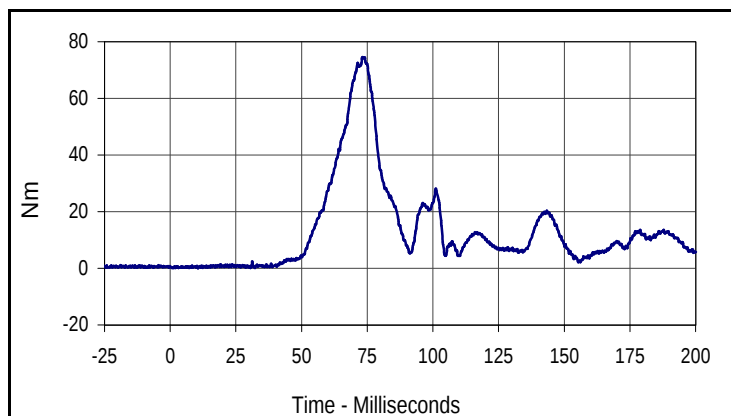
Curve Description			
Right Rear (10 Yr.) Upper Neck Moment X			
CURNO	Type	SAE Class	Units
182	FIL	600	Nm
Max	Time	Min	Time
13.5	83.8	-12.6	187.8



Curve Description			
Right Rear (10 Yr.) Upper Neck Moment Y			
CURNO	Type	SAE Class	Units
183	FIL	600	Nm
Max	Time	Min	Time
28.0	101.1	-74.6	73.2



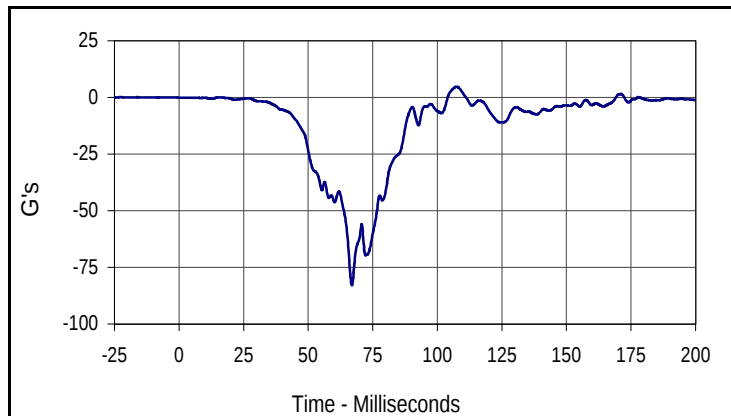
Curve Description			
Right Rear (10 Yr.) Upper Neck Moment Z			
CURNO	Type	SAE Class	Units
184	FIL	600	Nm
Max	Time	Min	Time
2.1	31.2	-3.3	107.9



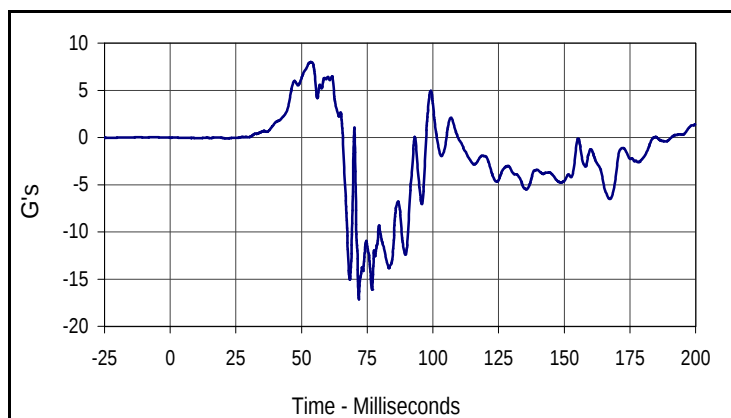
Curve Description			
Right Rear (10 Yr.) Upper Neck Moment Resultant			
CURNO	Type	SAE Class	Units
182	RES	600	Nm
Max	Time	Min	Time
74.6	73.2	0.1	10.6

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

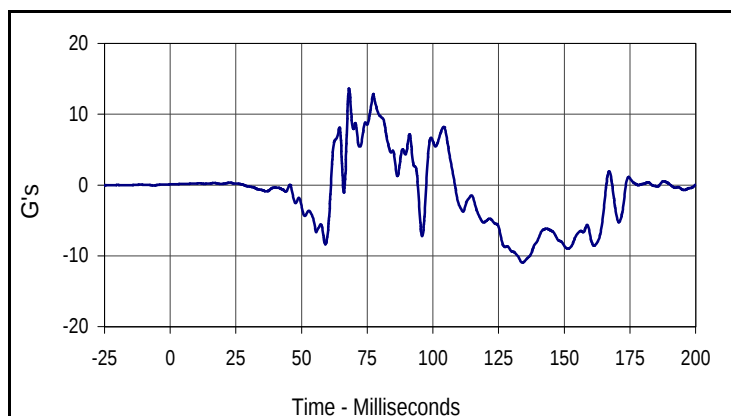
Test Date: 2/15/05
 NHTSA No.: M55207



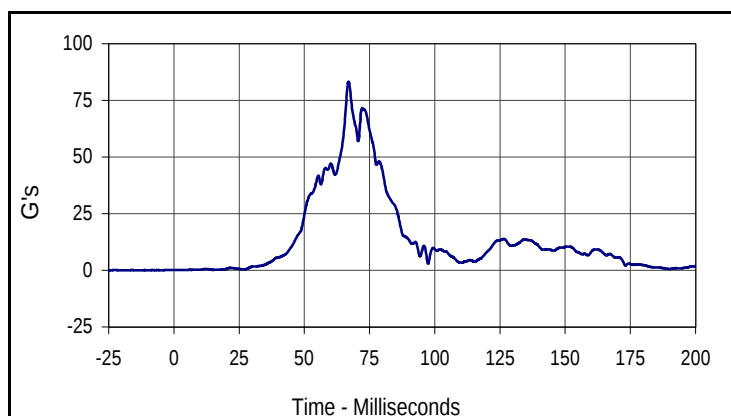
Curve Description			
Right Rear (10 Yr.) Chest X			
CURNO	Type	SAE Class	Units
185	FIL	180	G's
Max	Time	Min	Time
4.7	107.5	-82.9	66.9



Curve Description			
Right Rear (10 Yr.) Chest Y			
CURNO	Type	SAE Class	Units
186	FIL	180	G's
Max	Time	Min	Time
8.0	53.5	-17.2	71.8



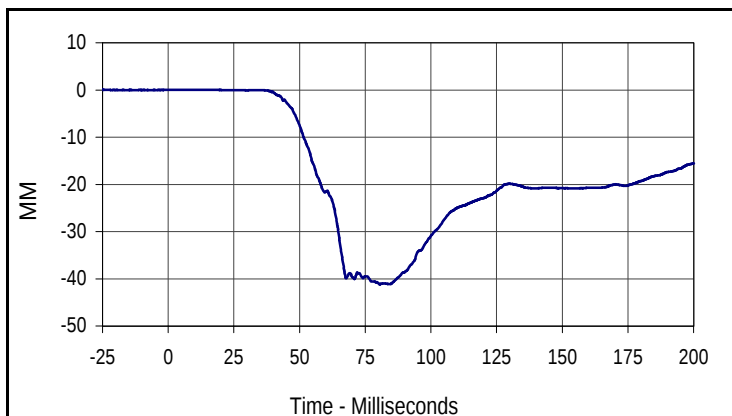
Curve Description			
Right Rear (10 Yr.) Chest Z			
CURNO	Type	SAE Class	Units
187	FIL	180	G's
Max	Time	Min	Time
13.6	68.1	-11.0	134.1



Curve Description			
Right Rear (10 Yr.) Chest Resultant			
CURNO	Type	SAE Class	Units
185	RES	180	G's
Max	Time	Min	Time
83.2	66.9	0.2	2.7

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

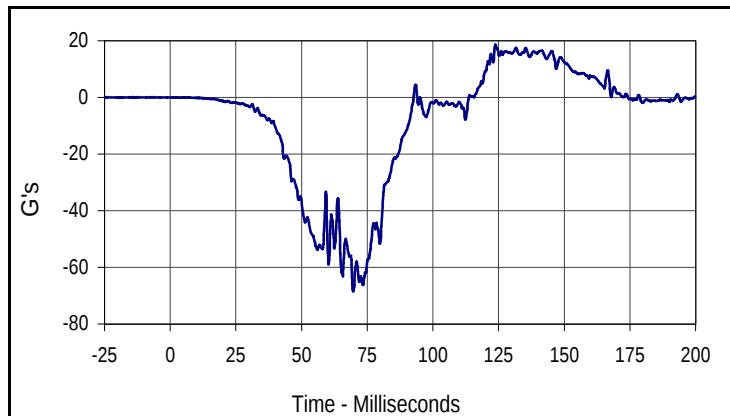
Test Date: 2/15/05
 NHTSA No.: M55207



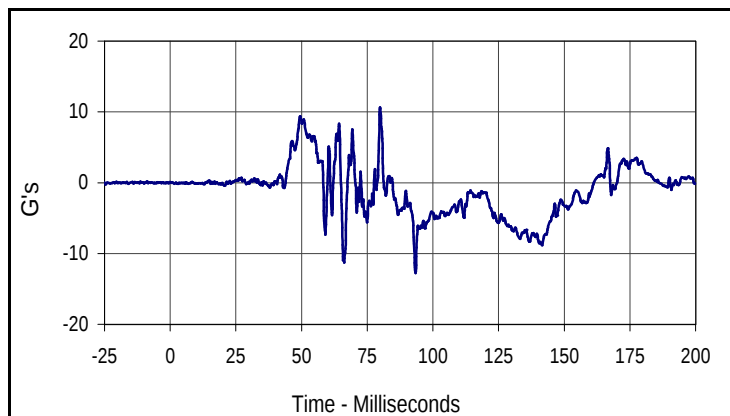
Curve Description			
Right Rear (10 Yr.) Chest Deflection			
CURNO	Type	SAE Class	Units
188	FIL	600	MM
Max	Time	Min	Time
0.0	13.6	-41.2	80.6

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

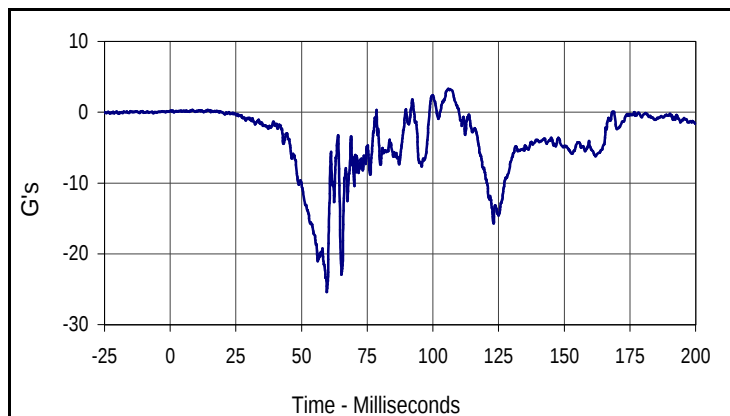
Test Date: 2/15/05
 NHTSA No.: M55207



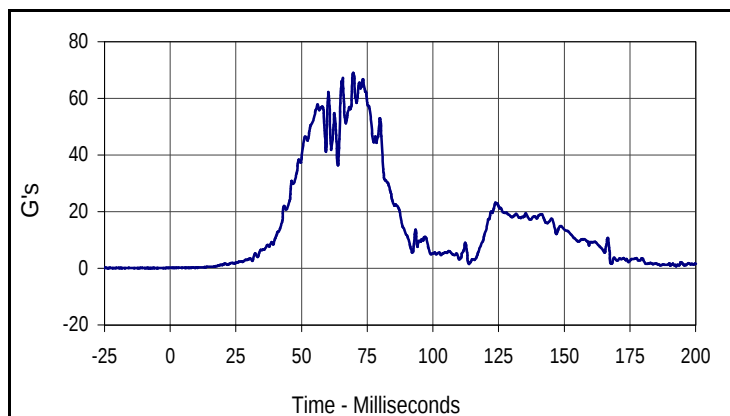
Curve Description			
Right Rear (10 Yr.) Pelvis X			
CURNO	Type	SAE Class	Units
189	FIL	1000	G's
Max	Time	Min	Time
18.6	123.8	-68.4	69.7



Curve Description			
Right Rear (10 Yr.) Pelvis Y			
CURNO	Type	SAE Class	Units
190	FIL	1000	G's
Max	Time	Min	Time
10.6	79.9	-12.8	93.4



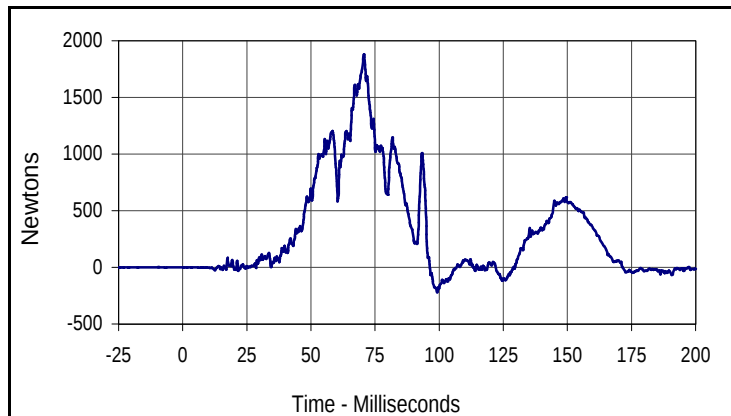
Curve Description			
Right Rear (10 Yr.) Pelvis Z			
CURNO	Type	SAE Class	Units
191	FIL	1000	G's
Max	Time	Min	Time
3.3	105.9	-25.4	59.7



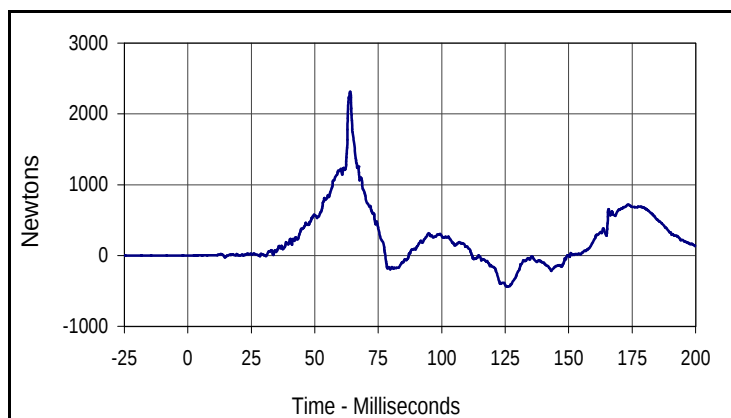
Curve Description			
Right Rear (10 Yr.) Pelvis Resultant			
CURNO	Type	SAE Class	Units
189	RES	1000	G's
Max	Time	Min	Time
69.0	69.7	0.1	0.7

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 2/15/05
 NHTSA No.: M55207



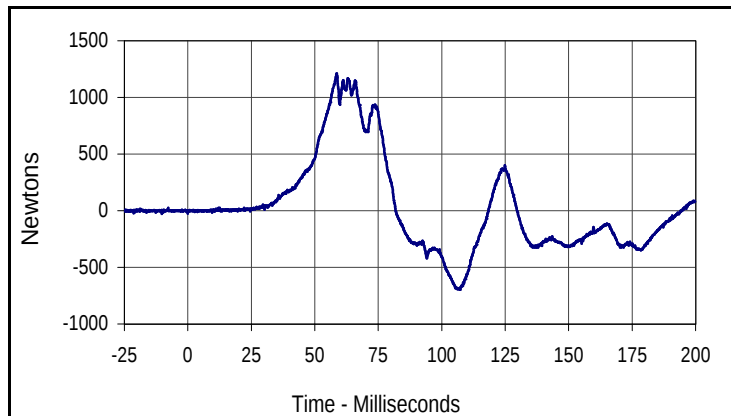
Curve Description			
Right Rear (10 Yr.) Left Femur Force			
CURNO	Type	SAE Class	Units
192	FIL	600	Newtons
Max	Time	Min	Time
1881.5	70.7	-221.5	99.3



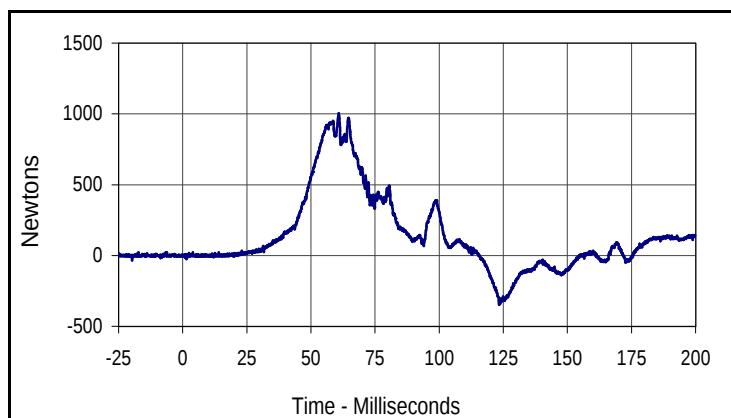
Curve Description			
Right Rear (10 Yr.) Right Femur Force			
CURNO	Type	SAE Class	Units
193	FIL	600	Newtons
Max	Time	Min	Time
2312.7	64.0	-438.4	126.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

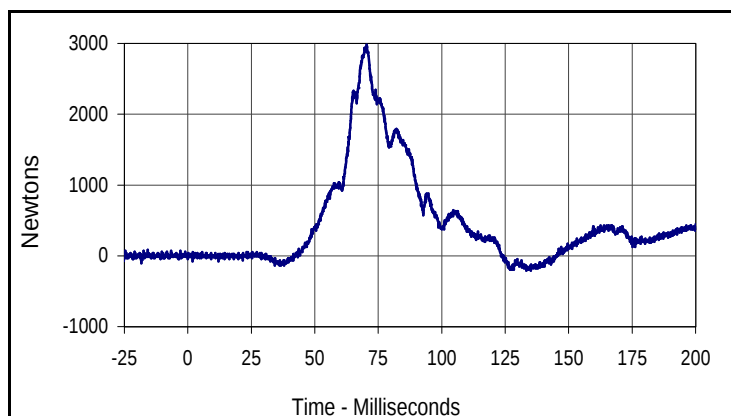
Test Date: 2/15/05
 NHTSA No.: M55207



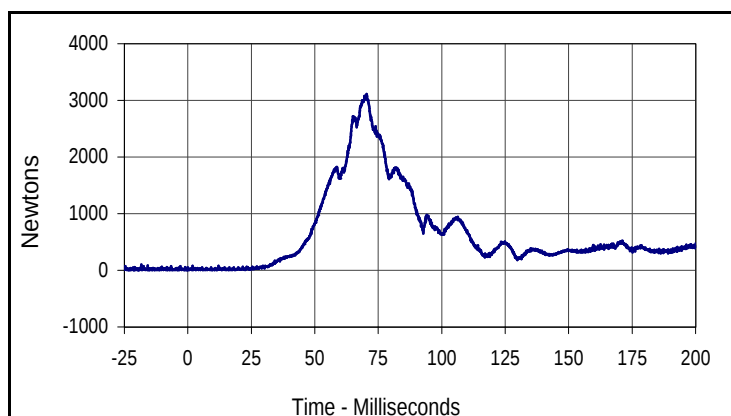
Curve Description			
Right Rear (10 Yr.) Lumbar Force X			
CURNO	Type	SAE Class	Units
194	FIL	1000	Newtons
Max	Time	Min	Time
1212.5	58.7	-697.4	107.1



Curve Description			
Right Rear (10 Yr.) Lumbar Force Y			
CURNO	Type	SAE Class	Units
195	FIL	1000	Newtons
Max	Time	Min	Time
1005.4	60.9	-349.2	123.4



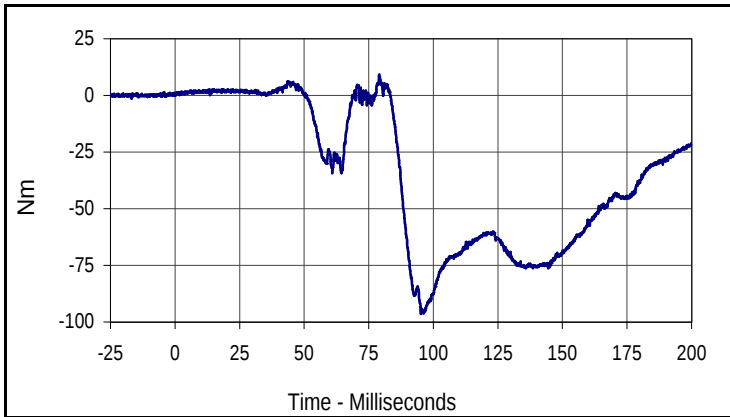
Curve Description			
Right Rear (10 Yr.) Lumbar Force Z			
CURNO	Type	SAE Class	Units
196	FIL	1000	Newtons
Max	Time	Min	Time
2981.6	70.4	-208.0	133.3



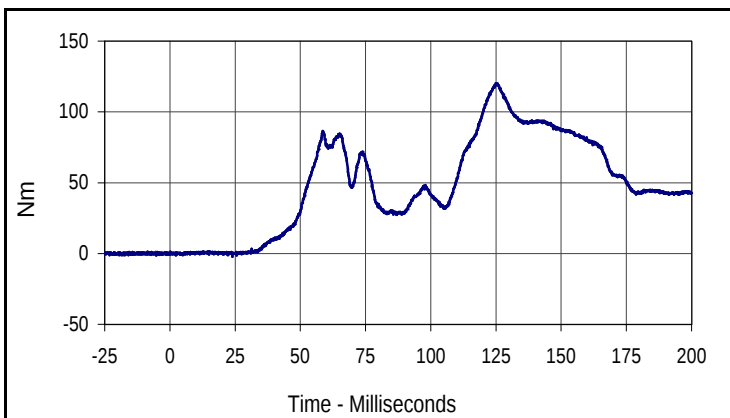
Curve Description			
Right Rear (10 Yr.) Lumbar Force Resultant			
CURNO	Type	SAE Class	Units
194	RES	1000	Newtons
Max	Time	Min	Time
3113.3	70.4	2.0	0.0

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

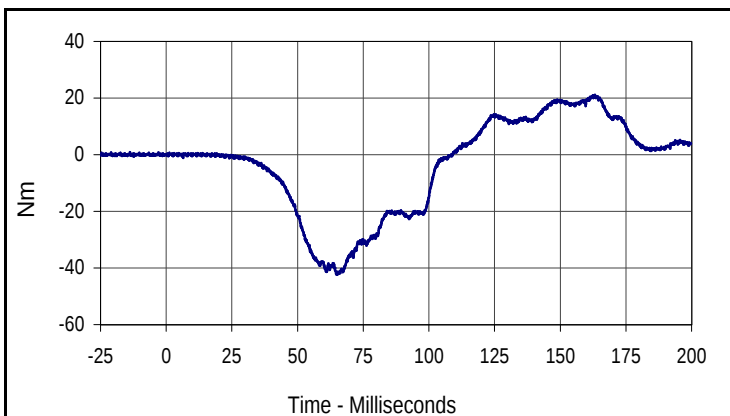
Test Date: 2/15/05
 NHTSA No.: M55207



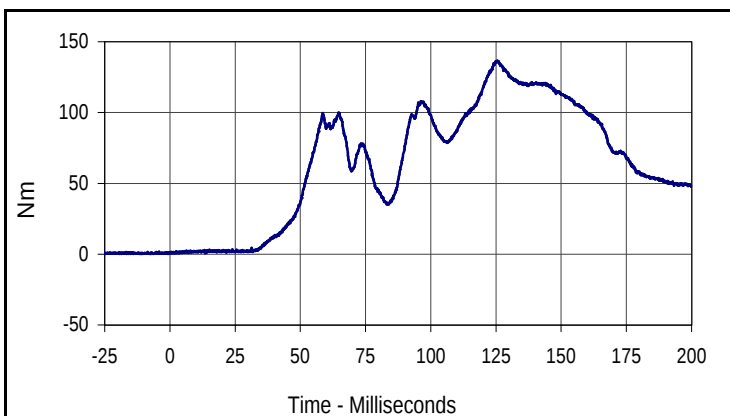
Curve Description			
Right Rear (10 Yr.) Lumbar Moment X			
CURNO	Type	SAE Class	Units
197	FIL	1000	Nm
Max	Time	Min	Time
9.2	79.1	-96.5	95.2



Curve Description			
Right Rear (10 Yr.) Lumbar Moment Y			
CURNO	Type	SAE Class	Units
198	FIL	1000	Nm
Max	Time	Min	Time
120.1	124.9	-2.4	24.0



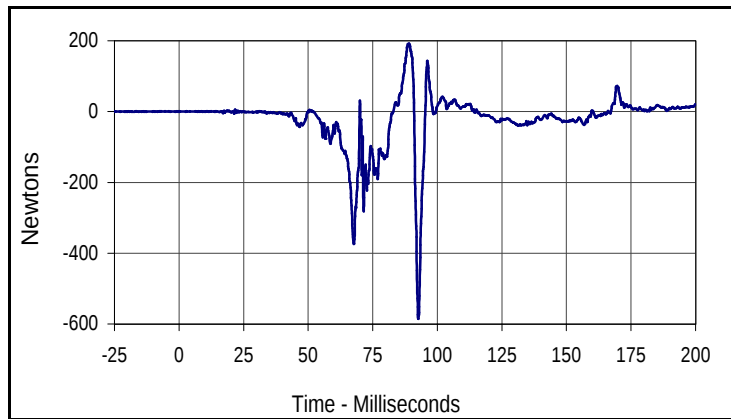
Curve Description			
Right Rear (10 Yr.) Lumbar Moment Z			
CURNO	Type	SAE Class	Units
199	FIL	1000	Nm
Max	Time	Min	Time
21.1	163.2	-42.3	65.0



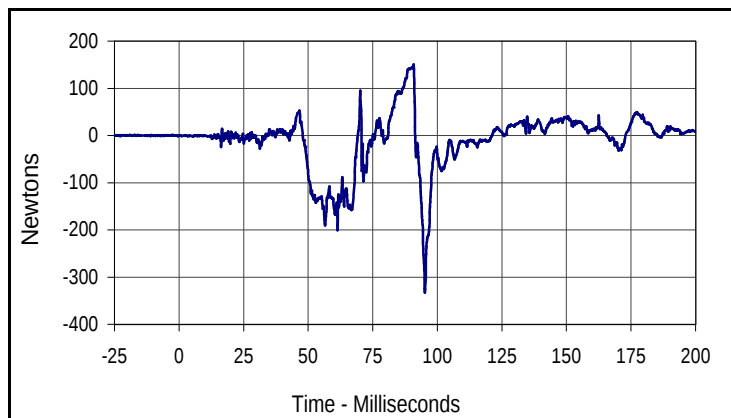
Curve Description			
Right Rear (10 Yr.) Lumbar Moment Resultant			
CURNO	Type	SAE Class	Units
197	RES	1000	Nm
Max	Time	Min	Time
136.6	125.5	0.3	1.8

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

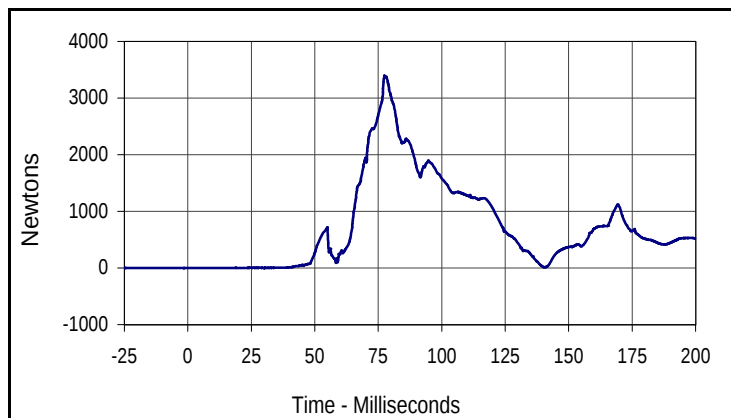
Test Date: 2/15/05
 NHTSA No.: M55207



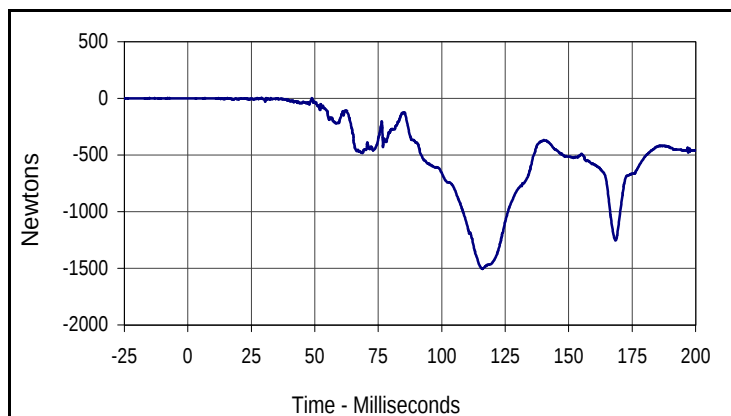
Curve Description			
Right Rear (10 Yr.) Left Clavicle Force X			
CURNO	Type	SAE Class	Units
200	FIL	1000	Newtons
Max	Time	Min	Time
192.1	89.0	-586.0	92.6



Curve Description			
Right Rear (10 Yr.) Left Clavicle Force Z			
CURNO	Type	SAE Class	Units
201	FIL	1000	Newtons
Max	Time	Min	Time
150.5	90.9	-332.8	95.2



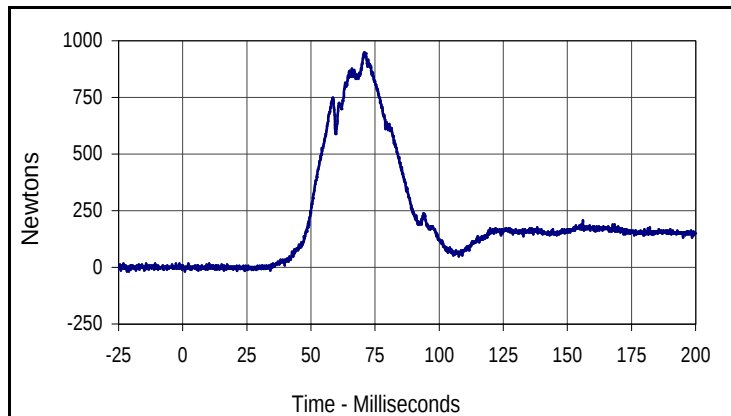
Curve Description			
Right Rear (10 Yr.) Right Clavicle Force X			
CURNO	Type	SAE Class	Units
202	FIL	1000	Newtons
Max	Time	Min	Time
3397.5	77.4	-3.2	30.2



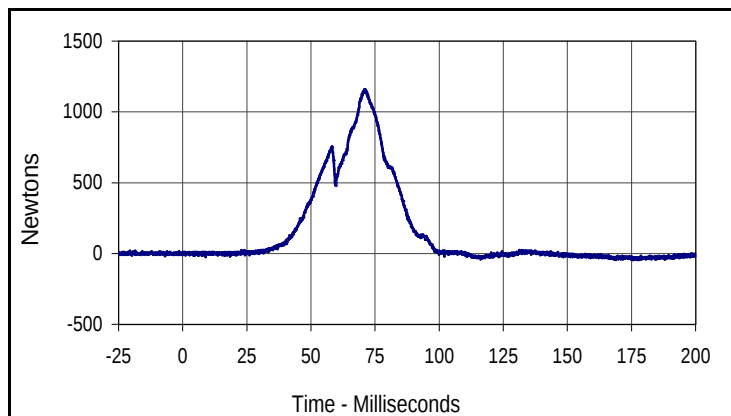
Curve Description			
Right Rear (10 Yr.) Right Clavicle Force Z			
CURNO	Type	SAE Class	Units
203	FIL	1000	Newtons
Max	Time	Min	Time
5.72	29.1	-1504.38	116.1

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

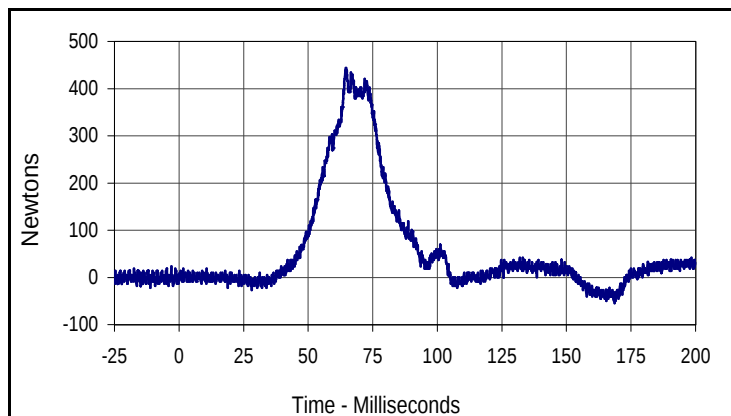
Test Date: 2/15/05
 NHTSA No.: M55207



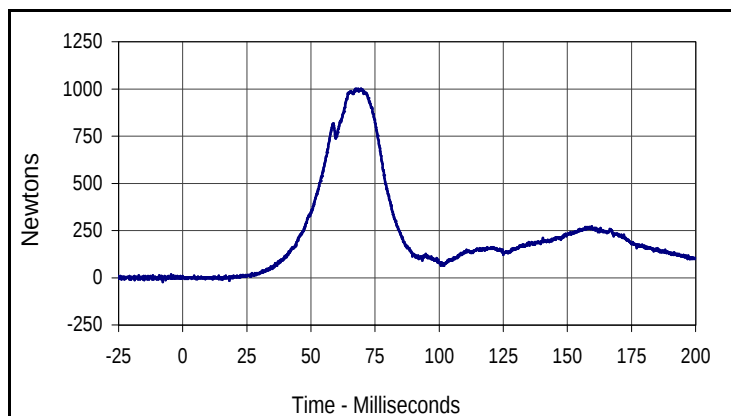
Curve Description			
Right Rear (10 Yr.) Left Upper ASIS Force			
CURNO	Type	SAE Class	Units
204	FIL	1000	Newtons
Max	Time	Min	Time
947.5	70.7	-18.7	0.8



Curve Description			
Right Rear (10 Yr.) Left Lower ASIS Force			
CURNO	Type	SAE Class	Units
205	FIL	1000	Newtons
Max	Time	Min	Time
1158.9	70.8	-46.0	168.9



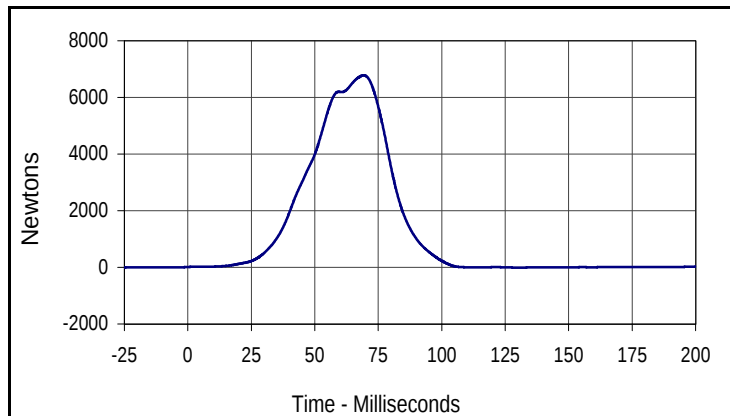
Curve Description			
Right Rear (10 Yr.) Right Upper ASIS Force			
CURNO	Type	SAE Class	Units
206	FIL	1000	Newtons
Max	Time	Min	Time
443.4	64.6	-54.3	168.7



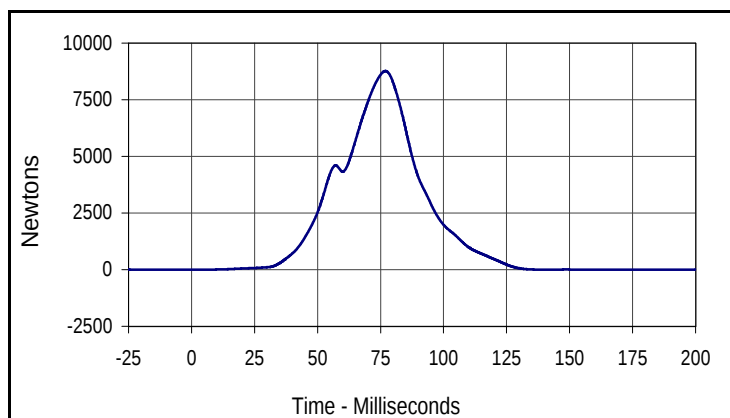
Curve Description			
Right Rear (10 Yr.) Right Lower ASIS Force			
CURNO	Type	SAE Class	Units
207	FIL	1000	Newtons
Max	Time	Min	Time
1000.5	67.3	-15.9	18.2

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

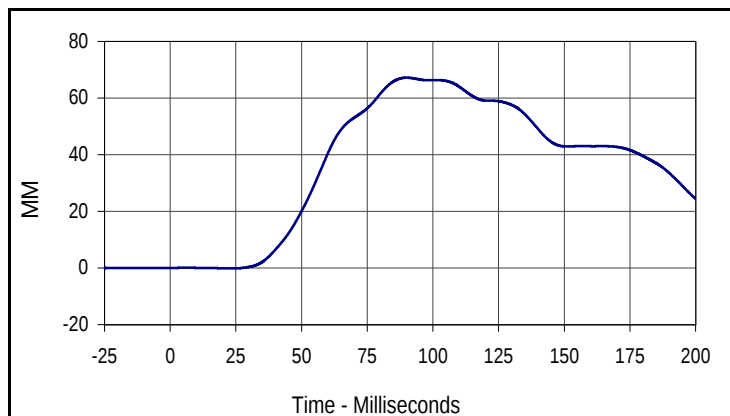
Test Date: 2/15/05
 NHTSA No.: M55207



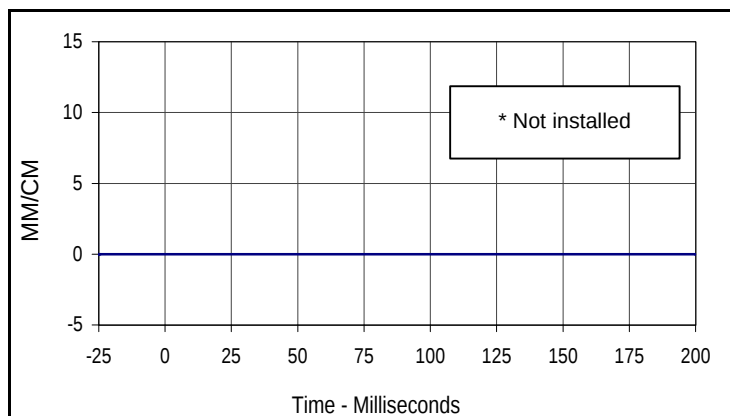
Curve Description			
Right Rear (10 Yr.) Lap Belt Force			
CURNO	Type	SAE Class	Units
208	FIL	60	Newtons
Max	Time	Min	Time
6779.4	69.3	-11.1	130.3



Curve Description			
Right Rear (10 Yr.) Shoulder Belt Force			
CURNO	Type	SAE Class	Units
209	FIL	60	Newtons
Max	Time	Min	Time
8766.2	76.9	-4.2	183.8



Curve Description			
Right Rear (10 Yr.) Shoulder Belt Pullout (10 yr)			
CURNO	Type	SAE Class	Units
210	FIL	60	MM
Max	Time	Min	Time
67.2	89.9	-0.1	24.6

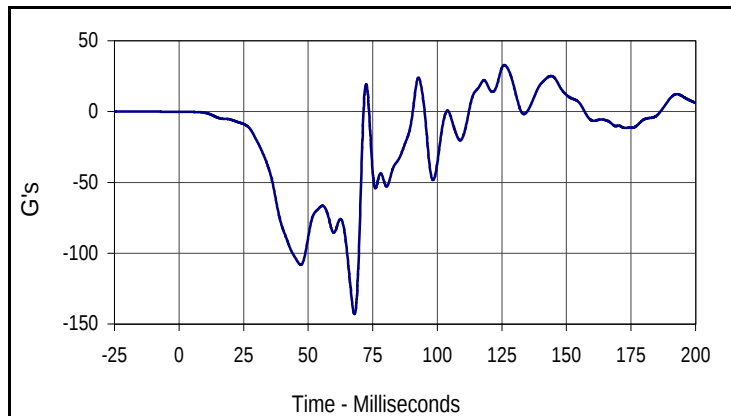


Curve Description			
Right Rear (10 Yr.) Shoulder Belt Elongation			
CURNO	Type	SAE Class	Units
211	FIL	60	MM/CM
Max	Time	Min	Time
0.0	0.0	0.0	0.0

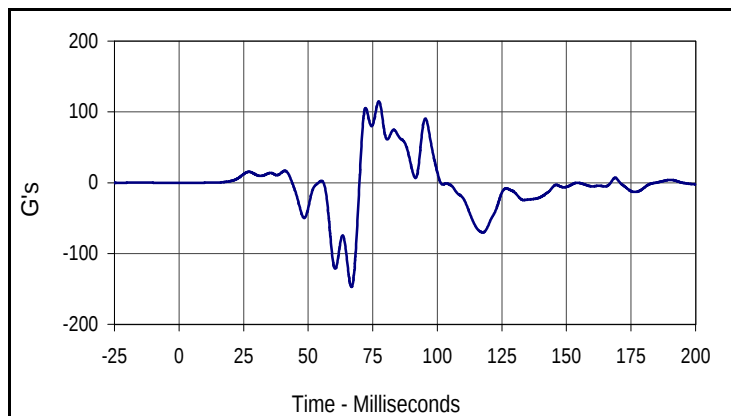
* Not installed

Test Vehicle: 2005 Nissan Titan LE 4-Door Truck
 Test Program: 2005 NHTSA 35mph NCAP

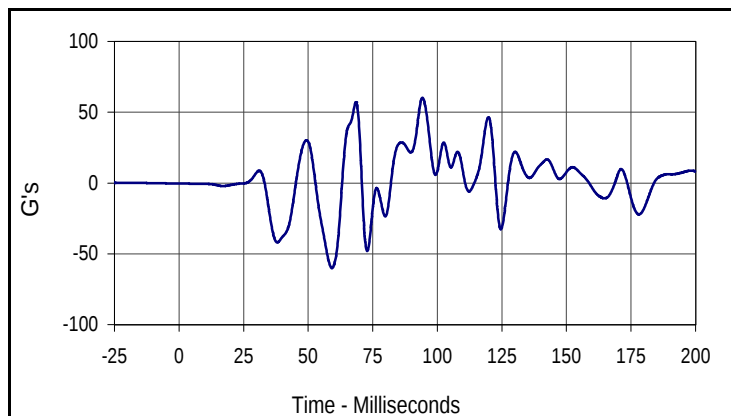
Test Date: 2/15/05
 NHTSA No.: M55207



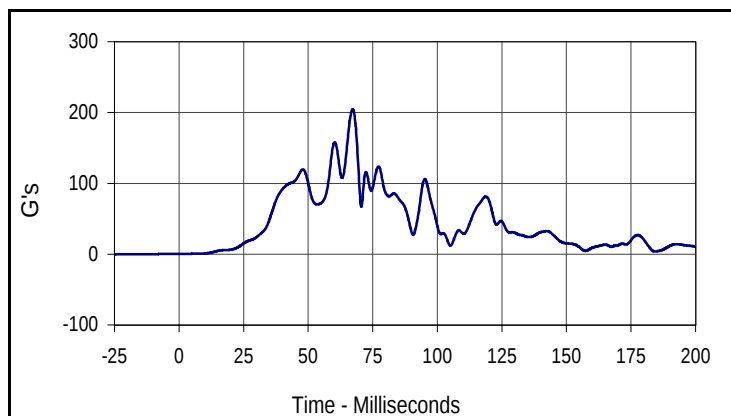
Curve Description			
Right Rear (10 Yr.) CRS X			
CURNO	Type	SAE Class	Units
212	FIL	60	G's
Max	Time	Min	Time
32.8	126.0	-143.0	67.9



Curve Description			
Right Rear (10 Yr.) CRS Y			
CURNO	Type	SAE Class	Units
213	FIL	60	G's
Max	Time	Min	Time
114.7	77.4	-147.2	66.8



Curve Description			
Right Rear (10 Yr.) CRS Z			
CURNO	Type	SAE Class	Units
214	FIL	60	G's
Max	Time	Min	Time
60.2	94.3	-60.2	59.2



Curve Description			
Right Rear (10 Yr.) CRS Resultant			
CURNO	Type	SAE Class	Units
212	RES	60	G's
Max	Time	Min	Time
204.7	67.2	0.4	0.0

SECTION F-4

INSTRUMENTATION DATA CHANNEL ASSIGNMENTS

2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Left Rear Child A.T.D. Serial Number 011 (10 Yr.)
2/15/05
2005 Nissan Titan LE 4-Door Truck

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.)
2/15/05
2005 Nissan Titan LE 4-Door Truck

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.)
2/15/05
2005 Nissan Titan LE 4-Door Truck**

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.)
2/15/05
2005 Nissan Titan LE 4-Door Truck**

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	09CLRFX	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
212	CRS	X	KETX4A	Accel.,1/2 bridge	Endevco	7264-200	G
213	CRS	Y	KETX4B	Accel.,1/2 bridge	Endevco	7264-200	G
214	CRS	Z	KETX4C	Accel.,1/2 bridge	Endevco	7264-200	G

SECTION F-5

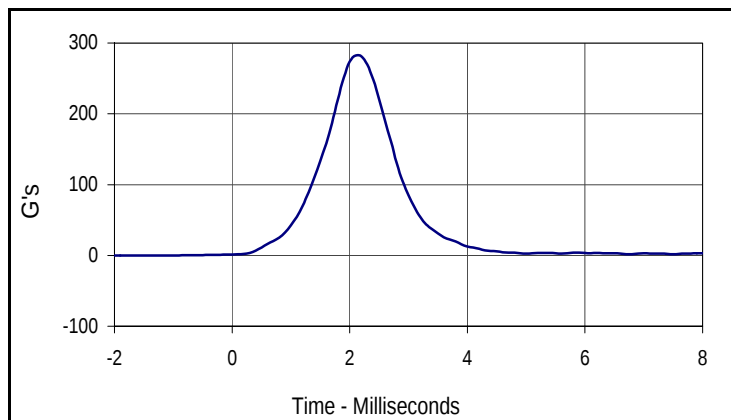
CHILD DUMMY CALIBRATION INFORMATION

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

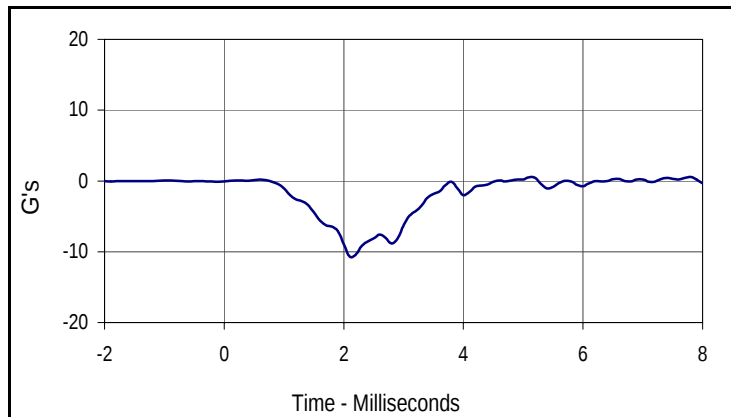
Test Date: 1/18/05
 Test I.D.: HD01A



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	282.5	Pass
Peak Lateral Acceleration	G's	≤15.0	10.7	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<10	1.4	Pass
Overall Test Results			Pass	



Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
282.5	2.1	0.0	-2.0



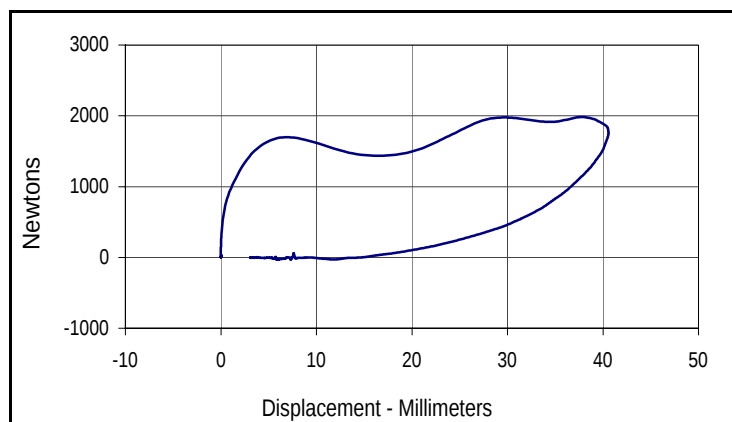
Curve Description			
Head Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
0.5	5.1	-10.7	2.1

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

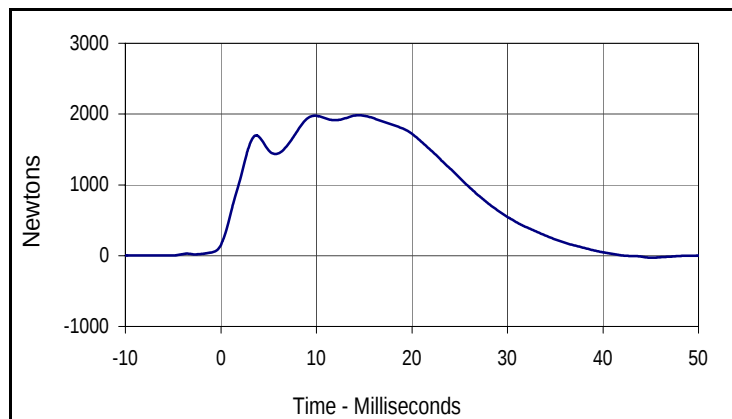
Test Date: 1/19/05
 Test I.D.: CH01A



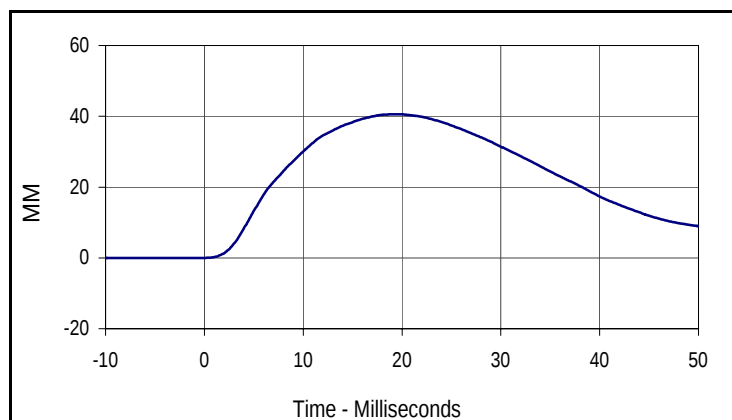
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	5.88 to 6.12	6.10	Pass
Peak Chest Deflection	MM	40.5 to 48.5	40.6	Pass
Peak Force Between 40.5 and 48.5 MM	Newtons	1830 to 2330	1983	Pass
Peak Force Between 20 and 40.5 MM	Newtons	≤2330	1757	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	
1982.8		40.6	



Curve Description			
Probe Force			
CURNO	Type	SAE Class	Units
002	FIL	180	Newtons
Max	Time	Min	Time
1982.8	14.4	-34.3	77.8



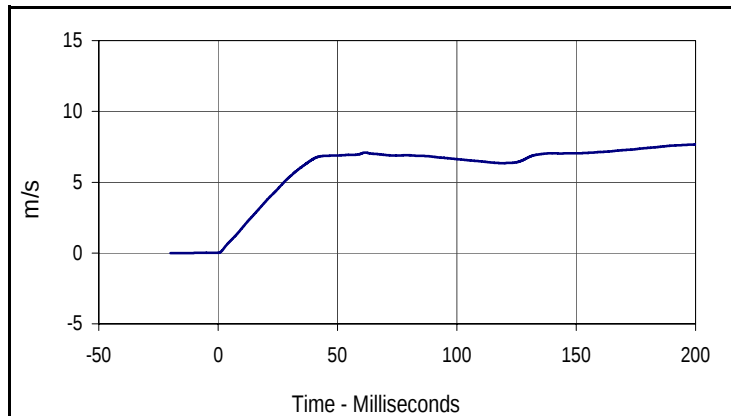
Curve Description			
Chest Deflection			
CURNO	Type	SAE Class	Units
001	FIL	180	MM
Max	Time	Min	Time
40.6	19.5	0.0	-0.4

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

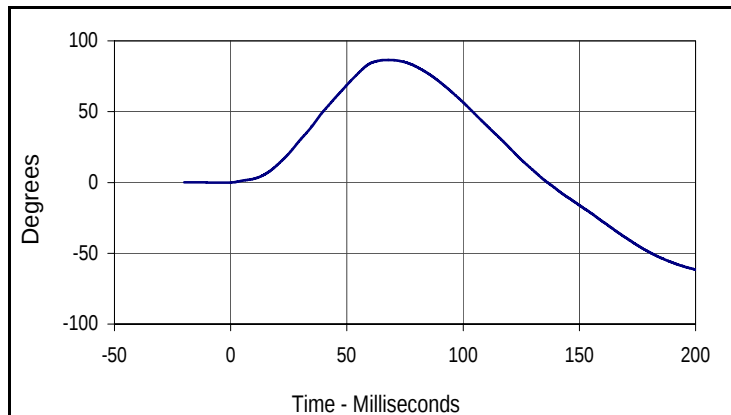
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 Test I.D.: NF01A



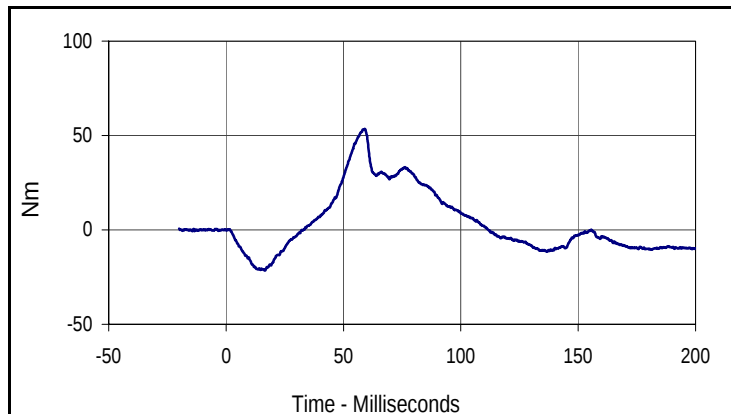
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	5.98 to 6.22	6.13	Pass
Pendulum Deceleration	10 Msec.	m/s	1.64 to 2.04	1.76	Pass
	20 Msec.	m/s	3.04 to 4.04	3.66	Pass
	30 Msec.	m/s	4.45 to 5.65	5.39	Pass
"D" Plane Rotation	Max	Degrees	74.0 to 88.0	86.6	Pass
Peak Moment in Rotation	Max	Nm	50.0 to 62.0	53.5	Pass
Positive Moment Decay, Time To 10 Nm		Msec.	85.0 to 105.0	99.0	Pass
			Overall Test Results		Pass



Curve Description			
Pendulum Velocity			
CURNO	Type	SAE Class	Units
001	FIL	180	m/s
Max	Time	Min	Time
7.7	200.0	0.0	-20.0



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
86.6	67.8	-61.5	200.0



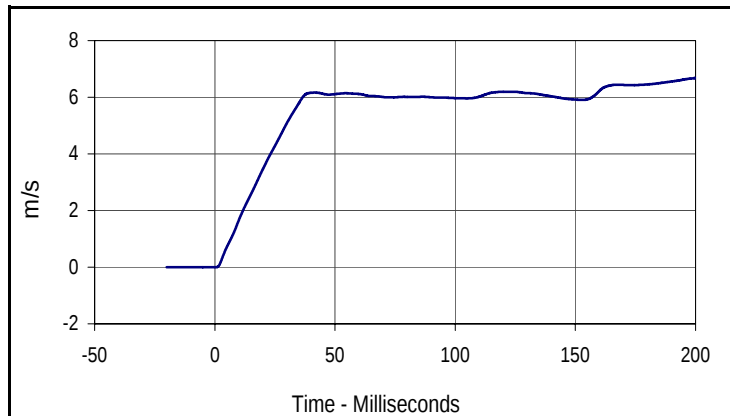
Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
002	FIL	600	Nm
Max	Time	Min	Time
53.5	59.1	-21.6	16.6

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

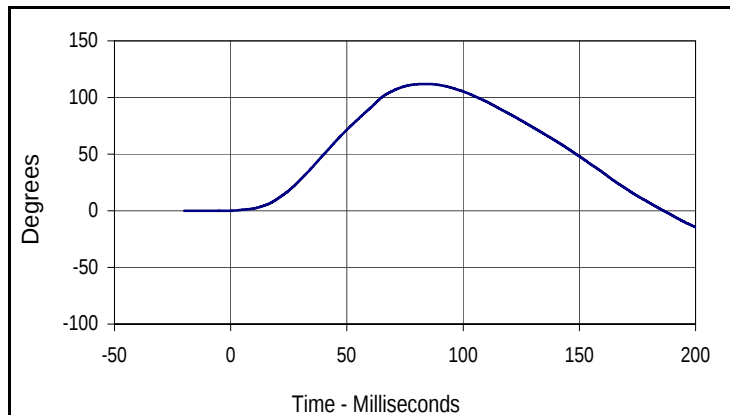
Test Date: 1/18/05
 Test I.D.: NE01A



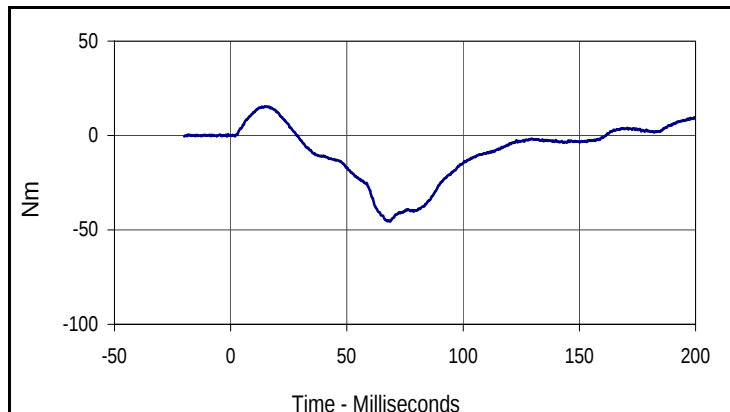
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	4.91 to 5.15	5.09	Pass
Pendulum Deceleration	10 Msec.	m/s	1.59 to 1.89	1.66	Pass
	20 Msec.	m/s	2.88 to 3.68	3.47	Pass
	30 Msec.	m/s	4.20 to 5.20	5.09	Pass
"D" Plane Rotation	Max	Degrees	99.0 to 114.0	112.0	Pass
Peak Moment in Rotation	Max	Nm	-35.0 to -47.0	-45.6	Pass
Positive Moment Decay, Time To 10 Nm		Msec.	100.0 to 120.0	107.9	Pass
			Overall Test Results		Pass



Curve Description			
Pendulum Velocity			
CURNO	Type	SAE Class	Units
001	FIL	180	m/s
Max	Time	Min	Time
6.7	200.0	0.0	0.4



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
112.0	83.9	-14.5	200.0



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
002	FIL	600	Nm
Max	Time	Min	Time
15.4	14.6	-45.6	68.5

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

Test Date: 1/19/05
 Test I.D.: LK01A , RK01A

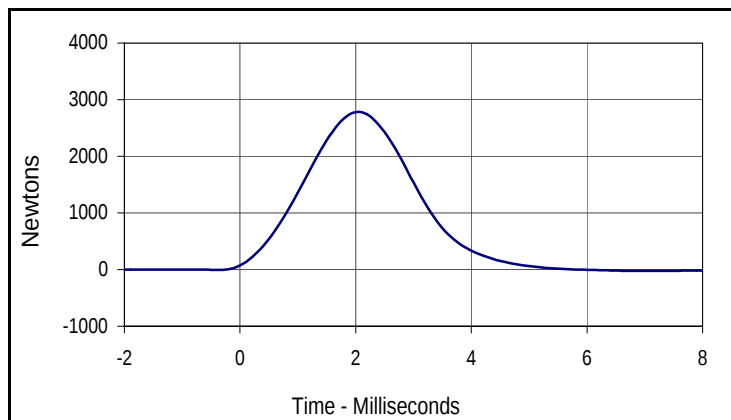


Left Knee

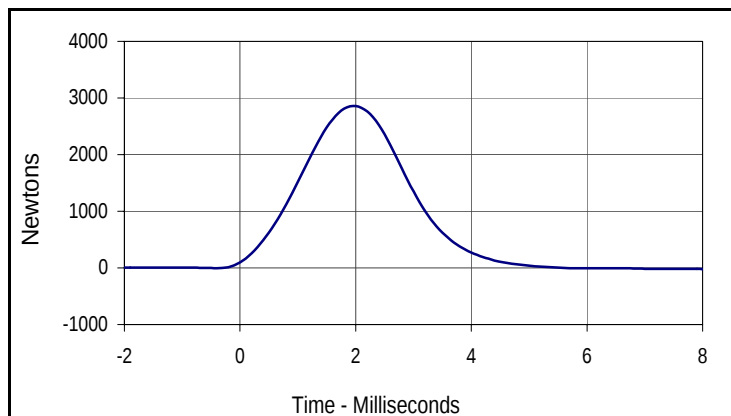
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.09	Pass
Peak Probe Force	Newtons	2560 to 3140	2780	Pass
Overall Test Results				Pass

Right Knee

Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.08	Pass
Peak Probe Force	Newtons	2560 to 3140	2859	Pass
Overall Test Results				Pass



Curve Description			
Left Knee Probe Force			
CURNO	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
2780.3	2.0	-24.7	6.9



Curve Description			
Right Knee Probe Force			
CURNO	Type	SAE Class	Units
002	FIL	600	Newtons
Max	Time	Min	Time
2859.1	2.0	-25.4	8.6

Test Program: Hybrid III 10 Yr Old External Measurements

Test Date: 1/19/05

ATD Serial No.: 009

Test I.D.: N/A



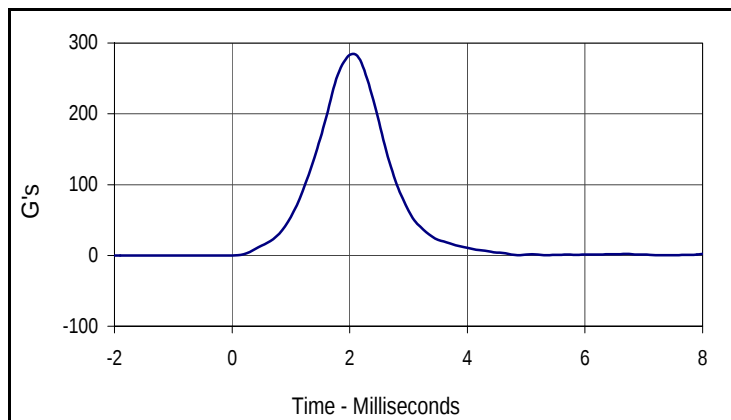
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
A - Total sitting height	mm	710 to 737	715	Pass
B - Shoulder pivot height	mm	385 to 405	398	Pass
C - "H" point height	mm	78 to 88	82	Pass
D - "H" point from backline	mm	133 to 143	140	Pass
E - Shoulder pivot from back	mm	80 to 90	86	Pass
F - Thigh clearance	mm	105 to 121	109	Pass
G - Elbow back to wrist pivot	mm	227 to 243	240	Pass
H - Skull cap to back line	mm	46 to 51	50	Pass
I - Shoulder to elbow length	mm	269 to 285	272	Pass
J - Elbow rest height	mm	137 to 158	150	Pass
K - Buttock to knee length	mm	464 to 484	475	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	380	Pass
O - Chest depth without jacket	mm	158 to 173	165	Pass
P - Foot length	mm	188 to 203	200	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	182	Pass
U - Hip breadth	mm	257 to 272	265	Pass
V - Shoulder breadth	mm	307 to 323	310	Pass
W - Foot breadth	mm	69 to 84	75	Pass
X - Head circumference	mm	528 to 549	540	Pass
Y - Chest circumference with jacket	mm	691 to 716	700	Pass
Z - Waist circumference	mm	696 to 721	715	Pass
AA - Location for chest circumference	mm	338 to 348	340	Pass
Overall Test Results				Pass

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

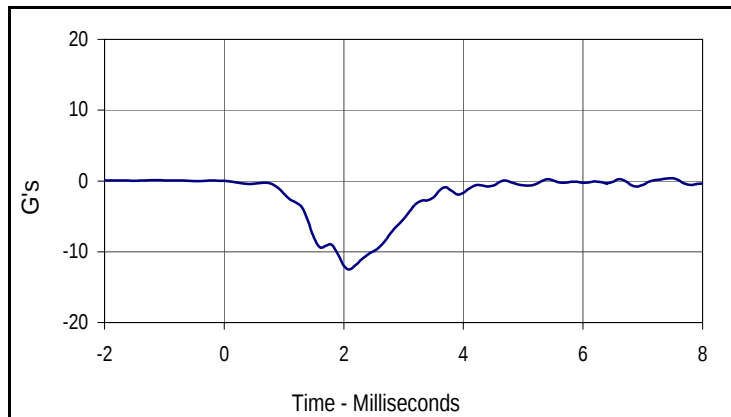
Test Date: 1/18/05
 Test I.D.: HD01B



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	283.7	Pass
Peak Lateral Acceleration	G's	≤15.0	12.5	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<10	0.7	Pass
Overall Test Results			Pass	



Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
283.7	2.1	0.0	-0.4



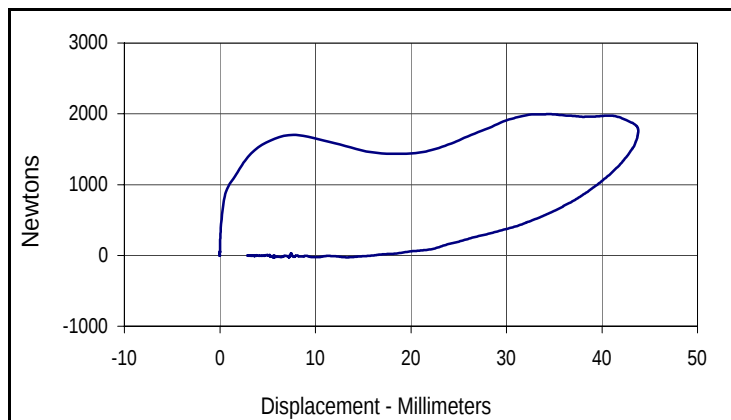
Curve Description			
Head Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
0.2	5.4	-12.5	2.1

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

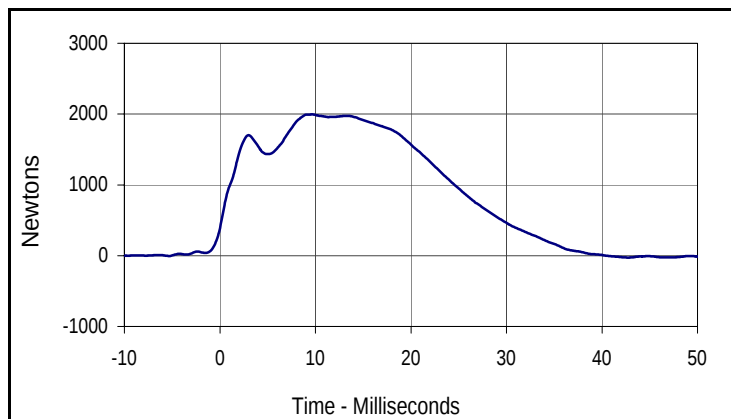
Test Date: 1/19/05
 Test I.D.: CH01B



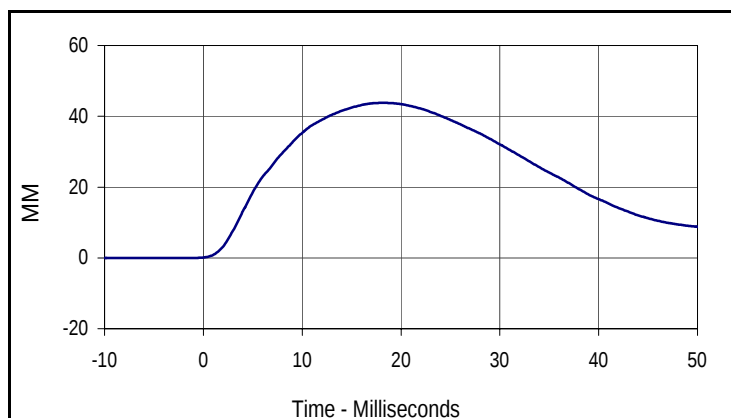
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	5.88 to 6.12	5.96	Pass
Peak Chest Deflection	MM	40.5 to 48.5	43.8	Pass
Peak Force Between 40.5 and 48.5 MM	Newtons	1830 to 2330	1995	Pass
Peak Force Between 20 and 40.5 MM	Newtons	≤2330	1975	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	
1994.7		43.8	



Curve Description			
Probe Force			
CURNO	Type	SAE Class	Units
002	FIL	180	Newtons
Max	Time	Min	Time
1994.7	9.7	-32.1	85.1



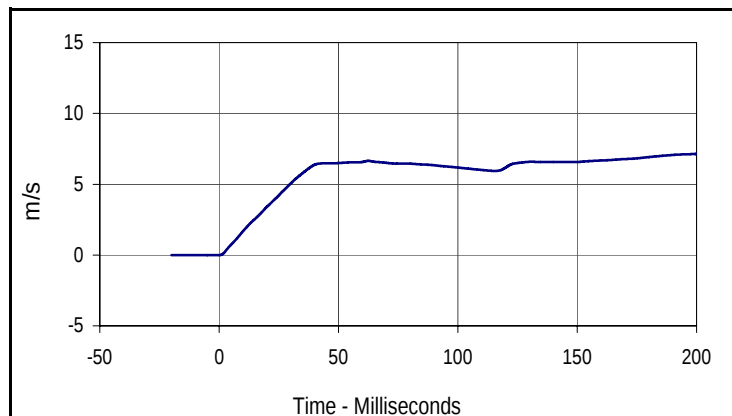
Curve Description			
Chest Deflection			
CURNO	Type	SAE Class	Units
001	FIL	180	MM
Max	Time	Min	Time
43.8	18.2	0.0	-7.1

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

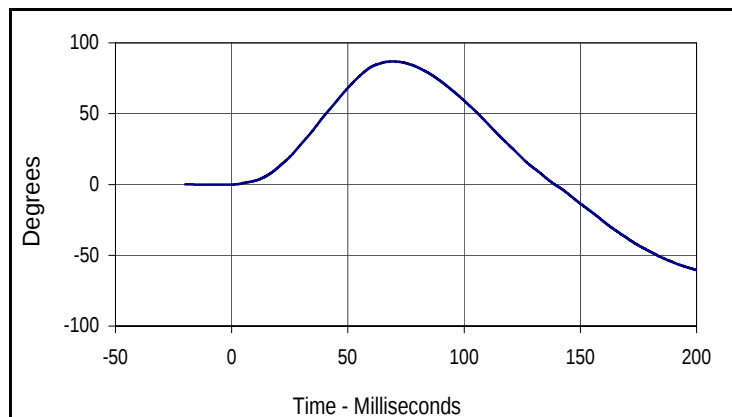
Test Date: 1/18/05
 Test I.D.: NF01B



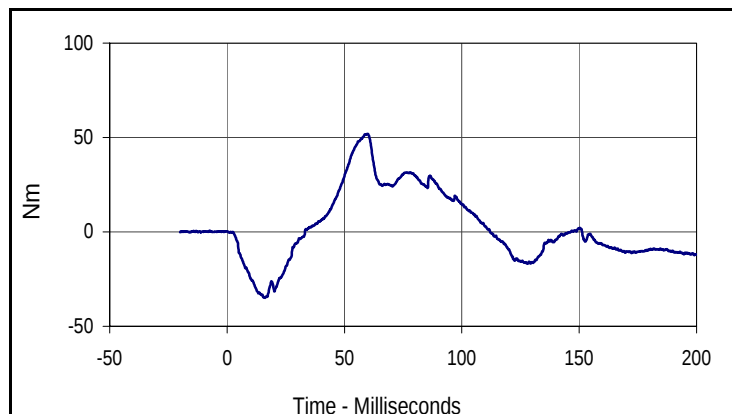
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	5.98 to 6.22	6.08	Pass
Pendulum Deceleration	10 Msec.	m/s	1.64 to 2.04	1.69	Pass
	20 Msec.	m/s	3.04 to 4.04	3.40	Pass
	30 Msec.	m/s	4.45 to 5.65	5.06	Pass
"D" Plane Rotation	Max	Degrees	74.0 to 88.0	86.8	Pass
Peak Moment in Rotation	Max	Nm	50.0 to 62.0	51.9	Pass
Positive Moment Decay, Time To 10 Nm		Msec.	85.0 to 105.0	104.6	Pass
			Overall Test Results		Pass



Curve Description			
Pendulum Velocity			
CURNO	Type	SAE Class	Units
001	FIL	180	m/s
Max	Time	Min	Time
7.1	200.0	0.0	0.1



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
86.8	69.1	-60.4	200.0



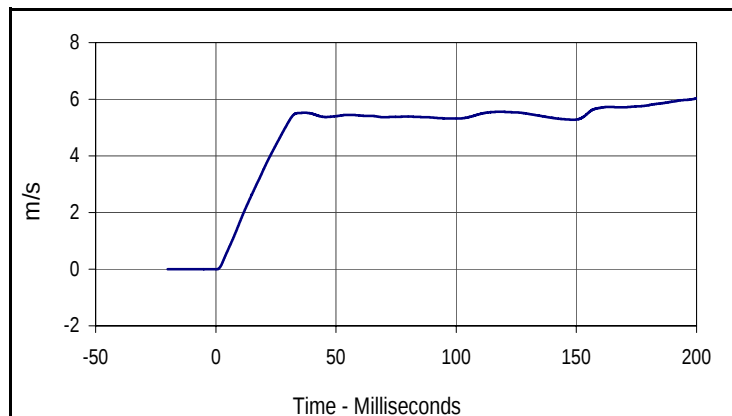
Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
002	FIL	600	Nm
Max	Time	Min	Time
51.9	59.6	-34.9	16.2

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

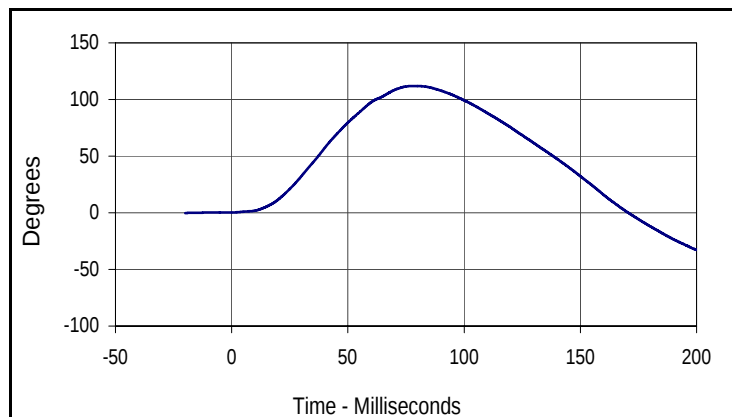
Test Date: 1/18/05
 Test I.D.: NE01B



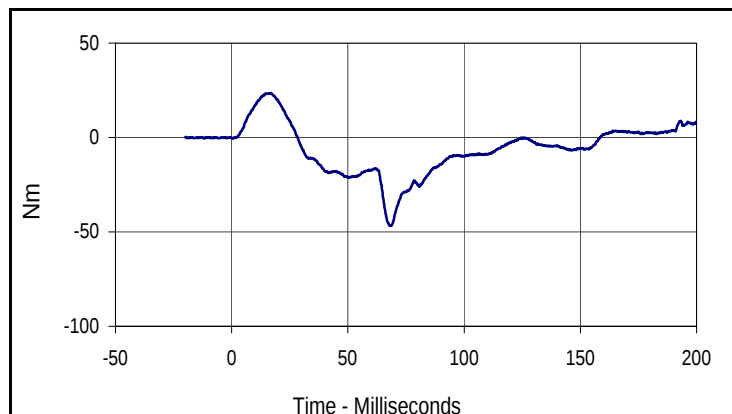
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	4.91 to 5.15	4.94	Pass
Pendulum Deceleration	10 Msec.	m/s	1.59 to 1.89	1.67	Pass
	20 Msec.	m/s	2.88 to 3.68	3.55	Pass
	30 Msec.	m/s	4.20 to 5.20	5.16	Pass
"D" Plane Rotation	Max	Degrees	99.0 to 114.0	111.9	Pass
Peak Moment in Rotation	Max	Nm	-35.0 to -47.0	-46.8	Pass
Positive Moment Decay, Time To 10 Nm		Msec.	100.0 to 120.0	100.6	Pass
			Overall Test Results		Pass



Curve Description			
Pendulum Velocity			
CURNO	Type	SAE Class	Units
001	FIL	180	m/s
Max	Time	Min	Time
6.0	200.0	0.0	0.2



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
111.9	78.5	-32.8	200.0



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
002	FIL	600	Nm
Max	Time	Min	Time
23.6	16.9	-46.8	68.1

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

Test Date: 1/19/05
 Test I.D.: LK01B , RK01B

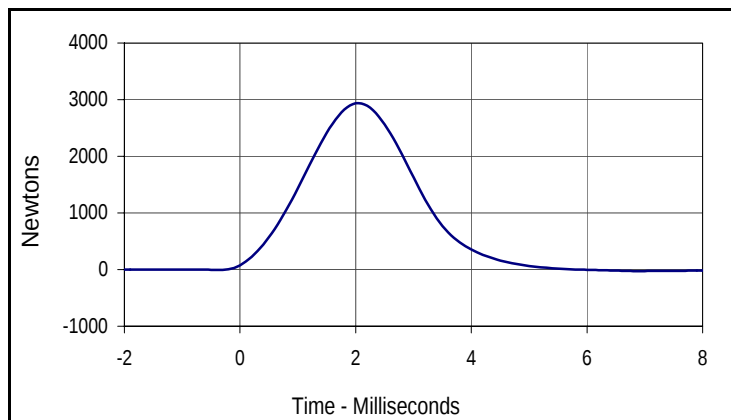


Left Knee

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.10	Pass
Peak Probe Force	Newtons	2560 to 3140	2936	Pass
Overall Test Results				Pass

Right Knee

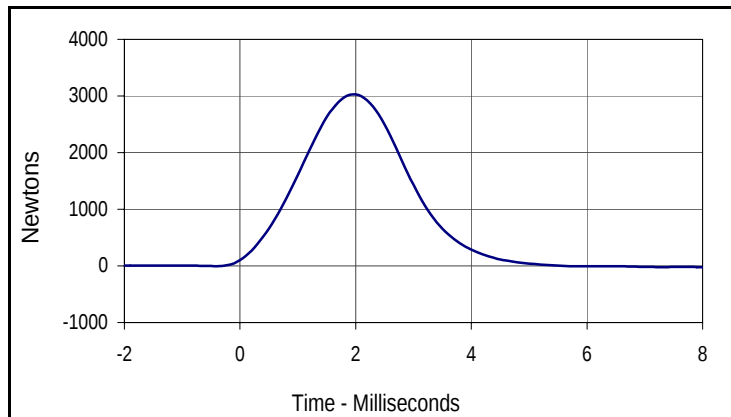
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.10	Pass
Peak Probe Force	Newtons	2560 to 3140	3027	Pass
Overall Test Results				Pass



Curve Description

Left Knee Probe Force

CURNO	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
2936.0	2.0	-26.1	6.9



Curve Description

Right Knee Probe Force

CURNO	Type	SAE Class	Units
002	FIL	600	Newtons
Max	Time	Min	Time
3026.9	2.0	-26.9	8.6

Test Program: Hybrid III 10 Yr Old External Measurements

Test Date: 1/19/05

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	730	Pass
B - Shoulder pivot height	mm	385 to 405	400	Pass
C - "H" point height	mm	78 to 88	85	Pass
D - "H" point from backline	mm	133 to 143	135	Pass
E - Shoulder pivot from back	mm	80 to 90	85	Pass
F - Thigh clearance	mm	105 to 121	110	Pass
G - Elbow back to wrist pivot	mm	227 to 243	238	Pass
H - Skull cap to back line	mm	46 to 51	50	Pass
I - Shoulder to elbow length	mm	269 to 285	280	Pass
J - Elbow rest height	mm	137 to 158	155	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	375	Pass
N - Buttock popliteal length	mm	367 to 387	380	Pass
O - Chest depth without jacket	mm	158 to 173	170	Pass
P - Foot length	mm	188 to 203	200	Pass
R - Buttock to knee pivot length	mm	414 to 434	420	Pass
S - Head breadth	mm	137 to 147	139	Pass
T - Head depth	mm	178 to 188	182	Pass
U - Hip breadth	mm	257 to 272	270	Pass
V - Shoulder breadth	mm	307 to 323	310	Pass
W - Foot breadth	mm	69 to 84	80	Pass
X - Head circumference	mm	528 to 549	540	Pass
Y - Chest circumference with jacket	mm	691 to 716	710	Pass
Z - Waist circumference	mm	696 to 721	700	Pass
AA - Location for chest circumference	mm	338 to 348	340	Pass
Overall Test Results				Pass