REPORT NUMBER TR-P24001-07-NC

NEW CAR ASSESSMENT PROGRAM
FRONTAL BARRIER IMPACT TEST

MITSUBISHI MOTORS
2004 MITSUBISHI GALANT
4 DOOR SEDAN

NHTSA NUMBER: M45601

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

12/22/03

FINAL REPORT

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
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15. Supplementary Notes

16. Abstract

A 35 mph (56.3 km/h) frontal barrier impact was conducted on a 2004 Mitsubishi Galant 4 Door Sedan at Karco Engineering, LLC on12/22/03. This test was conducted to obtain data indicant of FMVSS 208, 212, 219 (partial), 301, and footwell intrusion performance. The impact velocity is 55.80 km/h. The ambient temperature at the barrier face at the time of impact is 13.3 degrees Celcius. The vehicle's maximum post test static crush is 525 mm at the vehicle centerline. The test vehicle is equipped with a 3-point continuous belt system and second generation supplemental airbags in both front outboard seating positions. With respect to FMVSS 208 "Occupant Crash Protection", the occupant injury criteria summary is as follows:

Measurement Description	Units	Threshold	Driver ATD	Passenger ATD
Head Injury Criteria (HIC)	N/A	1000	358.0	379.1
Max. Chest Accel. (3 msec Clip)	G's	60	40.5	45.0
Left Femur Force	Newtons	10008	-169.3	-3866.2
Right Femur Force	Newtons	10008	-4318.5	-2417.7

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56.3 km/h NCAP Frontal Barrier Impact Test New Car Assessment Program (NCAP) 2004 Mitsubishi Galant 4 Door Sedan NHTSA No. M45601	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

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SECTION 1

PURPOSE AND SUMMARY OF TEST M45601

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.

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

1.2 SUMMARY

A load cell barrier consisting of 36 load cells was impacted by a 2004 Mitsubishi Galant 4 Door Sedan at a velocity of 55.80 km/h. The test was performed at Karco Engineering, LLC on December 22, 2003.

One real-time and 17 (Seventeen) high-speed cameras were used to document the frontal barrier impact event. Camera locations and other pertinent camera information can be found in 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 nine accelerometer array head, chest and pelvis triaxial accelerometers, chest displacement potentiometers, six-axis upper neck transducers, right/left femur load cells, and lower leg instrumentation. Seat belt load cells were also placed on the driver's and passenger's lap and shoulder belts to measure dummy torso and pelvic section loading. The driver (position 1) ATD (Serial No. 34) and the right-front passenger (position 2) ATD (Serial No. 35) were calibrated previous to this test.

One Hundred and Nine (109) channels of data were recorded using an on-board data acquisition system. Appendix A contains Pre and Post-Test Photographs, Appendix B contains the vehicle and dummy response data traces. Appendix C contains Load Cell Barrier information. Appendix D contains the Instrumentation Data Channel assignments. Appendix E contains the Dummy Calibration data and Appendix F contains the Child Restraint System (CRS). Appendix G contains the Nine Accelerometer Array Head 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 525 mm and both the driver and the passenger side doors remained closed during the impact event and were operable after the impact.

The driver's visible contact points were as follows: The driver ATD head and chest contacted the airbag. The abdomen had no contact. The left knee contacted the steering column/knee bolster and the right knee contacted the knee bolster.

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

Occupant injury data is contained in table below.

OCCUPANT DATA SUMMARY

ATD Position	HIC	Clip (g)	Chest Disp. (mm)	Left Femur (N)	Right Femur (N)	Belt Spool (mm)
Driver	358.0	40.5	-23.9	-169.3	-4318.5	247.4
Passenger	379.1	45.0	-21.3	-3866.2	-2417.7	475.2

SECTION 2
OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601

Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

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	^oF	^oC	=(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: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

PRIMARY IMPACT DATA

Measured Parameter	Units	Value
Velocity at Impact	km/h	55.8
Test Weight	kg	1727
Impact Angle	degrees	0
Average Rebound	mm	2059
Maximum Static Crush	mm	525

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)	None	None
Seat Back Failure	None	None

TEST DUMMY INFORMATION

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

16mm MOVIE COVERAGE

High Speed	17
Real Time	1
Total	18

DATA CHANNELS

Driver ATD Sensors	46
Passenger ATD Sensors	46
Belt Assessment Sensors	8
Vehicle Structure Accelerometers	9
Rigid Barrier Load Cells	36
Total	145

DATA SHEET NO. 2
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	M45601	Anti-Lock Brakes	Yes
Make	Mitsubishi	All Wheel Drive	No
Model	Galant	Power Steering	Yes
Body Style	4-Door Sedan	Driver Front Airbag	Yes
Vin No.	4A3AB36F44E066407	Driver Side Airbag	Yes
Color	Red	Driver Head Airbag	No
Delivery Date	12/5/2003	Driver Curtain Airbag	No
Odometer	59	Pass. Airbag	Yes
Dealer	Lancaster Mitsubishi	Pass. Side Airbag	Yes
Transmission	4 Speed Automatic	Pass. Head Airbag	No
Final Drive	Front	Pass. Curtain Airbag	No
Type/No. Cyl.	In-Line 4	Pre-Tensioners	Yes
Engine Disp. (L)	2.4	Load Limiters	Yes
Engine Placement	Transverse	Bucket Seats	Yes
Roof Rack	No	Air. Cond.	Yes
Sunroof/T-Top	No	AM/FM Cassette	Yes
Tinted Glass	Yes	Tilt Steering	Yes
Traction Control	No	Automatic Door Locks	Yes
Power Brakes	Yes	Power Windows	Yes
Front Disc	Yes	Power Seats	No
Rear Disc	Yes	Other	None

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

DATA FROM CERTIFICATION LABEL

Manufactured By	Mitsubishi Motors	GVWR (kg)	1960
		GAWR Front (kg)	1040
Date of Manufacture	Nov-03	GAWR Rear (kg)	920

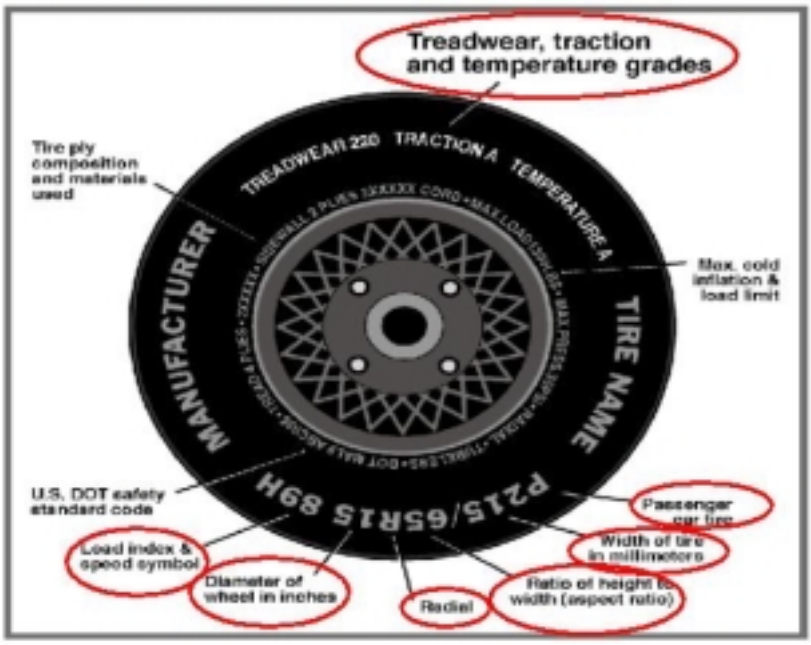
VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bucket	None	
Number of Occupants	2	3	N/A	5
Capacity Weight (VCW) (kg)				375
Cargo Weight (RCLW) (kg)				35

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

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

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



TIRE INFORMATION

Measured Parameter	Front	Rear
Max. Tire Pressure (kpa)	280	280
Cold Pressure (kpa)	220	220
Recommened Tire Size	P215/60R16	P215/60R16
Tire Size on Vehicle	P215/60R16	P215/60R16
Tire Manufacturer	Bridgestone	Bridgestone
Treadwear	260	260
Traction	A	A
Temperature Grades	A	A
Tire Plies Sidewall	2	2
Tire Plies Body	5	5
Load Index/Speed Symbol	94 H	94 H
Tire Material	Polyester/Steel/Nylon	Polyester/Steel/Nylon
DOT Safety Code Right	OBX8PFX3903	OBX8PFX3903
DOT Safety Code Left	OBX8PFX3903	OBX8PFX3903

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

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601

Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

TEST VEHICLE WEIGHTS

		As Delivered Weights (UVW)			As Tested Weights (ATW)		
	Units	Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	472	323		498	375	
Right	kg	453	300		488	366	
Ratio	%	59.7	40.3		57.1	42.9	
Totals	kg	925	623	1548	986	741	1727

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1548
Weight of 2 P572 ATD's	kg	152
Rated Cargo/Luggage Wt. (RCLW)	kg	35
Calculated Vehicle Target Wt. (TVTW)	kg	1735

TEST VEHICLE ATTITUDE AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	758	762	744	744	1109
As Tested	mm	745	751	715	723	1182

Vehicle Wheel Base (mm): 2755

Weight of Ballast Secured in cargo area (kg): 0

Vehicle Components Removed: Rear door panels and windows, rear bumper, tail lights, trunk lid and spare tire.

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

FUEL SYSTEM DATA

Fuel System Capacity From Owners Manual (L): 67.00

Usable Capacity Furnished by COTR (L): 67.00

Actual Test Volume with entire fuel System Filled (L): 62.31

1/3 of Usable Capacity (L): 22.33

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: Key operated w/automatic shutoff.

DATA SHEET NO. 3
POST TEST IMPACT DATA

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

SPEED TRAP DATA

Measured Parameter	Units	Requirement	Value
Trap No.1 Velocity (Primary)	km/h	55.51 to 57.12	55.80
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	55.82
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	4642	4331	-311
Center	mm	4836	4311	-525
Right Side	mm	4638	4305	-333

VEHICLE REBOUND FROM BARRIER

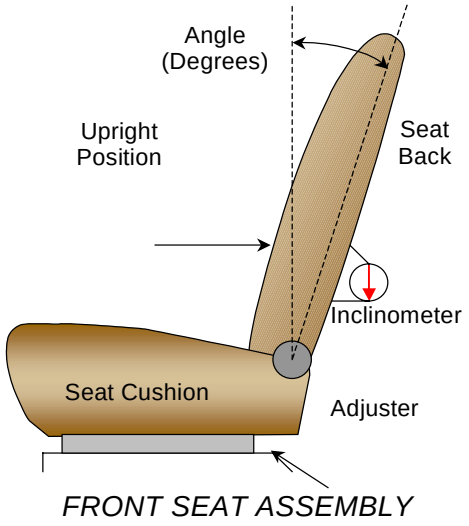
Measured Parameter	Units	Value
Left Side	mm	2060
Center	mm	2068
Right Side	mm	2050
Average	mm	2059

DATA SHEET NO. 4
TEST VEHICLE INFORMATION

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

NOMINAL DESIGN RIDING POSITION

The driver and passenger seat backs are positioned to the manufacturers designated angle. The procedure is as follows: A special application tool with pointed probes is inserted through the fabric to make contact with the rigid portion of the lower seat frame assembly, approximately 13 inches above the pivot point of the seat back. An inclinometer is placed against the flat surface of the tool and the seat back angle is measured directly from the dial face.



FRONT SEAT ASSEMBLY

SEAT BACK ANGLES

	Deg.
Driver w/seated dummy	25.0
Passenger w/seated Dummy	25.0

SEAT FORE/AFT POSITIONS

The first or forward most position is counted as number one (1). The fore/aft position is set aft of the middle position for both the driver and passenger.

SEAT FORE/AFT POSITIONING

	Total Fore/Aft Travel	Placed in Position #
Driver Seat	23	12
Passenger Seat	23	12

SEAT BELT UPPER ANCHORAGE

Position number one (1) is the uppermost position.

SEAT BELT UPPER ANCHORAGE

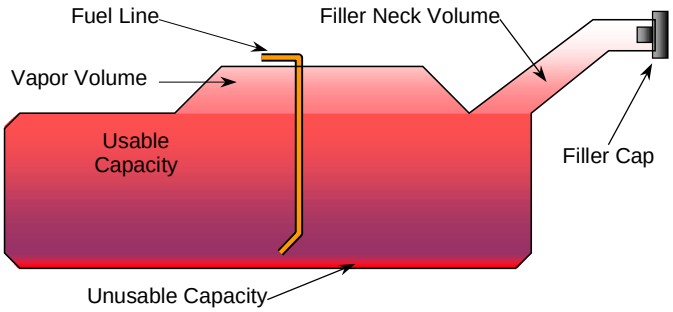
	Total # of Positions	Placed in Position #
Driver Seat	5	3
Passenger Seat	5	3

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard Tank"	67.00
Usable Capacity of "Optional" Tank	N/A
Usable Capacity used for FMVSS 301	61.63 to 62.95
Actual Amount of Solvent used	62.31
1/3 of Usable Capacity	22.33

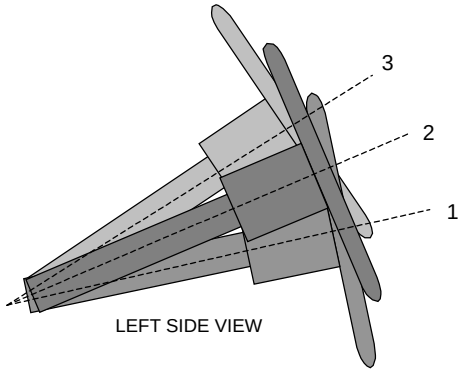
The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed in the “ON” position, after which the fuel pump automatically shuts off. The fuel filler door is located on the left rear fender. The standard fuel tank occupies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



VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

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



STEERING COLUMN ASSEMBLY

STEERING COLUMN POSITIONS

	Degrees
Lowermost positon No. 1	17.6
Geometric center position No. 2	20.5
Uppermost position No. 3	23.3

DATA SHEET NO. 5
DUMMY POSITIONING IN VEHICLE

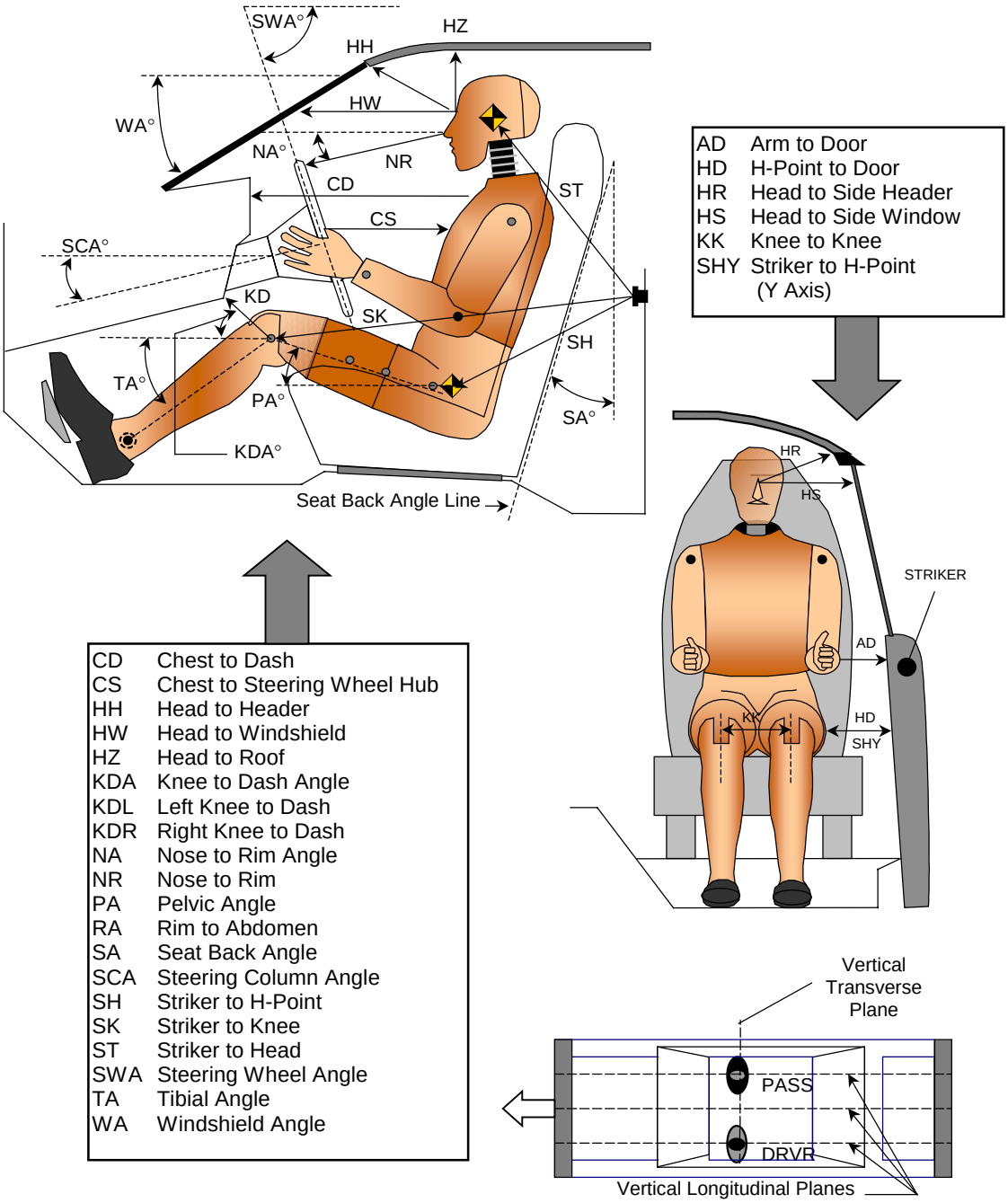
Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

TEST DUMMY POSITION MEASUREMENTS

Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (deg)	Length (mm)	Angle (deg)
WA	Windshield Angle		66		
SWA	Steering Wheel Angle		69.5		
SCA	Steering Column Angle		20.5		
SA	Seat Back Angle		25.0		25.0
HZ	Head to Roof (Z)	168	90	142	90
HH	Head to Header	365		355	
HW	Head to Windshield	658		642	
HR	Head to Side Header (Y)	278		257	
NR	Nose to Rim	388	12		
CD	Chest to Dash	545		570	
CS	Chest to Steering Hub	300			
RA	Rim to Abdomen	200			
KDL	Left Knee to Dash	155	18	145	
KDR	Right Knee to Dash	150		185	22
PA	Pelvic Angle		24		25
TA	Tibia Angle		42		33
KK	Knee to Knee (Y0	318		270	
SK	Striker to Knee	634	7	504	7
ST	Striker to Head	480	77	618	75
SH	Striker to H-Point	294	37	275	39
SHY	Striker to H-Point (Y)	228		237	
HS	Head to Side Window	345		322	
HD	H-Point to Door (Y)	142		130	
AD	Arm to Door (Y)	130		33	

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

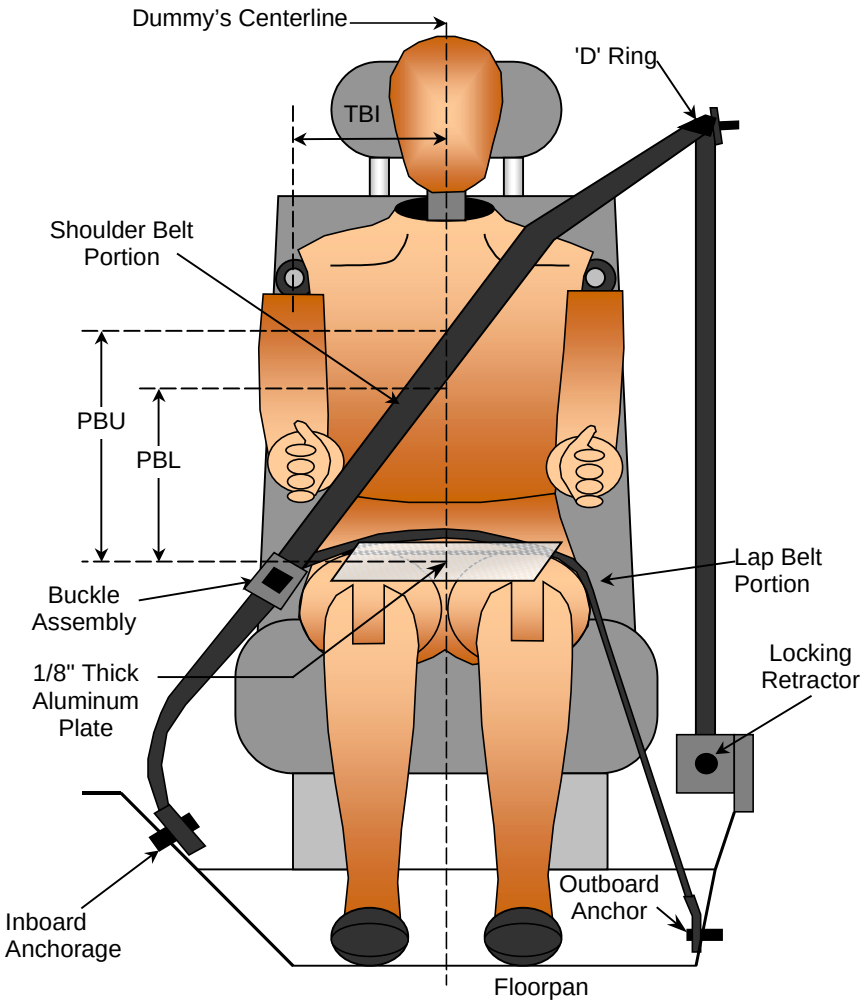
Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03



DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS

DATA SHEET NO. 6
SEAT BELT POSITIONING DATA

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03



SEAT BELT POSITIONING MEASUREMENTS

Measured Parameter	Units	Driver	Passenger
TBI -Dummy C/L to Lap/Shoulder Belt Intersect	mm	220	210
PBU - Top Surface of reference to belt upper edge	mm	320	355
PBL - Top Surface of reference to belt lower edge	mm	240	270
Lap Belt Tension	Newtons	10	10
Shoulder Belt Tension	N/A	Retractor	Retractor

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

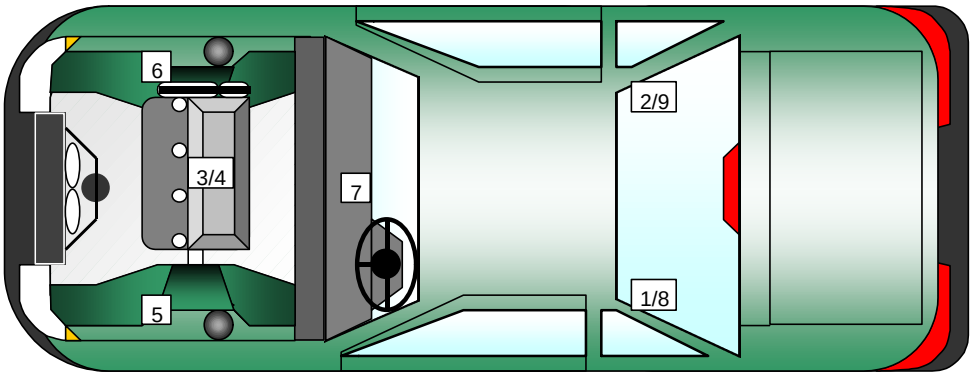
Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601

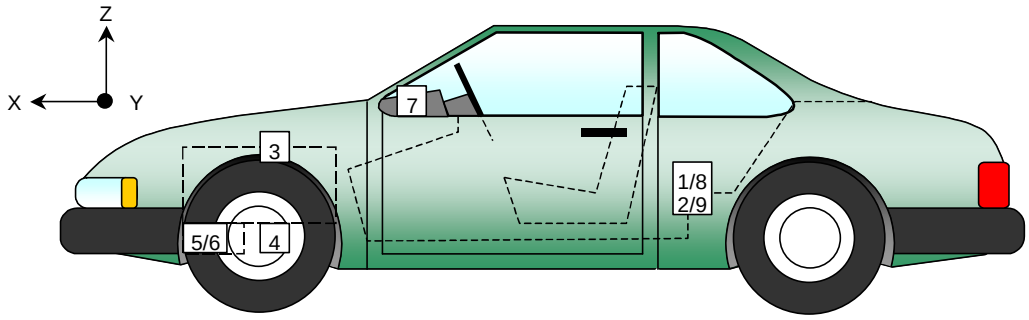
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

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	1850	-730	380	G's	1.2	112.3	-40.2	39.3
2	Right Rear X-Member	1850	730	380	G's	1.3	122.1	-41.7	40.7
3	Engine Top	4070	-30	820	G's	52.1	41.8	-105.3	23.8
4	Engine Bottom	4190	280	170	G's	100.8	37.7	-190.3	29.7
5	Left Brake Caliper	3970	-740	230	G's	19.4	34.7	-126.1	39.4
6	Right Brake Caliper	3970	740	230	G's	14.8	35.5	-94.1	39.9
7	Instrument Panel	3120	0	970	G's	14.4	84.8	-62.4	52.0
8	Left Rear X-Member (Z-Axis)	1800	-730	380	G's	6.3	36.4	-14.0	44.1
9	Right Rear X-Member (Z-Axis)	1800	730	380	G's	7.0	41.0	-11.1	47.1

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





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

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601

Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

HEAD PRIMARY PEAK ACCELERATIONS

			Driver				Passenger			
Location	Axis	Units	Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	1.8	195.9	-54.4	76.2	0.2	200.0	-44.5	78.2
Head CG	Y	G's	8.4	139.5	-3.3	43.9	1.6	51.0	-6.0	62.3
Head CG	Z	G's	18.4	45.7	-12.4	87.3	30.0	81.3	-1.8	137.3
Head CG Resultant	N/A	G's	54.6	76.2			52.2	80.1		

CHEST PRIMARY PEAK ACCELERATIONS

			Driver				Passenger			
Location	Axis	Units	Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	3.2	120.0	-41.9	68.5	1.8	146.1	-45.6	72.5
Chest CG	Y	G's	4.5	80.7	-4.3	45.0	3.2	46.9	-3.5	98.1
Chest CG	Z	G's	8.1	47.2	-9.7	86.4	13.6	80.6	-5.3	105.0
Chest CG Resultant	N/A	G's	42.1	68.5			45.7	72.5		

FEMUR PEAK FORCES

			Driver				Passenger			
Location	Axis	Units	Max	Time	Min	Time	Max	Time	Min	Time
Left Femur	Z	Newtons	863.1	45.1	-169.3	32.5	120.7	26.1	-3866.2	70.9
Right Femur	Z	Newtons	534.6	39.7	-4318.5	55.4	340.1	47.7	-2417.7	60.9

SEAT BELT SENSOR PEAK VALUES

			Driver				Passenger			
Location	Axis	Units	Max	Time	Min	Time	Max	Time	Min	Time
Shoulder Belt Pullout	N/A	MM	247.4	86.6	-3.0	29.8	475.2	115.2	-3.2	33.9
Shoulder Belt Stretch	N/A	MM/CM	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0 [1]
Lap Belt Force	N/A	Newtons	7617.8	56.8	-0.6	3.6	7229.0	70.9	-28.8	138.0
Shoulder Belt Force	N/A	Newtons	4299.5	83.9	-51.1	138.8	4952.5	47.4	-36.3	149.5

1.) Not used with pre-tensioners

	Driver				Passenger			
Location	HIC	T^1	T^2	Avg G	HIC	T^1	T^2	Avg G
Head CG Primary	358.0	57.5	93.5	39.7	379.1	64.8	100.8	40.6

PRIMARY CHEST CLIP (3MSEC)

	Driver			Passenger		
Location	CLIP	T^1	T^2	CLIP	T^1	T^2
Chest CG Primary	40.5	67.1	70.1	45.0	70.3	73.3

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601

Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

PELVIC PEAK ACCELERATIONS

			Driver				Passenger			
Location	Axis	Units	Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	5.0	89.9	-60.7	53.9	7.7	97.1	-53.4	54.5
Pelvis	Y	G's	11.2	72.7	-5.7	50.7	5.2	46.7	-3.2	85.6
Pelvis	Z	G's	1.7	114.4	-32.5	69.3	1.7	146.1	-28.0	72.5
Pelvis Resultant	N/A	G's	65.1	53.9			59.6	54.5		

UPPER NECK PEAK FORCES AND MOMENTS

			Driver				Passenger			
Location	Axis	Units	Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	566.8	77.0	-337.3	130.9	168.1	86.4	-717.8	130.9
Neck Force	Y	Newtons	187.1	139.5	-182.1	87.2	140.3	68.5	-225.8	131.6
Neck Force	Z	Newtons	1352.4	46.1	-184.8	18.6	944.1	81.4	-68.6	136.2
Neck Force Resultant	N/A	Newtons	1392.8	46.0			947.7	81.4		
Neck Moment	X	N•m	7.7	120.1	-11.0	97.5	5.4	74.8	-12.7	128.3
Neck Moment	Y	N•m	35.1	122.8	-22.8	92.7	53.0	135.1	-20.5	97.5
Neck Moment	Z	N•m	4.0	167.3	-11.6	97.4	7.5	75.9	-4.4	135.9
Neck Moment Resultant	N/A	N•m	36.2	122.8			54.3	135.1		

FOOT PEAK ACCELERATIONS

			Driver				Passenger			
Location	Axis	Units	Max	Time	Min	Time	Max	Time	Min	Time
Left Foot Aft	X	G's	4.5	69.8	-33.1	34.0	46.9	74.4	-102.7	46.9
Left Foot Aft	Z	G's	1.2	128.6	-48.8	42.0	3.5	62.1	-52.0	45.5
Left Foot Fore	Z	G's	4.2	29.8	-64.1	41.4	17.2	67.9	-78.3	43.9
Right Foot Aft	X	G's	45.9	64.5	-83.4	43.7	16.0	67.8	-67.8	46.7
Right Foot Aft	Z	G's	27.9	64.3	-109.2	46.9	16.5	67.0	-51.6	75.1
Right Foot Fore	Z	G's	29.4	66.6	-133.6	47.3	28.9	64.3	-86.8	44.3

UPPER AND LOWER TIBIA PEAK FORCES AND MOMENTS

			Driver				Passenger			
Location	Axis	Units	Max	Time	Min	Time	Max	Time	Min	Time
Left Upper Moment	X	N•m	42.7	60.6	-8.6	180.5	30.6	74.6	-75.0	44.0
Left Upper Moment	Y	N•m	30.4	54.0	-61.0	42.3	50.6	52.3	-101.5	74.3
Right Upper Moment	X	N•m	36.4	71.5	-36.5	47.1	31.2	85.3	-15.6	46.7
Right Upper Moment	Y	N•m	99.3	52.7	-54.5	39.0	39.9	56.9	-115.7	75.8
Left Lower Moment	X	N•m	14.5	43.9	-26.7	59.4	59.6	44.4	-31.3	42.6
Left Lower Moment	Y	N•m	36.9	64.0	-18.0	42.6	56.3	52.9	-6.1	26.9
Left Lower Force	Z	Newtons	153.3	137.8	-2326.5	62.5	88.6	140.8	-5621.7	45.5
Right Lower Moment	X	N•m	25.0	53.4	-22.8	47.7	16.8	36.2	-10.6	45.9
Right Lower Moment	Y	N•m	118.9	63.7	-30.1	37.0	26.5	91.4	-19.5	34.4
Right Lower Force	Z	Newtons	107.6	199.1	-2982.1	45.7	105.0	140.9	-4442.7	75.5

DATA SHEET NO. 8…(continued)

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601

Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

CHEST PEAK DISPLACEMENTS

			Driver				Passenger			
Location	Axis	Units	Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	MM	0.0	9.6	-23.9	58.1	0.0	7.8	-21.3	80.4

HEAD REDUNDANT PEAK ACCELERATIONS

			Driver				Passenger			
Location	Axis	Units	Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	1.9	197.0	-54.6	76.2	0.3	200.0	-44.4	78.1
Head CG	Y	G's	8.4	139.5	-3.4	43.5	2.0	41.4	-5.7	60.4
Head CG	Z	G's	18.4	45.6	-12.4	87.3	29.9	81.4	-1.9	137.5
Head CG Resultant	N/A	G's	54.9	76.2			52.0	80.1		

CHEST REDUNDANT PEAK ACCELERATIONS

			Driver				Passenger			
Location	Axis	Units	Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	3.2	120.0	-42.0	68.5	1.8	146.3	-45.6	72.5
Chest CG	Y	G's	4.7	80.6	-4.4	44.8	3.4	48.2	-3.4	98.1
Chest CG	Z	G's	7.8	47.1	-9.9	86.6	13.5	80.6	-5.3	105.1
Chest CG Resultant	N/A	G's	42.3	68.5			45.8	72.5		

REDUNDANT HEAD INJURY CRITERA (HIC)

	Driver				Passenger			
Location	HIC	T^1	T^2	Avg G	HIC	T^1	T^2	Avg G
Head CG Redundant	362.4	57.4	93.4	39.9	377.7	64.8	100.8	40.6

REDUNDANT CHEST CLIP (3MSEC)

	Driver			Passenger		
Location	CLIP	T^1	T^2	CLIP	T^1	T^2
Chest CG Redundant	40.7	67.2	70.2	45.1	70.2	73.2

DATA SHEET NO. 9
SEATBELT ASSESSMENT TEST DATA

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
TBI -Dummy C/L to Lap/Shoulder Belt Intersect	mm	220	210
PBU - Top Surface of reference to belt upper edge	mm	320	355
PBL - Top Surface of reference to belt lower edge	mm	240	270
Lap Belt Tension	Newtons	10	10
Shoulder Belt Tension	N/A	Retractor	Retractor

SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
Retractor Reel to "D" ring	mm	635	635
Shoulder Belt length as measured on ATD	mm	895	895
Lap Belt length as measured on ATD	mm	835	760
Remainder of belt on reel	mm	810	880
Total belt length for continuous webbing systems	mm	3175	3170

SHOULDER BELT SPOOL-OFF DATA

Measurement Description	Units	Driver	Passenger
As determined mechanically	mm	N/A	260.0
As determined electronically	mm	247.4	475.2

BELT STRETCH DATA

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

* Not used with shoulder belt pre-tensioner systems

DATA SHEET NO. 10
SUMMARY OF FMVSS 212 DATA

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

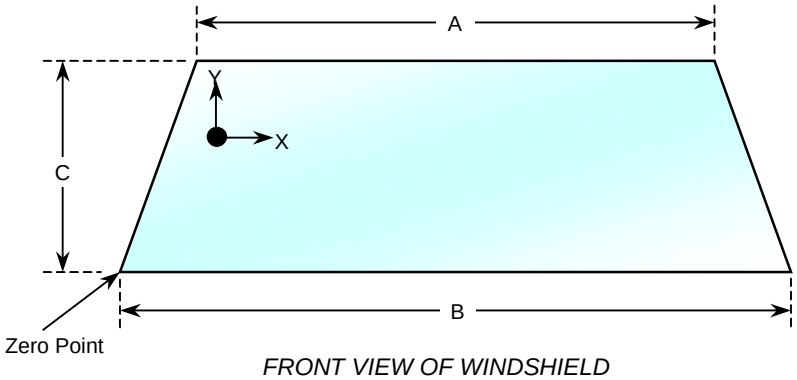
Windshield Mounting Details: Windshield glass is secured to the vehicle frame with a rubber type adhesive. No molding covers the windshield periphery at any point.

The standard requires that the posttest 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	2186.5	2186.5	100.0
Right Side	2186.5	2186.5	100.0
Total	4373.0	4373.0	100.0



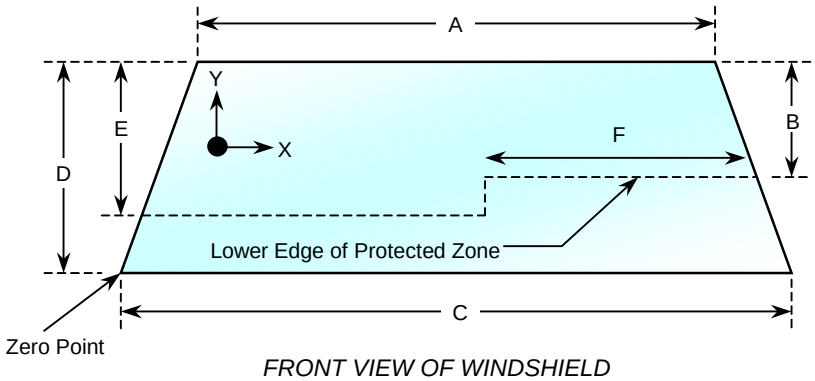
FRONT VIEW OF WINDSHIELD

WINDSHIELD DIMENSIONS

Item	Units	Segment Length	Molding Width
A	mm	1215.0	8.0
B	mm	1510.0	N/A
C-Left	mm	824.0	10.0
C-Right	mm	824.0	10.0

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

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03



FRONT VIEW OF WINDSHIELD

WINDSHIELD AND PROTECTED ZONE

Item	Units	Value
A	mm	1215
B	mm	493
C	mm	1510
D	mm	824
E	mm	550
F	mm	562

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
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

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
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

DATA SHEET NO. 12
FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

Test Time: 11:53 AM Temperature: 13.3 Deg. C.

STODDARD SOLVENT SPILLAGE MEASUREMENTS

A. From impact until vehicle motion ceases: 0.0 oz.
(Maximum Allowable = 1 ounce)

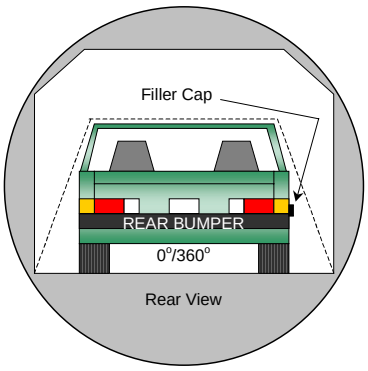
B. For the 5 minute period after motion ceases: 0.0 oz.
(Maximum Allowable = 5 ounces)

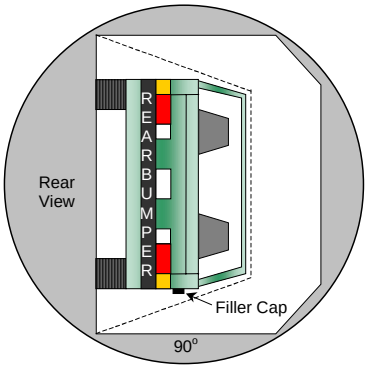
C. For the following 25 minutes: 0.0 oz.
(Maximum Allowable = 1 oz./minute)

D. Spillage Location Details: No leakage occurred

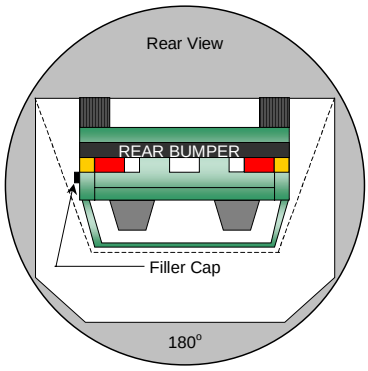
DATA SHEET NO. 13
FMVSS 301 STATIC ROLLOVER DATA

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

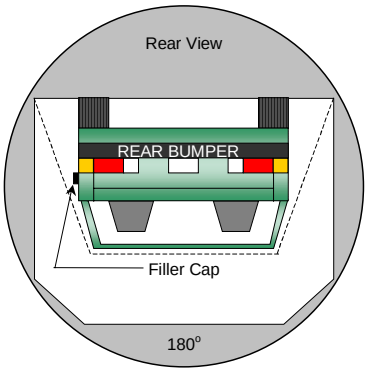




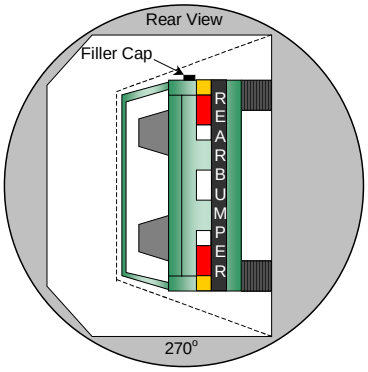
0° to 90°

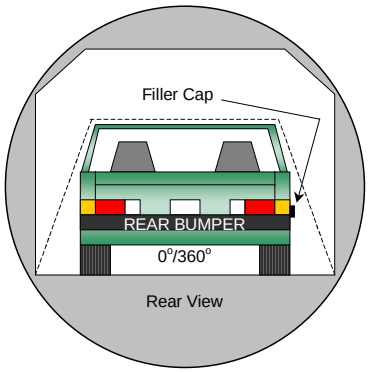


90° to 180°



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: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

SOLVENT COLLECTION TIME TABLE IN SECONDS

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

FMVSS 301 SPILLAGE TABLE REQUIREMENT (oz.)

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

ACTUAL TEST VEHICLE SOLVENT SPILLAGE TABLE (oz.)

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

SOLVENT SPILLAGE LOCATION TABLE

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

DATA SHEET NO. 14
VEHICLE MEASUREMENTS

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

VEHICLE MEASUREMENT TABLE

No.	Measurement Description	Units	Pre-Test	Post-Test	Diff.
1	Total length of vehicle at centerline	mm	4836	4311	-525
2	RSOV to front of engine	mm	4180	3978	-202
3	RSOV to firewall centerline	mm	3750	3711	-39
4	RSOV to leading edge of right door	mm	3304	3304	0
5	RSOV to leading edge of left door	mm	3311	3318	7
6	RSOV to lower leading edge of right door	mm	3253	3249	-4
7	RSOV to lower leading edge of left door	mm	3265	3260	-5
8	RSOV to upper trailing edge of right door	mm	2214	2215	1
9	RSOV to upper trailing edge of left door	mm	2219	2216	-3
10	RSOV to lower trailing edge of right door	mm	2216	2210	-6
11	RSOV to lower trailing edge of left door	mm	2225	2222	-3
12	RSOV to bottom of right 'A' pillar	mm	3306	3292	-14
13	RSOV to bottom of left 'A' pillar	mm	3305	3293	-12
14	RSOV to firewall on right side	mm	3707	3666	-41
15	RSOV to firewall on left side	mm	3707	3686	-21
16	RSOV to steering column	mm	2866	2916	50
17	Center of steering column to left 'A' pillar	mm	463	455	-8
18	Center of steering column to headlining	mm	435	405	-30
19	RSOV to right side of front bumper	mm	4638	4305	-333
20	RSOV to left side of front bumper	mm	4642	4331	-311
21	Length of engine block	mm	410	410	0
RD	RSOV to right side of dash panel	mm	3125	3126	1
CD	RSOV to center of dash panel	mm	3076	3126	50
LD	RSOV to left side of dash panel	mm	3137	3126	-11

All measurements in millimeters

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

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

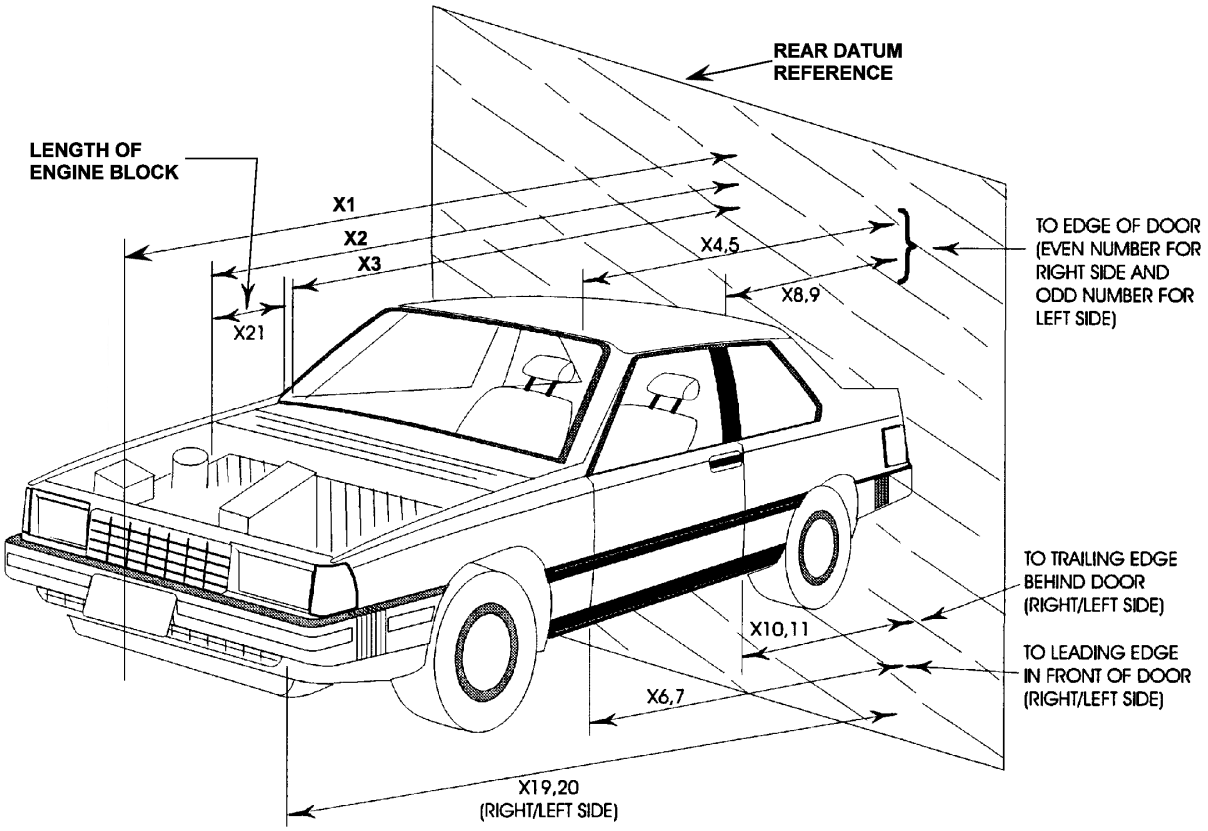
VEHICLE STRUCTURAL MEASUREMENT TABLE

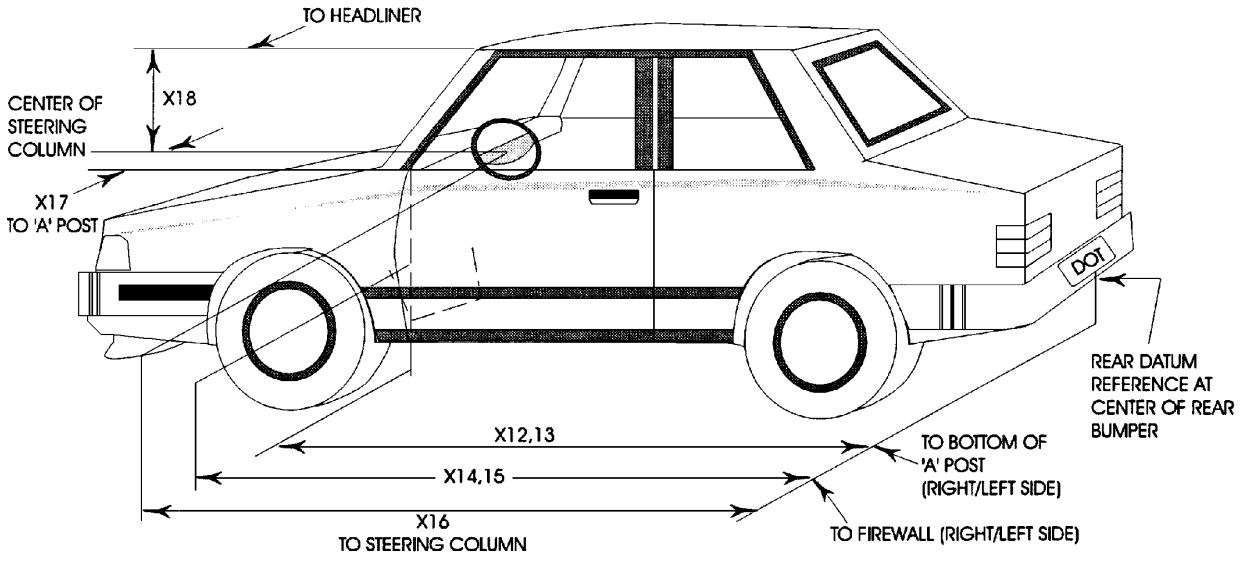
No.	Measurement Description	Units	Pre-Test	Post-Test	Diff.
1	Total length	mm	4836	4311	-525
2	Total width	mm	1850	1846	-4
3	Bumper top height	mm	602	631	29
4	Bumper bottom height	mm	195	200	5
5	Longitudinal member top height	mm	566	627	61
6	Longitudinal member bottom height	mm	502	565	63
7	Distance between longitudinal members	mm	910	925	15
8	Longitudunal member width	mm	164	170	6
9	Engine top height	mm	790	835	45
10	Engine bottom height	mm	180	225	45
11	Engine and gear box width	mm	434	434	0
12	Front bumper to engine distance	mm	655	335	-320
13	Front shock absorber fixing width	mm	898	890	-8
14	Bonnet leading edge height	mm	690	745	55
15	Front shock absorber fixing width	mm	1158	1152	-6
16	Front bumper to front axle distance	mm	970	550	-420
17	Front axle to 'A' pillar distance	mm	515	530	15
18	'A' pillar to 'B' pillar distance	mm	1117	1117	0
19	'B' pillar to rear axle distance	mm	1098	1098	0
20	'B' pillar to 'C' pillar distance	mm	1000	1020	20
21	Roof sill bottom height	mm	1320	1326	6
22	Roof sill top height	mm	1420	1422	2
23	Floor sill bottom height	mm	213	209	-4
24	Floor sill top height	mm	355	356	1

All measurements in millimeters

DATA SHEET NO. 14…(CONTINUED)
VEHICLE MEASUREMENTS

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03





DATA SHEET NO. 15
CAMERA LOCATIONS

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

VEHICLE CAMERA MEASUREMENT TABLE

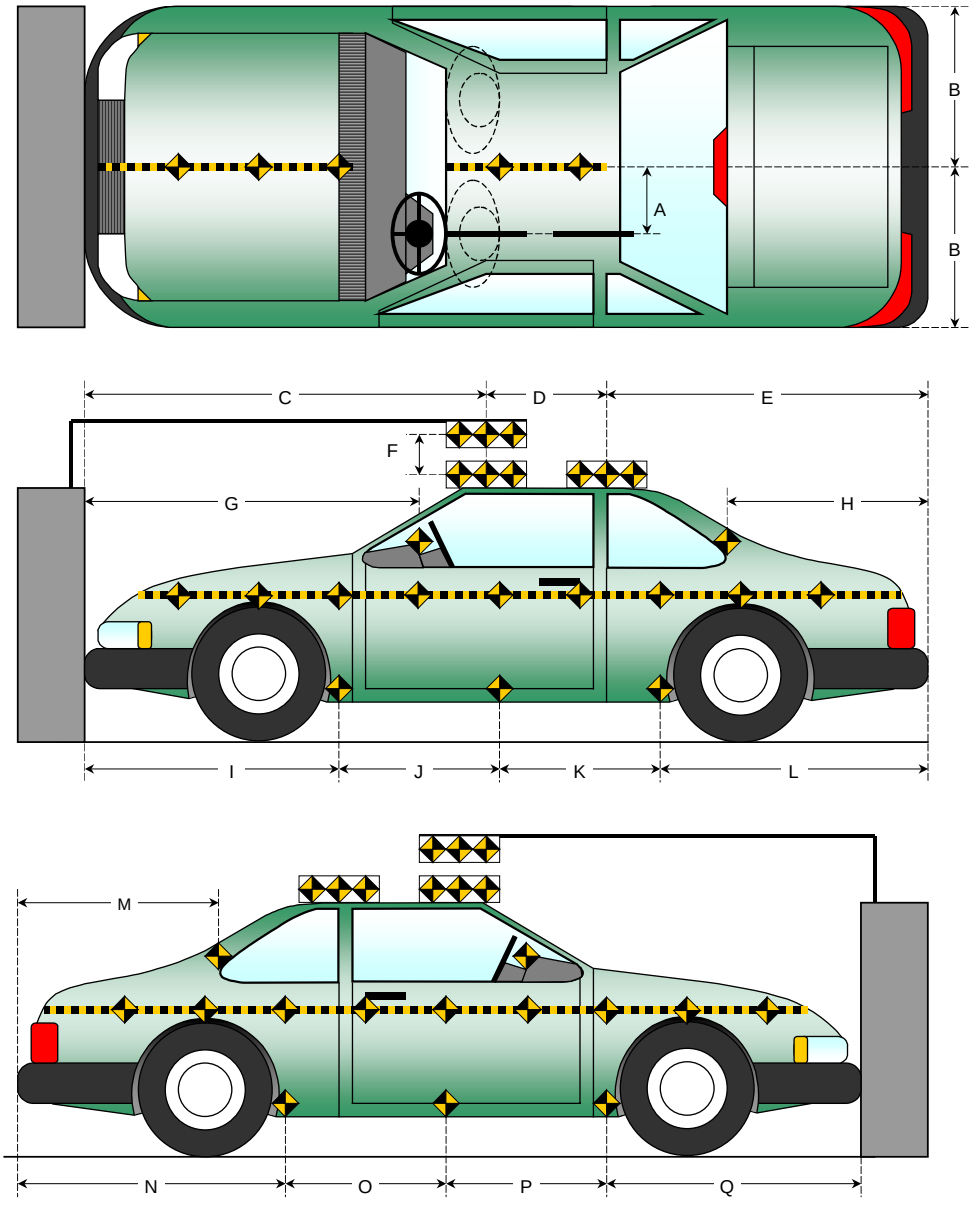
No.	Camera View	Location (mm)			Angle (deg.)	Film Plane to Head	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Real Time	18288	-22860	2540	10	N/A	17-70	24
2	Driver Overall	1930	8357	1321	4	7870	13	1010
2B	Driver Overall	1626	8230	1092	4	7770	17	NTM
3	Driver Close-Up	1626	8230	1600	4	7782	35	980
4	3/4 Driver	6477	10185	4648	13	11029	35-85	1000
5	Steering Column	1524	8230	3404	20	8096	19	1000
6	Steering Column	1524	8230	2997	16	7994	19	1020
7	Driver Side Child	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7B	Driver Side Child	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	Passenger Close-Up	2286	-8230	1524	6	7732	13	1020
9	3/4 Passenger	1219	-6096	1524	4	5741	35	990
10	Passenger Door	8026	-8941	2997	9	10252	80	930
11	Passenger Side Child	1626	-8836	1702	4	8389	50	1000
12	Passenger Side Child	3353	-1930	2286	25	1897	6	1000
12B	Overhead	2100	8230	3200	25	9037	50	1030
13	Driver Front	610	0	6172	90	N/A	13	1000
14	Passenger Front	-610	406	2743	40	N/A	13	NTM
15	Pit Engine	-610	406	2743	40	N/A	13	NTM
16	Pit Fuel Tank	762	0	-1499	90	N/A	9	1110
17	Pit Fuel Tank	3658	0	-1499	90	N/A	6	920

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: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

All Dimensions in (mm)	
Item	Value
A	390
B	925
C	2331
D	610
E	1890
F	150
G	1774
H	1096
I	1440
J	913
K	918
L	1569
M	1096
N	1556
O	919
P	920
Q	1441



DATA SHEET NO. 17
VEHICLE INTRUSION MEASUREMENTS

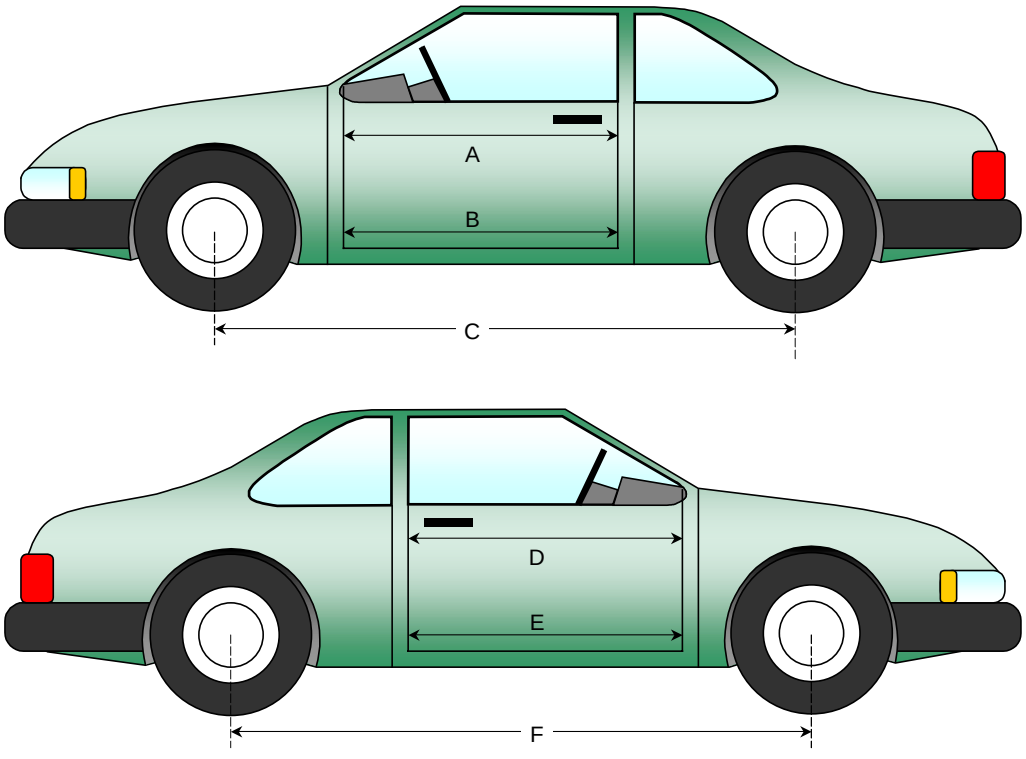
Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

DOOR OPENING WIDTH TABLE

Item	Description	Units	Pre-Test	Post-Test	Diff.
A	Left Side Upper	mm	1002	996	-6
B	Left Side Lower	mm	972	976	4
D	Right Side Upper	mm	995	989	-6
E	Right Side Lower	mm	995	996	1

WHEELBASE MEASUREMENT TABLE

Item	Description	Units	Pre-Test	Post-Test	Diff.
C	Left Side Wheel Base	mm	2755	2694	-61
F	Right Side Wheel Base	mm	2755	2746	-9



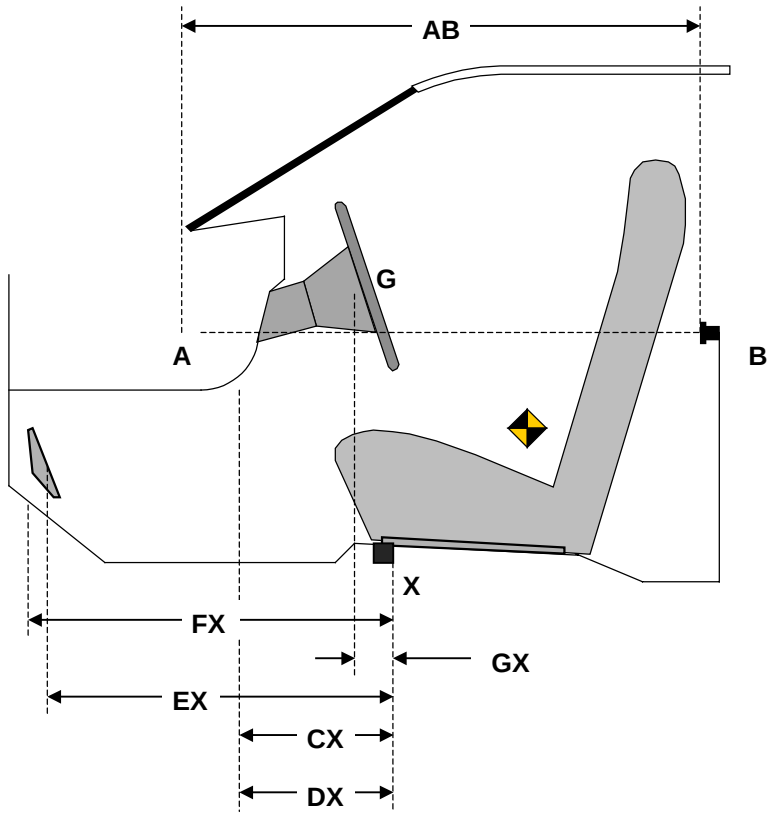
DATA SHEET NO. 17…(CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

DRIVER COMPARTMENT INTRUSION TABLE

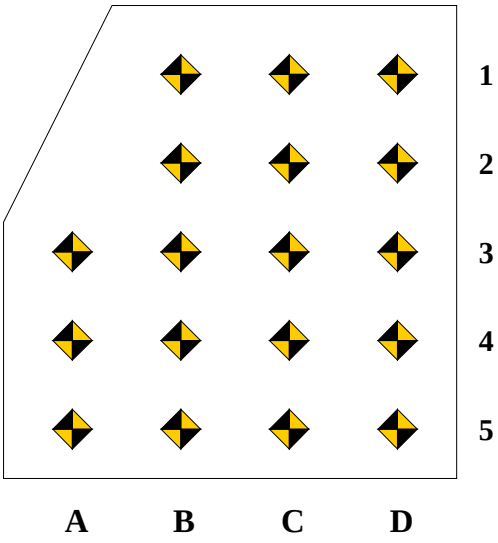
Item	Description	Units	Pre-Test	Post-Test	Diff.
AB	Door Opening (Inside window jam)	mm	1002	996	-6
CX	Left Knee Bolster to X	mm	262	271	9
DX	Right Knee Bolster to X	mm	246	257	11
EX	Brake Pedal to X	mm	552	501	-51
FX	Foot Rest to X	mm	549	550	1
GX	Center of Steering Wheel Hub to X	mm	45	40	-5

X = Left Front Seat Outboard Anchor Bolt Head



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

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03



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		660	659	660		597	597	600		-63	-62	-60
2		598	594	590		538	543	549		-60	-51	-41
3	495	500	500	500	465	454	448	450	-30	-46	-52	-50
4	400	400	406	411	370	370	370	370	-30	-30	-36	-41
5	315	314	318	321	263	262	265	260	-52	-52	-53	-61

DRIVER FLOOR PAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1		-27	-23	-21		-14	-19	-38		13	4	-17
2		-96	-89	-98		-98	-95	-118		-2	-6	-20
3	-94	-94	-94	-98	-114	-96	-103	-100	-20	-2	-9	-2
4	-93	-95	-106	-110	-119	-118	-126	-121	-26	-23	-20	-11
5	-98	-94	-113	-111	-110	-111	-122	-123	-12	-17	-9	-12

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

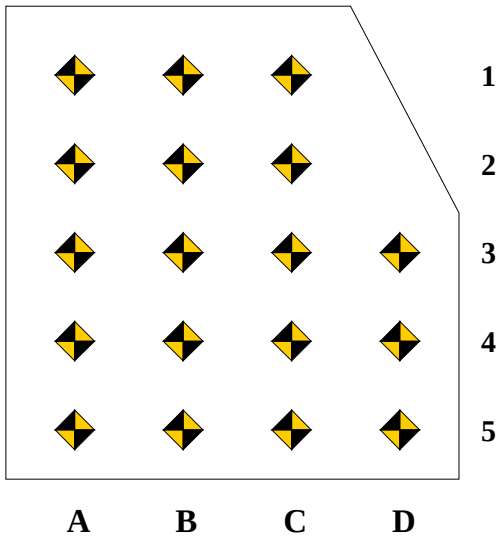
Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

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 Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	732	740	748		690	710	720		-42	-30	-28	
2	657	665	668		640	655	650		-17	-10	-18	
3	595	590	595	585	585	595	595	595	-10	5	0	10
4	510	510	512	513	495	505	520	509	-15	-5	8	-4
5	415	410	413	412	405	415	420	415	-10	5	7	3

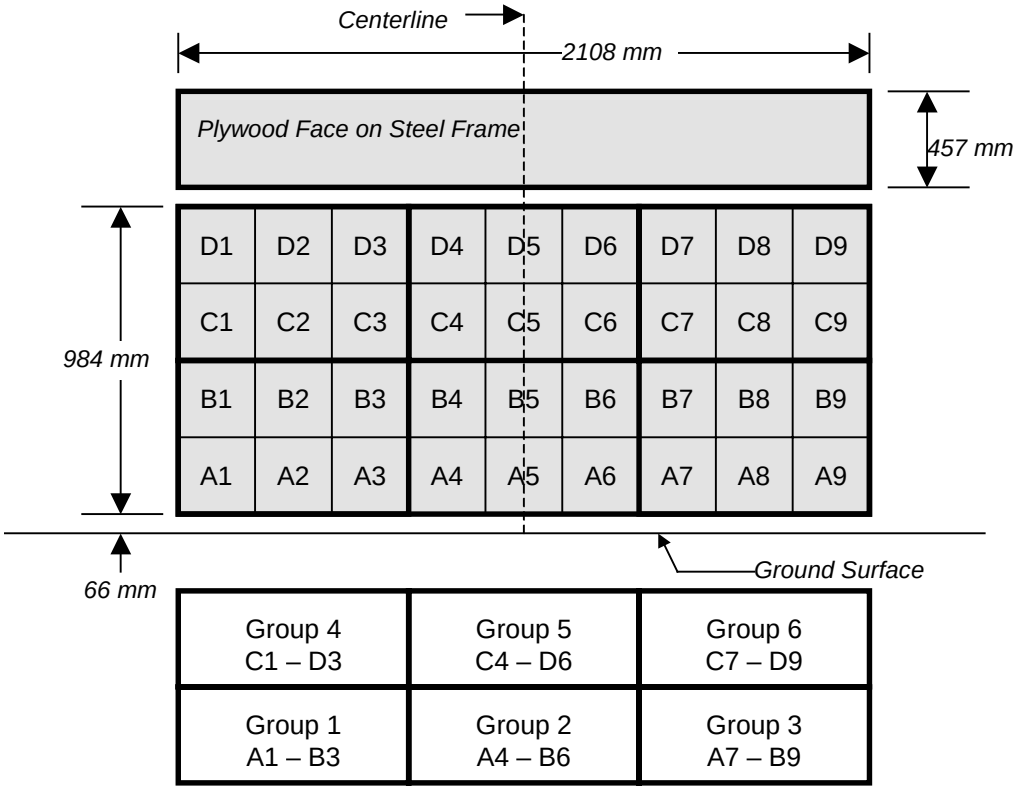
PASSENGER FLOOR PAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	74	56	63		76	76	80		2	20	17	
2	0	0	0		-15	4	9		-15	4	9	
3	-76	-75	-80	-76	-85	-74	-70	-50	-9	1	10	26
4	-99	-99	-98	-100	-98	-109	-100	-102	1	-10	-2	-2
5	-109	-109	-100	-100	-105	-112	-110	-100	4	-3	-10	0

DATA SHEET NO. 18
FIXED BARRIER LOAD CELL LOCATIONS

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

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
ACCIDENT INVESTIGATION DIVISION DATA

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

VEHICLE INFORMATION

VIN: 4A3AB36F44E066407 Wheel base (mm): 2755
Vehicle Size Category: 4-Door Sedan Test Weight (kg): 1727

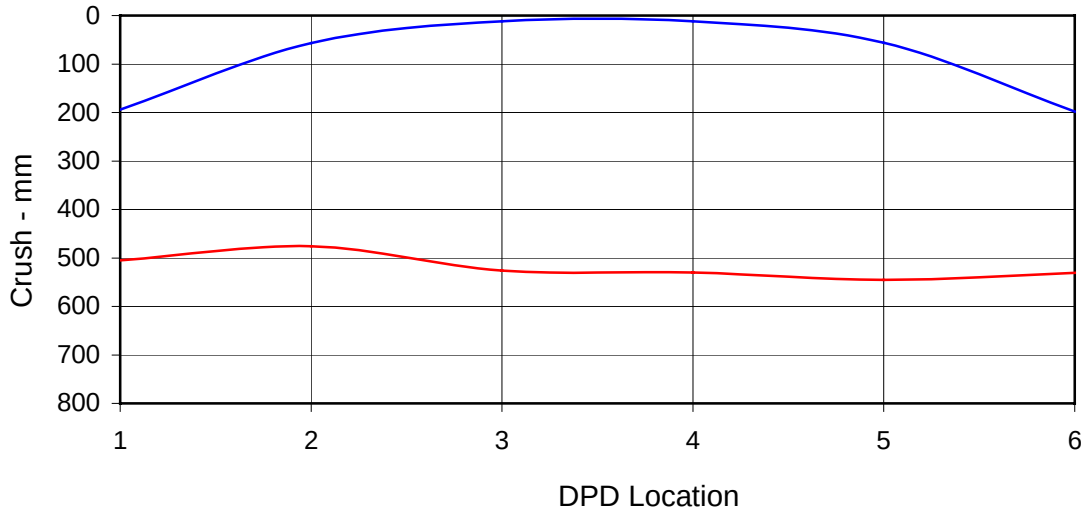
ACCELEROMETER DATA

Accelerometer Location: Left rear floor pan
Cal. Procedure/Interval: 6 months / drop test
Integration Algorithm: NHTSA Standard Linearity: Good
Impact Velocity (km/h): 55.80
Velocity Change (km/h): 63.28 Time of Separation (msec): 67.1

CRUSH PROFILE

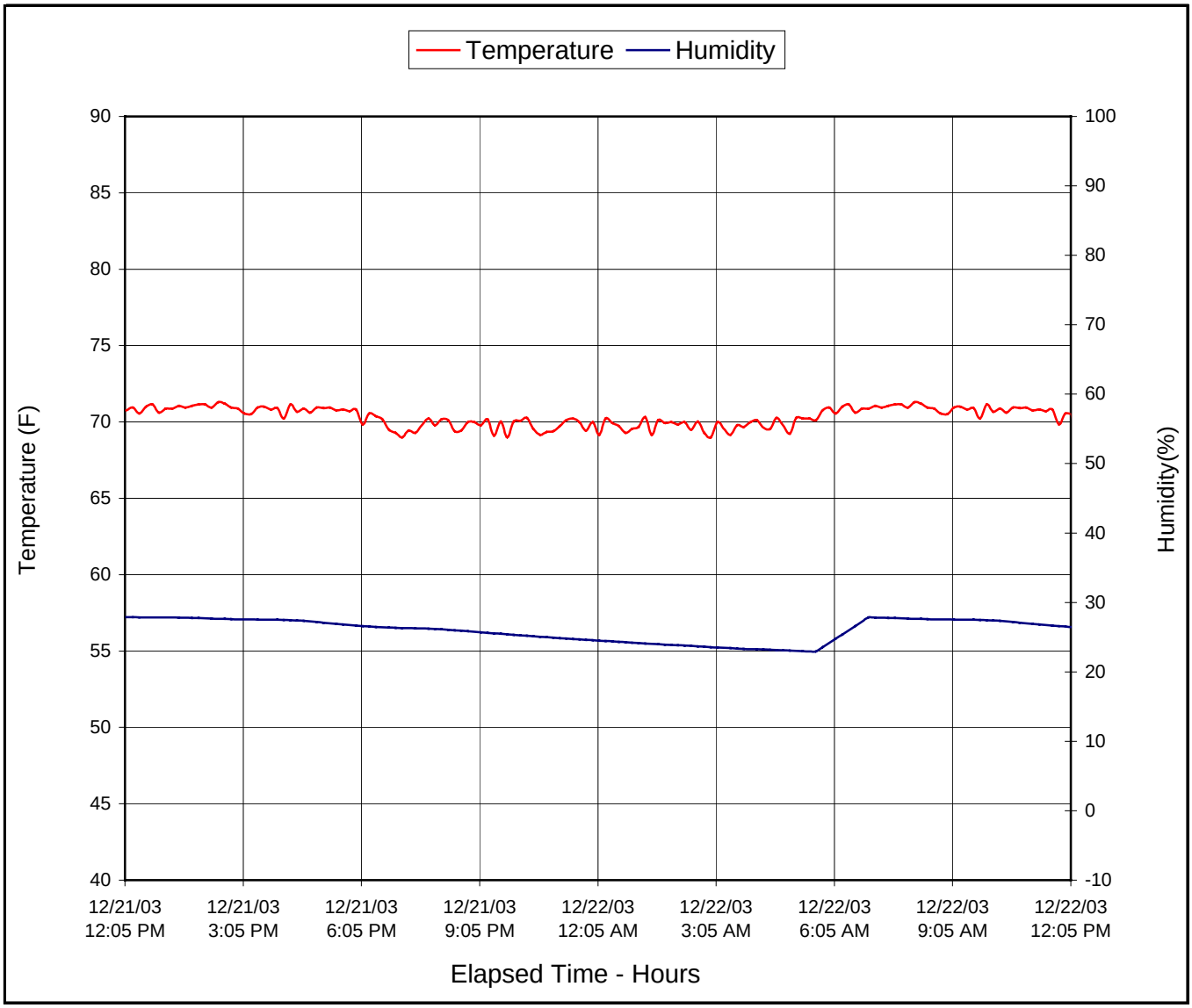
Collision Deformation Classification: 12FDEW6 Midpoint of Damage: Vehicle Centerline
Damage Region Length (mm): 1850 Impact Mode: Full Frontal

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	194	505	-311
C2	Crush zone 2 on left side	mm	57	476	-419
C3	Crush zone 3 on left side	mm	12	526	-514
C4	Crush zone 4 on right side	mm	12	530	-518
C5	Crush zone 5 on right side	mm	56	545	-489
C6	Crush zone 6 at right side	mm	198	531	-333



DATA SHEET NO. 20
DUMMY/VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601
Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03



APPENDIX A

PHOTOGRAPHS

LIST OF PHOTOGRAPHS

Figure A-1: Load Cell Location

Figure A-2: Vehicle Certification Label

Figure A-3: Vehicle Tire Label

Figure A-4: Right Front ¾ View, As Received

Figure A-5: Left Rear ¾ View, as Received

Figure A-6: Pre-Test Front View

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

Figure A-8: Pre-Test Left Side View

Figure A-9: Post-Test Left Side View

Figure A-10: Pre-Test Right Side View

Figure A-11: Post-Test Right Side View

Figure A-12: Pre-Test Right Front ¾ View

Figure A-13: Post-Test Right Front ¾ View

Figure A-14: Pre-Test Left Rear ¾ View

Figure A-15: Post-Test Left Rear ¾ View

Figure A-16: Left Rear ¾ View of Doors After Impact

Figure A-17: Right Rear ¾ View of Doors After Impact

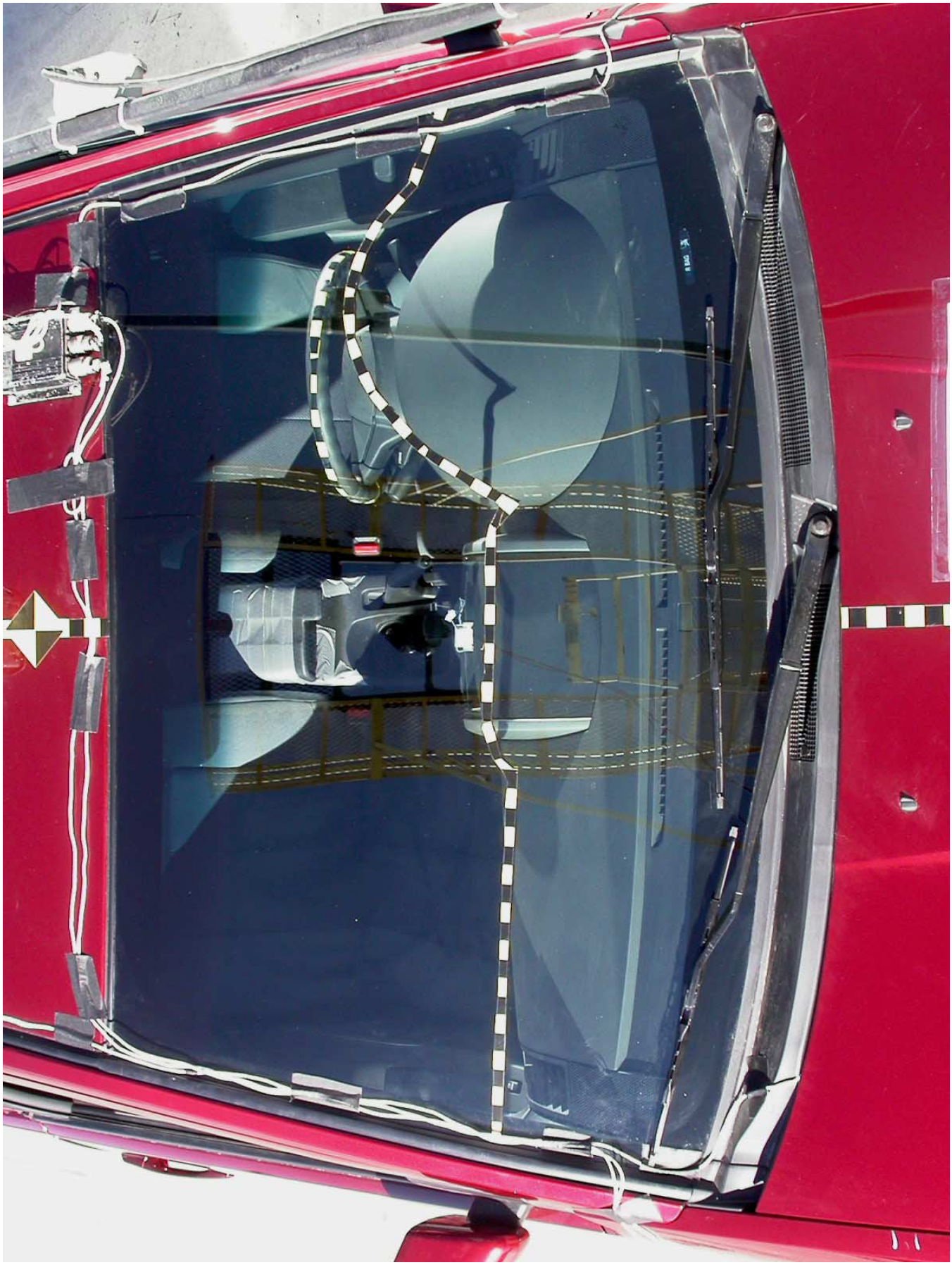


Figure A-18: Pre-Test Windshield View

Figure A-19: Post-Test Windshield View

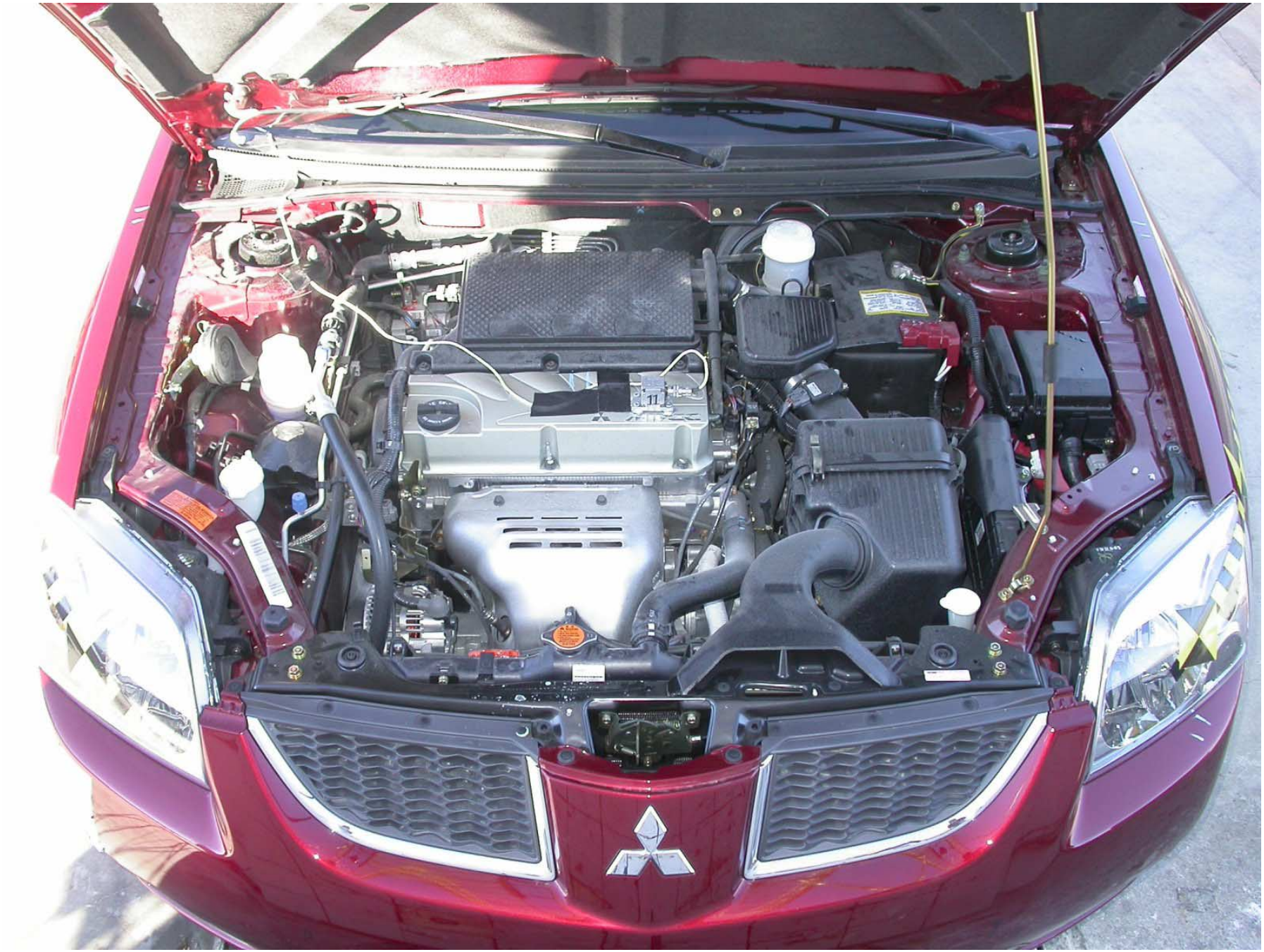


Figure A-20: Pre-Test Engine Compartment

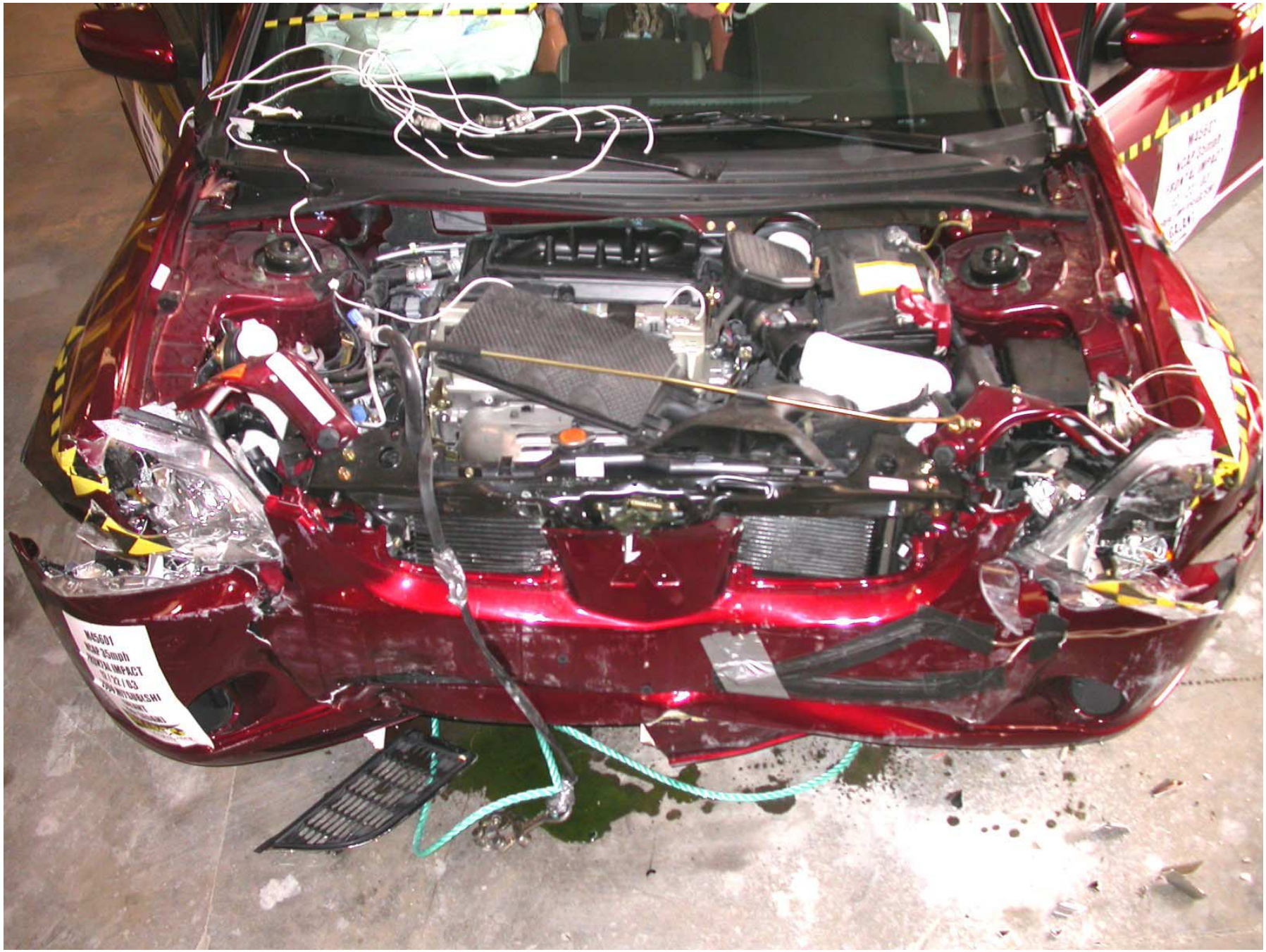


Figure A-21: Post-Test Engine Compartment (Vehicle Moved)

Figure A-22: Pre-Test Fuel Cap

Figure A-23: Post-Test Fuel Cap

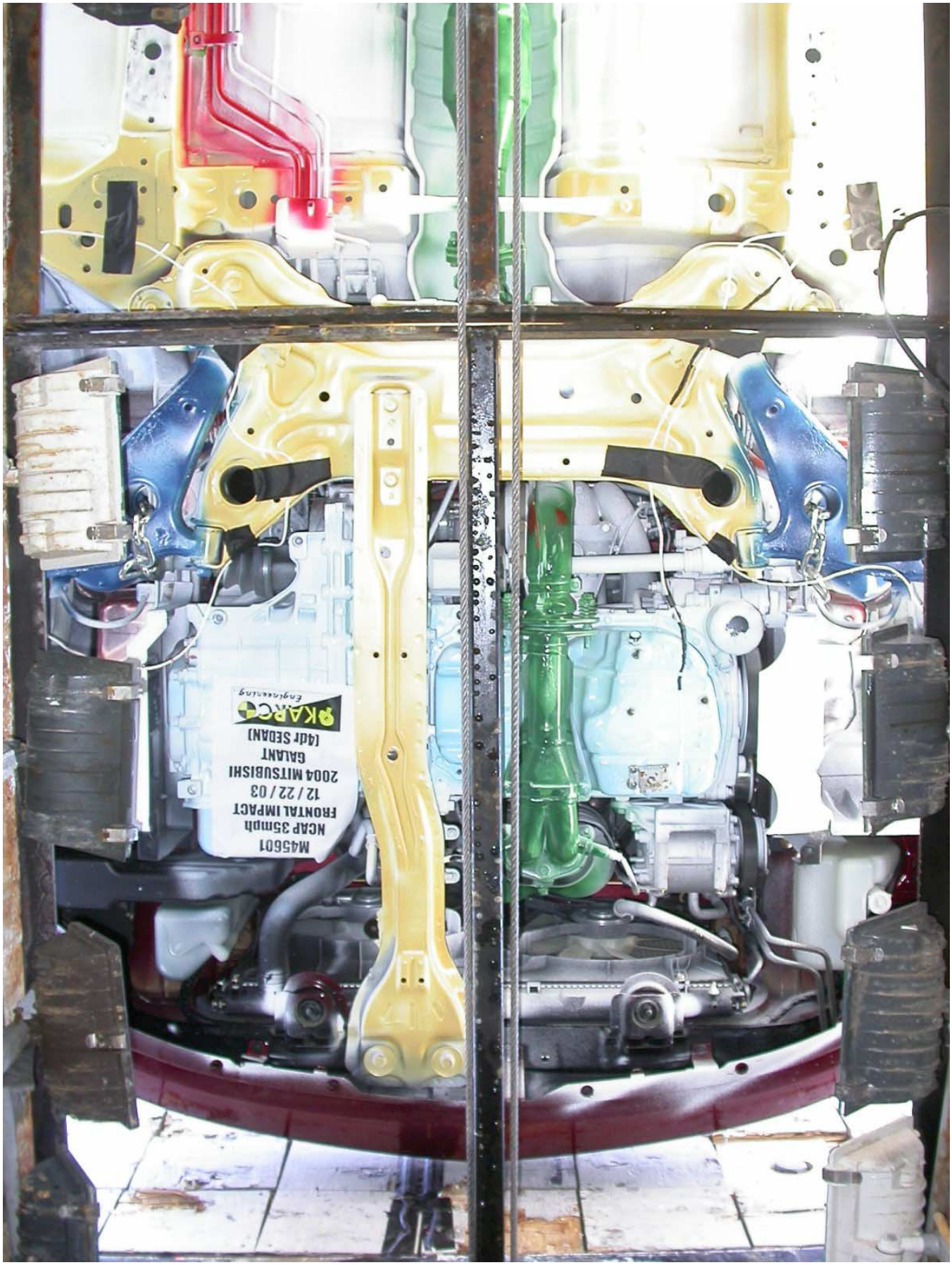


Figure A-24: Pre-Test Front Underbody View

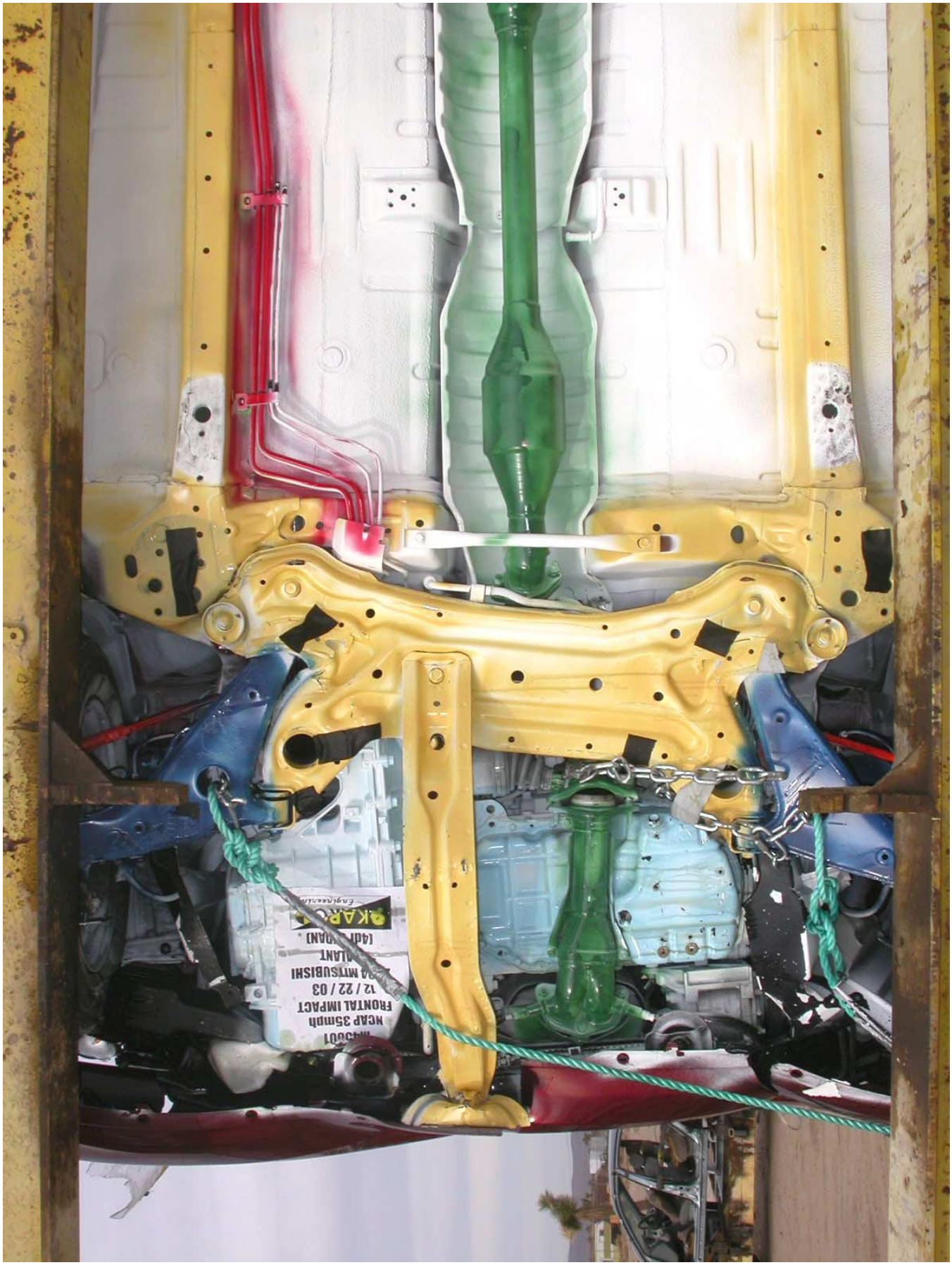


Figure A-25: Post-Test Front Underbody View

Figure A-26: Pre-Test Mid Underbody View

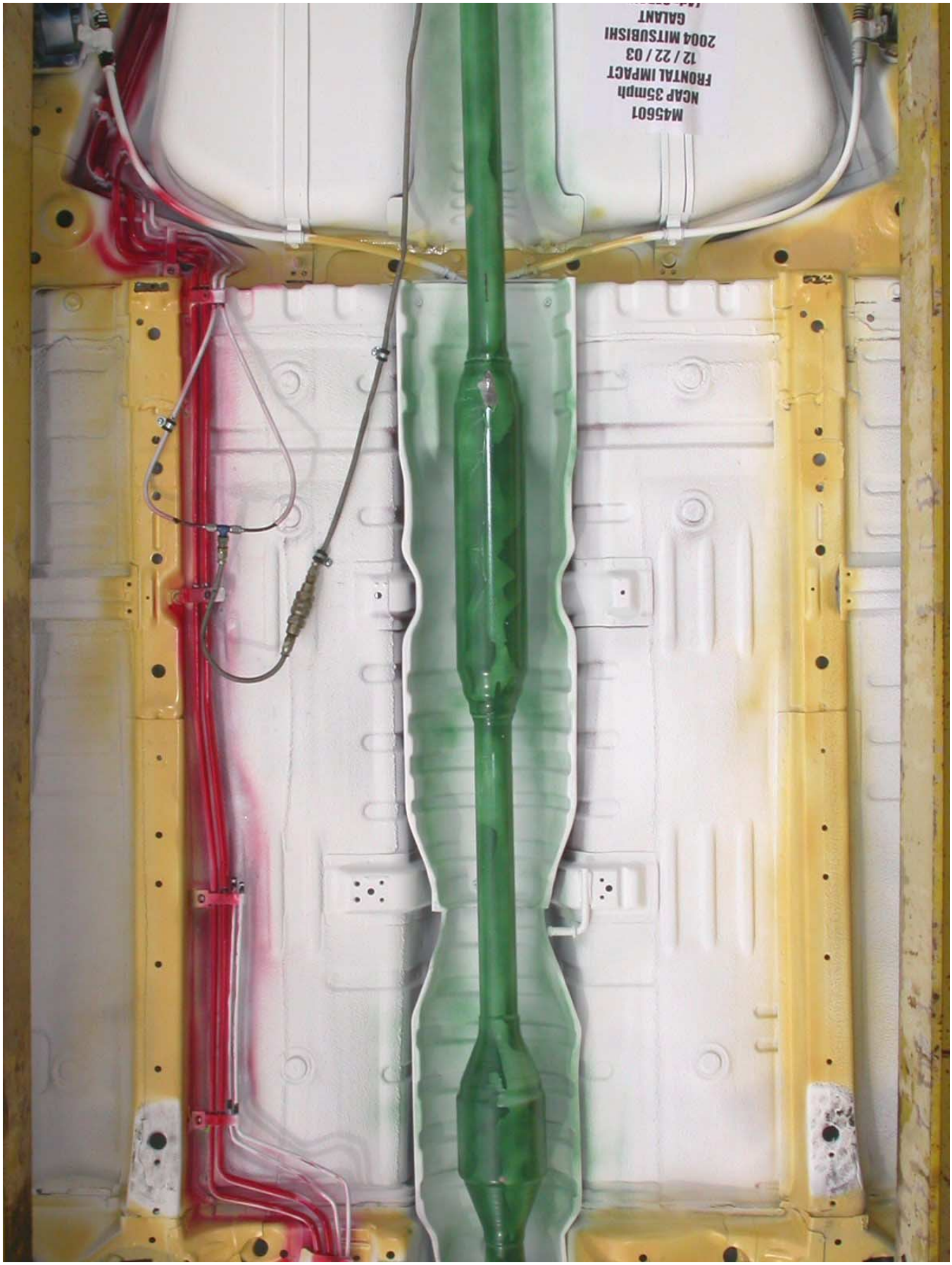


Figure A-27: Post-Test Mid Underbody View

Figure A-28: Pre-Test Rear Underbody View

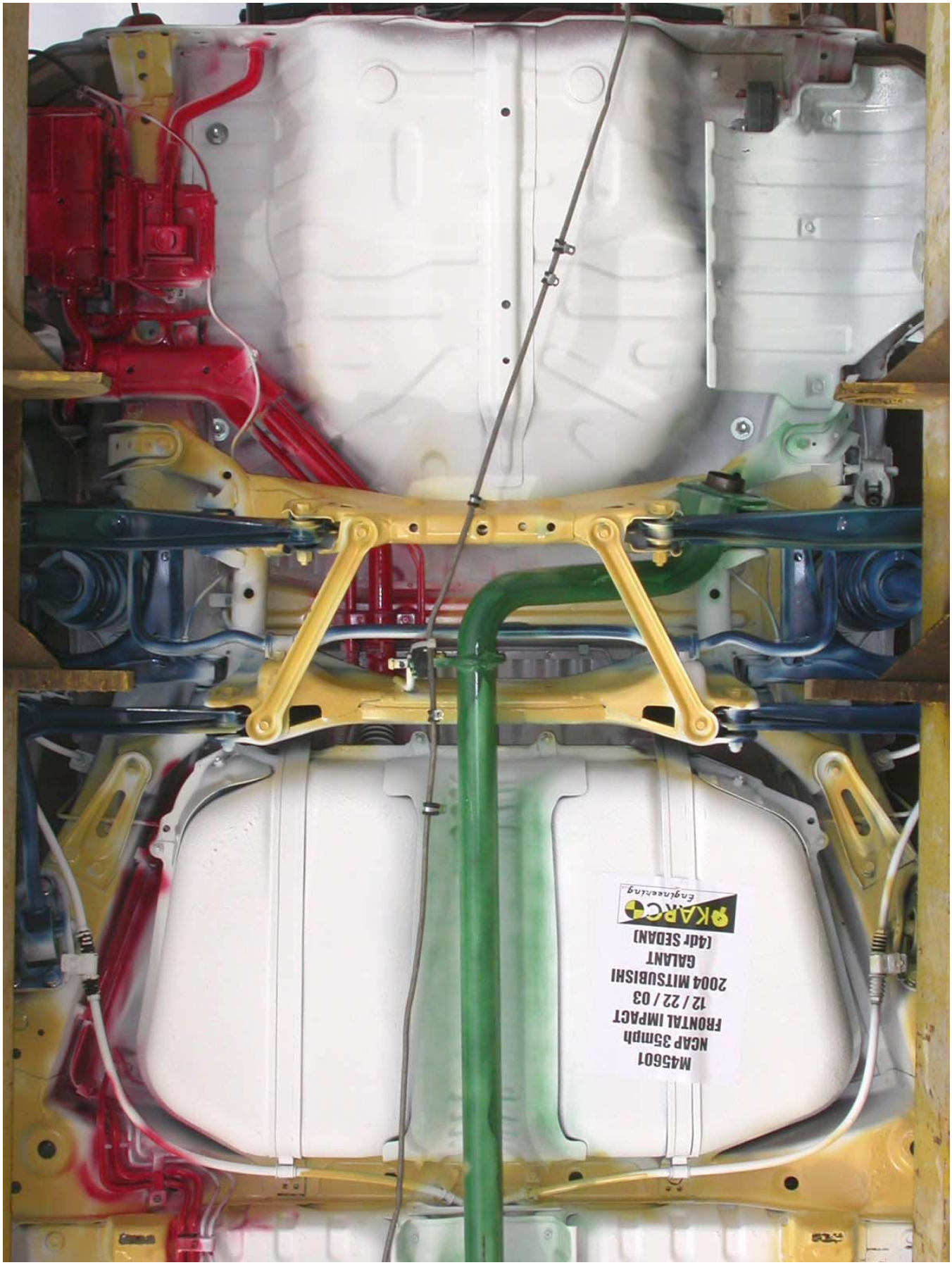


Figure A-29: Post-Test Rear Underbody View

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

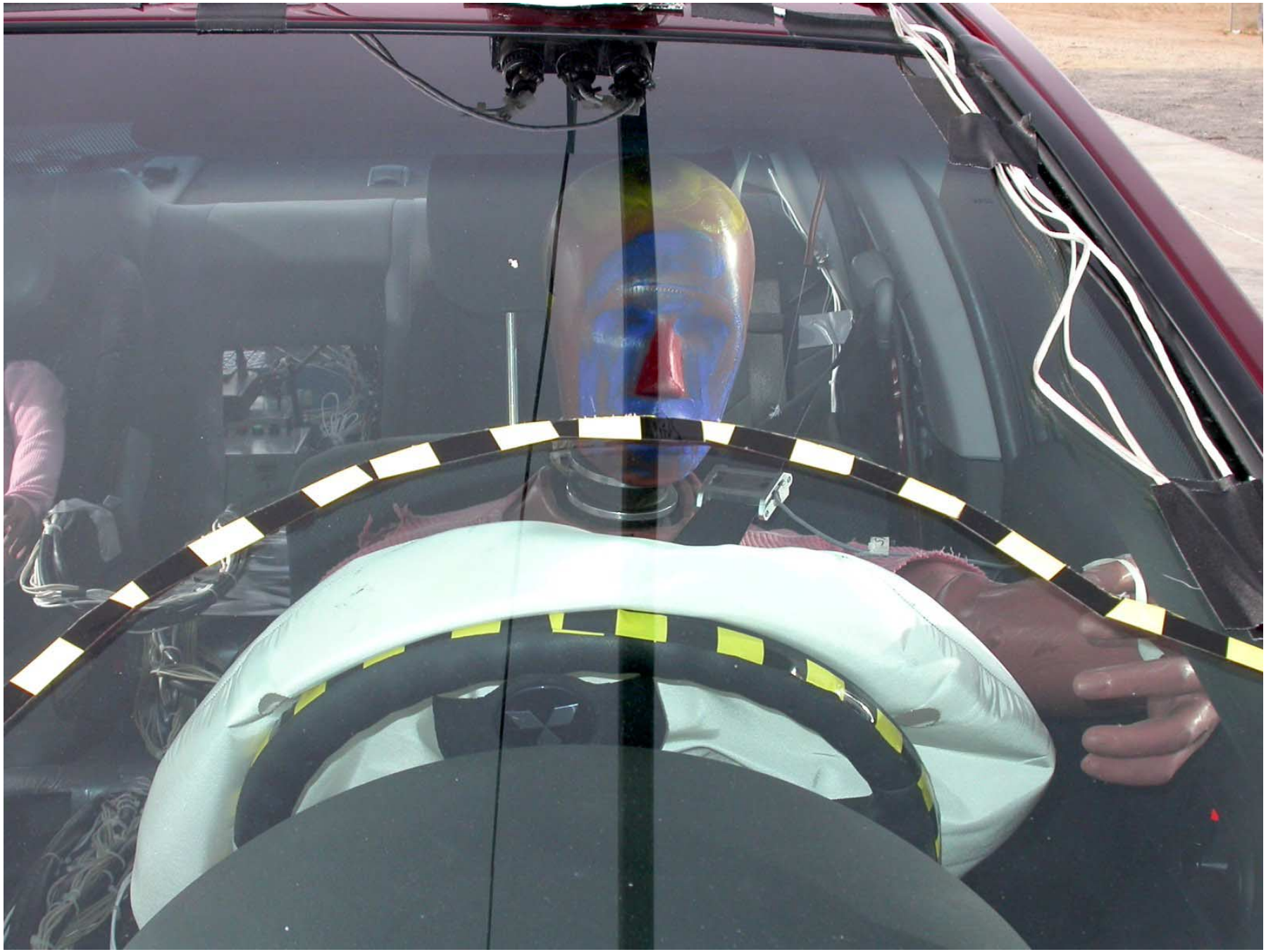


Figure A-31: Post-Test Driver Dummy Front View (Head Position)

Figure A-32: Pre-Test Driver Dummy Front Through Window

Figure A-33: Post-Test Driver Dummy Front Through Window

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

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

Figure A-36: Pre-Test Driver Dummy Feet

Figure A-37: Post-Test Driver Dummy Feet

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

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

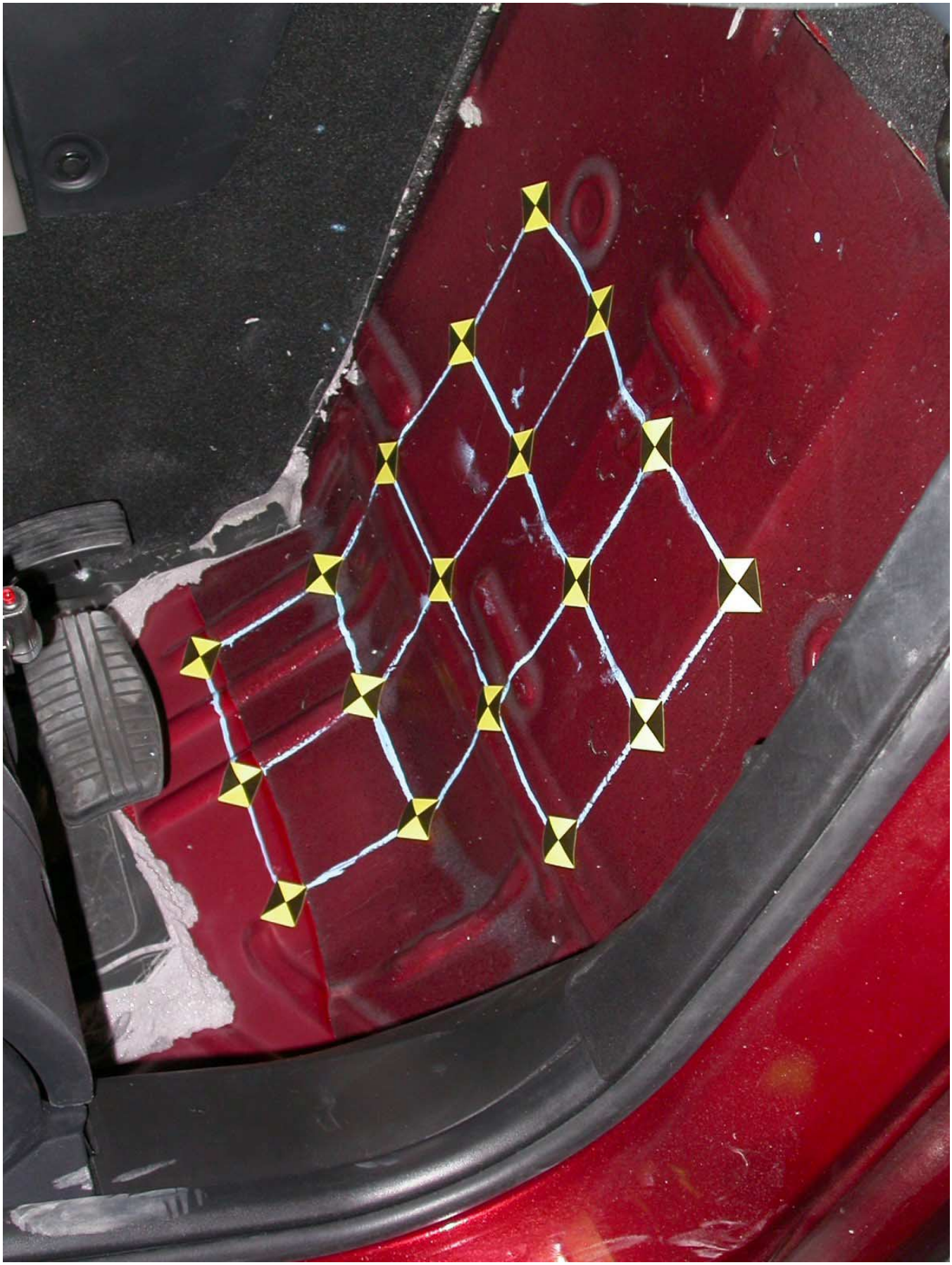


Figure A-40: Pre-Test Driver Side Floor Pan

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

Figure A-42: Post-Test Driver Dummy Head

Figure A-43: Post-Test Driver Dummy Contact to Air Bag

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

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

Figure A-46: Pre-Test Passenger Dummy Front Through Window

Figure A-47: Post-Test Passenger Dummy Front Through Window

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

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

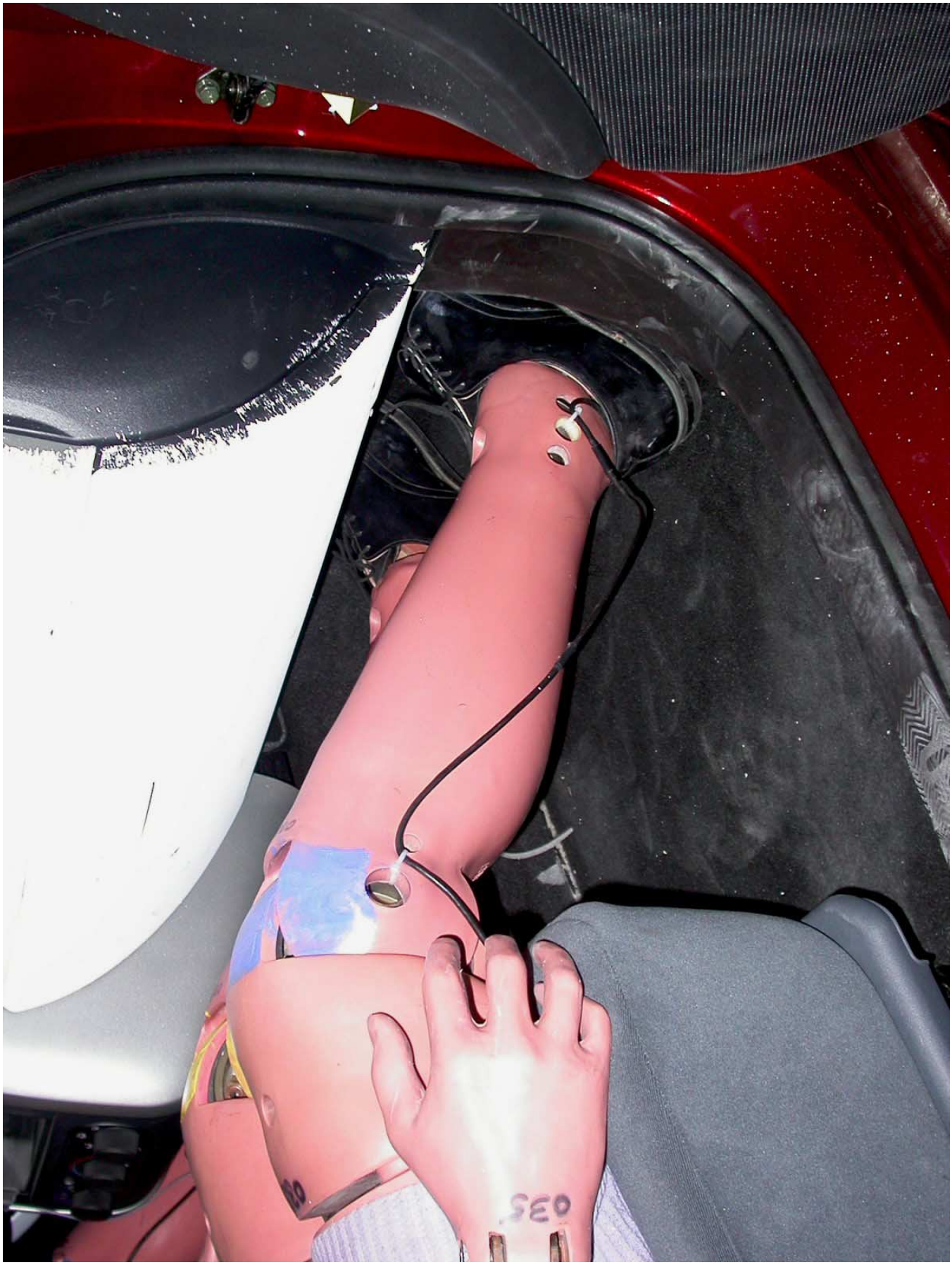


Figure A-50: Pre-Test Passenger Dummy Feet

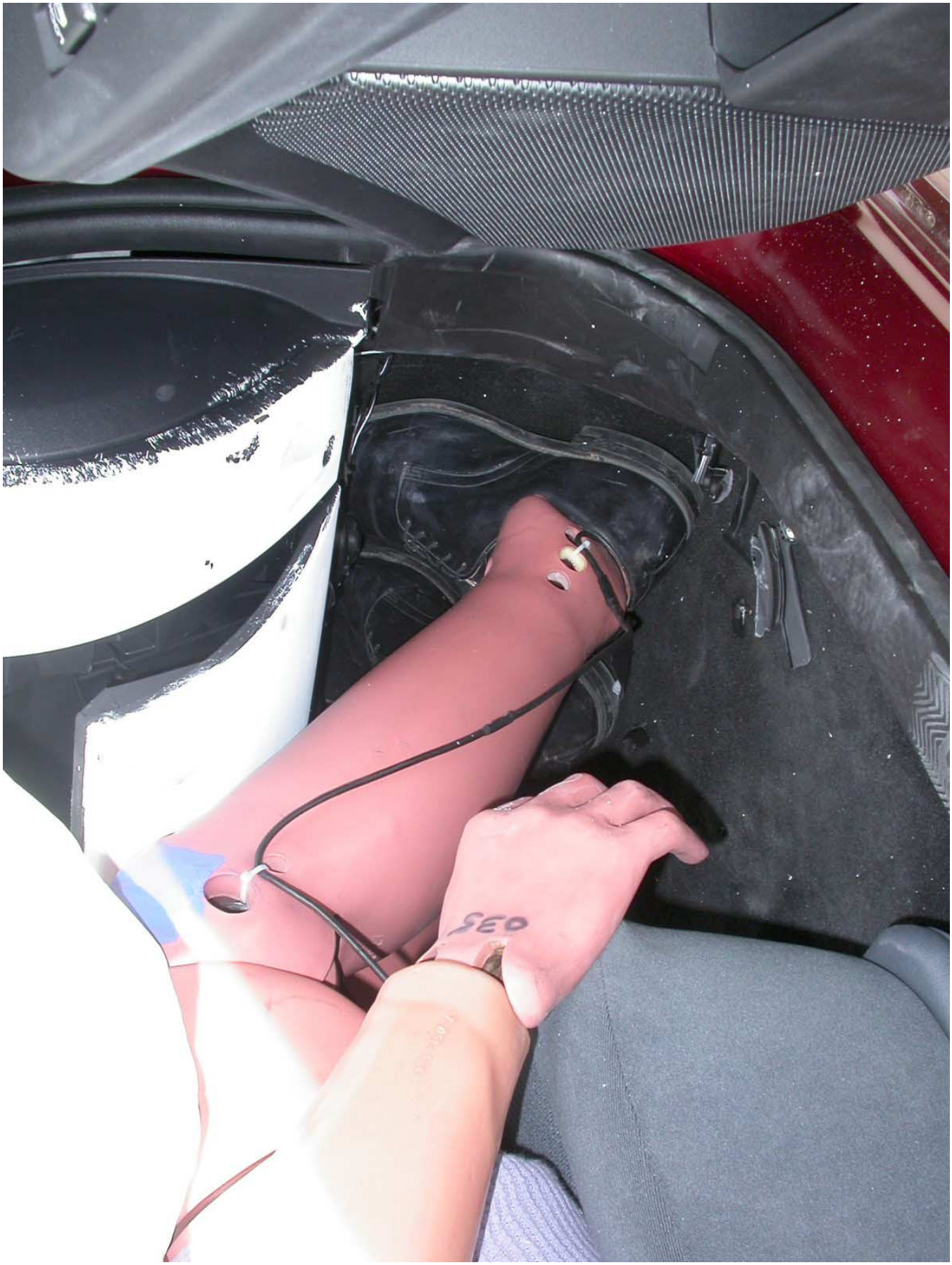


Figure A-51: Post-Test Passenger Dummy Feet

Figure A-52: Pre-Test Passenger Side Knee Bolster

Figure A-53: Post-Test Passenger Side Knee Bolster

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

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

Figure A-56: Post-Test Passenger Dummy Head

Figure A-57: Post-Test Passenger Dummy Contact to Air Bag

Figure A-58: Vehicle on Rollover Device

Figure A-59: Vehicle on Rollover Device

Figure A-60: Vehicle on Rollover Device

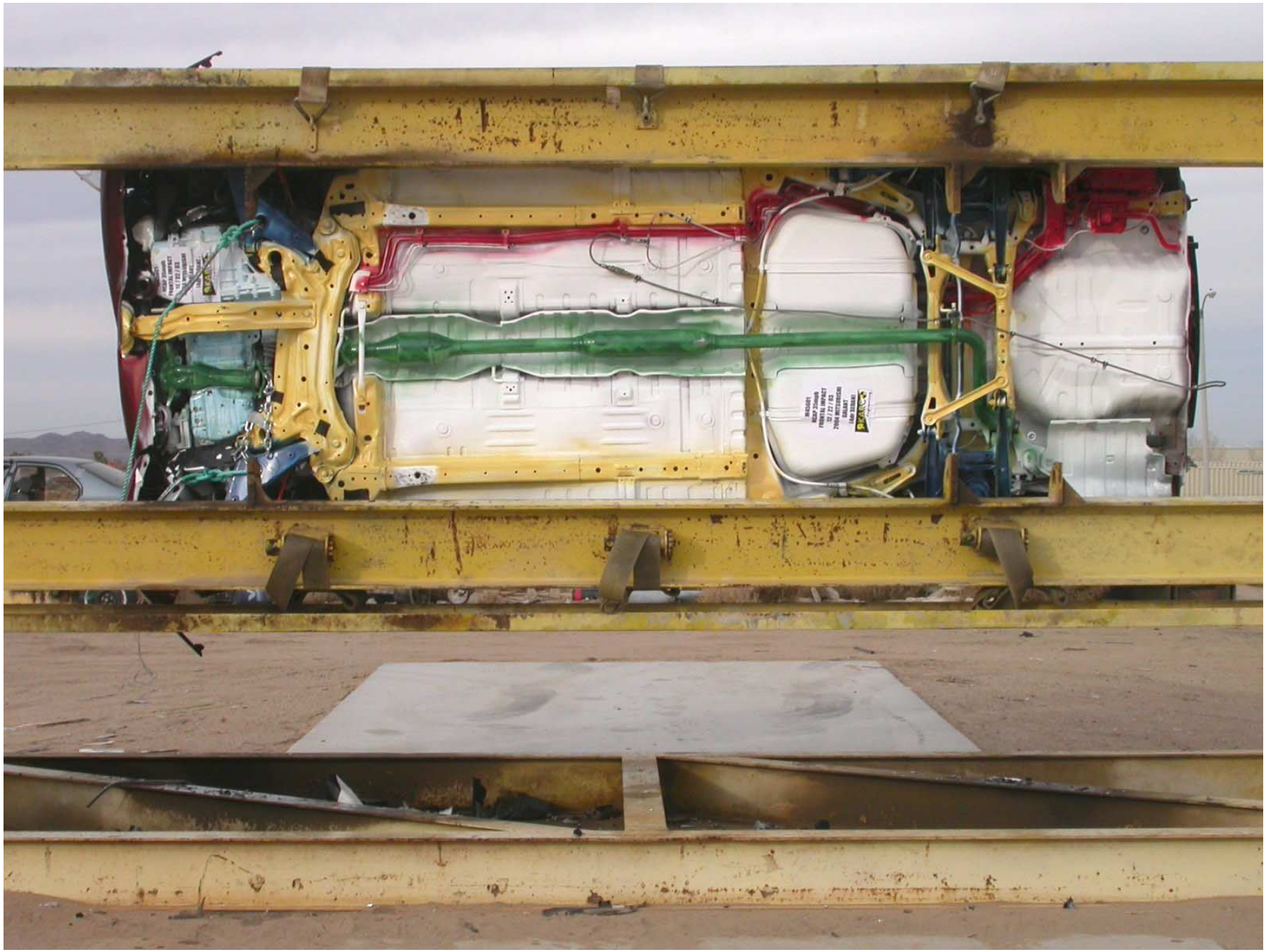


Figure A-61: Vehicle on Rollover Device

Figure A-62: Vehicle During Impact

APPENDIX B

DATA PLOTS

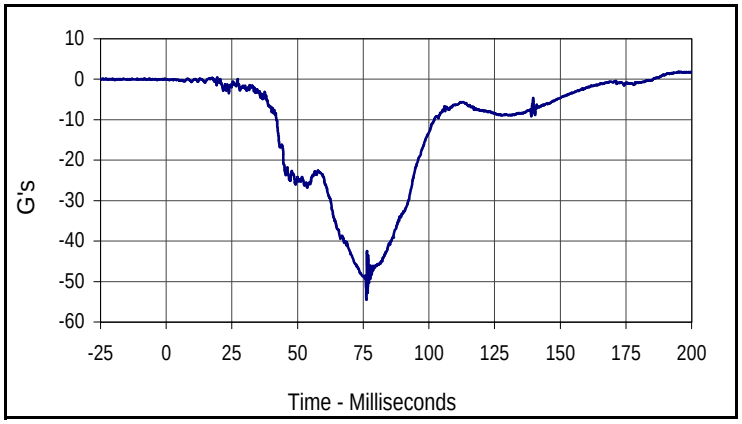
LIST OF DATA PLOTS

LIST OF DATA PLOTS…(Continued)

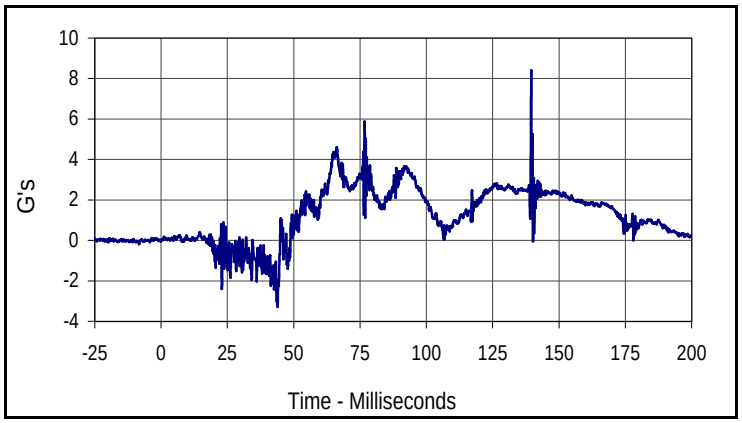
LIST OF DATA PLOTS…(Continued)

LIST OF DATA PLOTS…(Continued)

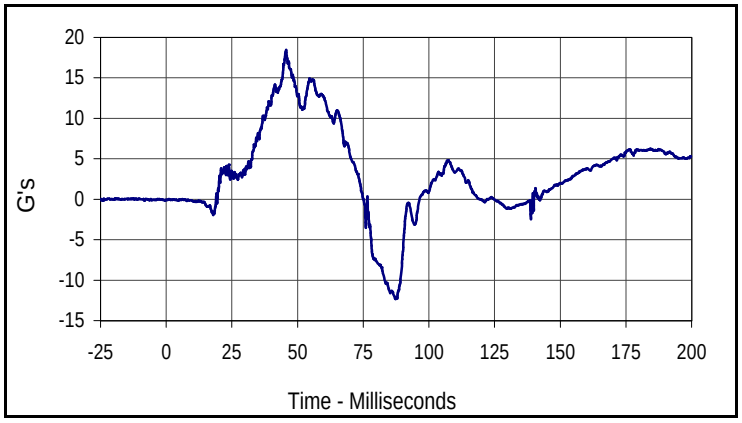
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



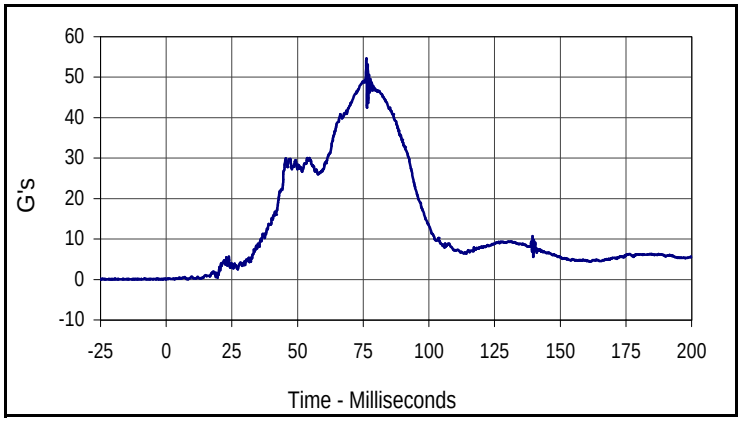
Curve Description			
Driver Head Primary X			
CURNO	Type	SAE Class	Units
001	FIL	1000	G's
Max	Time	Min	Time
1.8	195.9	-54.4	76.2



Curve Description			
Driver Head Primary Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
8.4	139.5	-3.3	43.9

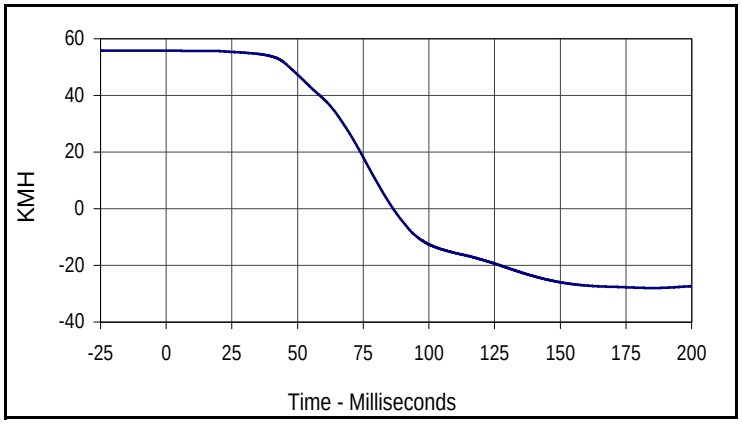


Curve Description			
Driver Head Primary Z			
CURNO	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
18.4	45.7	-12.4	87.3

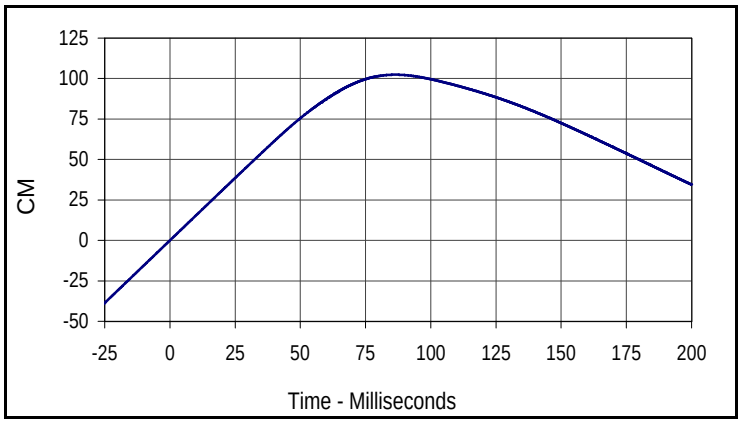


Curve Description			
Driver Head Resultant Primary			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
54.6	76.2	0.1	8.2

Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601

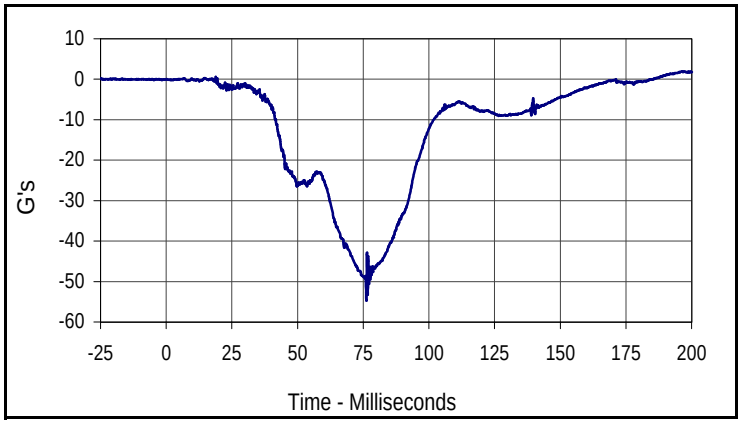


Curve Description			
Driver Head Primary X Velocity			
CURNO	Type	SAE Class	Units
001	IN1	180	KMH
Max	Time	Min	Time
55.8	0.0	-28.0	185.3

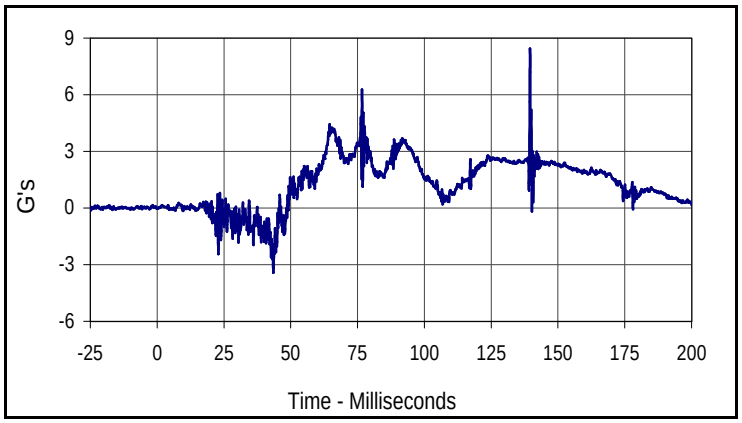


Curve Description			
Driver Head Primary X Displacement			
CURNO	Type	SAE Class	Units
001	IN2	180	CM
Max	Time	Min	Time
102.4	86.4	0.0	0.0

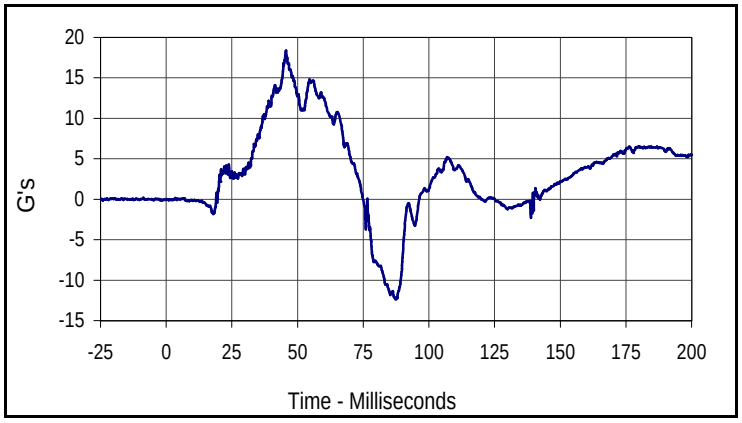
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



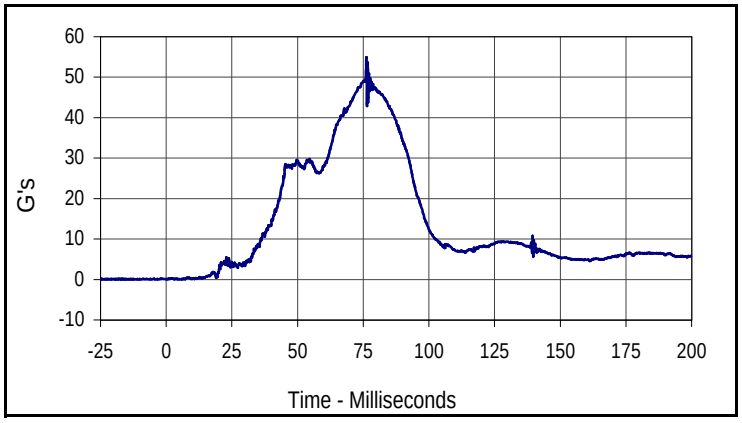
Curve Description			
Driver Head Redundant X			
CURNO	Type	SAE Class	Units
004	FIL	1000	G's
Max	Time	Min	Time
1.9	197.0	-54.6	76.2



Curve Description			
Driver Head Redundant Y			
CURNO	Type	SAE Class	Units
005	FIL	1000	G's
Max	Time	Min	Time
8.4	139.5	-3.4	43.5

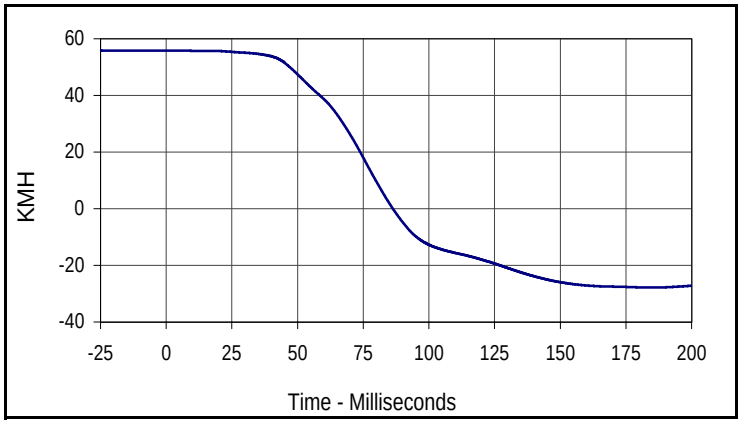


Curve Description			
Driver Head Redundant Z			
CURNO	Type	SAE Class	Units
006	FIL	1000	G's
Max	Time	Min	Time
18.4	45.6	-12.4	87.3

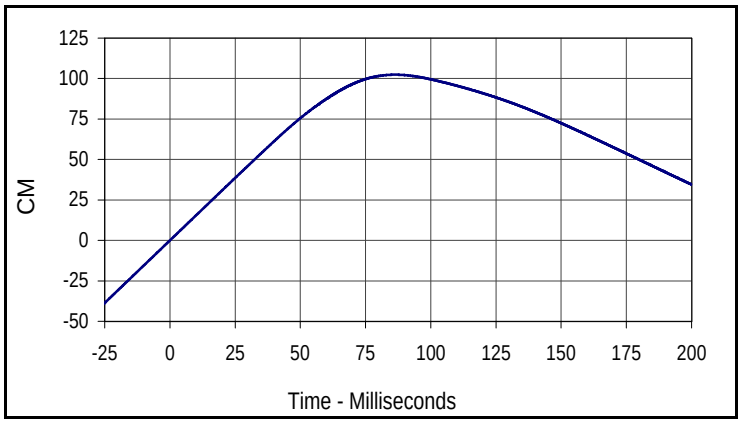


Curve Description			
Driver Head Resultant Redundant			
CURNO	Type	SAE Class	Units
004	RES	1000	G's
Max	Time	Min	Time
54.9	76.2	0.0	0.3

Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601

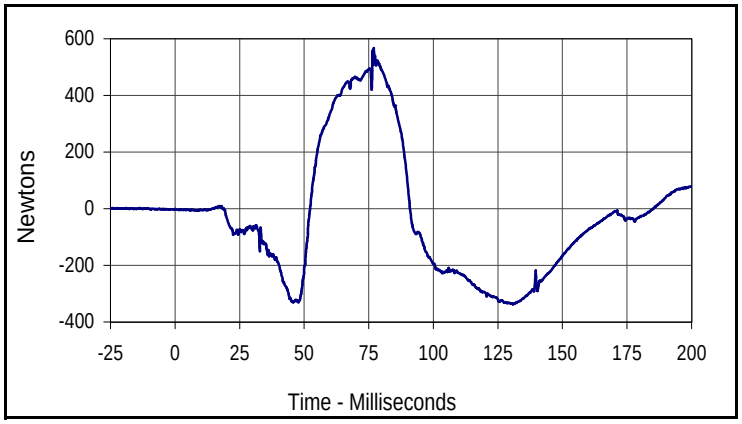


Curve Description			
Driver Head Redundant X Velocity			
CURNO	Type	SAE Class	Units
004	IN1	180	KMH
Max	Time	Min	Time
55.8	0.0	-27.8	185.2

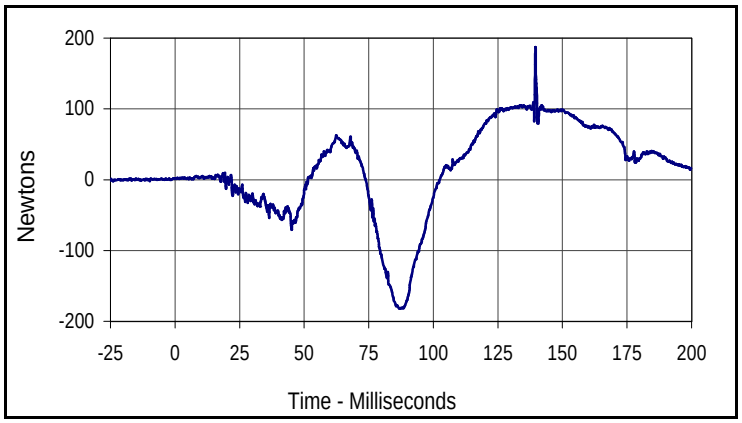


Curve Description			
Driver Head Redundant X Displacement			
CURNO	Type	SAE Class	Units
004	IN2	180	CM
Max	Time	Min	Time
102.4	86.3	0.0	0.0

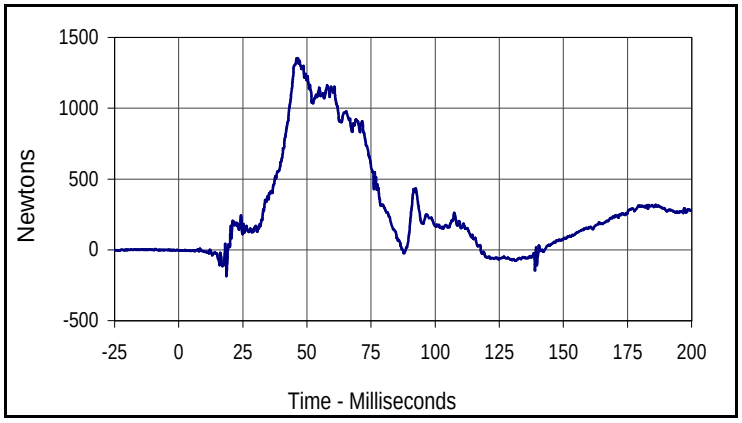
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



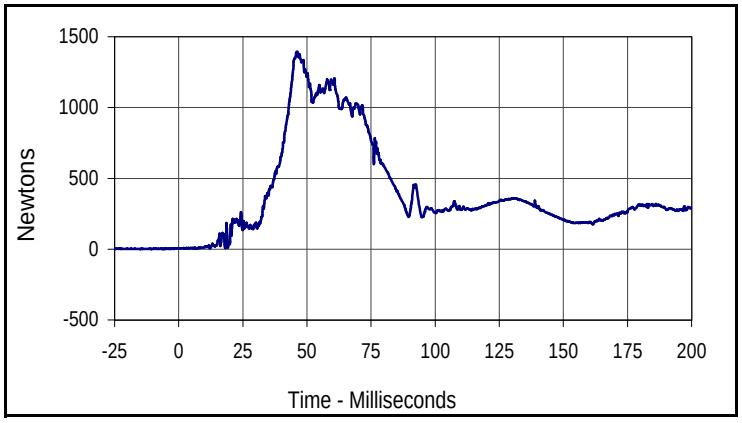
Curve Description			
Driver Upper Neck Force X			
CURNO	Type	SAE Class	Units
007	FIL	1000	Newtons
Max	Time	Min	Time
566.8	77.0	-337.3	130.9



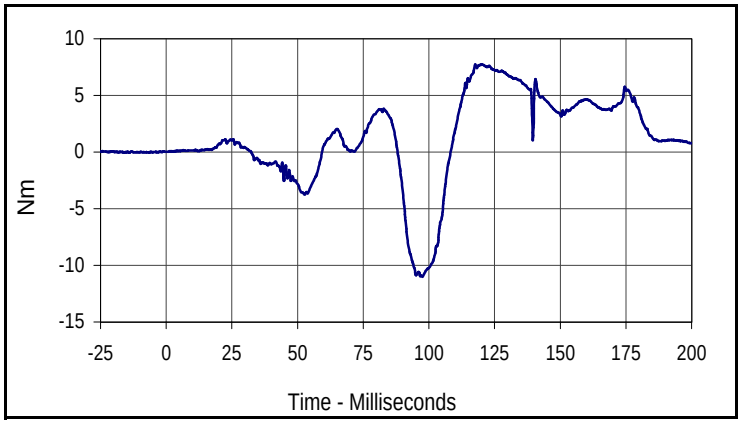
Curve Description			
Driver Upper Neck Force Y			
CURNO	Type	SAE Class	Units
008	FIL	1000	Newtons
Max	Time	Min	Time
187.1	139.5	-182.1	87.2



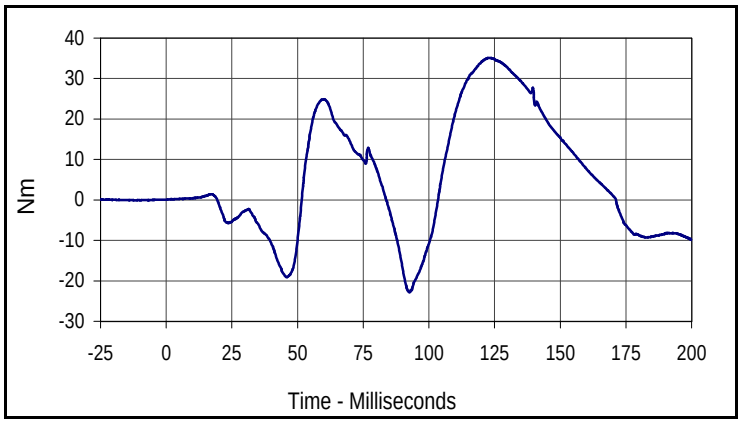
Curve Description			
Driver Upper Neck Force Z			
CURNO	Type	SAE Class	Units
009	FIL	1000	Newtons
Max	Time	Min	Time
1352.4	46.1	-184.8	18.6



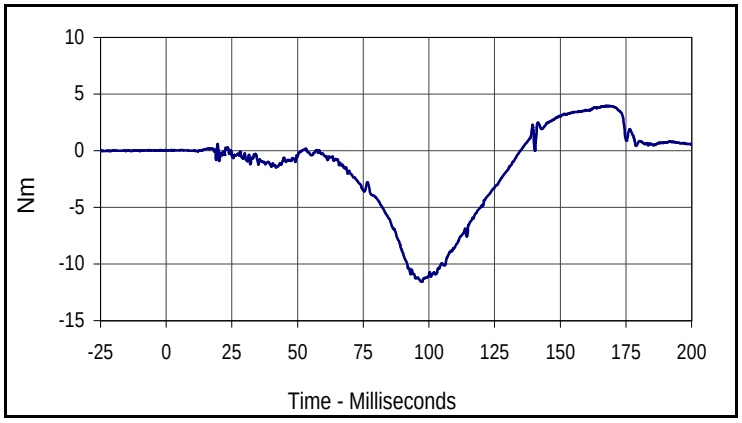
Curve Description			
Driver Upper Neck Force Res.			
CURNO	Type	SAE Class	Units
007	RES	1000	Newtons
Max	Time	Min	Time
1392.8	46.0	3.4	0.0



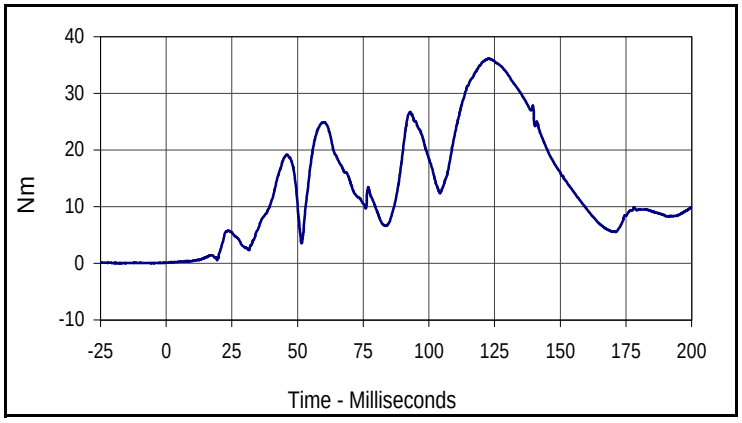
Curve Description			
Driver Upper Neck Moment X			
CURNO	Type	SAE Class	Units
010	FIL	600	Nm
Max	Time	Min	Time
7.7	120.1	-11.0	97.5



Curve Description			
Driver Upper Neck Moment Y			
CURNO	Type	SAE Class	Units
011	FIL	600	Nm
Max	Time	Min	Time
35.1	122.8	-22.8	92.7

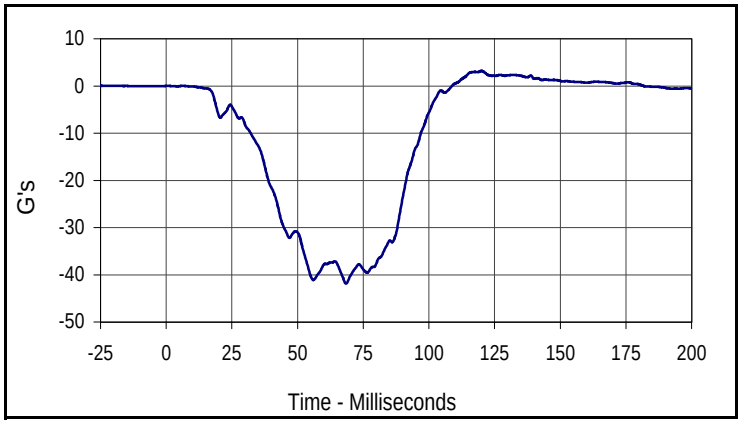


Curve Description			
Driver Upper Neck Moment Z			
CURNO	Type	SAE Class	Units
012	FIL	600	Nm
Max	Time	Min	Time
4.0	167.3	-11.6	97.4

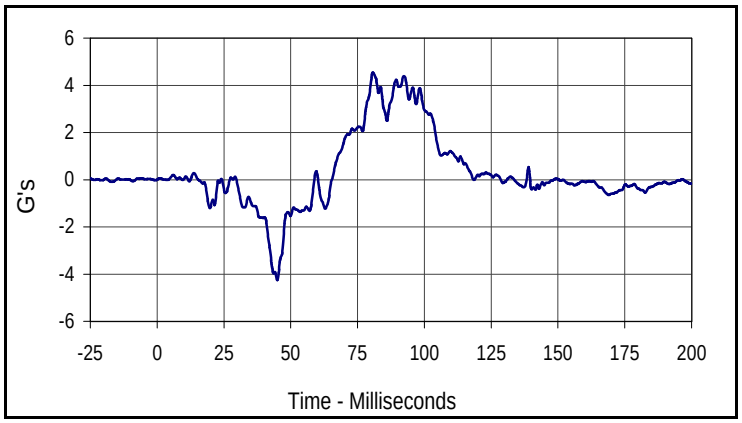


Curve Description			
Driver Upper Neck Moment Res.			
CURNO	Type	SAE Class	Units
010	RES	600	Nm
Max	Time	Min	Time
36.2	122.8	0.1	0.0

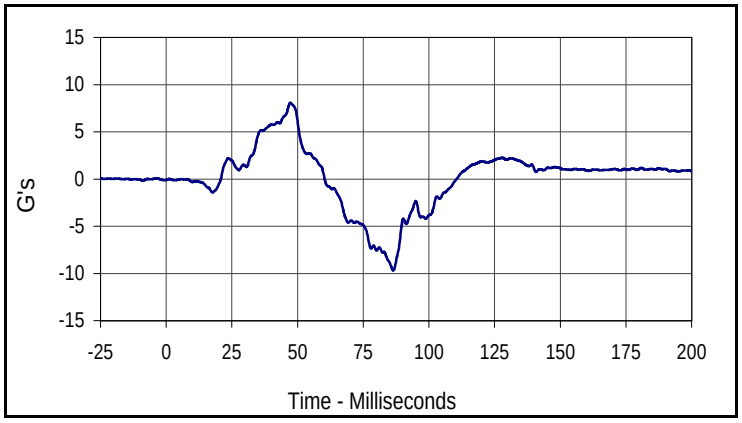
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



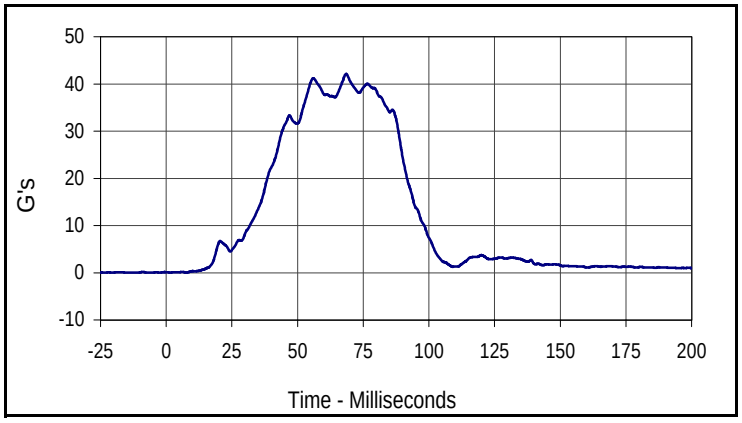
Curve Description			
Driver Chest Primary X			
CURNO	Type	SAE Class	Units
013	FIL	180	G's
Max	Time	Min	Time
3.2	120.0	-41.9	68.5



Curve Description			
Driver Chest Primary Y			
CURNO	Type	SAE Class	Units
014	FIL	180	G's
Max	Time	Min	Time
4.5	80.7	-4.3	45.0

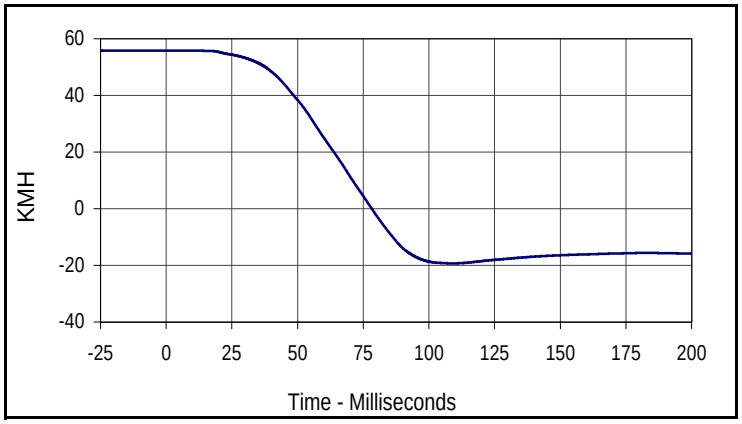


Curve Description			
Driver Chest Primary Z			
CURNO	Type	SAE Class	Units
015	FIL	180	G's
Max	Time	Min	Time
8.1	47.2	-9.7	86.4

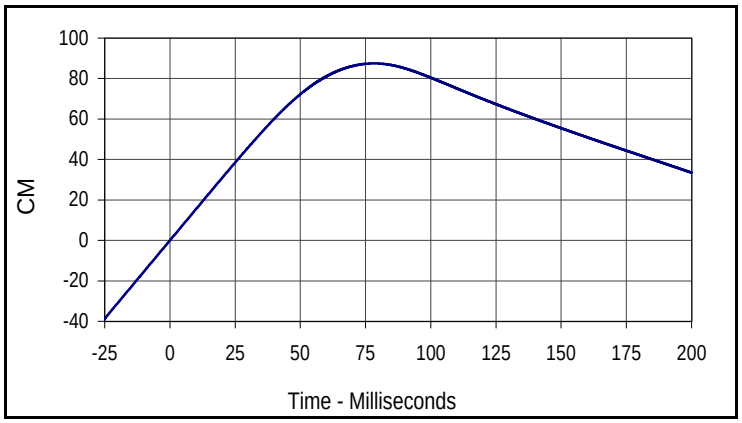


Curve Description			
Driver Chest Resultant Primary			
CURNO	Type	SAE Class	Units
013	RES	180	G's
Max	Time	Min	Time
42.1	68.5	0.0	7.6

Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601

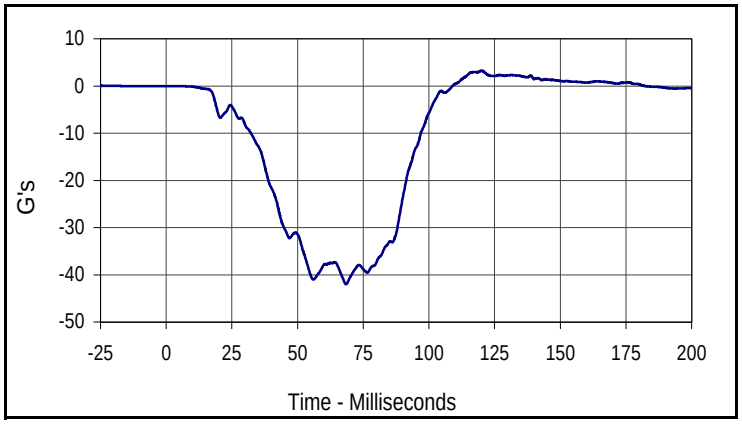


Curve Description			
Driver Chest Primary X Velocity			
CURNO	Type	SAE Class	Units
013	IN1	180	KMH
Max	Time	Min	Time
55.8	1.4	-19.3	108.8

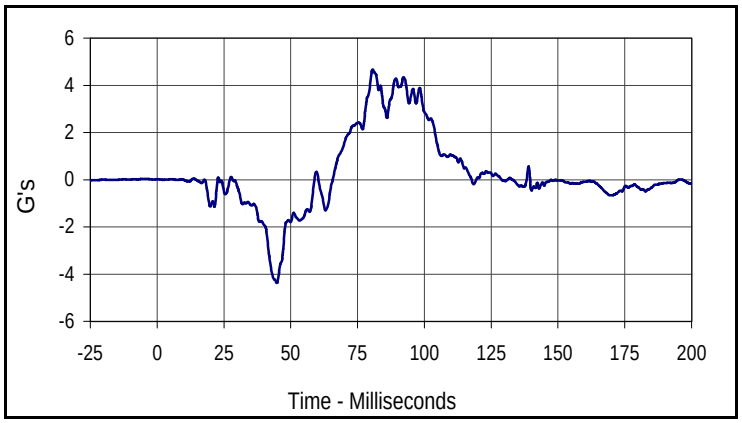


Curve Description			
Driver Chest Primary X Displacement			
CURNO	Type	SAE Class	Units
013	IN2	180	CM
Max	Time	Min	Time
87.5	78.3	0.0	0.0

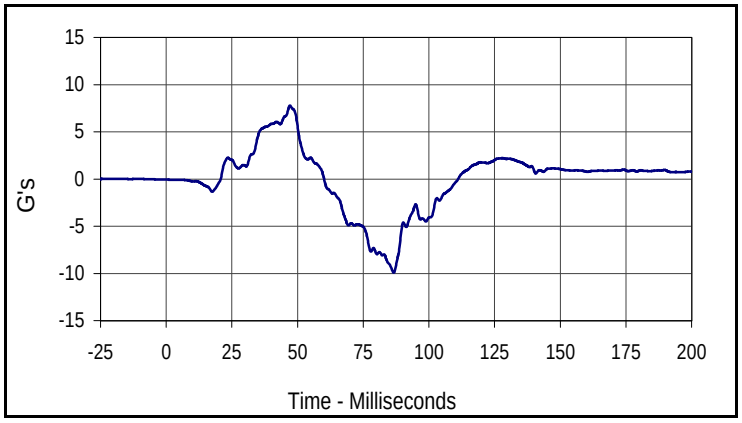
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



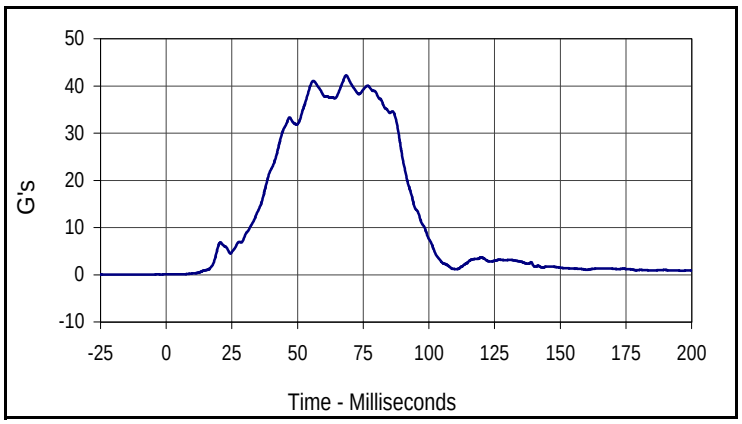
Curve Description			
Driver Chest Redundant X			
CURNO	Type	SAE Class	Units
016	FIL	180	G's
Max	Time	Min	Time
3.2	120.0	-42.0	68.5



Curve Description			
Driver Chest Redundant Y			
CURNO	Type	SAE Class	Units
017	FIL	180	G's
Max	Time	Min	Time
4.7	80.6	-4.4	44.8

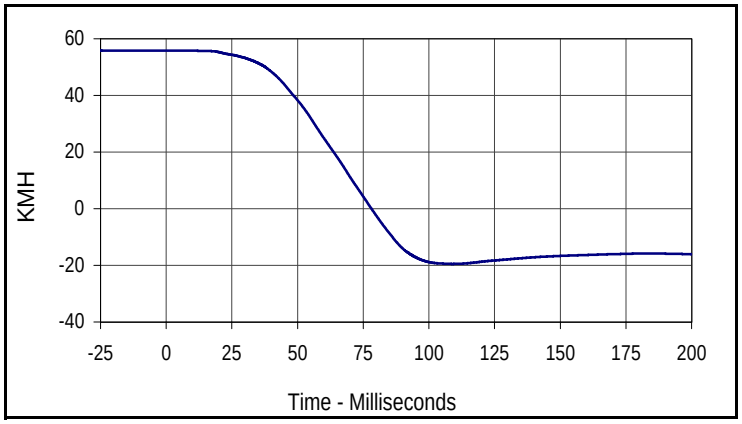


Curve Description			
Driver Chest Redundant Z			
CURNO	Type	SAE Class	Units
018	FIL	180	G's
Max	Time	Min	Time
7.8	47.1	-9.9	86.6

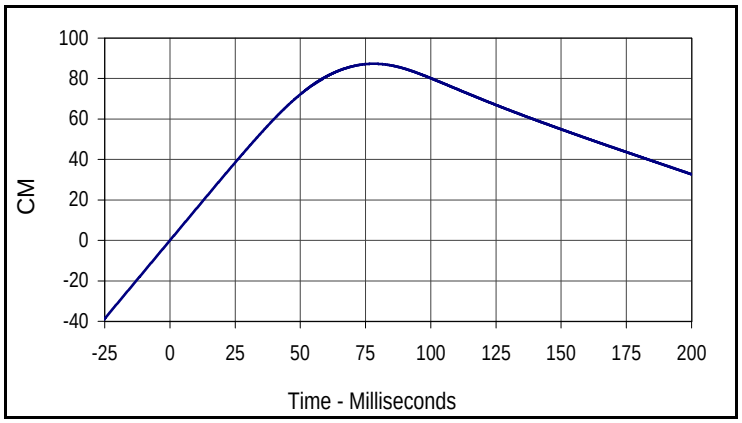


Curve Description			
Driver Chest Resultant Redundant			
CURNO	Type	SAE Class	Units
016	RES	180	G's
Max	Time	Min	Time
42.3	68.5	0.1	0.0

Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601

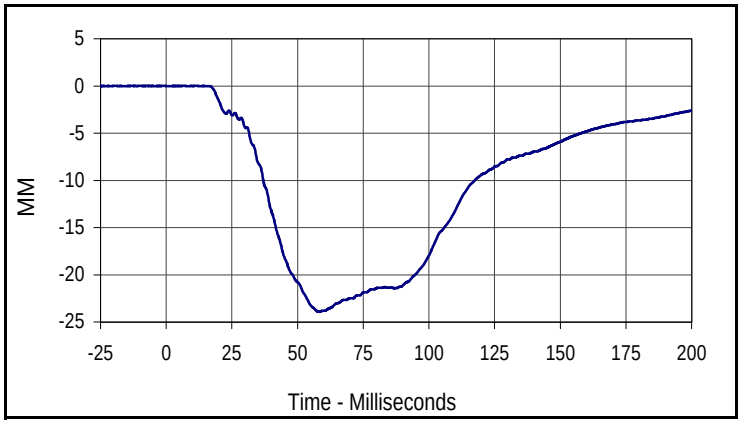


Curve Description			
Driver Chest Redundant X Velocity			
CURNO	Type	SAE Class	Units
016	IN1	180	KMH
Max	Time	Min	Time
55.8	0.0	-19.5	109.0



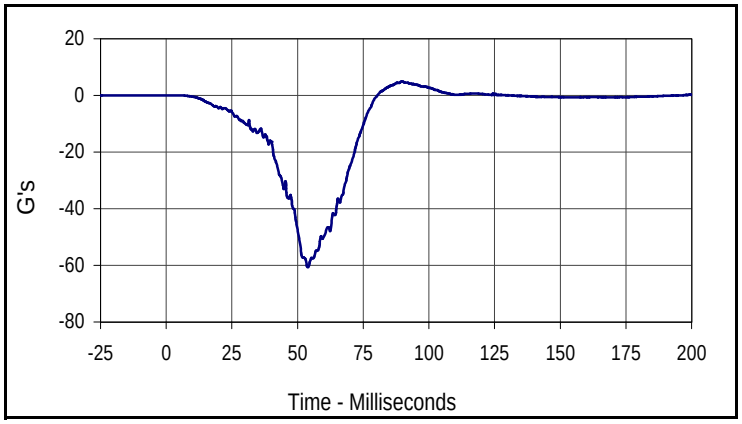
Curve Description			
Driver Chest Redundant X Displacement			
CURNO	Type	SAE Class	Units
016	IN2	180	CM
Max	Time	Min	Time
87.3	78.1	0.0	0.0

Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601

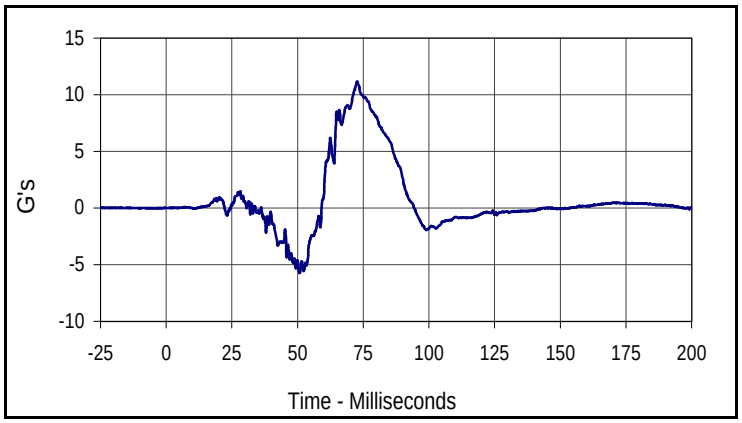


Curve Description			
Driver Chest Displacement			
CURNO	Type	SAE Class	Units
019	FIL	600	MM
Max	Time	Min	Time
0.0	9.6	-23.9	58.1

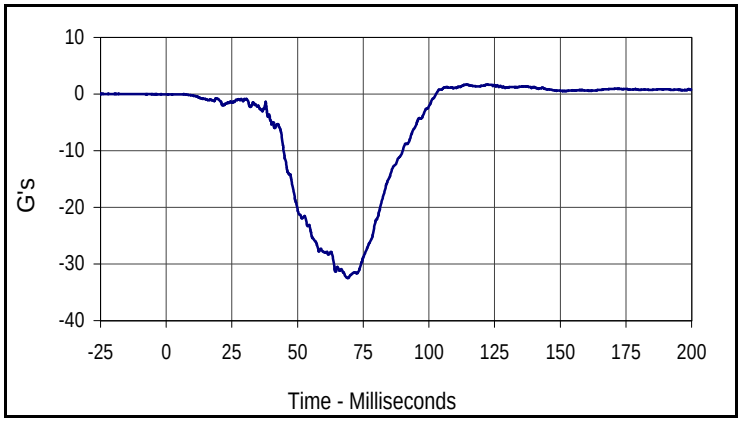
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



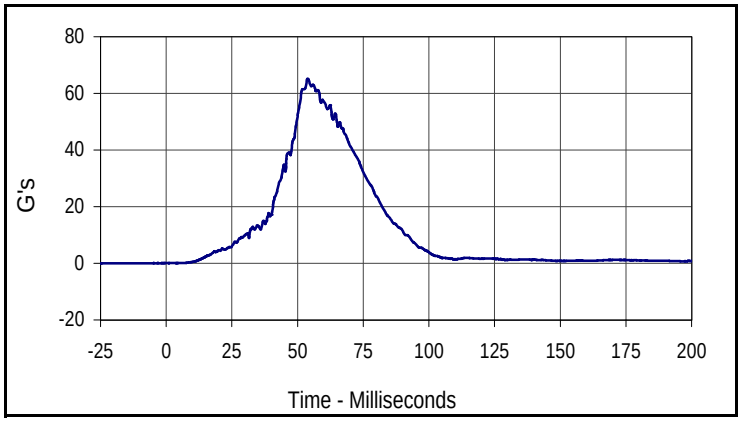
Curve Description			
Driver Pelvis X			
CURNO	Type	SAE Class	Units
020	FIL	1000	G's
Max	Time	Min	Time
5.0	89.9	-60.7	53.9



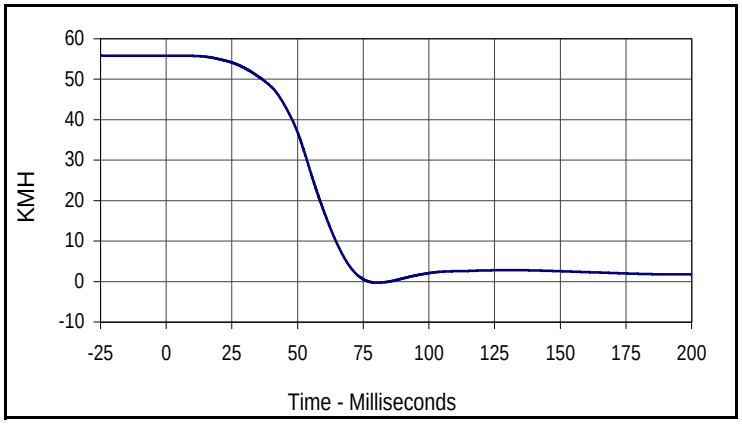
Curve Description			
Driver Pelvis Y			
CURNO	Type	SAE Class	Units
021	FIL	1000	G's
Max	Time	Min	Time
11.2	72.7	-5.7	50.7



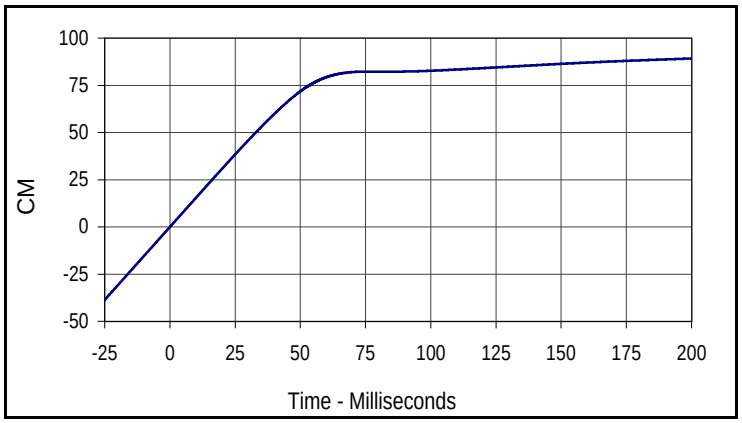
Curve Description			
Driver Pelvis Z			
CURNO	Type	SAE Class	Units
022	FIL	1000	G's
Max	Time	Min	Time
1.7	114.4	-32.5	69.3



Curve Description			
Driver Pelvis Resultant			
CURNO	Type	SAE Class	Units
020	RES	1000	G's
Max	Time	Min	Time
65.1	53.9	0.0	1.0

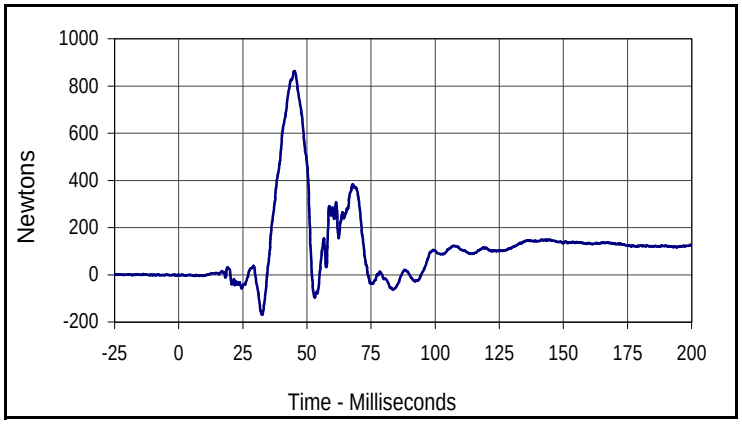


Curve Description			
Driver Pelvis X Velocity			
CURNO	Type	SAE Class	Units
020	IN1	180	KMH
Max	Time	Min	Time
55.8	4.4	-0.3	80.4

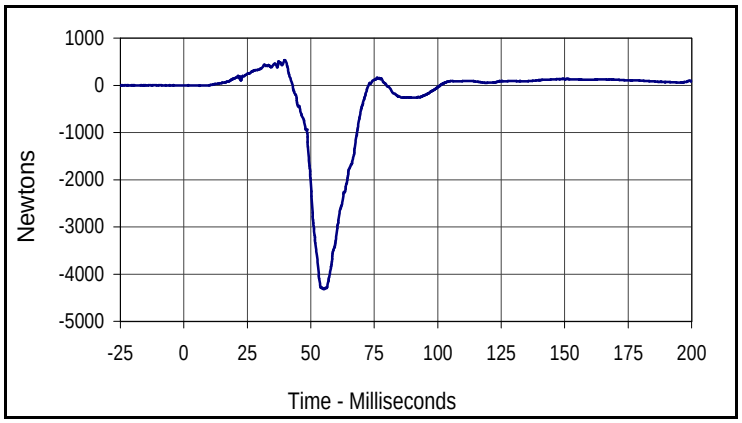


Curve Description			
Driver Pelvis X Displacement			
CURNO	Type	SAE Class	Units
020	IN2	180	CM
Max	Time	Min	Time
89.2	200.0	0.0	0.0

Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601

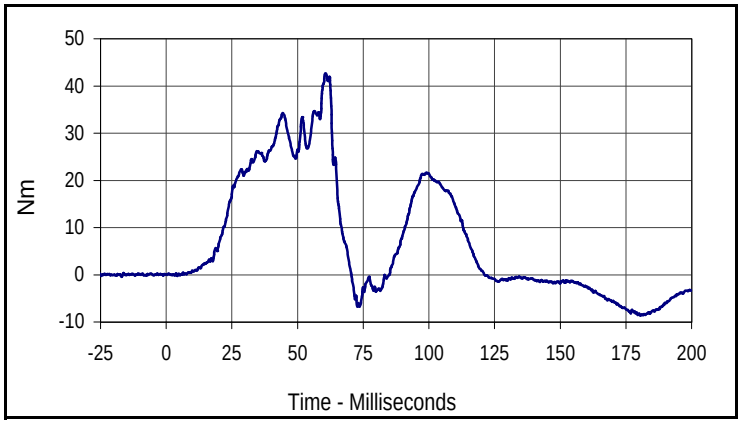


Curve Description			
Driver Left Femur Force			
CURNO	Type	SAE Class	Units
023	FIL	600	Newtons
Max	Time	Min	Time
863.1	45.1	-169.3	32.5

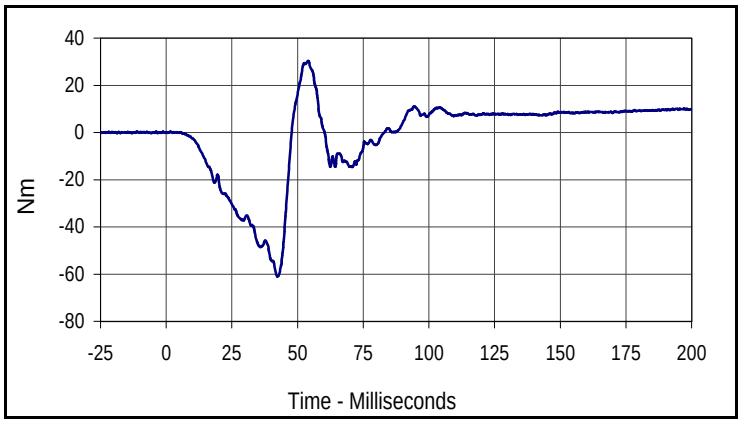


Curve Description			
Driver Right Femur Force			
CURNO	Type	SAE Class	Units
024	FIL	600	Newtons
Max	Time	Min	Time
534.6	39.7	-4318.5	55.4

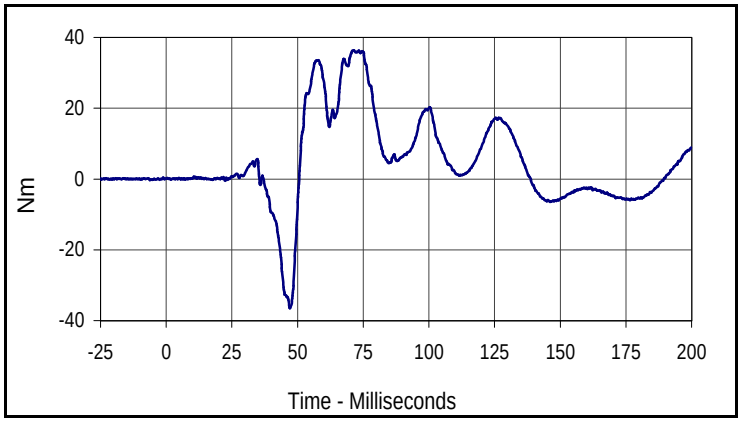
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



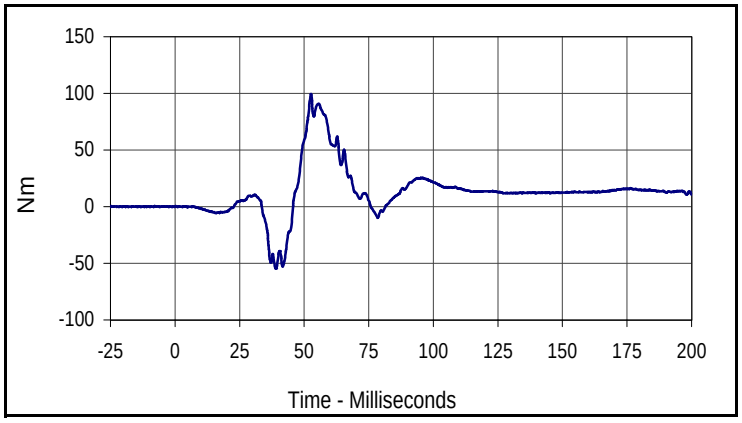
Curve Description			
Driver Left Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
025	FIL	600	Nm
Max	Time	Min	Time
42.7	60.6	-8.6	180.5



Curve Description			
Driver Left Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
026	FIL	600	Nm
Max	Time	Min	Time
30.4	54.0	-61.0	42.3

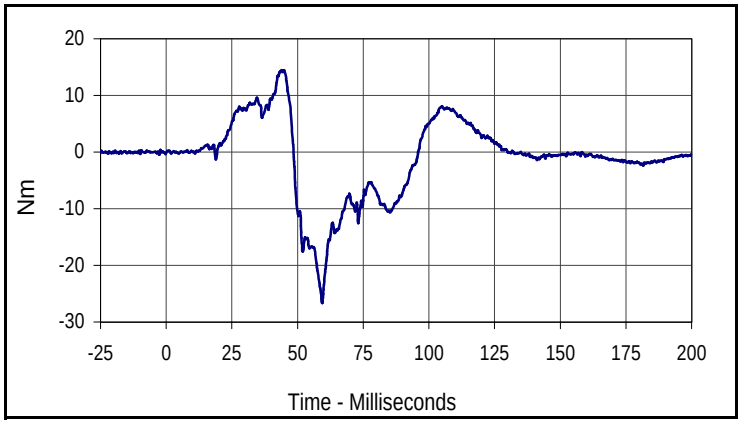


Curve Description			
Driver Right Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
027	FIL	600	Nm
Max	Time	Min	Time
36.4	71.5	-36.5	47.1

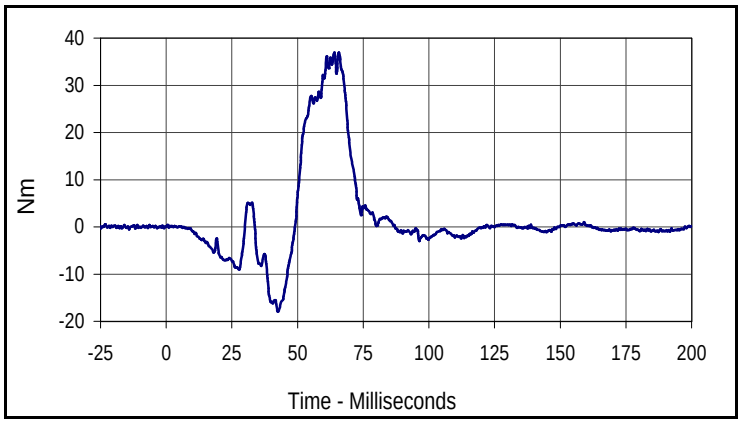


Curve Description			
Driver Right Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
028	FIL	600	Nm
Max	Time	Min	Time
99.3	52.7	-54.5	39.0

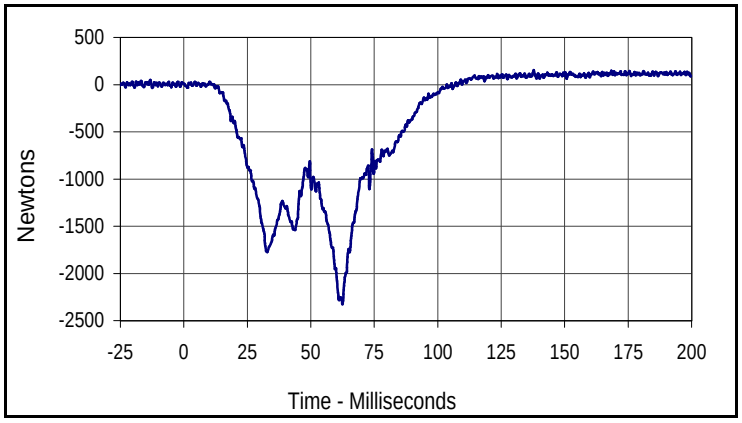
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



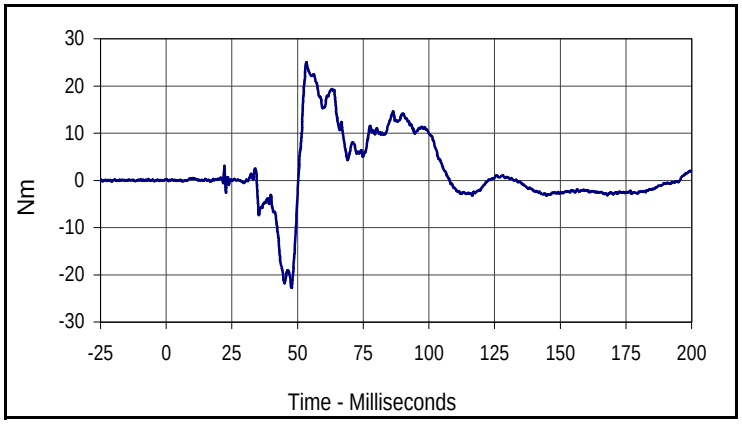
Curve Description			
Driver Left Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
029	FIL	600	Nm
Max	Time	Min	Time
14.5	43.9	-26.7	59.4



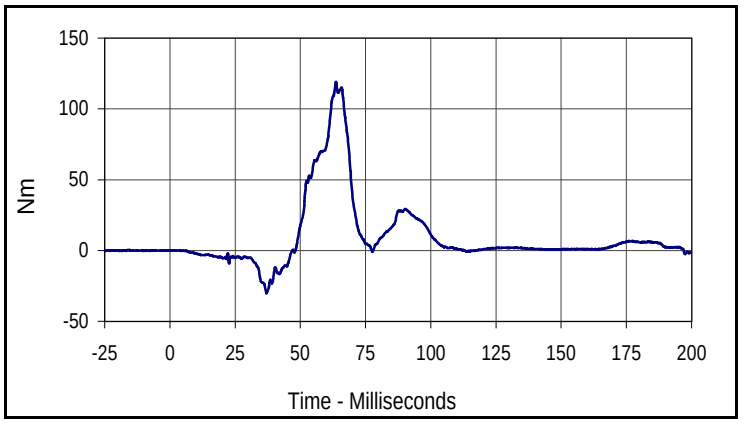
Curve Description			
Driver Left Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
030	FIL	600	Nm
Max	Time	Min	Time
36.9	64.0	-18.0	42.6



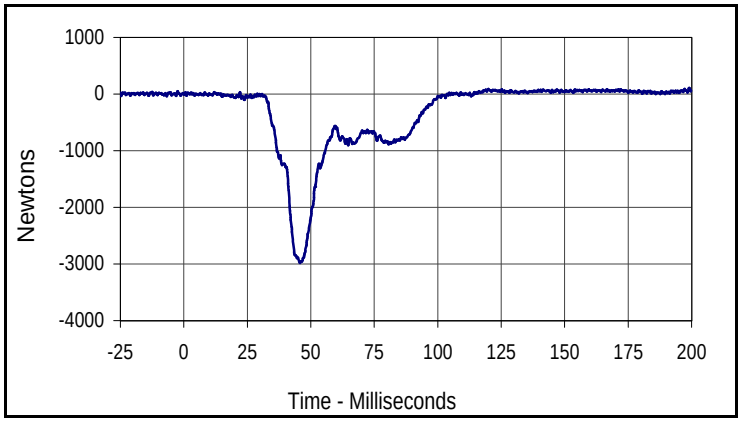
Curve Description			
Driver Left Lower Tibia Force Z			
CURNO	Type	SAE Class	Units
031	FIL	600	Newtons
Max	Time	Min	Time
153.3	137.8	-2326.5	62.5



Curve Description			
Driver Right Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
032	FIL	600	Nm
Max	Time	Min	Time
25.0	53.4	-22.8	47.7

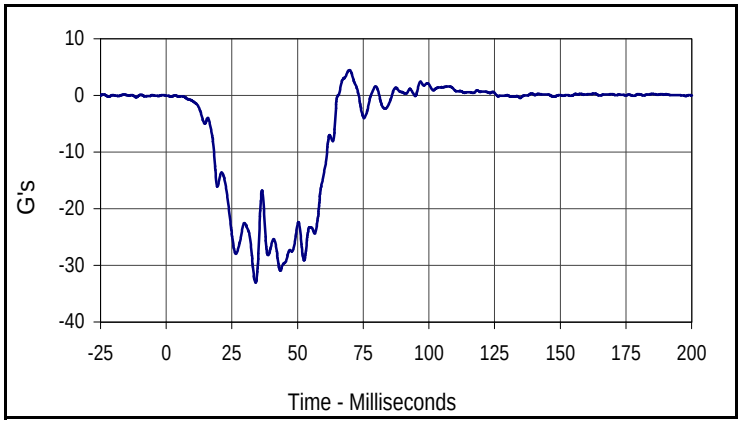


Curve Description			
Driver Right Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
033	FIL	600	Nm
Max	Time	Min	Time
118.9	63.7	-30.1	37.0

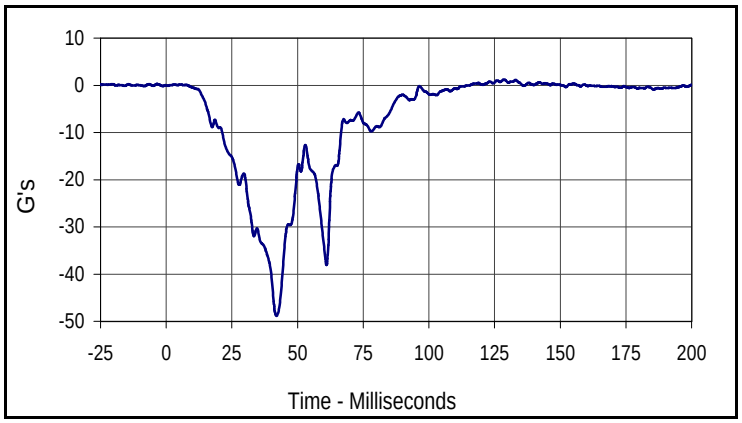


Curve Description			
Driver Right Lower Tibia Force Z			
CURNO	Type	SAE Class	Units
034	FIL	600	Newtons
Max	Time	Min	Time
107.6	199.1	-2982.1	45.7

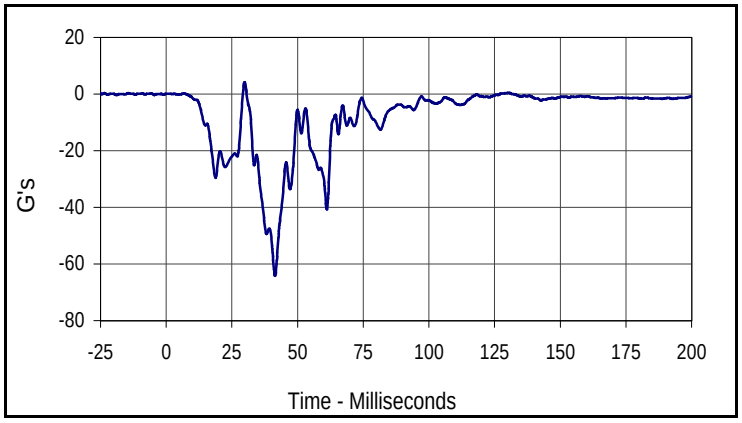
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



Curve Description			
Driver Left Foot Aft X			
CURNO	Type	SAE Class	Units
035	FIL	180	G's
Max	Time	Min	Time
4.5	69.8	-33.1	34.0

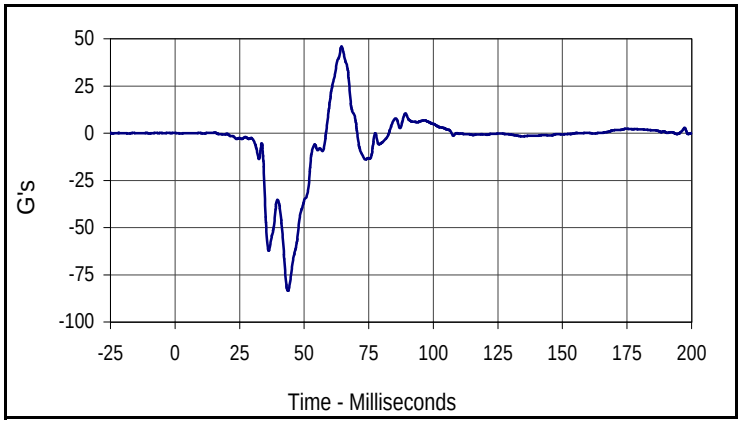


Curve Description			
Driver Left Foot Aft Z			
CURNO	Type	SAE Class	Units
036	FIL	180	G's
Max	Time	Min	Time
1.2	128.6	-48.8	42.0

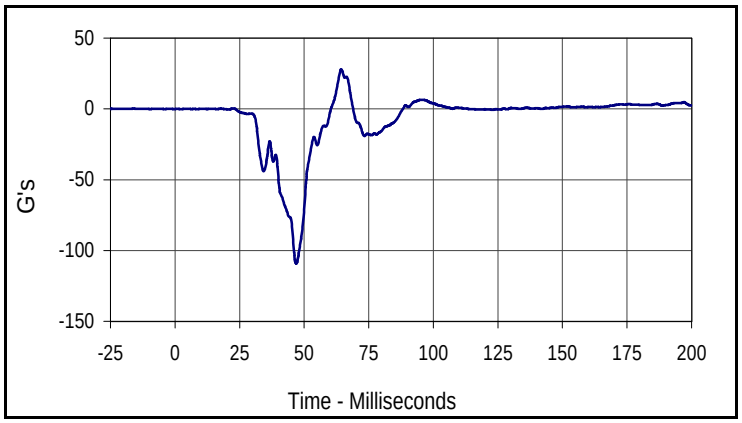


Curve Description			
Driver Left Foot Fore Z			
CURNO	Type	SAE Class	Units
037	FIL	180	G's
Max	Time	Min	Time
4.2	29.8	-64.1	41.4

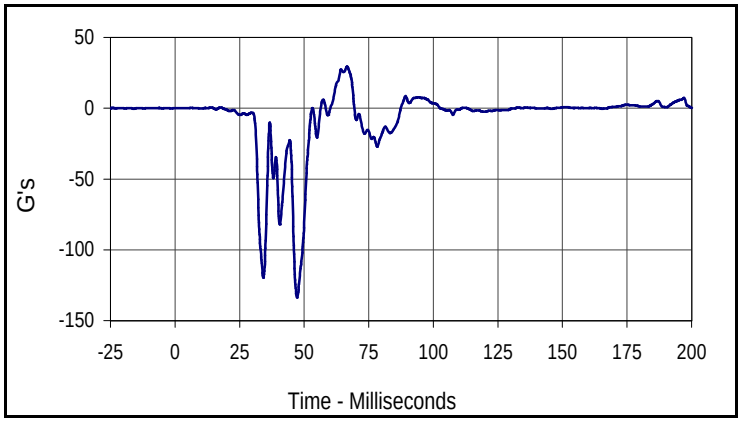
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



Curve Description			
Driver Right Foot Aft X			
CURNO	Type	SAE Class	Units
038	FIL	180	G's
Max	Time	Min	Time
45.9	64.5	-83.4	43.7

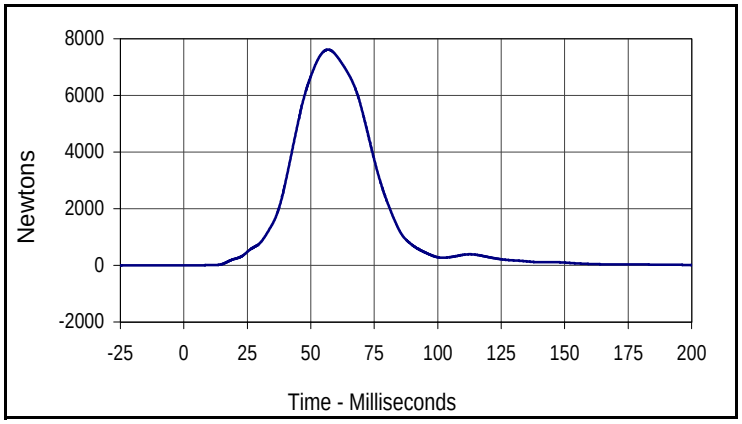


Curve Description			
Driver Right Foot Aft Z			
CURNO	Type	SAE Class	Units
039	FIL	180	G's
Max	Time	Min	Time
27.9	64.3	-109.2	46.9

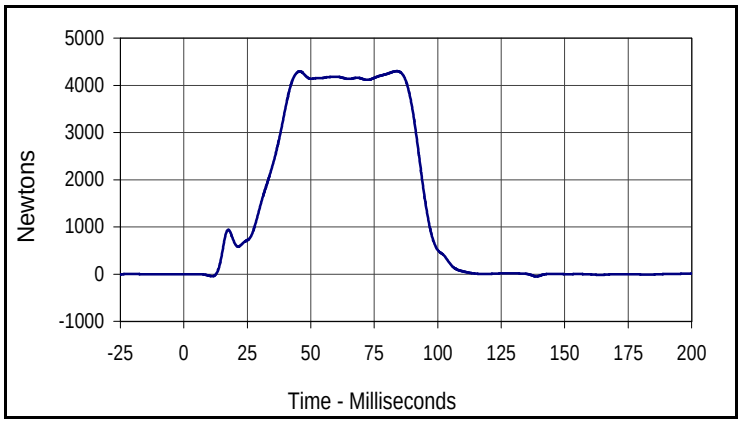


Curve Description			
Driver Right Foot Fore Z			
CURNO	Type	SAE Class	Units
040	FIL	180	G's
Max	Time	Min	Time
29.4	66.6	-133.6	47.3

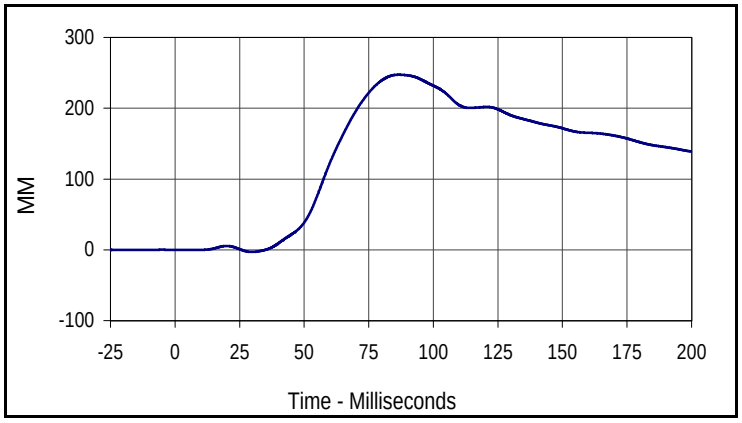
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



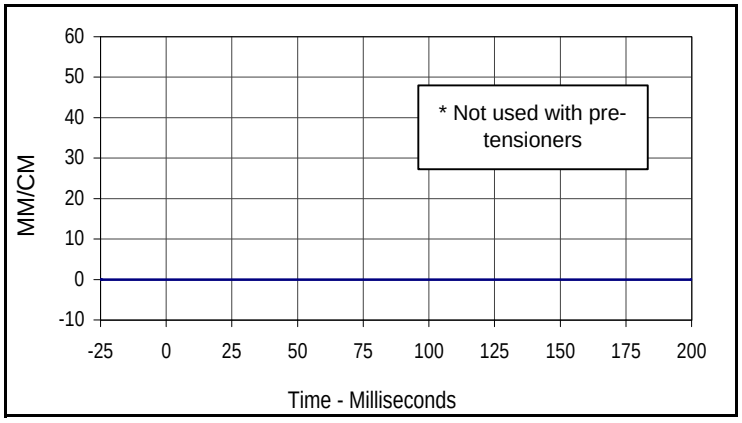
Curve Description			
Driver Lap Belt Force			
CURNO	Type	SAE Class	Units
041	FIL	60	Newtons
Max	Time	Min	Time
7617.8	56.8	-0.6	3.6



Curve Description			
Driver Shoulder Belt Force			
CURNO	Type	SAE Class	Units
042	FIL	60	Newtons
Max	Time	Min	Time
4299.5	83.9	-51.1	138.8

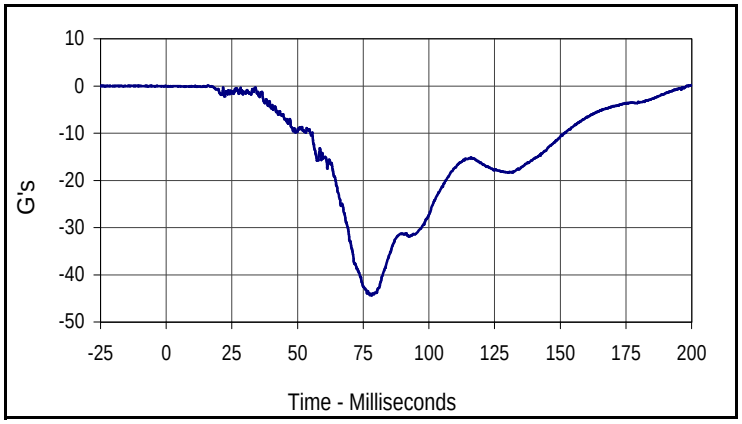


Curve Description			
Driver Shoulder Belt Pullout			
CURNO	Type	SAE Class	Units
043	FIL	60	MM
Max	Time	Min	Time
247.4	86.6	-3.0	29.8

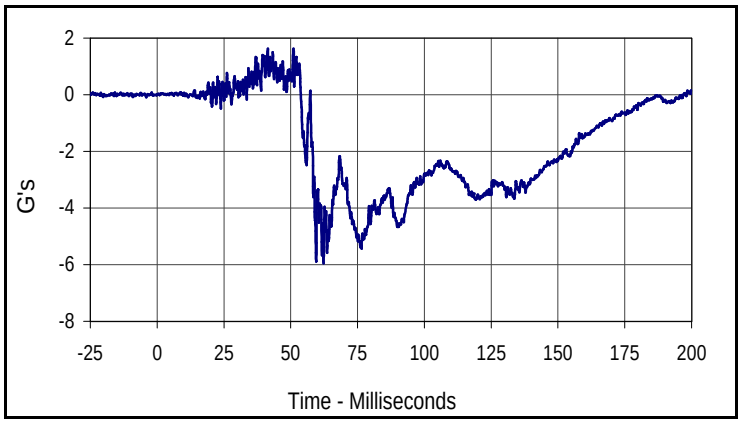


Curve Description			
Driver Shoulder Belt Elongation			
CURNO	Type	SAE Class	Units
044	FIL	60	MM/CM
Max	Time	Min	Time
0.0	0.0	0.0	0.0

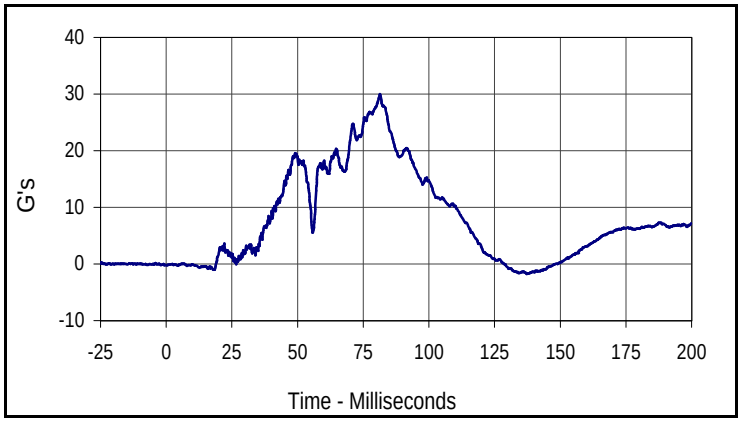
* Not used with pre-tensioners



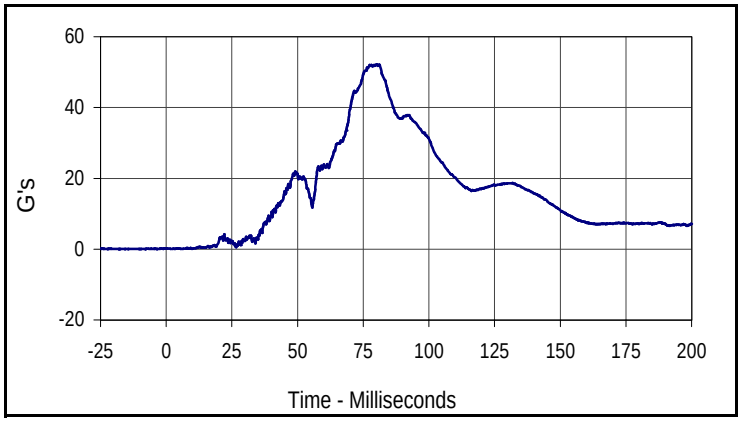
Curve Description			
Passenger Head Primary X			
CURNO	Type	SAE Class	Units
045	FIL	1000	G's
Max	Time	Min	Time
0.2	200.0	-44.5	78.2



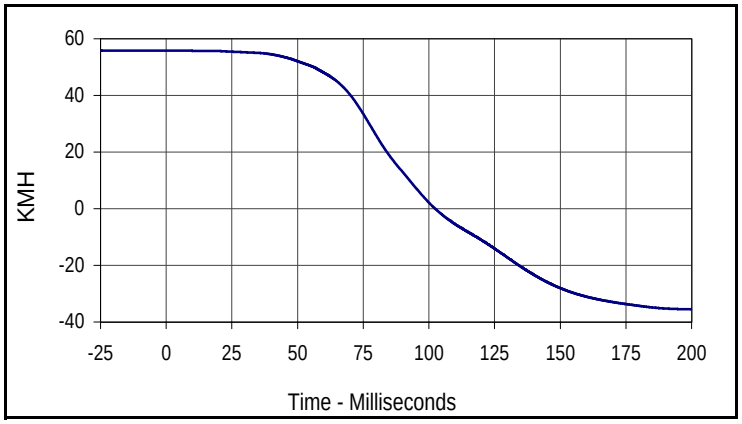
Curve Description			
Passenger Head Primary Y			
CURNO	Type	SAE Class	Units
046	FIL	1000	G's
Max	Time	Min	Time
1.6	51.0	-6.0	62.3



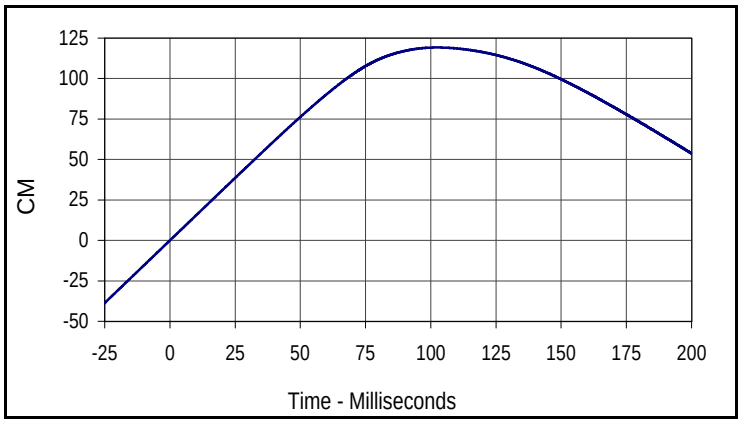
Curve Description			
Passenger Head Primary Z			
CURNO	Type	SAE Class	Units
047	FIL	1000	G's
Max	Time	Min	Time
30.0	81.3	-1.8	137.3



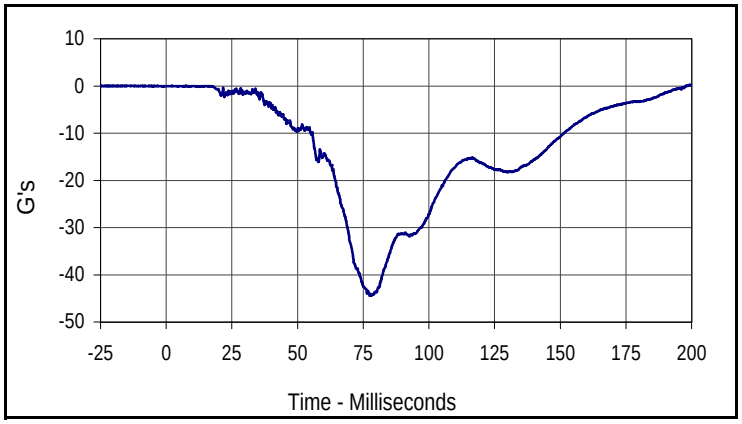
Curve Description			
Passenger Head Resultant Primary			
CURNO	Type	SAE Class	Units
045	RES	1000	G's
Max	Time	Min	Time
52.2	80.1	0.1	1.6



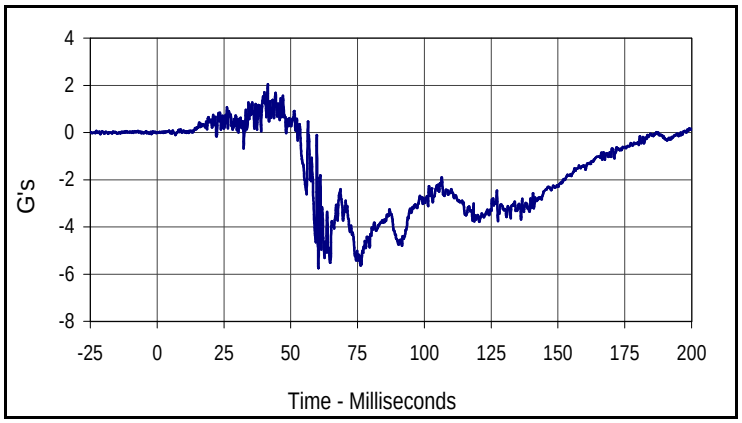
Curve Description			
Passenger Head Primary X Velocity			
CURNO	Type	SAE Class	Units
045	IN1	180	KMH
Max	Time	Min	Time
55.8	0.0	-35.5	198.5



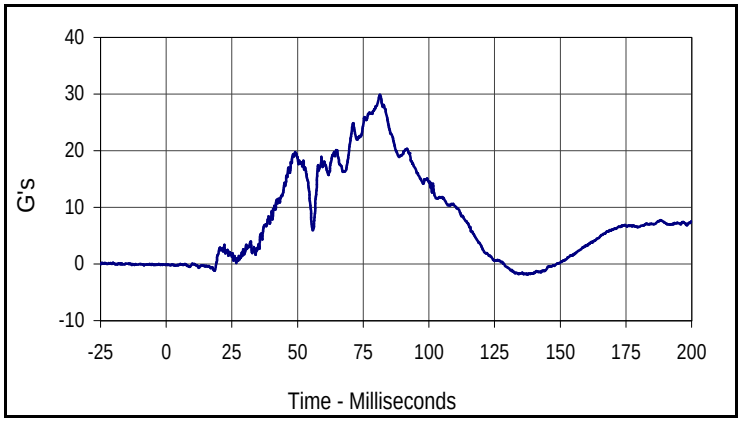
Curve Description			
Passenger Head Primary X Displacement			
CURNO	Type	SAE Class	Units
045	IN2	180	CM
Max	Time	Min	Time
119.2	102.4	0.0	0.0



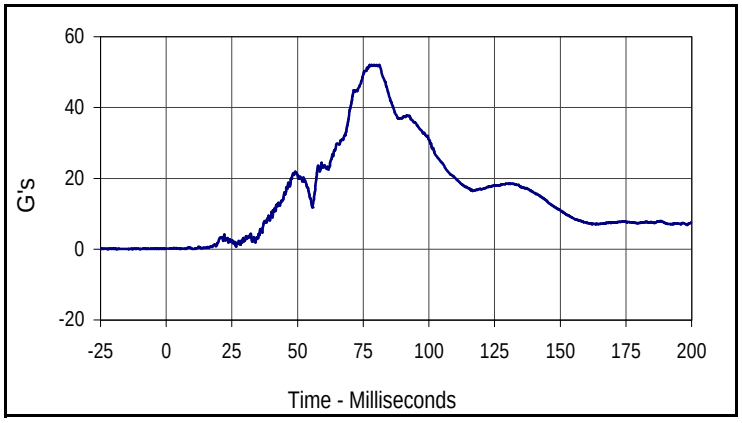
Curve Description			
Passenger Head Redundant X			
CURNO	Type	SAE Class	Units
048	FIL	1000	G's
Max	Time	Min	Time
0.3	200.0	-44.4	78.1



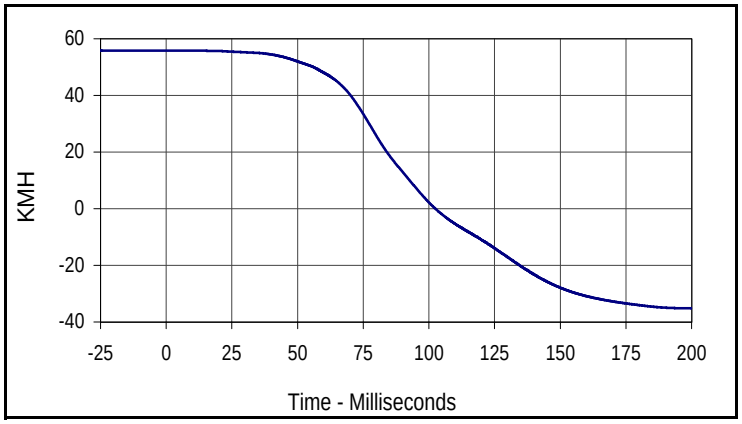
Curve Description			
Passenger Head Redundant Y			
CURNO	Type	SAE Class	Units
049	FIL	1000	G's
Max	Time	Min	Time
2.0	41.4	-5.7	60.4



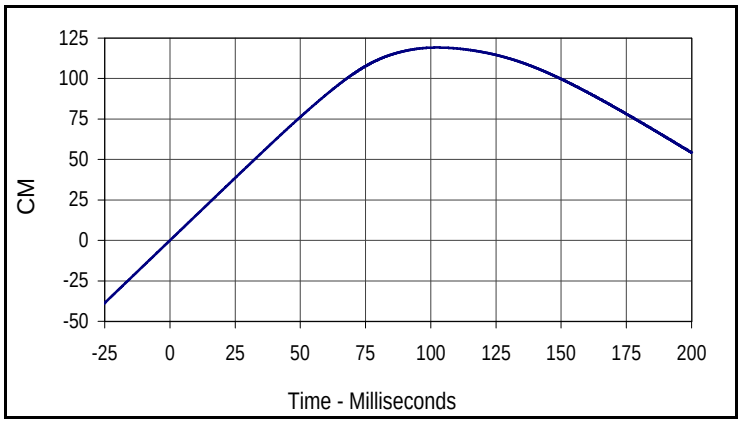
Curve Description			
Passenger Head Redundant Z			
CURNO	Type	SAE Class	Units
050	FIL	1000	G's
Max	Time	Min	Time
29.9	81.4	-1.9	137.5



Curve Description			
Passenger Head Resultant Redundant			
CURNO	Type	SAE Class	Units
048	RES	1000	G's
Max	Time	Min	Time
52.0	80.1	0.0	10.6

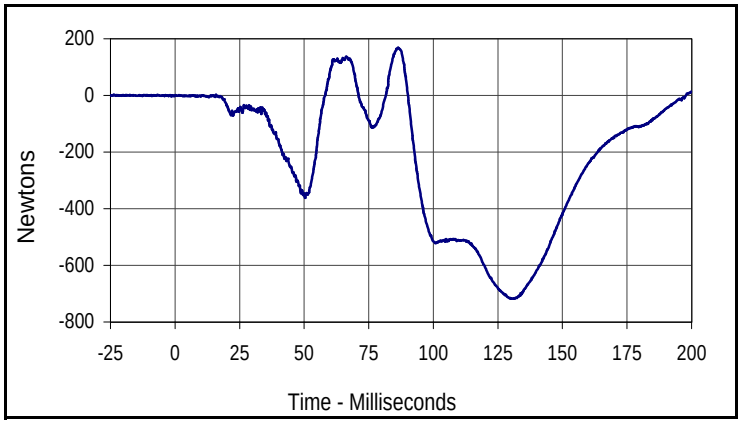


Curve Description			
Passenger Head Redundant X Velocity			
CURNO	Type	SAE Class	Units
048	IN1	180	KMH
Max	Time	Min	Time
55.8	0.0	-35.2	198.1

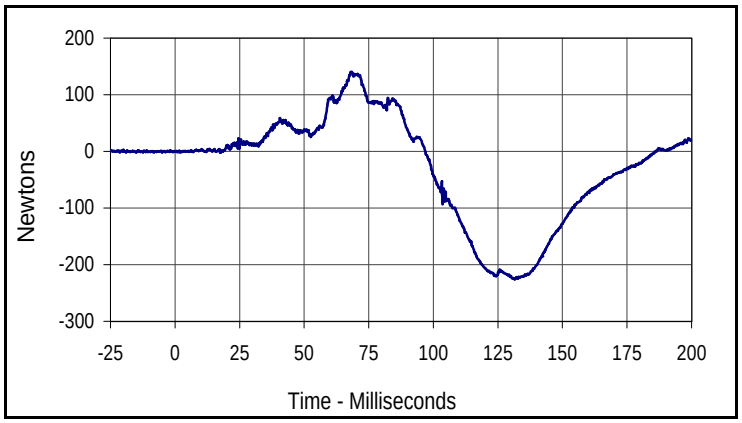


Curve Description			
Passenger Head Redundant X Displacement			
CURNO	Type	SAE Class	Units
048	IN2	180	CM
Max	Time	Min	Time
119.2	102.5	0.0	0.0

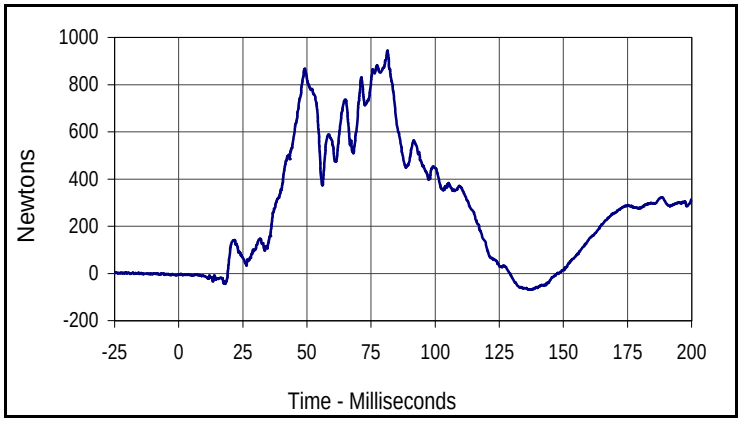
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



Curve Description			
Passenger Upper Neck Force X			
CURNO	Type	SAE Class	Units
051	FIL	1000	Newtons
Max	Time	Min	Time
168.1	86.4	-717.8	130.9



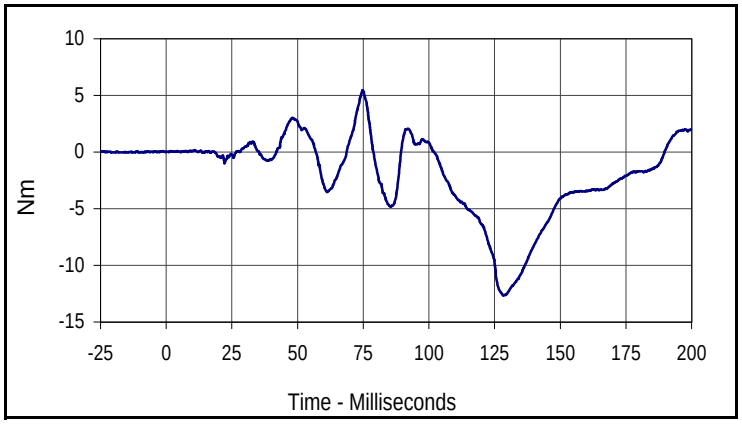
Curve Description			
Passenger Upper Neck Force Y			
CURNO	Type	SAE Class	Units
052	FIL	1000	Newtons
Max	Time	Min	Time
140.3	68.5	-225.8	131.6



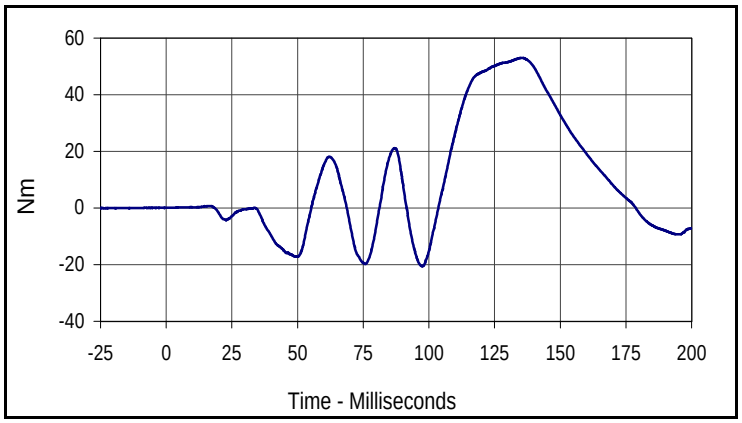
Curve Description			
Passenger Upper Neck Force Z			
CURNO	Type	SAE Class	Units
053	FIL	1000	Newtons
Max	Time	Min	Time
944.1	81.4	-68.6	136.2

Curve Description			
Passenger Upper Neck Force Res.			
CURNO	Type	SAE Class	Units
051	RES	1000	Newtons
Max	Time	Min	Time
947.7	81.4	2.7	0.8

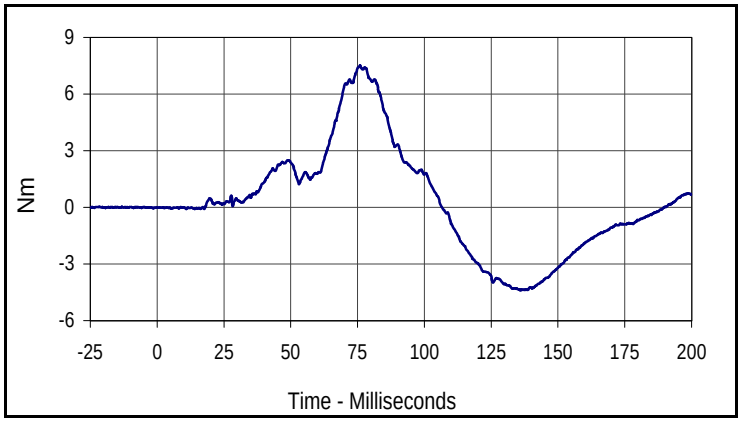
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



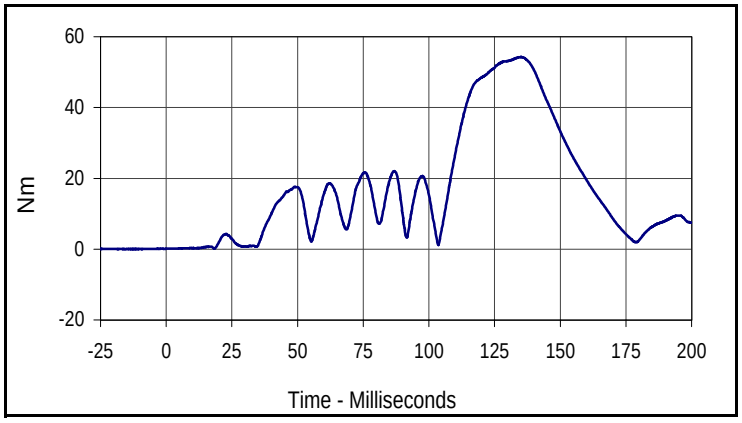
Curve Description			
Passenger Upper Neck Moment X			
CURNO	Type	SAE Class	Units
054	FIL	600	Nm
Max	Time	Min	Time
5.4	74.8	-12.7	128.3



Curve Description			
Passenger Upper Neck Moment Y			
CURNO	Type	SAE Class	Units
055	FIL	600	Nm
Max	Time	Min	Time
53.0	135.1	-20.5	97.5

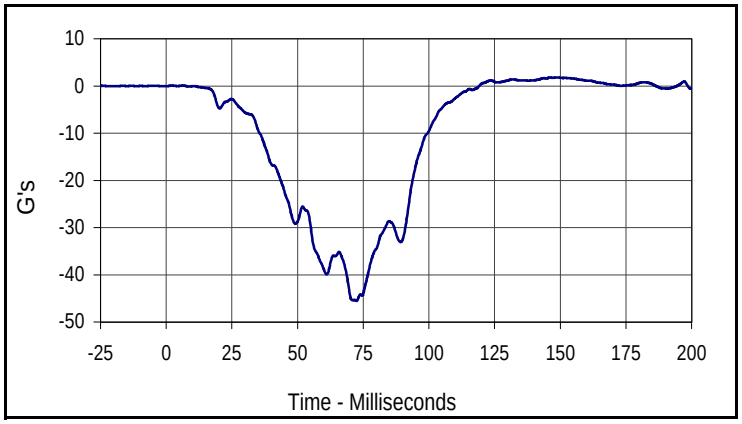


Curve Description			
Passenger Upper Neck Moment Z			
CURNO	Type	SAE Class	Units
056	FIL	600	Nm
Max	Time	Min	Time
7.5	75.9	-4.4	135.9

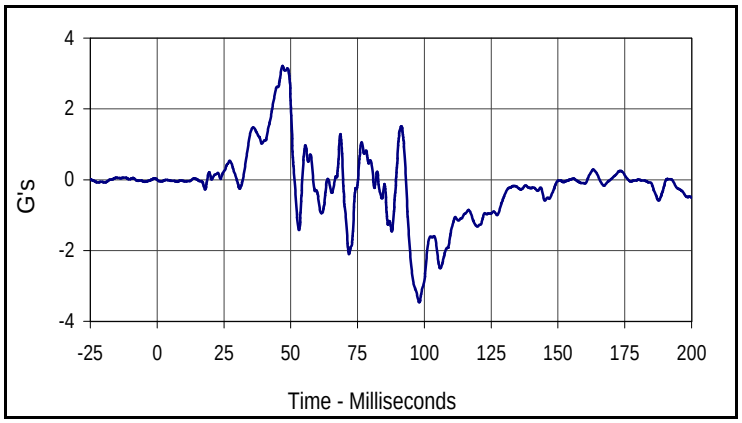


Curve Description			
Passenger Upper Neck Moment Res.			
CURNO	Type	SAE Class	Units
054	RES	600	Nm
Max	Time	Min	Time
54.3	135.1	0.1	0.0

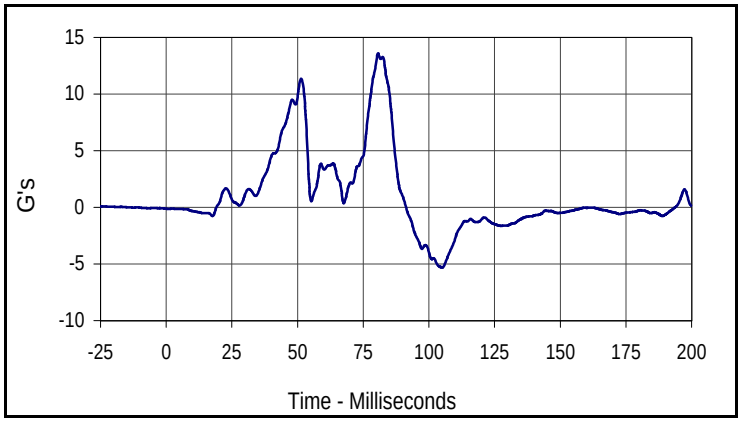
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



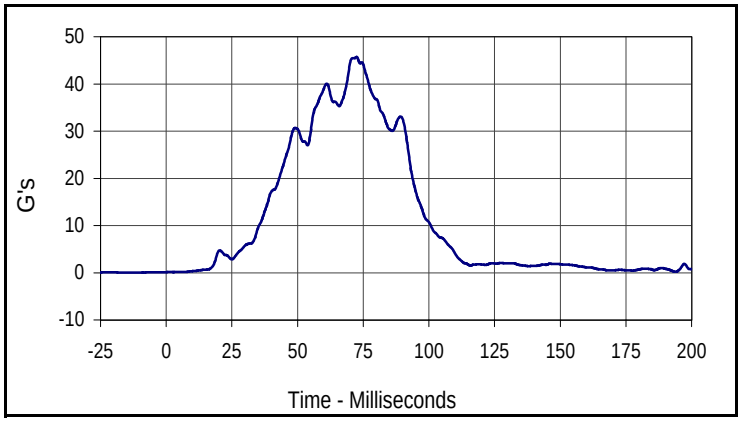
Curve Description			
Passenger Chest Primary X			
CURNO	Type	SAE Class	Units
057	FIL	180	G's
Max	Time	Min	Time
1.8	146.1	-45.6	72.5



Curve Description			
Passenger Chest Primary Y			
CURNO	Type	SAE Class	Units
058	FIL	180	G's
Max	Time	Min	Time
3.2	46.9	-3.5	98.1

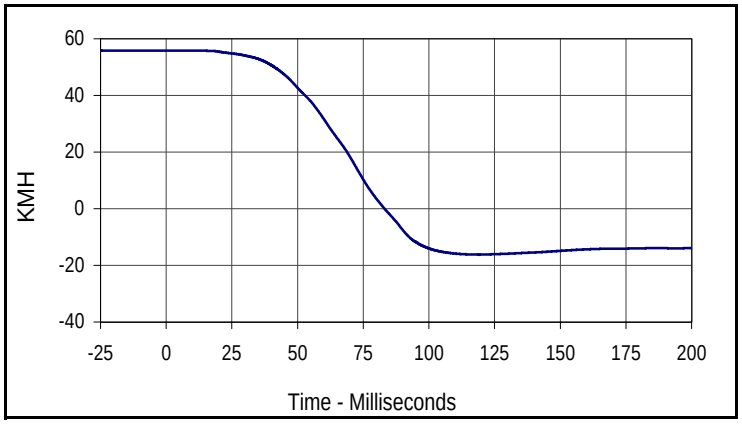


Curve Description			
Passenger Chest Primary Z			
CURNO	Type	SAE Class	Units
059	FIL	180	G's
Max	Time	Min	Time
13.6	80.6	-5.3	105.0

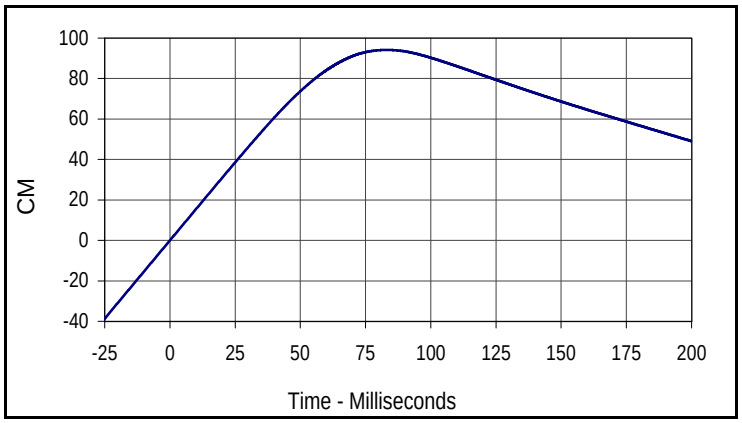


Curve Description			
Passenger Chest Resultant Primary			
CURNO	Type	SAE Class	Units
057	RES	180	G's
Max	Time	Min	Time
45.7	72.5	0.1	0.0

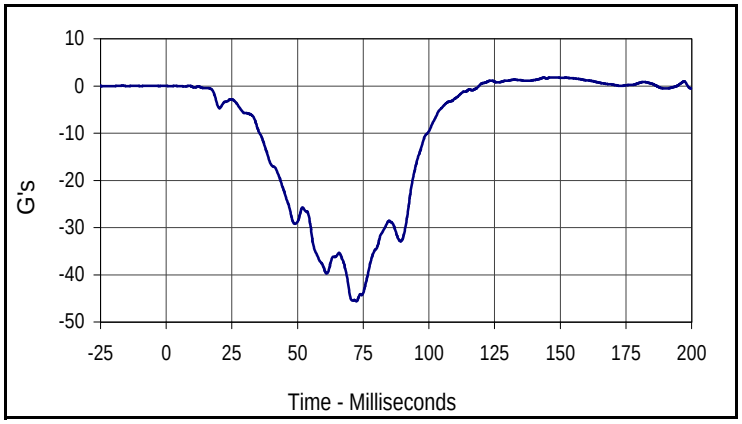
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



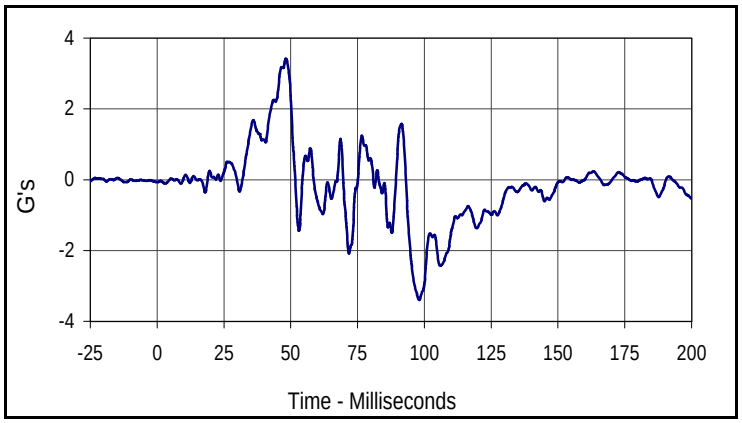
Curve Description			
Passenger Chest Primary X Velocity			
CURNO	Type	SAE Class	Units
057	IN1	180	KMH
Max	Time	Min	Time
55.8	7.4	-16.2	119.1



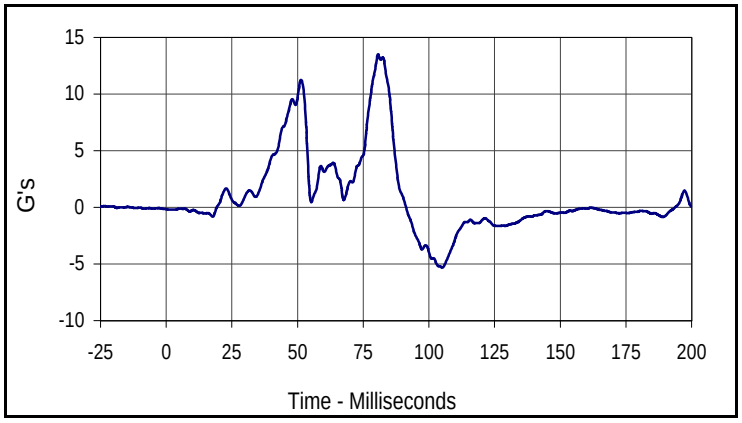
Curve Description			
Passenger Chest Primary X Displacement			
CURNO	Type	SAE Class	Units
057	IN2	180	CM
Max	Time	Min	Time
94.1	83.1	0.0	0.0



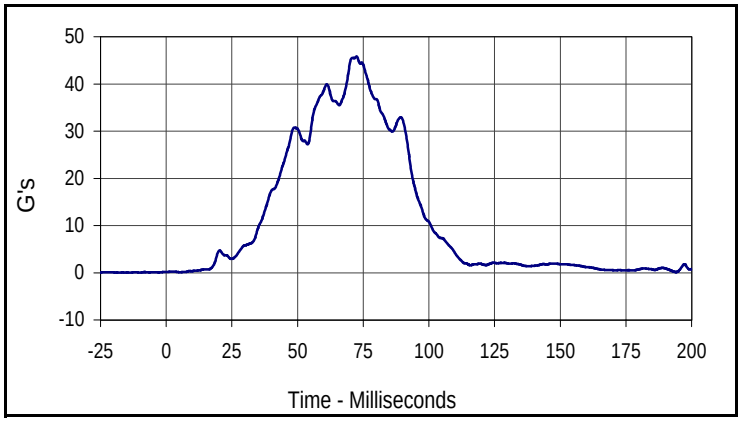
Curve Description			
Passenger Chest Redundant X			
CURNO	Type	SAE Class	Units
060	FIL	180	G's
Max	Time	Min	Time
1.8	146.3	-45.6	72.5



Curve Description			
Passenger Chest Redundant Y			
CURNO	Type	SAE Class	Units
061	FIL	180	G's
Max	Time	Min	Time
3.4	48.2	-3.4	98.1

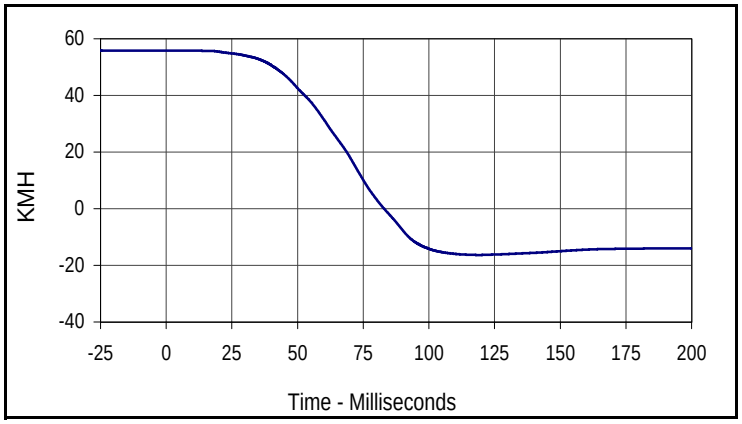


Curve Description			
Passenger Chest Redundant Z			
CURNO	Type	SAE Class	Units
062	FIL	180	G's
Max	Time	Min	Time
13.5	80.6	-5.3	105.1

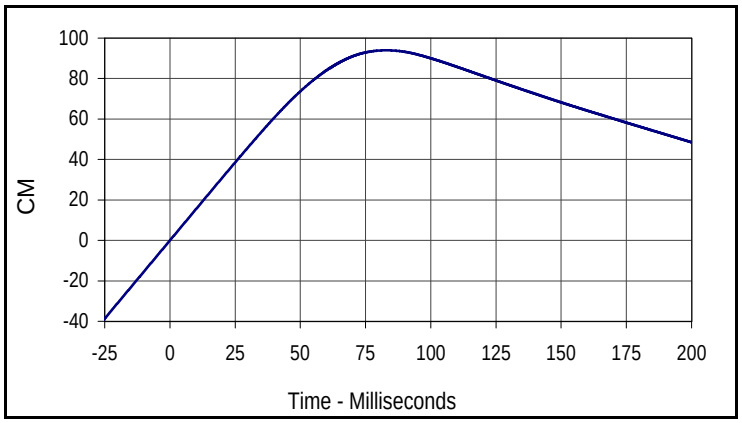


Curve Description			
Passenger Chest Resultant Redundant			
CURNO	Type	SAE Class	Units
060	RES	180	G's
Max	Time	Min	Time
45.8	72.5	0.1	5.4

Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601

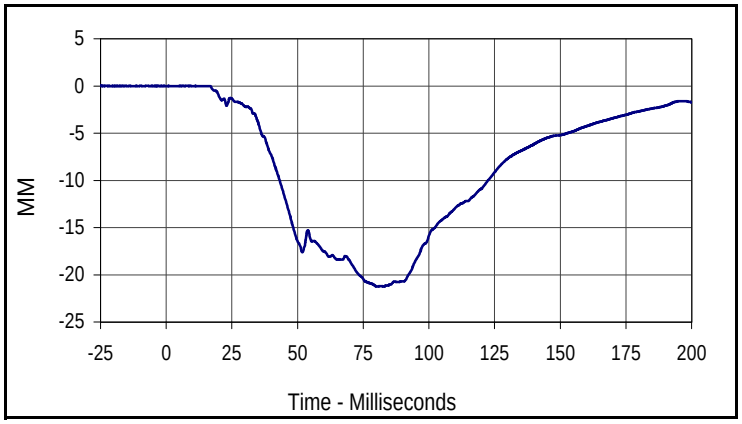


Curve Description			
Passenger Chest Redundant X Velocity			
CURNO	Type	SAE Class	Units
060	IN1	180	KMH
Max	Time	Min	Time
55.8	0.5	-16.3	119.0



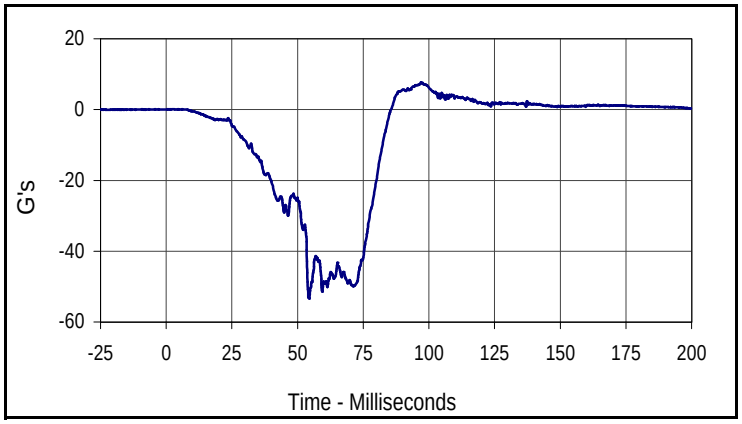
Curve Description			
Passenger Chest Redundant X Displacement			
CURNO	Type	SAE Class	Units
060	IN2	180	CM
Max	Time	Min	Time
94.0	83.0	0.0	0.0

Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601

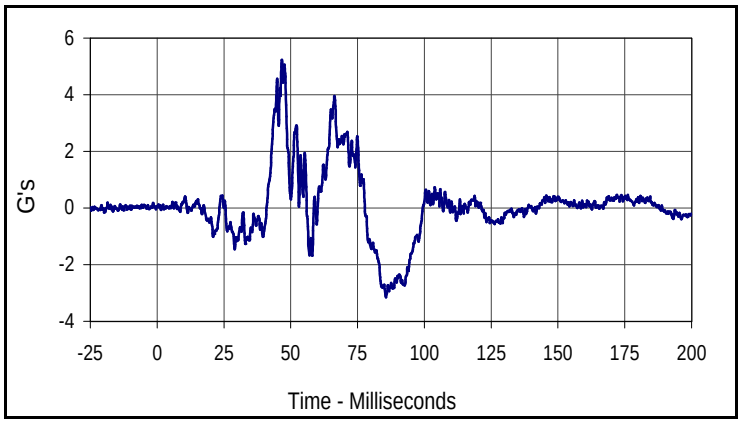


Curve Description			
Passenger Chest Displacement			
CURNO	Type	SAE Class	Units
063	FIL	600	MM
Max	Time	Min	Time
0.0	7.8	-21.3	80.4

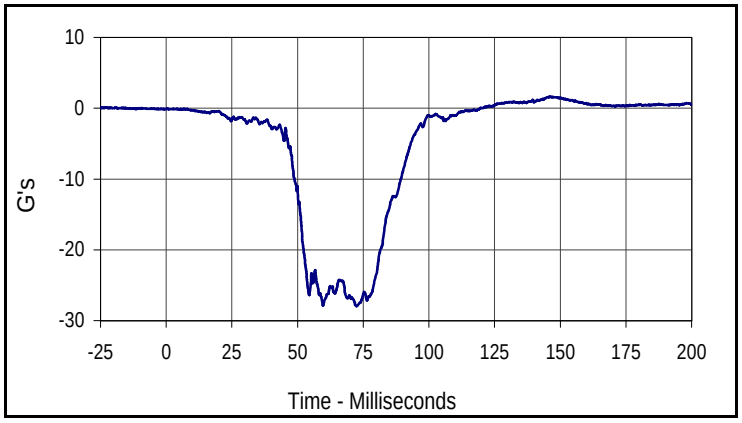
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



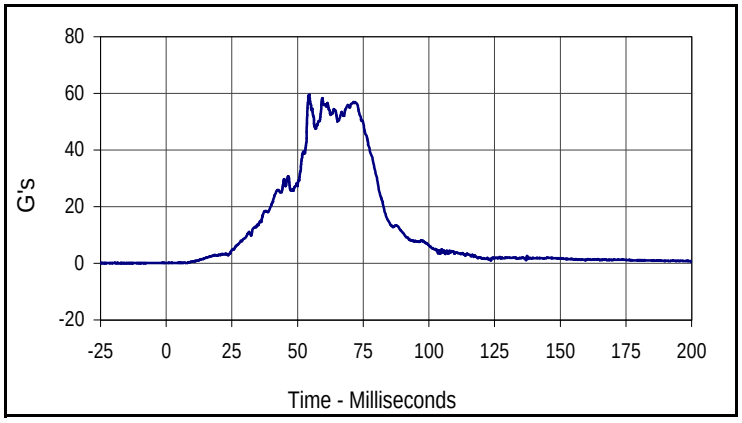
Curve Description			
Passenger Pelvis X			
CURNO	Type	SAE Class	Units
064	FIL	1000	G's
Max	Time	Min	Time
7.7	97.1	-53.4	54.5



Curve Description			
Passenger Pelvis Y			
CURNO	Type	SAE Class	Units
065	FIL	1000	G's
Max	Time	Min	Time
5.2	46.7	-3.2	85.6

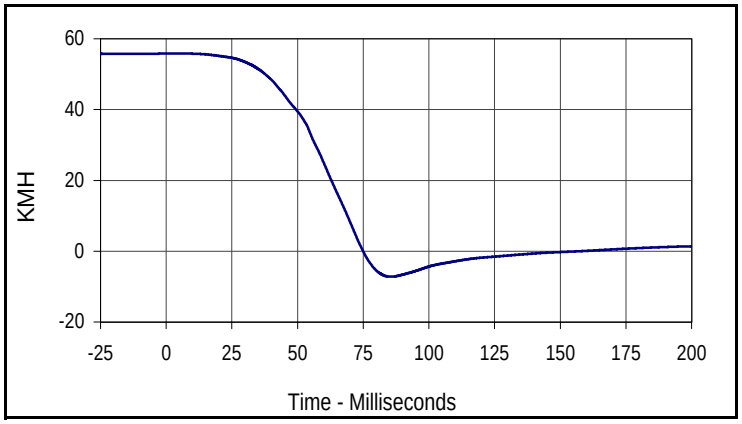


Curve Description			
Passenger Pelvis Z			
CURNO	Type	SAE Class	Units
066	FIL	1000	G's
Max	Time	Min	Time
1.7	146.1	-28.0	72.5

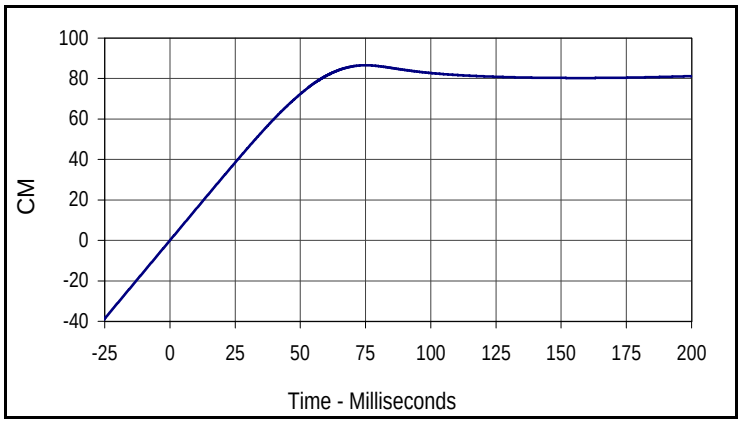


Curve Description			
Passenger Pelvis Resultant			
CURNO	Type	SAE Class	Units
064	RES	1000	G's
Max	Time	Min	Time
59.6	54.5	0.1	8.0

Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601

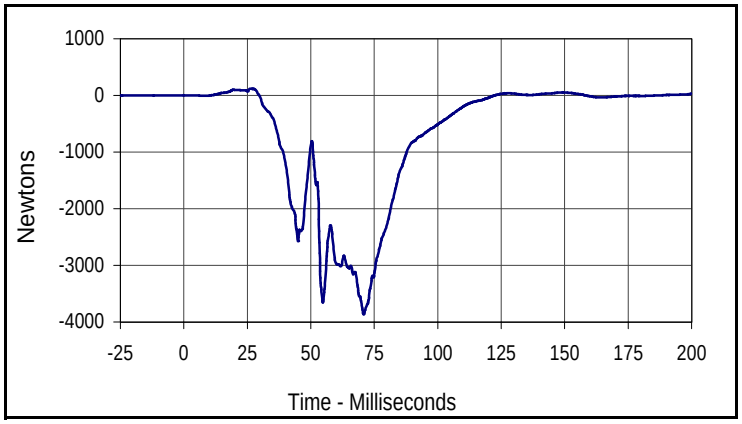


Curve Description			
Passenger Pelvis X Velocity			
CURNO	Type	SAE Class	Units
064	IN1	180	KMH
Max	Time	Min	Time
55.8	7.7	-7.2	85.6

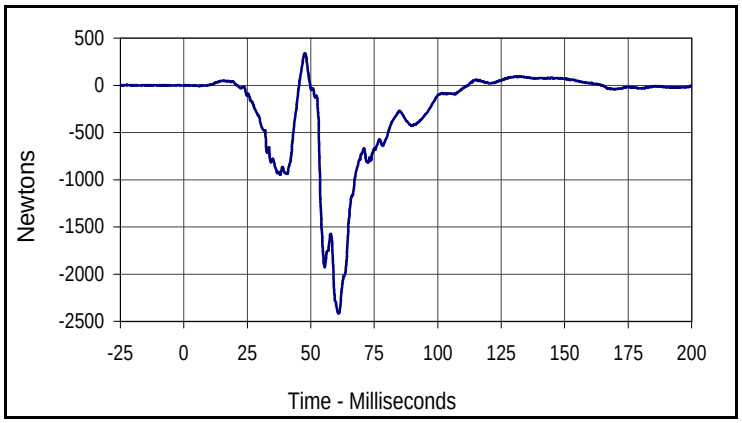


Curve Description			
Passenger Pelvis X Displacement			
CURNO	Type	SAE Class	Units
064	IN2	180	CM
Max	Time	Min	Time
86.6	74.9	0.0	0.0

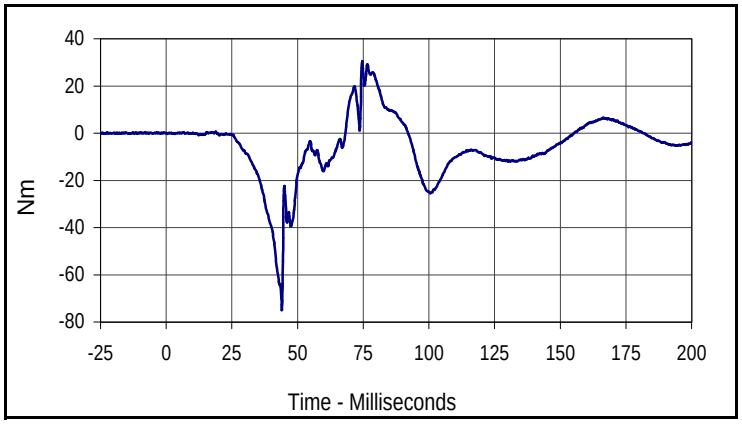
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



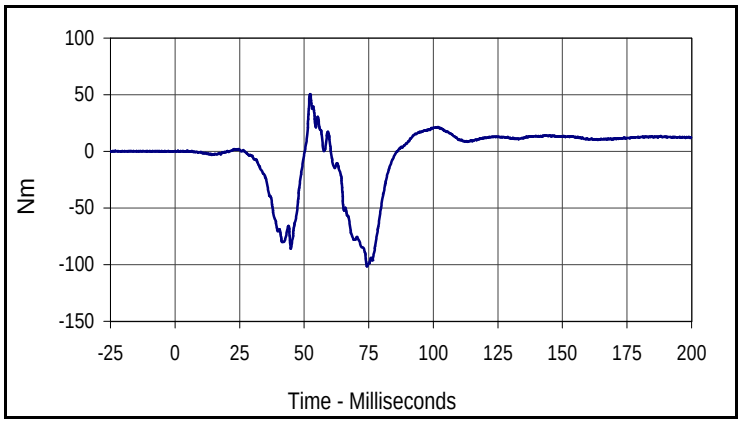
Curve Description			
Passenger Left Femur Force			
CURNO	Type	SAE Class	Units
067	FIL	600	Newtons
Max	Time	Min	Time
120.7	26.1	-3866.2	70.9



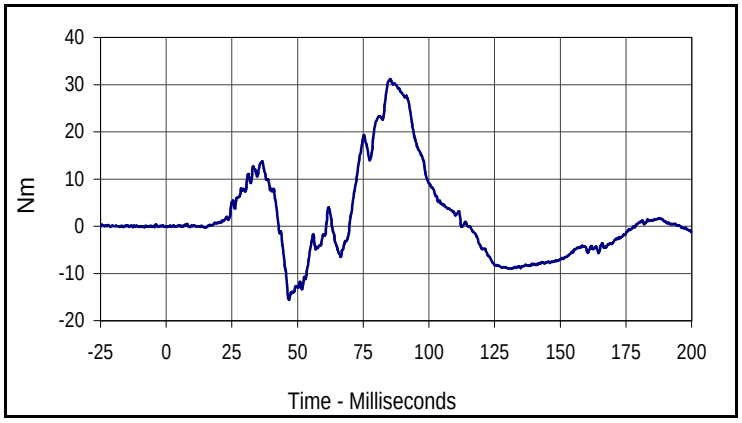
Curve Description			
Passenger Right Femur Force			
CURNO	Type	SAE Class	Units
068	FIL	600	Newtons
Max	Time	Min	Time
340.1	47.7	-2417.7	60.9



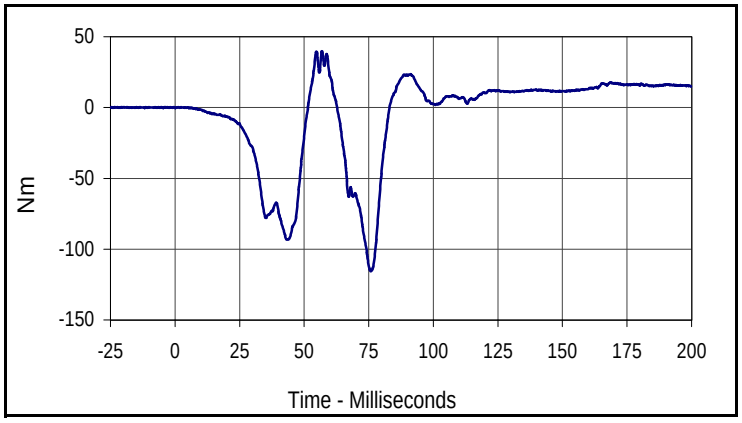
Curve Description			
Passenger Left Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
069	FIL	600	Nm
Max	Time	Min	Time
30.6	74.6	-75.0	44.0



Curve Description			
Passenger Left Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
070	FIL	600	Nm
Max	Time	Min	Time
50.6	52.3	-101.5	74.3

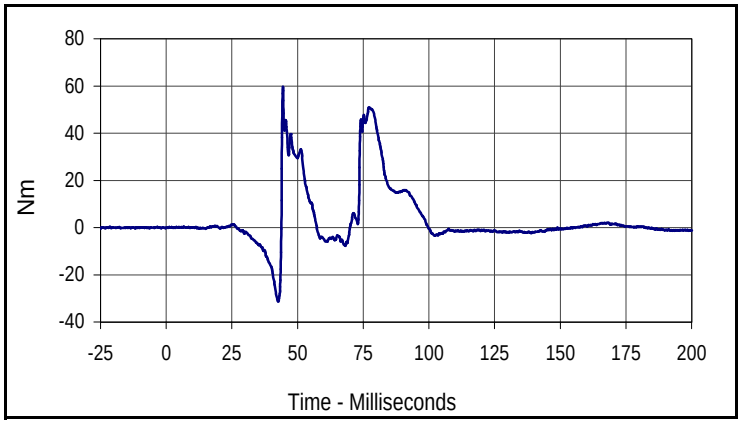


Curve Description			
Passenger Right Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
071	FIL	600	Nm
Max	Time	Min	Time
31.2	85.3	-15.6	46.7

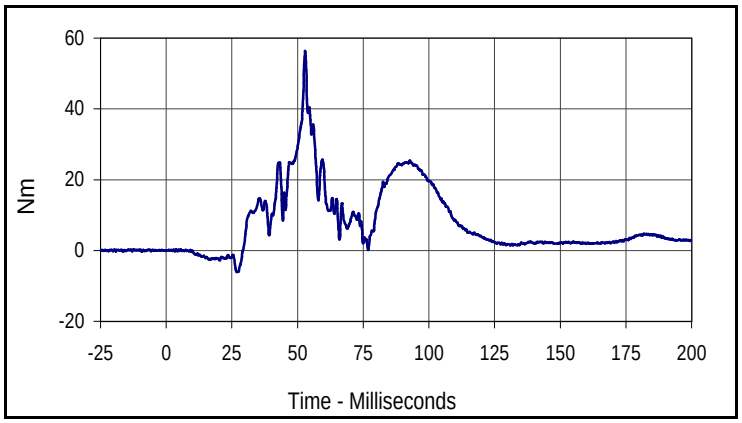


Curve Description			
Passenger Right Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
072	FIL	600	Nm
Max	Time	Min	Time
39.9	56.9	-115.7	75.8

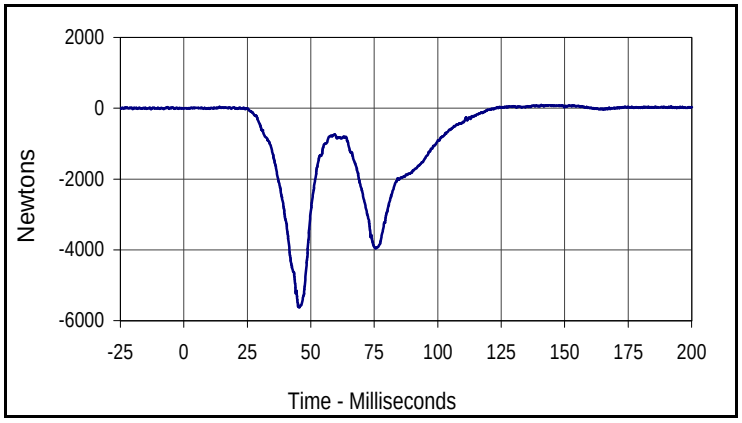
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



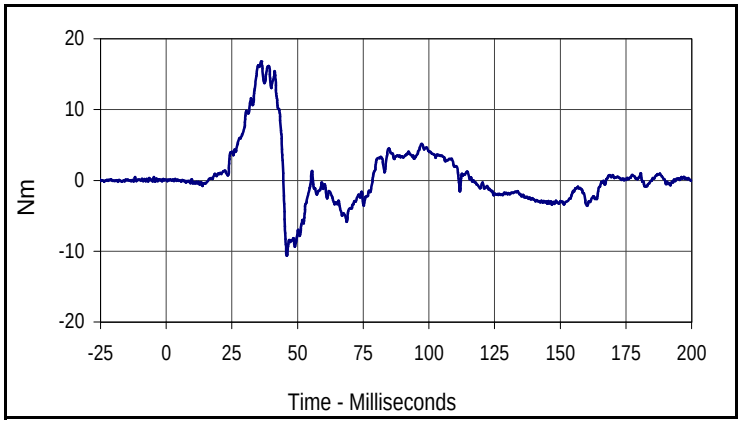
Curve Description			
Passenger Left Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
073	FIL	600	Nm
Max	Time	Min	Time
59.6	44.4	-31.3	42.6



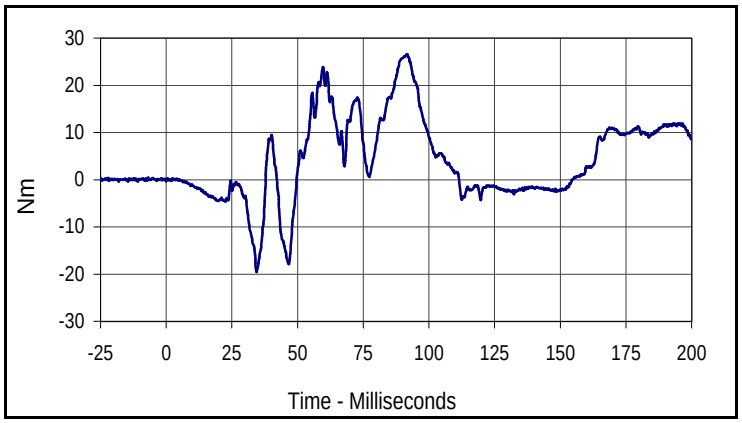
Curve Description			
Passenger Left Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
074	FIL	600	Nm
Max	Time	Min	Time
56.3	52.9	-6.1	26.9



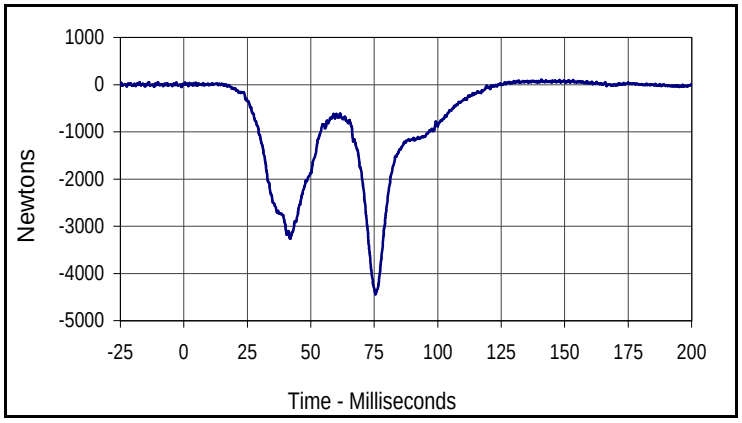
Curve Description			
Passenger Left Lower Tibia Force Z			
CURNO	Type	SAE Class	Units
075	FIL	600	Newtons
Max	Time	Min	Time
88.6	140.8	-5621.7	45.5



Curve Description			
Passenger Right Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
076	FIL	600	Nm
Max	Time	Min	Time
16.8	36.2	-10.6	45.9

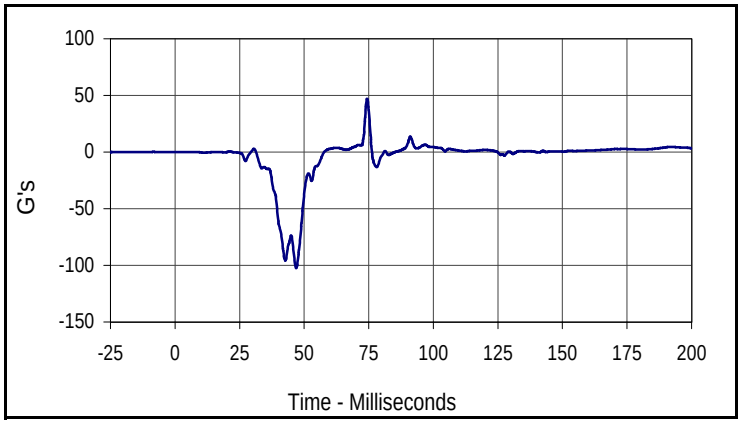


Curve Description			
Passenger Right Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
077	FIL	600	Nm
Max	Time	Min	Time
26.5	91.4	-19.5	34.4

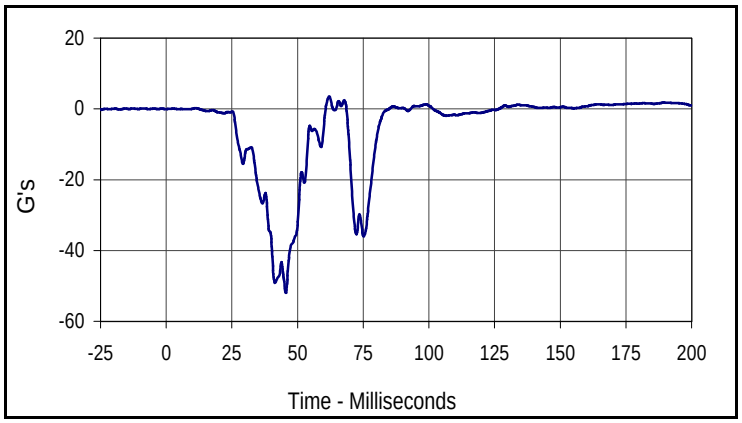


Curve Description			
Passenger Right lower Tibia Force Z			
CURNO	Type	SAE Class	Units
078	FIL	600	Newtons
Max	Time	Min	Time
105.0	140.9	-4442.7	75.5

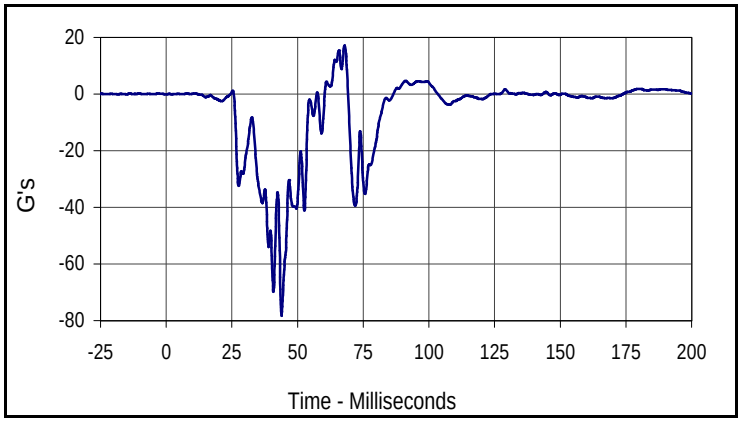
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



Curve Description			
Passenger Left Foot Aft X			
CURNO	Type	SAE Class	Units
079	FIL	180	G's
Max	Time	Min	Time
46.9	74.4	-102.7	46.9

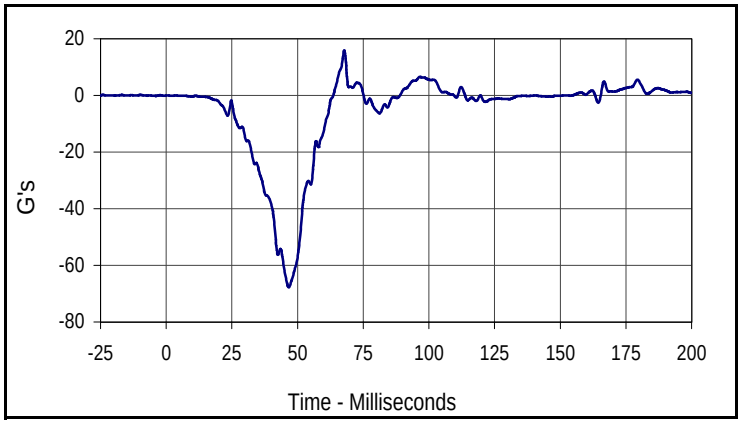


Curve Description			
Passenger Left Foot Aft Z			
CURNO	Type	SAE Class	Units
080	FIL	180	G's
Max	Time	Min	Time
3.5	62.1	-52.0	45.5

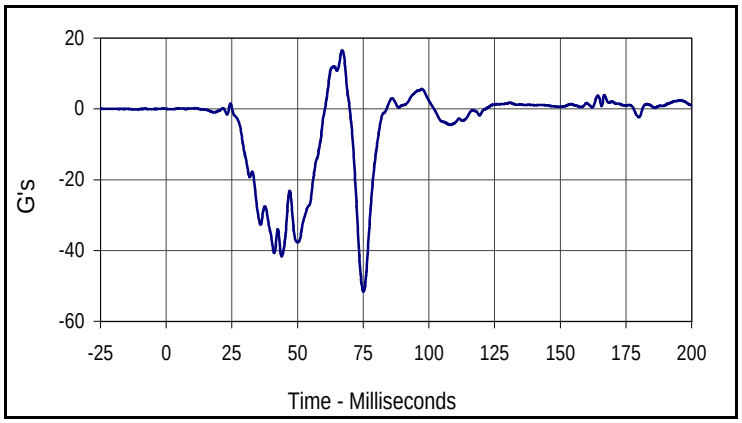


Curve Description			
Passenger Left Foot Fore Z			
CURNO	Type	SAE Class	Units
081	FIL	180	G's
Max	Time	Min	Time
17.2	67.9	-78.3	43.9

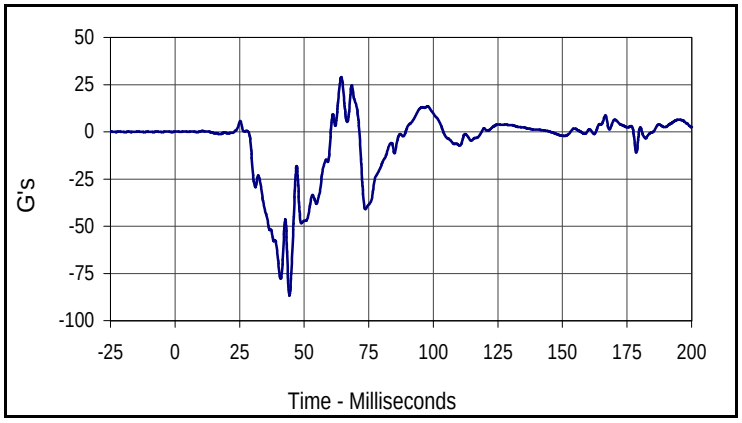
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



Curve Description			
Passenger Right Foot Aft X			
CURNO	Type	SAE Class	Units
082	FIL	180	G's
Max	Time	Min	Time
16.0	67.8	-67.8	46.7

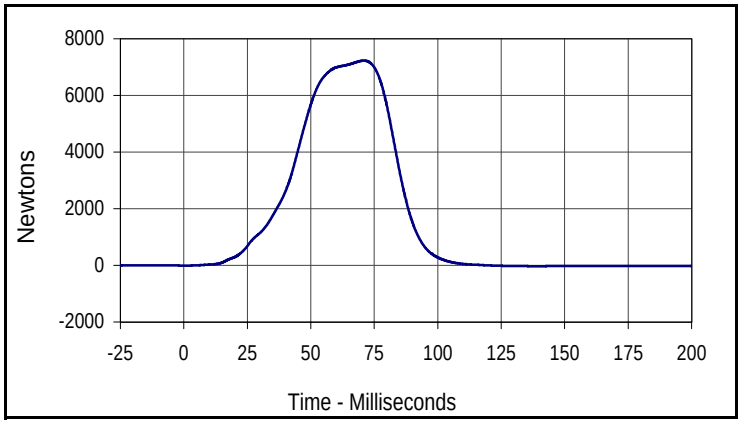


Curve Description			
Passenger Right Foot Aft Z			
CURNO	Type	SAE Class	Units
083	FIL	180	G's
Max	Time	Min	Time
16.5	67.0	-51.6	75.1

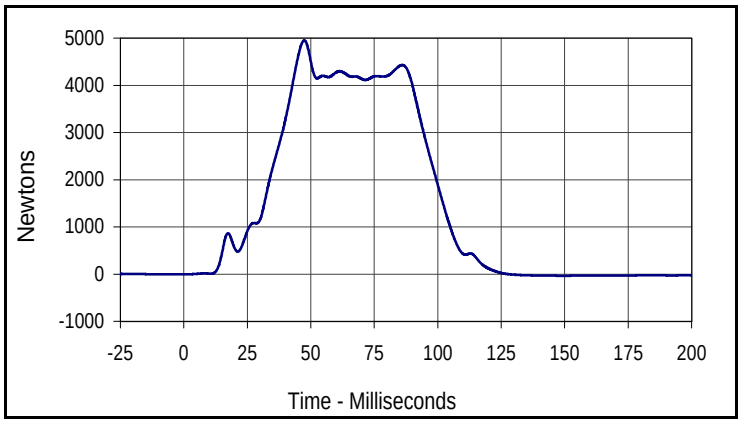


Curve Description			
Passenger Right Foot Fore Z			
CURNO	Type	SAE Class	Units
084	FIL	180	G's
Max	Time	Min	Time
28.9	64.3	-86.8	44.3

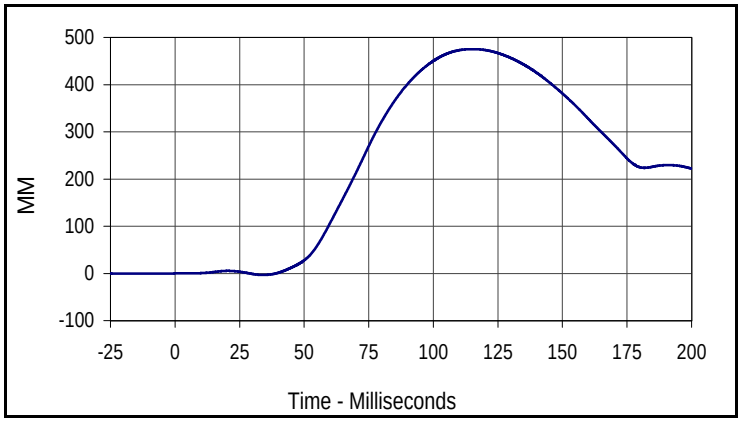
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



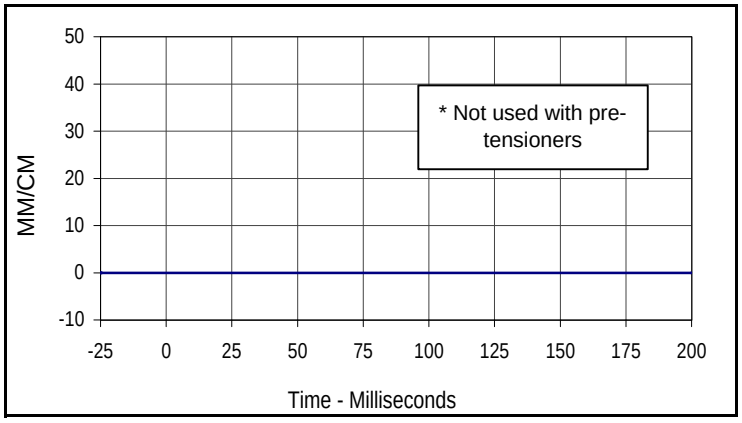
Curve Description			
Passenger Lap Belt Force			
CURNO	Type	SAE Class	Units
085	FIL	60	Newtons
Max	Time	Min	Time
7229.0	70.9	-28.8	138.0



Curve Description			
Passenger Shoulder Belt Force			
CURNO	Type	SAE Class	Units
086	FIL	60	Newtons
Max	Time	Min	Time
4952.5	47.4	-36.3	149.5



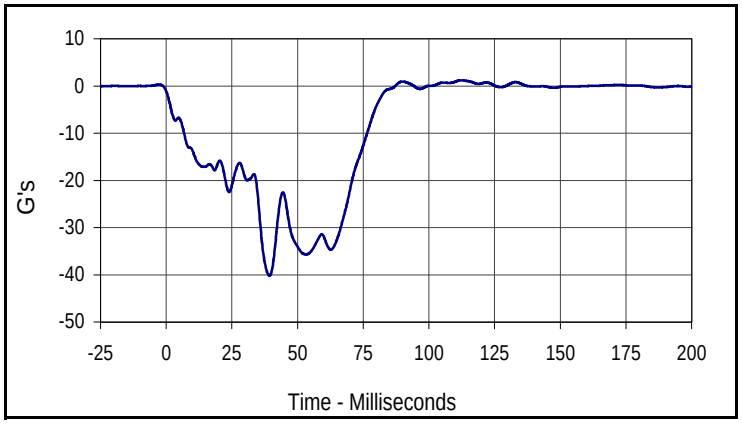
Curve Description			
Passenger Shoulder Belt Pullout			
CURNO	Type	SAE Class	Units
087	FIL	60	MM
Max	Time	Min	Time
475.2	115.2	-3.2	33.9



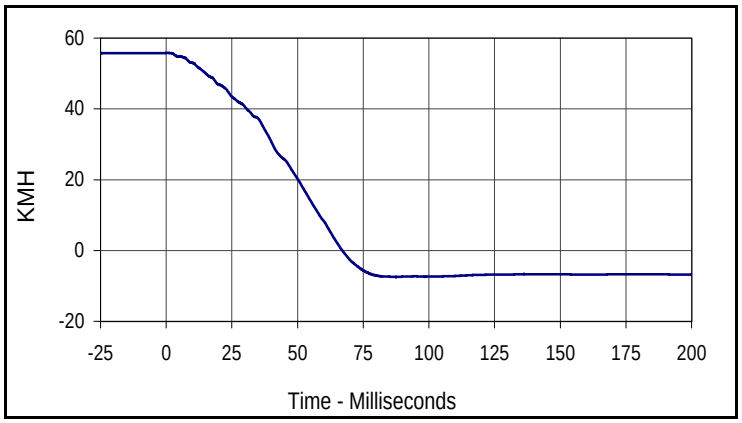
Curve Description			
Passenger Shoulder Belt Elongation			
CURNO	Type	SAE Class	Units
088	FIL	60	MM/CM
Max	Time	Min	Time
0.0	0.0	0.0	0.0

* Not used with pre-tensioners

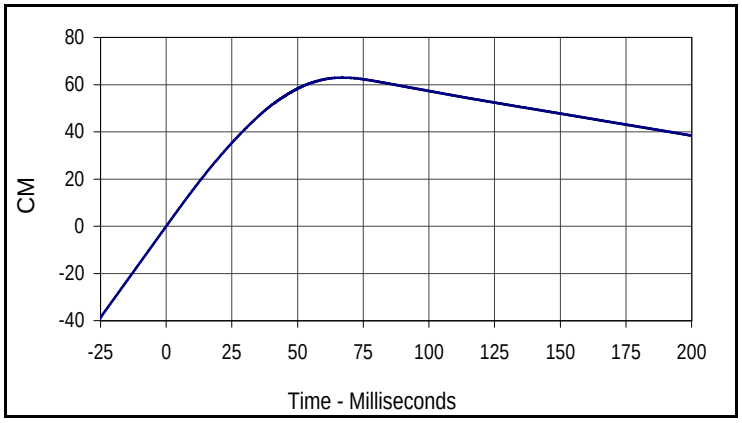
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



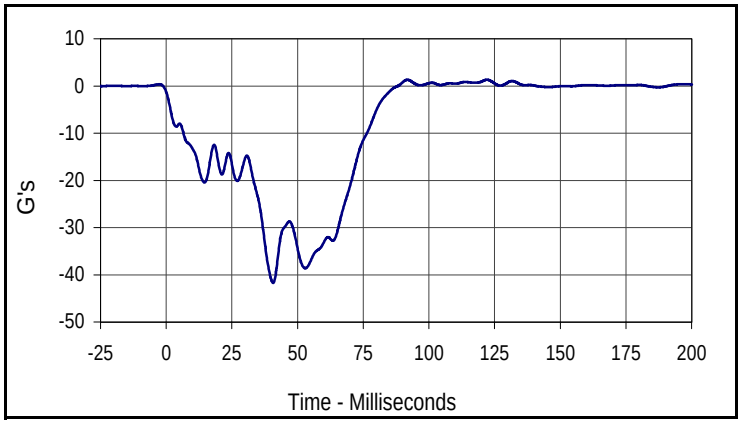
Curve Description			
Vehicle Left Rear X			
CURNO	Type	SAE Class	Units
089	FIL	60	G's
Max	Time	Min	Time
1.2	112.3	-40.2	39.3



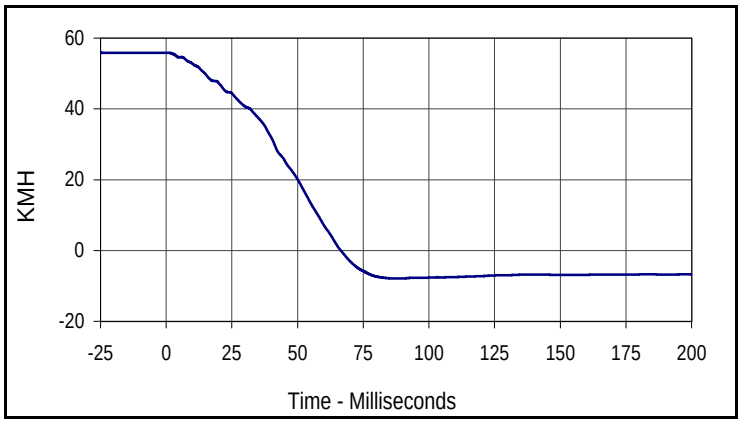
Curve Description			
Vehicle Left Rear X Velocity			
CURNO	Type	SAE Class	Units
089	IN1	180	KMH
Max	Time	Min	Time
55.8	0.7	-7.5	87.5



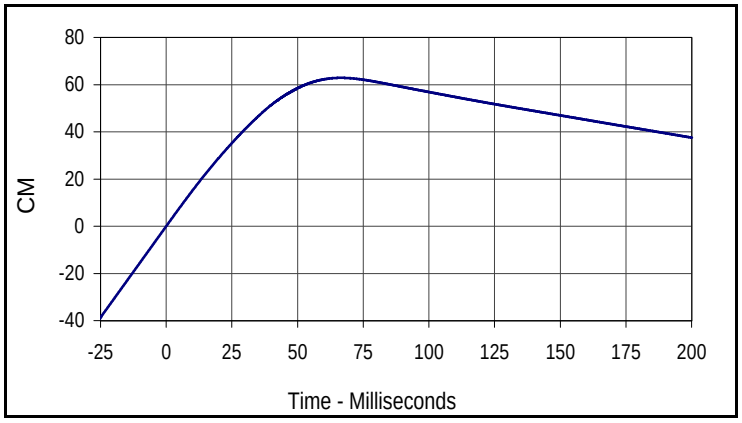
Curve Description			
Vehicle Left Rear X Displacement			
CURNO	Type	SAE Class	Units
089	IN2	180	CM
Max	Time	Min	Time
63.0	67.0	0.0	0.0



Curve Description			
Vehicle Right Rear X			
CURNO	Type	SAE Class	Units
090	FIL	60	G's
Max	Time	Min	Time
1.3	122.1	-41.7	40.7

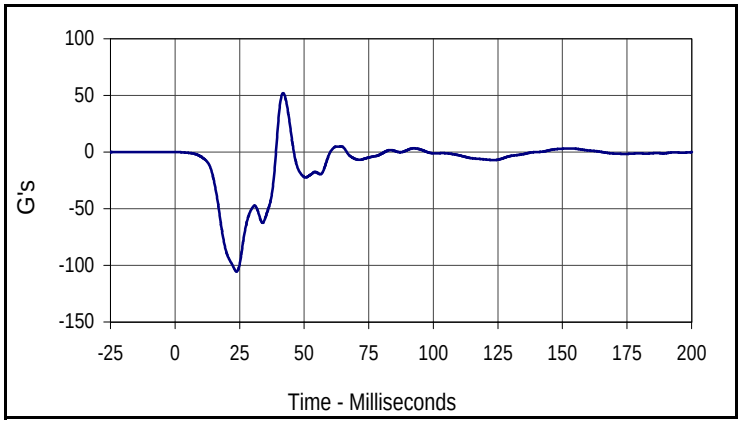


Curve Description			
Vehicle Right Rear X Velocity			
CURNO	Type	SAE Class	Units
090	IN1	180	KMH
Max	Time	Min	Time
55.8	0.8	-7.9	89.6

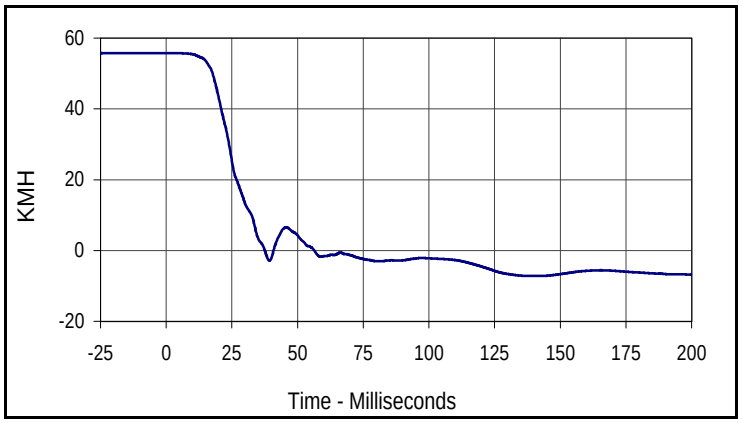


Curve Description			
Vehicle Right Rear X Displacement			
CURNO	Type	SAE Class	Units
090	IN2	180	CM
Max	Time	Min	Time
62.9	66.4	0.0	0.0

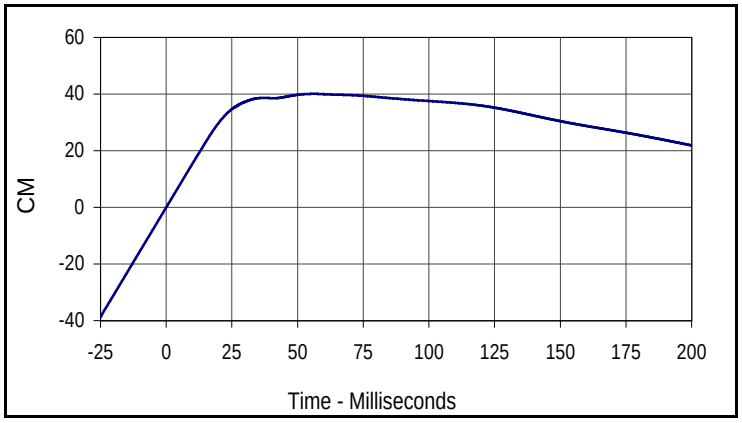
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



Curve Description			
Vehicle Engine Top			
CURNO	Type	SAE Class	Units
091	FIL	60	G's
Max	Time	Min	Time
52.1	41.8	-105.3	23.8

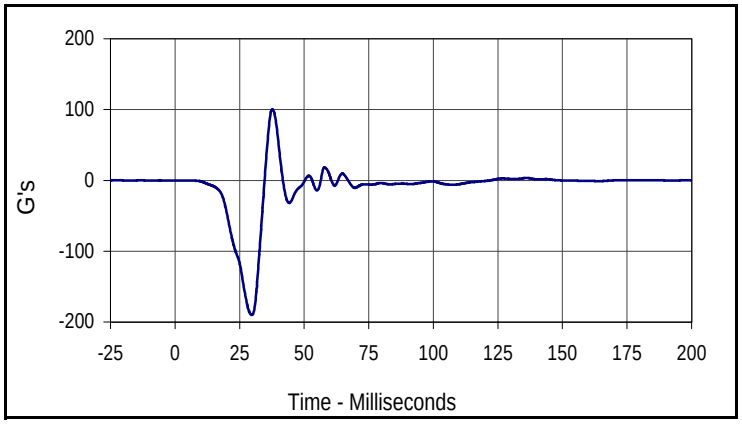


Curve Description			
Vehicle Engine Top Velocity			
CURNO	Type	SAE Class	Units
091	IN1	180	KMH
Max	Time	Min	Time
55.8	1.6	-7.2	141.3

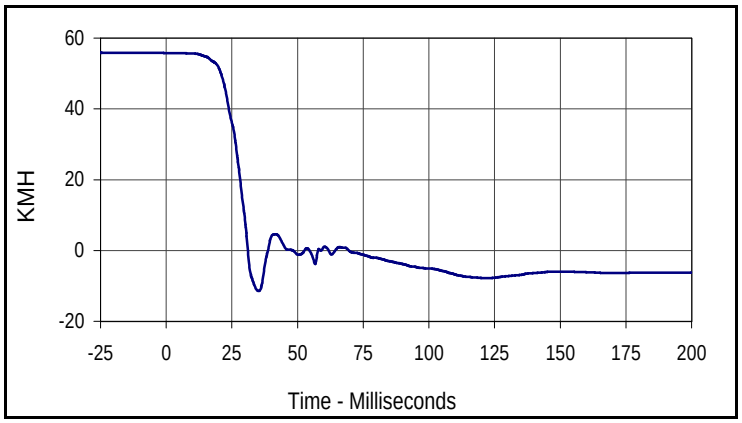


Curve Description			
Vehicle Engine Top Displacement			
CURNO	Type	SAE Class	Units
091	IN2	180	CM
Max	Time	Min	Time
40.1	56.4	0.0	0.0

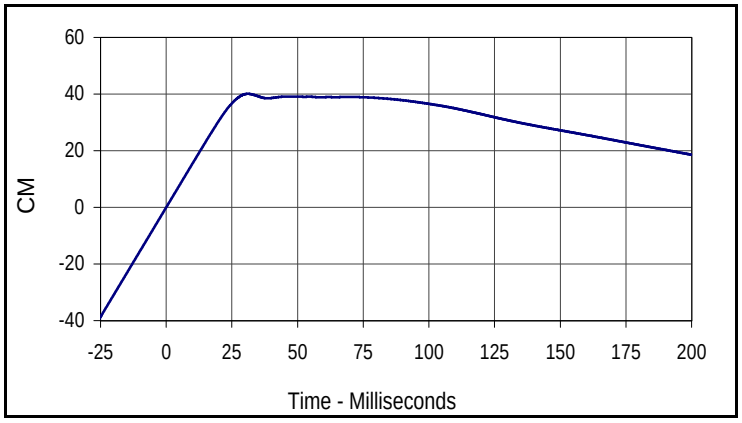
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



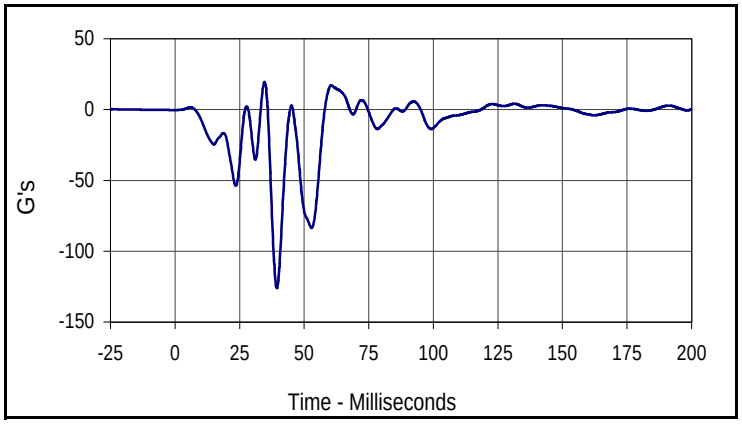
Curve Description			
Vehicle Engine Bottom			
CURNO	Type	SAE Class	Units
092	FIL	60	G's
Max	Time	Min	Time
100.8	37.7	-190.3	29.7



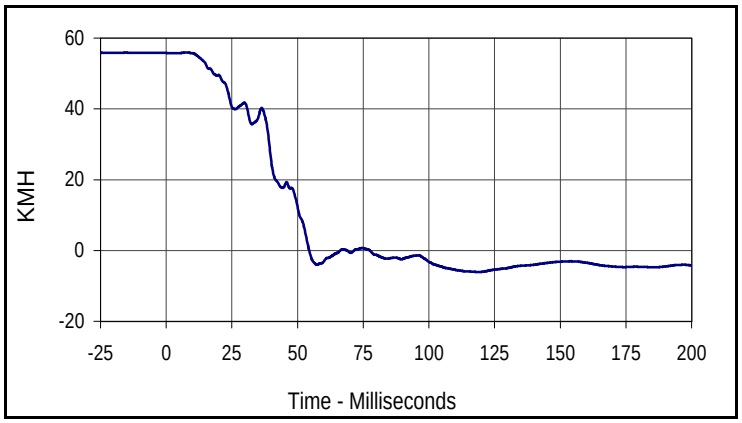
Curve Description			
Vehicle Engine Bottom Velocity			
CURNO	Type	SAE Class	Units
092	IN1	180	KMH
Max	Time	Min	Time
55.8	0.2	-11.4	35.2



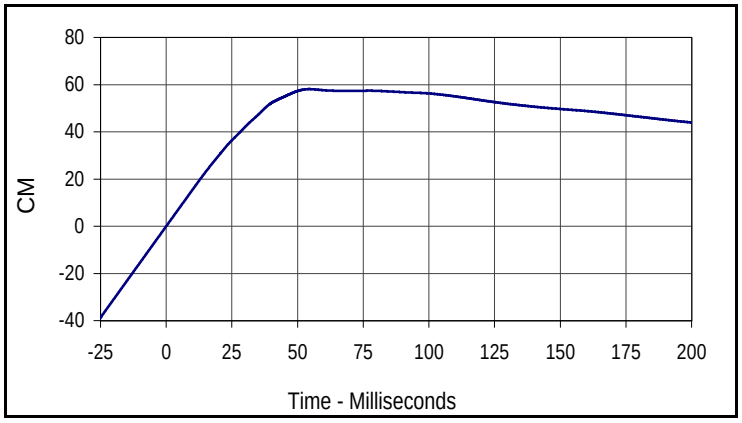
Curve Description			
Vehicle Engine Bottom Displacement			
CURNO	Type	SAE Class	Units
092	IN2	180	CM
Max	Time	Min	Time
40.1	31.1	0.0	0.0



Curve Description			
Vehicle Left Brake Caliper			
CURNO	Type	SAE Class	Units
093	FIL	60	G's
Max	Time	Min	Time
19.4	34.7	-126.1	39.4

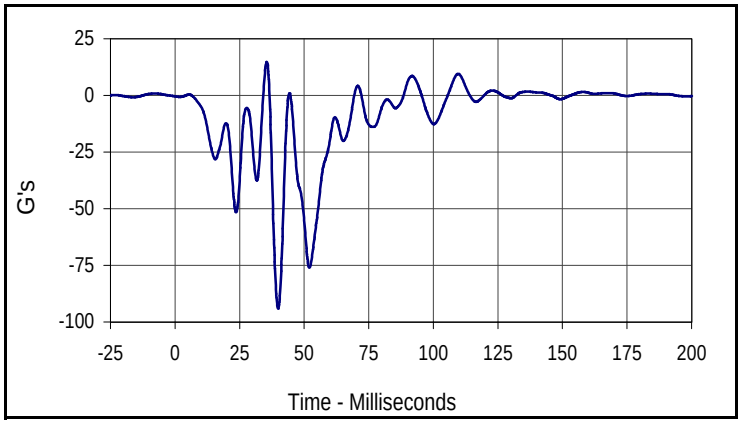


Curve Description			
Vehicle Left Brake Caliper Velocity			
CURNO	Type	SAE Class	Units
093	IN1	180	KMH
Max	Time	Min	Time
55.9	7.8	-6.1	119.1

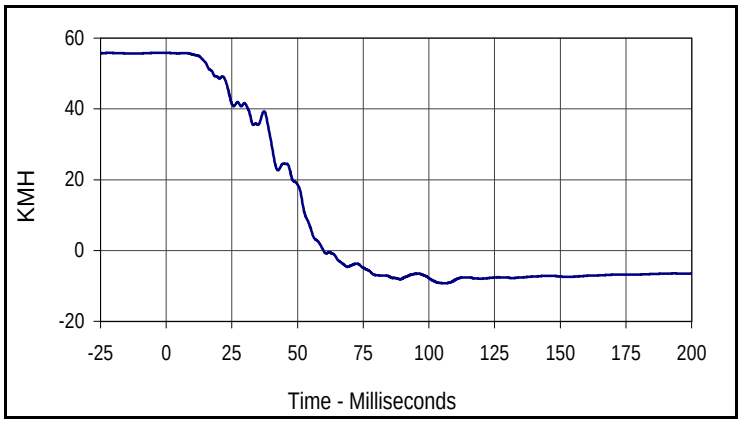


Curve Description			
Vehicle Left Brake Caliper Displacement			
CURNO	Type	SAE Class	Units
093	IN2	180	CM
Max	Time	Min	Time
58.1	54.4	0.0	0.0

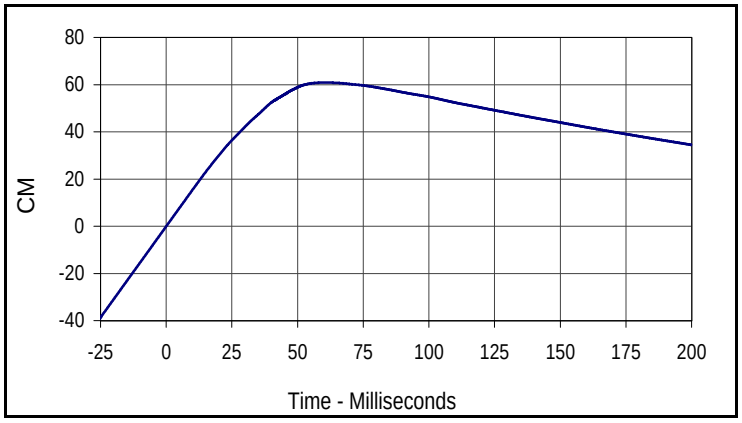
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



Curve Description			
Vehicle Right Brake Caliper			
CURNO	Type	SAE Class	Units
094	FIL	60	G's
Max	Time	Min	Time
14.8	35.5	-94.1	39.9

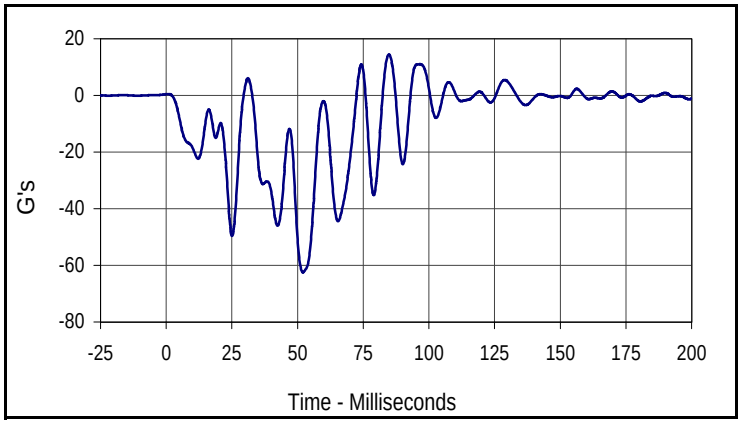


Curve Description			
Vehicle Right Brake Caliper Velocity			
CURNO	Type	SAE Class	Units
094	IN1	180	KMH
Max	Time	Min	Time
55.8	0.1	-9.3	106.2

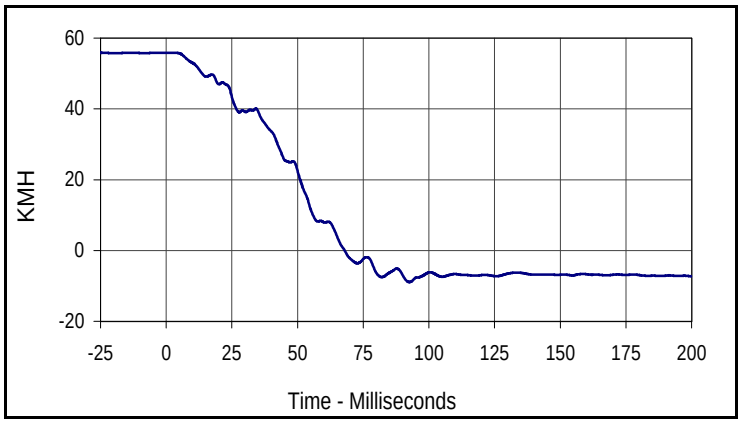


Curve Description			
Vehicle Right Brake Caliper Displacement			
CURNO	Type	SAE Class	Units
094	IN2	180	CM
Max	Time	Min	Time
60.9	59.9	0.0	0.0

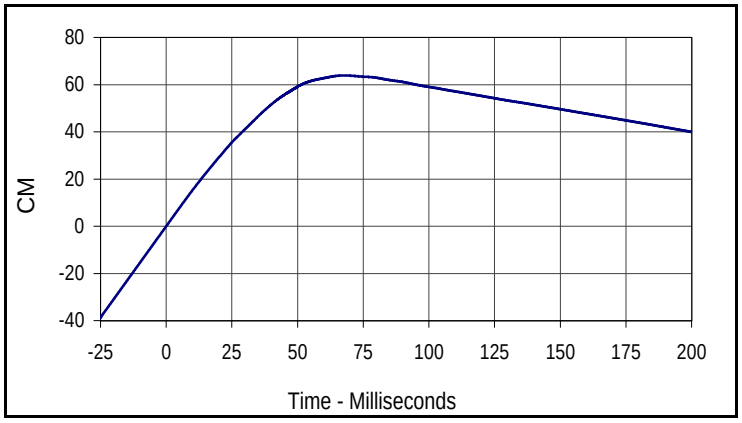
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



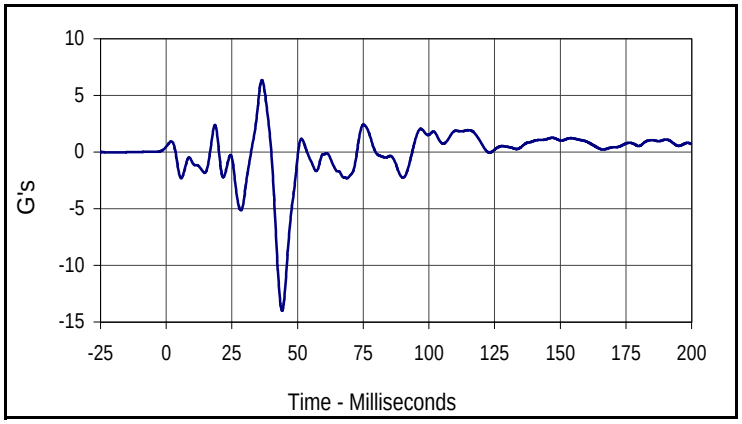
Curve Description			
Vehicle Instrument Panel			
CURNO	Type	SAE Class	Units
095	FIL	60	G's
Max	Time	Min	Time
14.4	84.8	-62.4	52.0



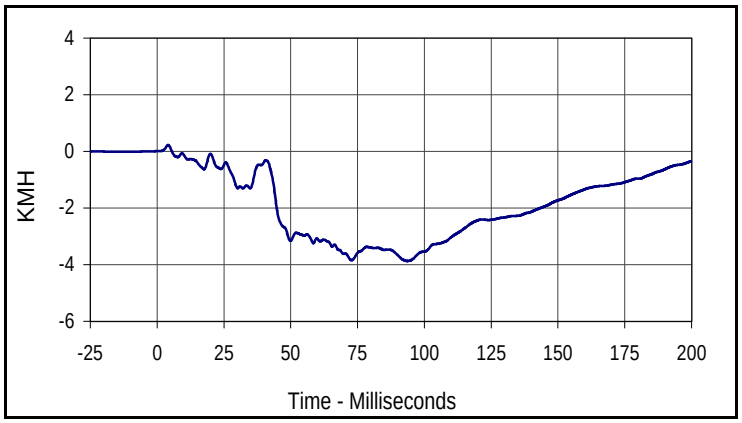
Curve Description			
Vehicle Instrument Panel Velocity			
CURNO	Type	SAE Class	Units
095	IN1	180	KMH
Max	Time	Min	Time
55.8	3.7	-8.9	92.6



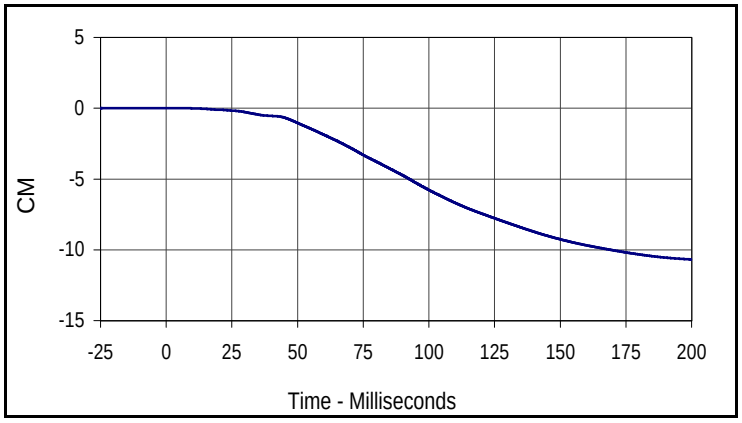
Curve Description			
Vehicle Instrument Panel Displacement			
CURNO	Type	SAE Class	Units
095	IN2	180	CM
Max	Time	Min	Time
63.9	67.9	0.0	0.0



Curve Description			
Vehicle Left Rear Z			
CURNO	Type	SAE Class	Units
096	FIL	60	G's
Max	Time	Min	Time
6.3	36.4	-14.0	44.1

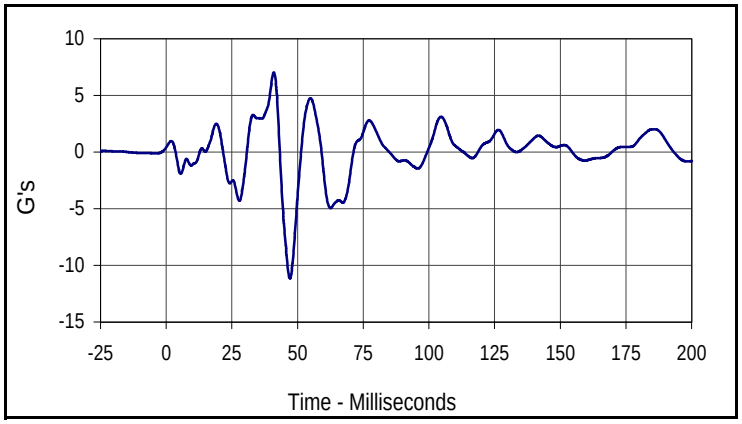


Curve Description			
Vehicle Left Rear Z Velocity			
CURNO	Type	SAE Class	Units
096	IN1	180	KMH
Max	Time	Min	Time
0.2	4.1	-3.9	93.5

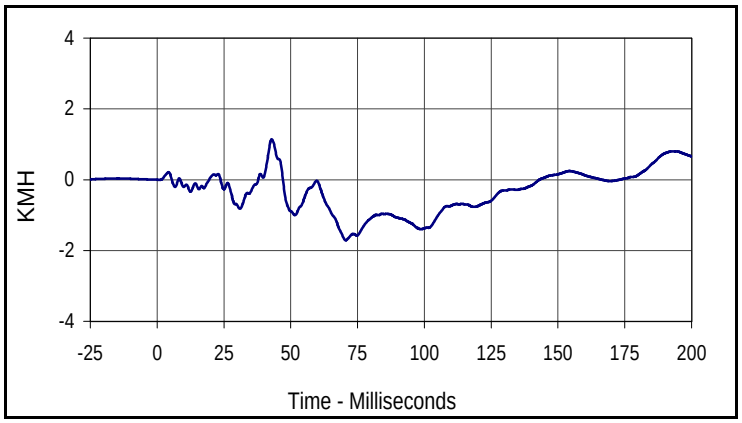


Curve Description			
Vehicle Left Rear Z Displacement			
CURNO	Type	SAE Class	Units
096	IN2	180	CM
Max	Time	Min	Time
0.0	5.5	-10.7	200.0

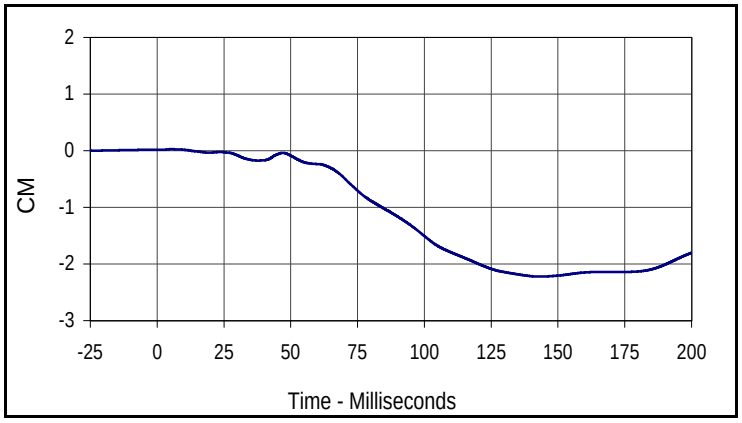
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



Curve Description			
Vehicle Right Rear Z			
CURNO	Type	SAE Class	Units
097	FIL	60	G's
Max	Time	Min	Time
7.0	41.0	-11.1	47.1



Curve Description			
Vehicle Right Rear Z Velocity			
CURNO	Type	SAE Class	Units
097	IN1	180	KMH
Max	Time	Min	Time
1.1	42.9	-1.7	70.5

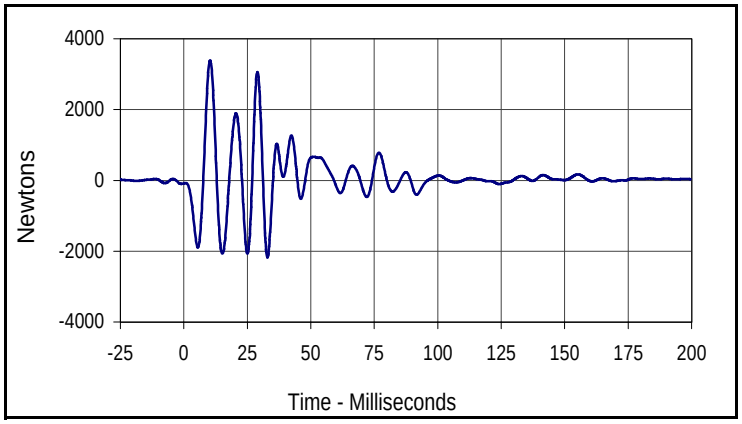


Curve Description			
Vehicle Right Rear Z Displacement			
CURNO	Type	SAE Class	Units
097	IN2	180	CM
Max	Time	Min	Time
0.0	5.5	-2.2	143.1

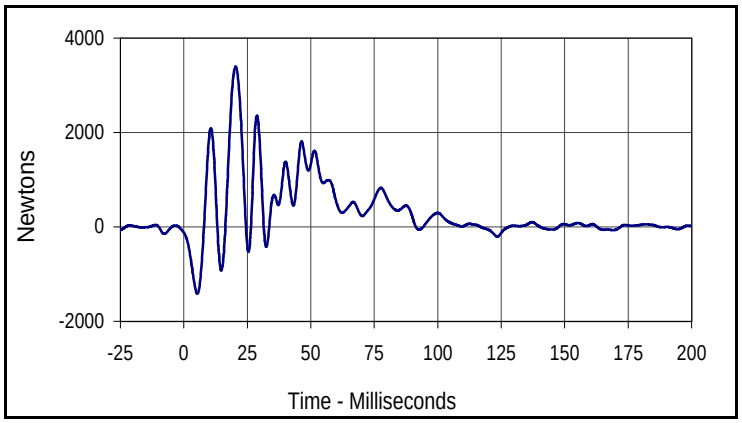
APPENDIX C

LOAD CELL BARRIER DATA PLOTS

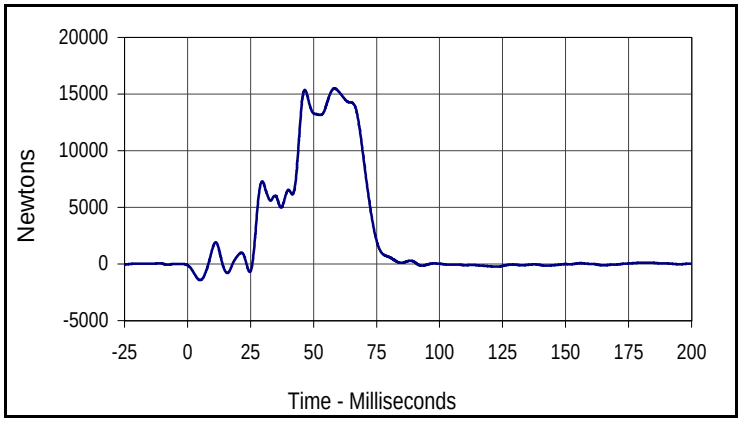
Test Vehicle:	2004 Mitsubishi Galant	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



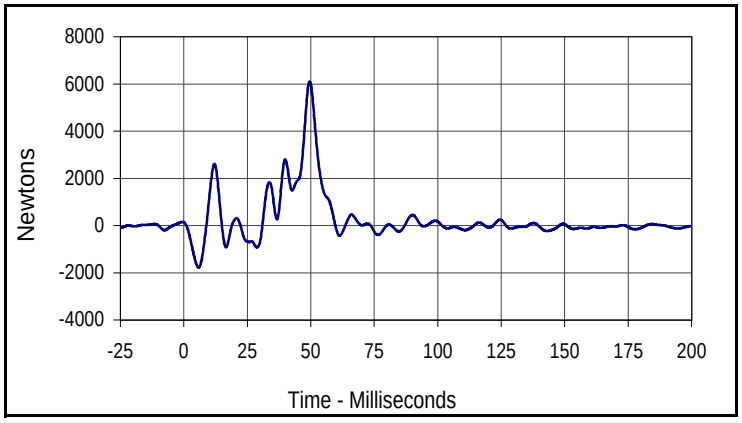
Curve Description			
Barrier Force A1			
CURNO	Type	SAE Class	Units
098	FIL	60	Newtons
Max	Time	Min	Time
3385.9	10.3	-2174.3	32.9



Curve Description			
Barrier Force B1			
CURNO	Type	SAE Class	Units
107	FIL	60	Newtons
Max	Time	Min	Time
3393.9	20.4	-1414.8	5.3

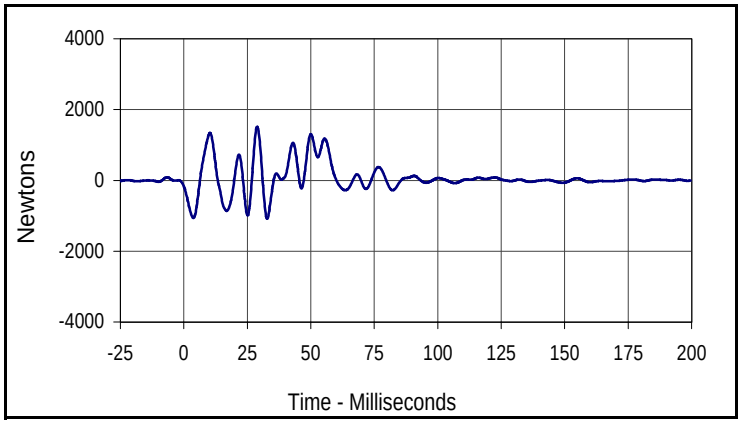


Curve Description			
Barrier Force C1			
CURNO	Type	SAE Class	Units
116	FIL	60	Newtons
Max	Time	Min	Time
15498.0	58.3	-1424.8	5.1

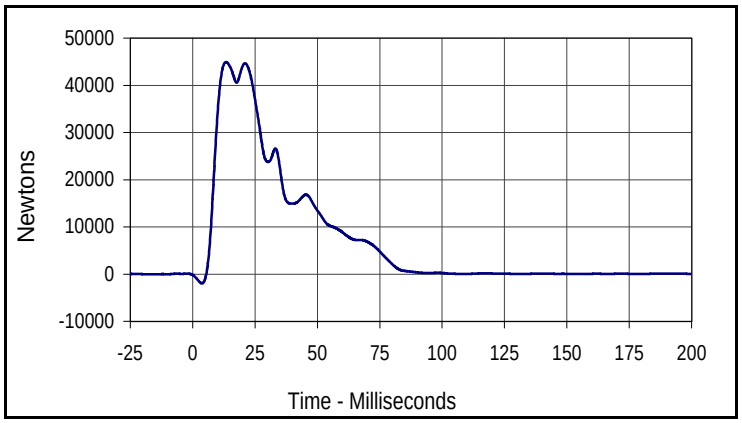


Curve Description			
Barrier Force D1			
CURNO	Type	SAE Class	Units
125	FIL	60	Newtons
Max	Time	Min	Time
6101.8	49.6	-1776.5	5.8

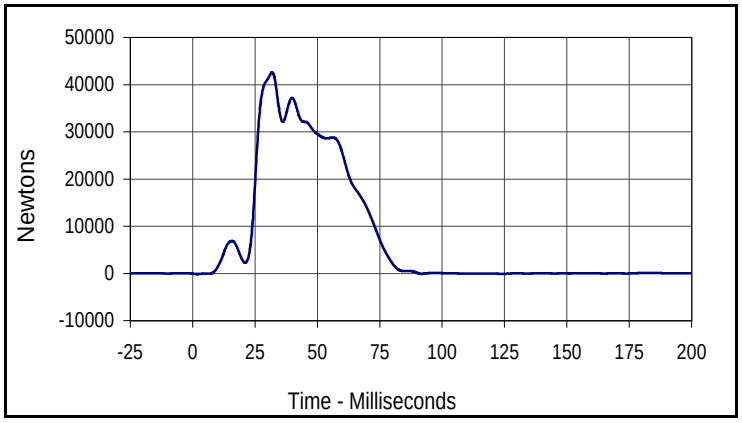
Test Vehicle:	2004 Mitsubishi Galant	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



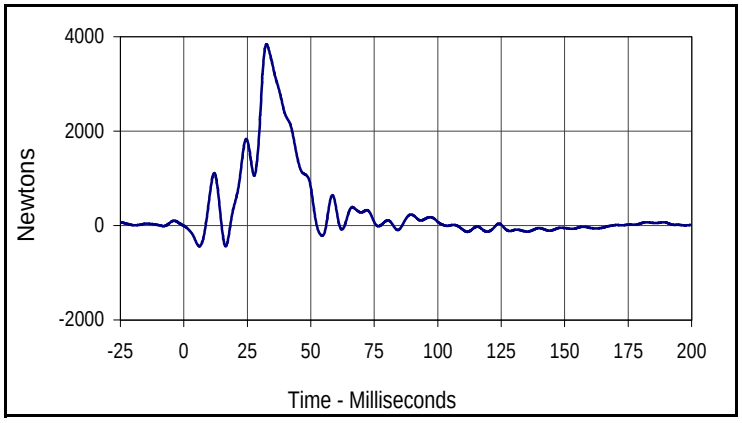
Curve Description			
Barrier Force A2			
CURNO	Type	SAE Class	Units
099	FIL	60	Newtons
Max	Time	Min	Time
1511.7	28.9	-1083.6	32.8



Curve Description			
Barrier Force B2			
CURNO	Type	SAE Class	Units
108	FIL	60	Newtons
Max	Time	Min	Time
44943.3	13.4	-1940.1	3.7

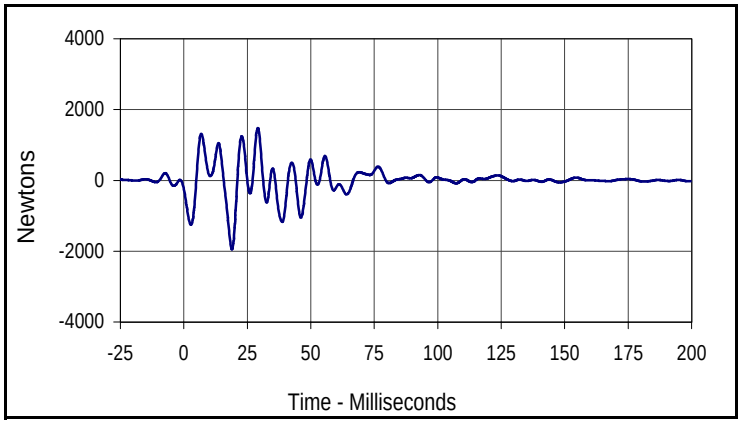


Curve Description			
Barrier Force C2			
CURNO	Type	SAE Class	Units
117	FIL	60	Newtons
Max	Time	Min	Time
42618.0	31.8	-140.5	1.8



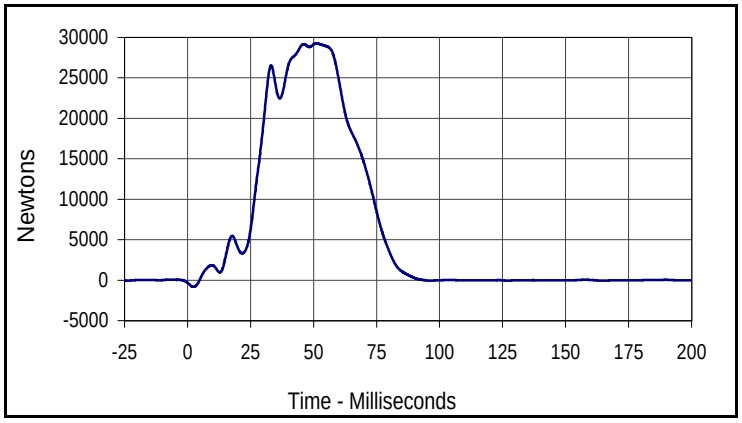
Curve Description			
Barrier Force D2			
CURNO	Type	SAE Class	Units
126	FIL	60	Newtons
Max	Time	Min	Time
3839.6	32.5	-441.4	16.5

Test Vehicle:	2004 Mitsubishi Galant	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601

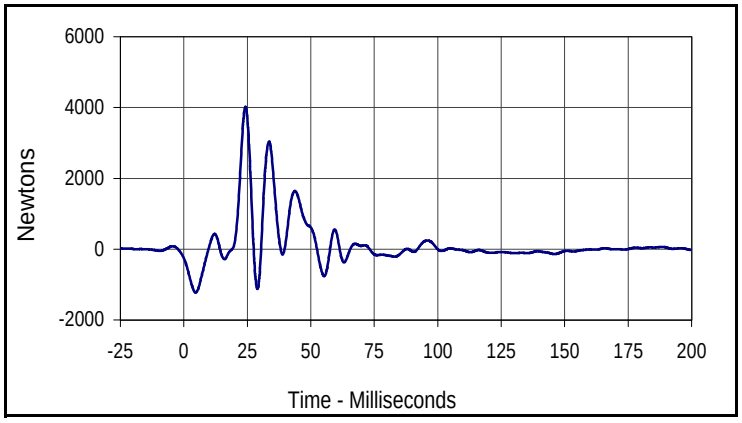


Curve Description			
Barrier Force A3			
CURNO	Type	SAE Class	Units
100	FIL	60	Newtons
Max	Time	Min	Time
1478.7	29.1	-1945.3	18.9

Curve Description			
Barrier Force B3			
CURNO	Type	SAE Class	Units
109	FIL	60	Newtons
Max	Time	Min	Time
68706.5	33.3	-1625.7	1.6

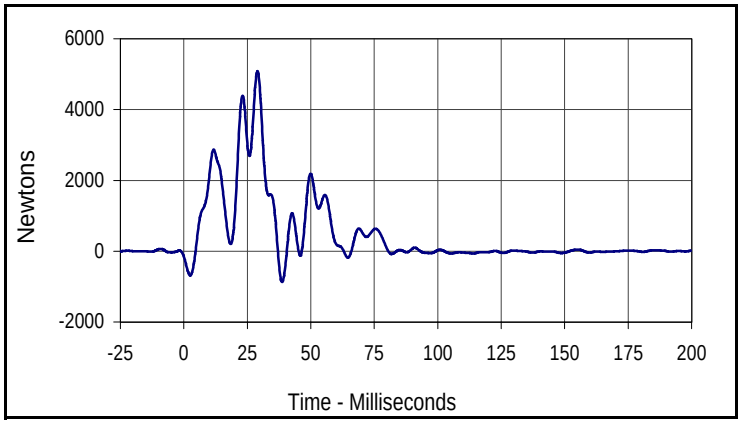


Curve Description			
Barrier Force C3			
CURNO	Type	SAE Class	Units
118	FIL	60	Newtons
Max	Time	Min	Time
29269.8	51.1	-825.4	2.4

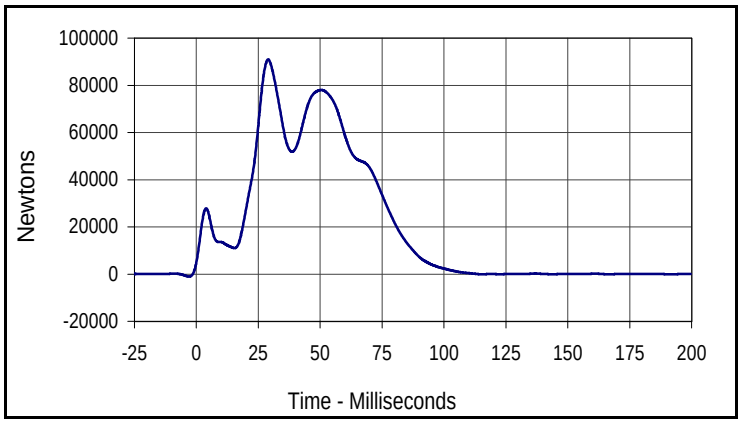


Curve Description			
Barrier Force D3			
CURNO	Type	SAE Class	Units
127	FIL	60	Newtons
Max	Time	Min	Time
4016.3	24.3	-1223.2	4.6

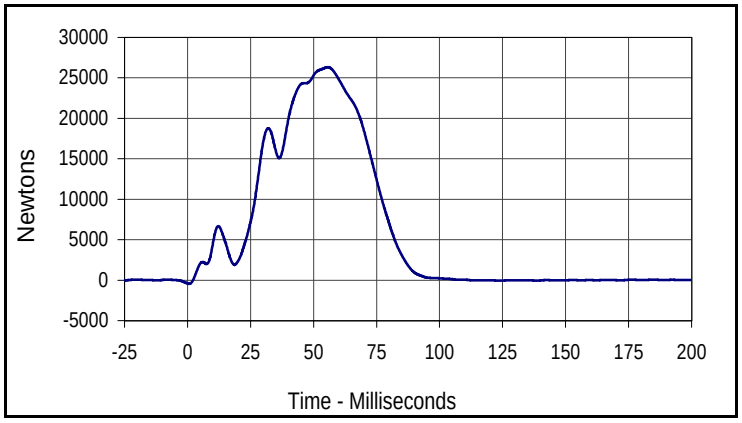
Test Vehicle:	2004 Mitsubishi Galant	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



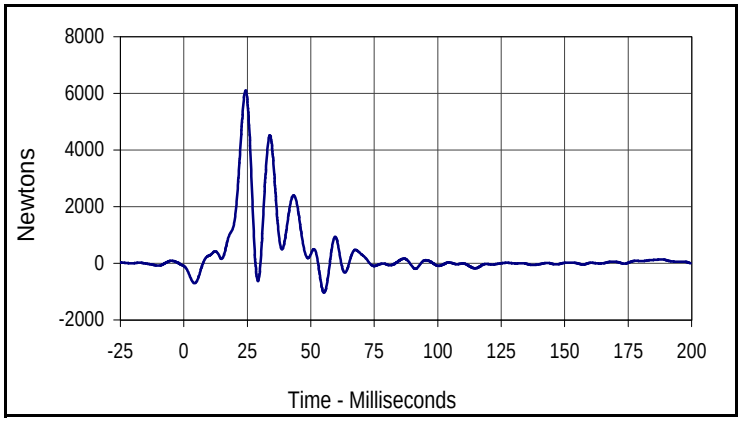
Curve Description			
Barrier Force A4			
CURNO	Type	SAE Class	Units
101	FIL	60	Newtons
Max	Time	Min	Time
5083.6	29.0	-872.4	38.7



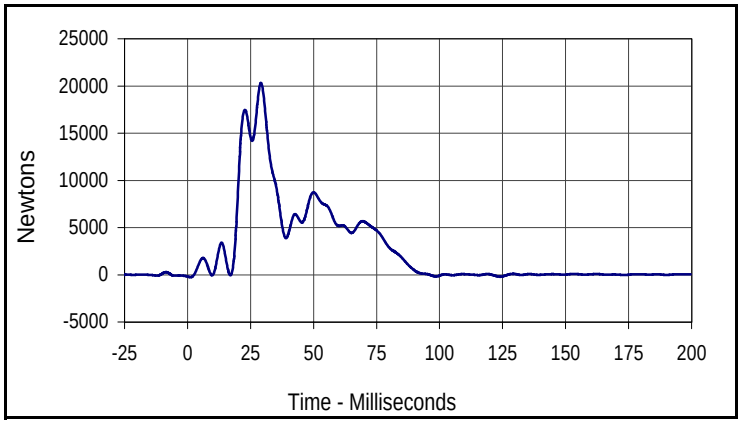
Curve Description			
Barrier Force B4			
CURNO	Type	SAE Class	Units
110	FIL	60	Newtons
Max	Time	Min	Time
90918.1	29.0	-47.4	122.9



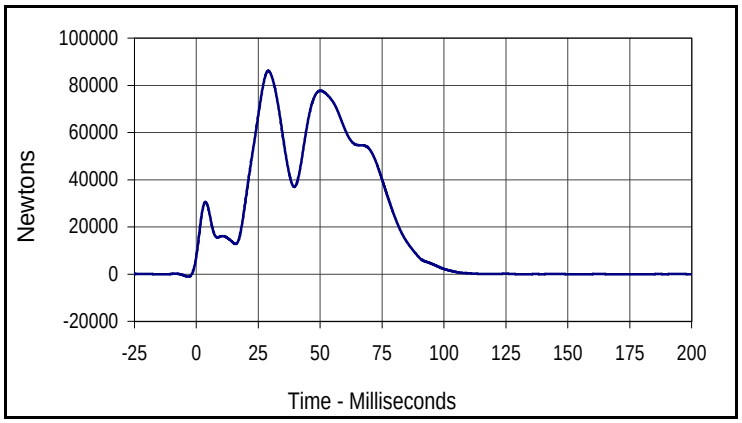
Curve Description			
Barrier Force C4			
CURNO	Type	SAE Class	Units
119	FIL	60	Newtons
Max	Time	Min	Time
26314.8	55.6	-441.3	0.6



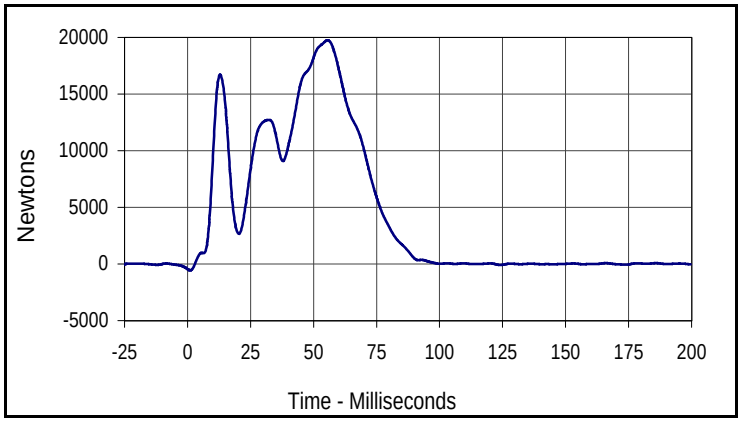
Curve Description			
Barrier Force D4			
CURNO	Type	SAE Class	Units
128	FIL	60	Newtons
Max	Time	Min	Time
6100.8	24.3	-1038.8	55.2



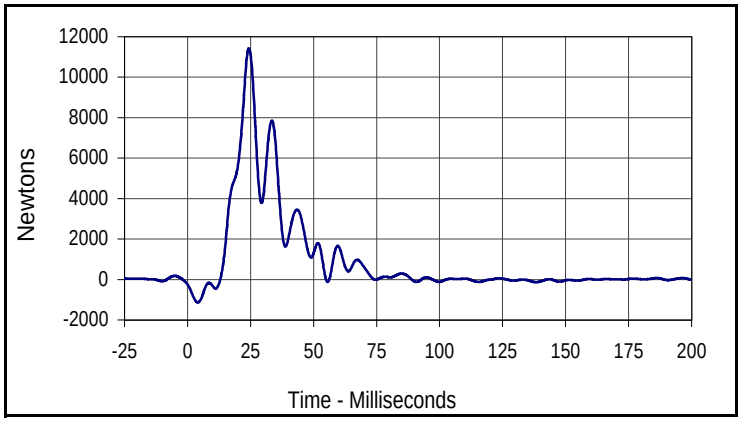
Curve Description			
Barrier Force A5			
CURNO	Type	SAE Class	Units
102	FIL	60	Newtons
Max	Time	Min	Time
20306.8	29.1	-256.2	1.2



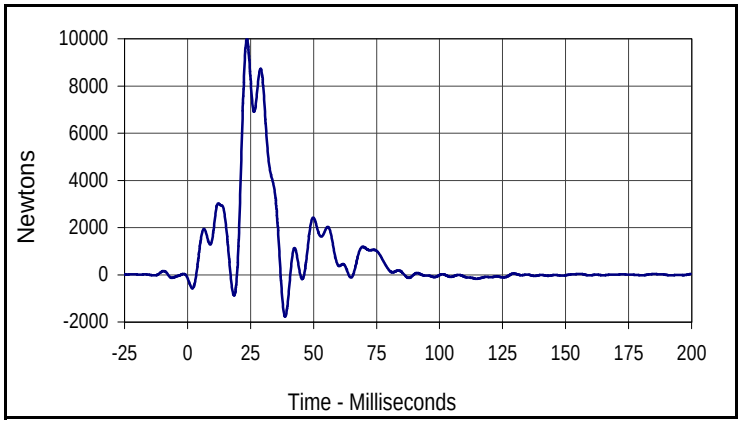
Curve Description			
Barrier Force B5			
CURNO	Type	SAE Class	Units
111	FIL	60	Newtons
Max	Time	Min	Time
86120.0	29.0	-113.3	156.7



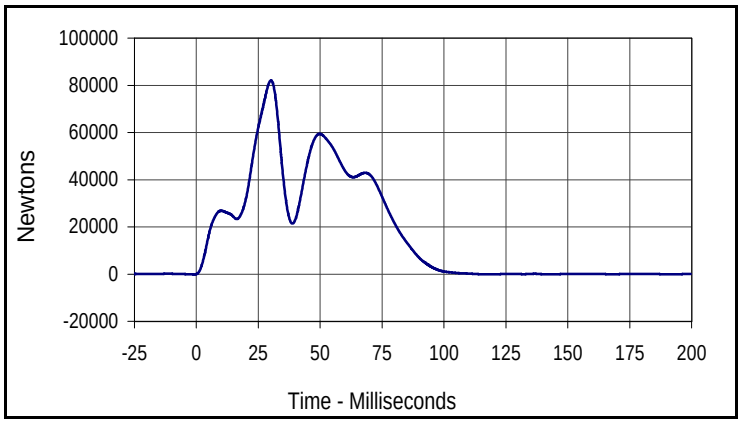
Curve Description			
Barrier Force C5			
CURNO	Type	SAE Class	Units
120	FIL	60	Newtons
Max	Time	Min	Time
19753.2	55.6	-568.8	1.1



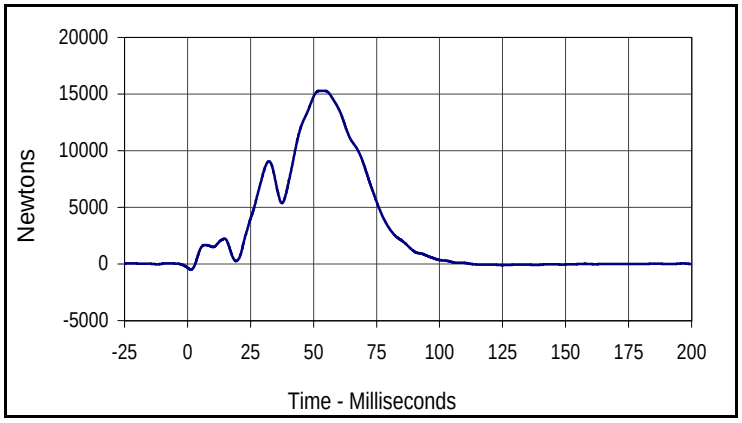
Curve Description			
Barrier Force D5			
CURNO	Type	SAE Class	Units
129	FIL	60	Newtons
Max	Time	Min	Time
11420.8	24.3	-1128.4	4.0



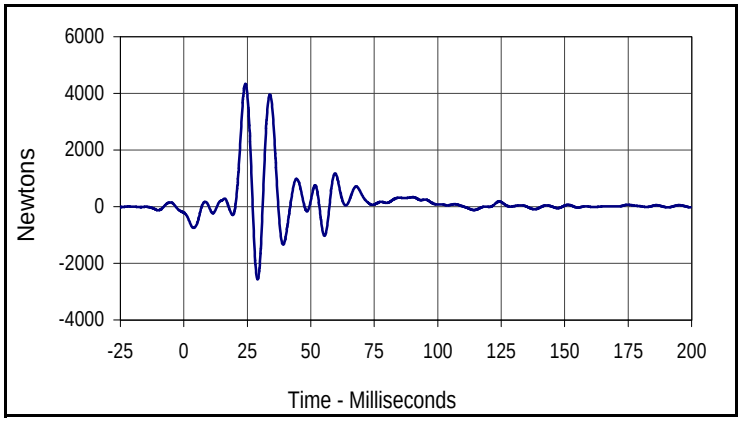
Curve Description			
Barrier Force A6			
CURNO	Type	SAE Class	Units
103	FIL	60	Newtons
Max	Time	Min	Time
9977.0	23.6	-1774.5	38.7



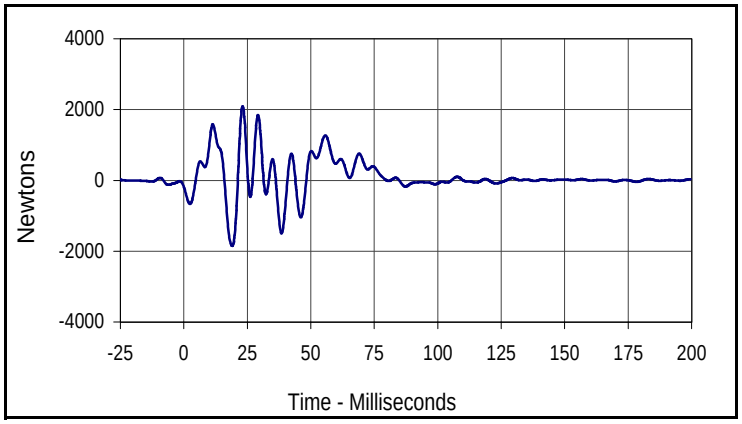
Curve Description			
Barrier Force B6			
CURNO	Type	SAE Class	Units
112	FIL	60	Newtons
Max	Time	Min	Time
82065.8	30.1	-67.8	142.0



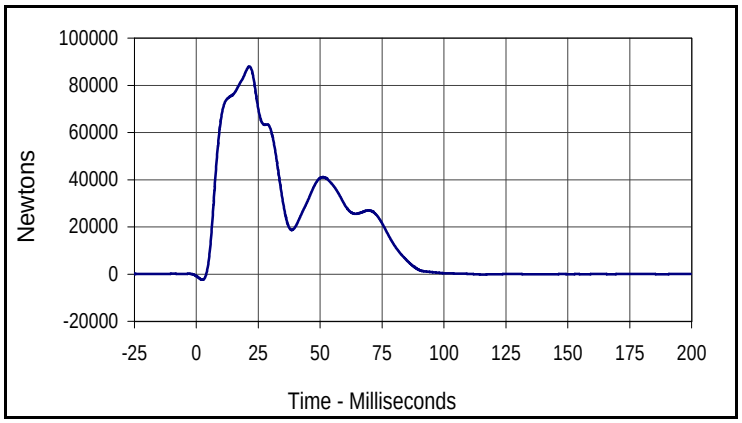
Curve Description			
Barrier Force C6			
CURNO	Type	SAE Class	Units
121	FIL	60	Newtons
Max	Time	Min	Time
15295.8	52.5	-495.2	1.3



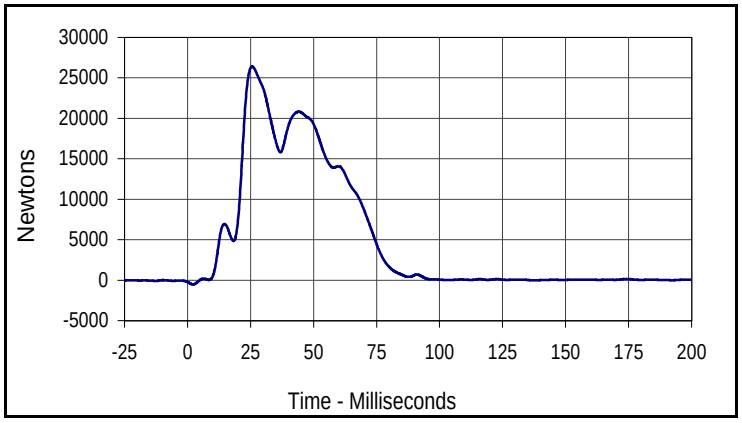
Curve Description			
Barrier Force D6			
CURNO	Type	SAE Class	Units
130	FIL	60	Newtons
Max	Time	Min	Time
4341.6	24.2	-2564.5	29.1



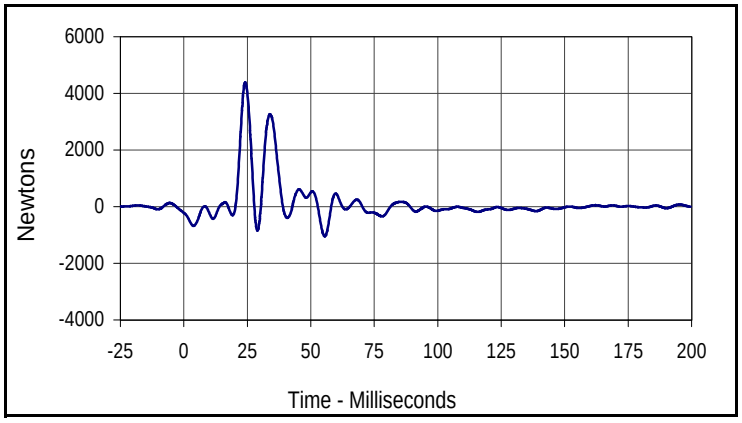
Curve Description			
Barrier Force A7			
CURNO	Type	SAE Class	Units
104	FIL	60	Newtons
Max	Time	Min	Time
2088.5	23.2	-1848.4	19.1



Curve Description			
Barrier Force B7			
CURNO	Type	SAE Class	Units
113	FIL	60	Newtons
Max	Time	Min	Time
87962.4	21.4	-2397.8	2.4

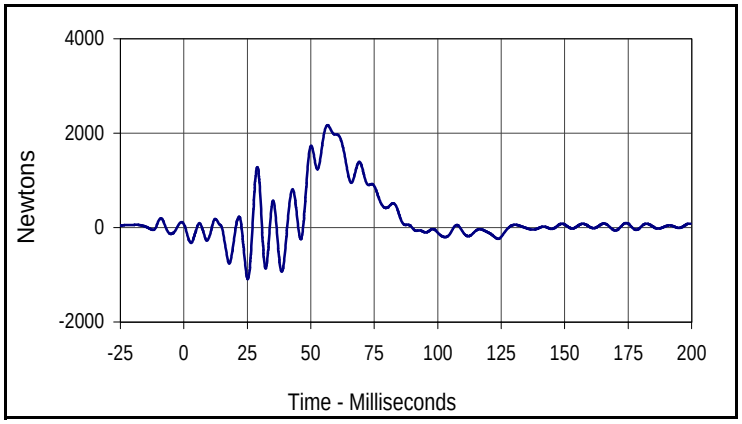


Curve Description			
Barrier Force C7			
CURNO	Type	SAE Class	Units
122	FIL	60	Newtons
Max	Time	Min	Time
26390.4	25.6	-521.8	2.2

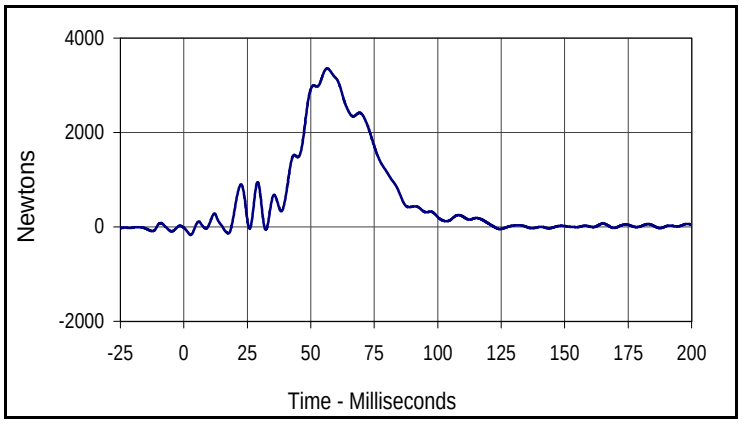


Curve Description			
Barrier Force D7			
CURNO	Type	SAE Class	Units
131	FIL	60	Newtons
Max	Time	Min	Time
4394.3	24.2	-1045.9	55.5

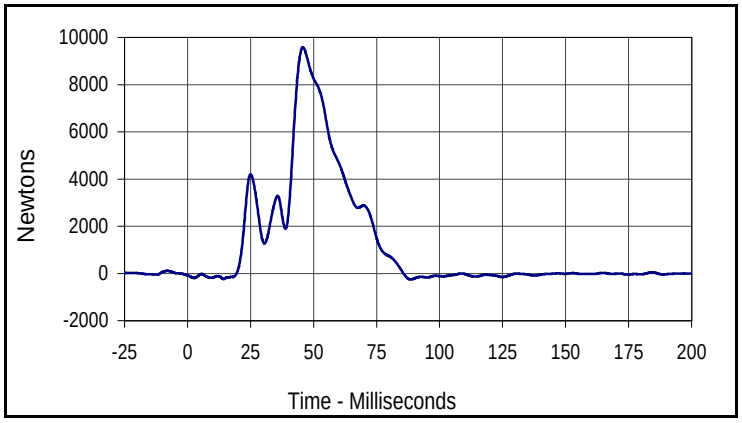
Test Vehicle:	2004 Mitsubishi Galant	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



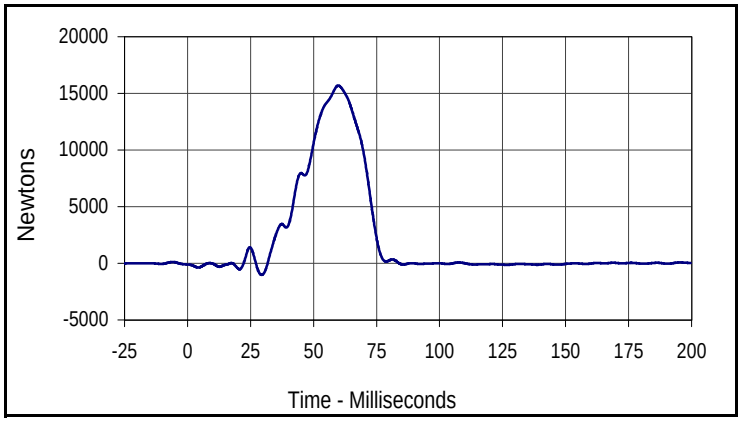
Curve Description			
Barrier Force A8			
CURNO	Type	SAE Class	Units
105	FIL	60	Newtons
Max	Time	Min	Time
2167.2	56.6	-1089.8	25.2



Curve Description			
Barrier Force B8			
CURNO	Type	SAE Class	Units
114	FIL	60	Newtons
Max	Time	Min	Time
3354.0	56.4	-169.6	2.7

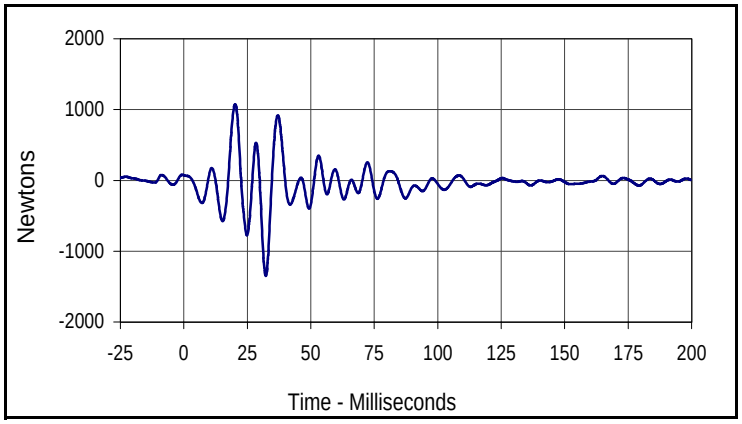


Curve Description			
Barrier Force C8			
CURNO	Type	SAE Class	Units
123	FIL	60	Newtons
Max	Time	Min	Time
9576.6	45.8	-253.7	88.5

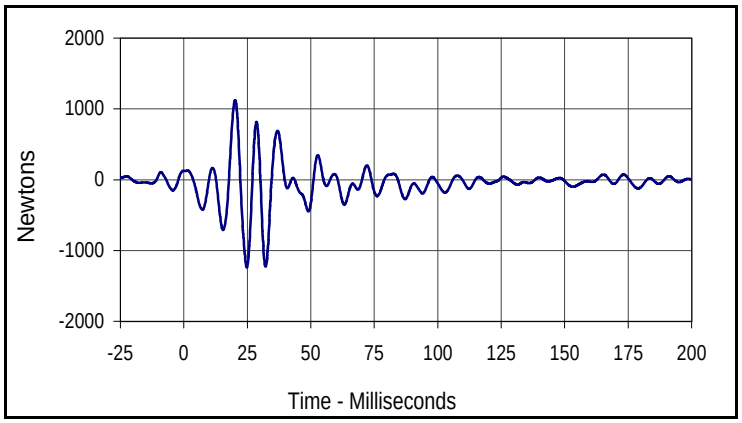


Curve Description			
Barrier Force D8			
CURNO	Type	SAE Class	Units
132	FIL	60	Newtons
Max	Time	Min	Time
15687.2	59.8	-1017.3	29.4

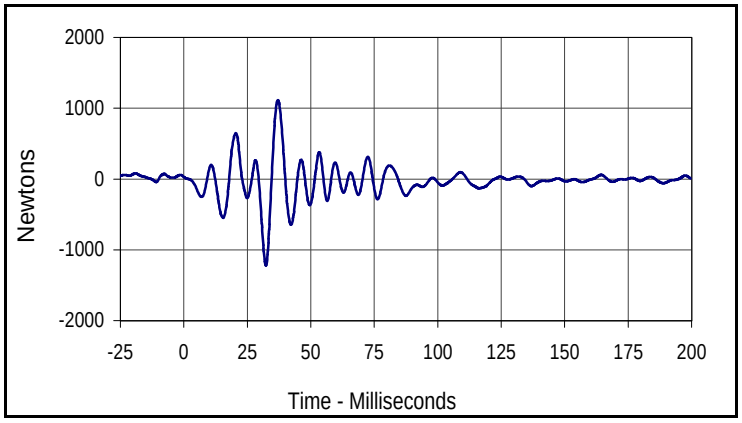
Test Vehicle:	2004 Mitsubishi Galant	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



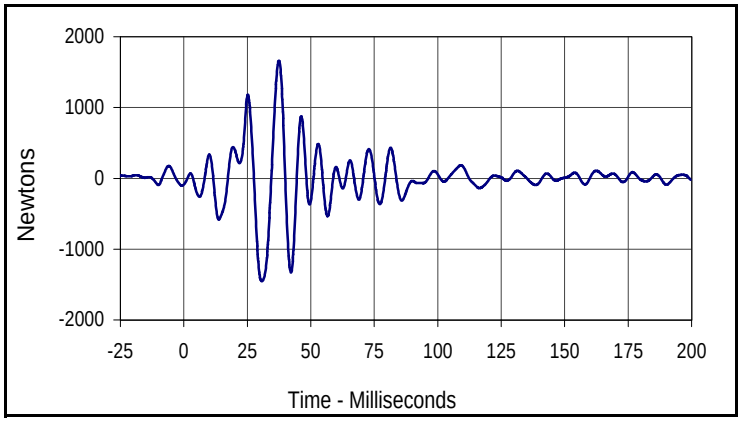
Curve Description			
Barrier Force A9			
CURNO	Type	SAE Class	Units
106	FIL	60	Newtons
Max	Time	Min	Time
1075.4	20.2	-1350.5	32.3



Curve Description			
Barrier Force B9			
CURNO	Type	SAE Class	Units
115	FIL	60	Newtons
Max	Time	Min	Time
1123.3	20.2	-1239.8	24.8

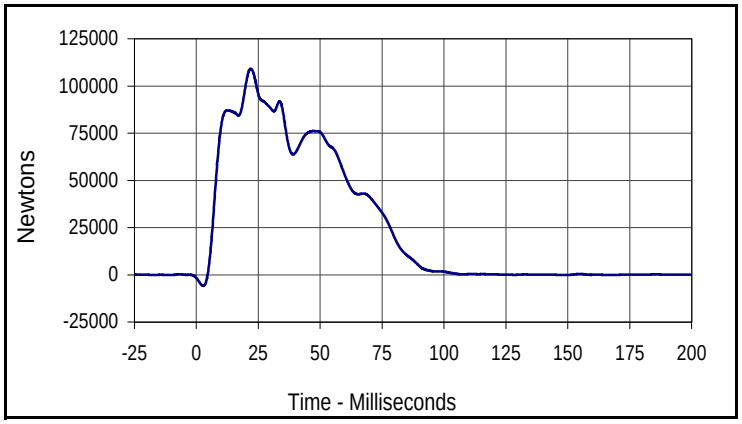


Curve Description			
Barrier Force C9			
CURNO	Type	SAE Class	Units
124	FIL	60	Newtons
Max	Time	Min	Time
1114.4	37.1	-1221.3	32.3

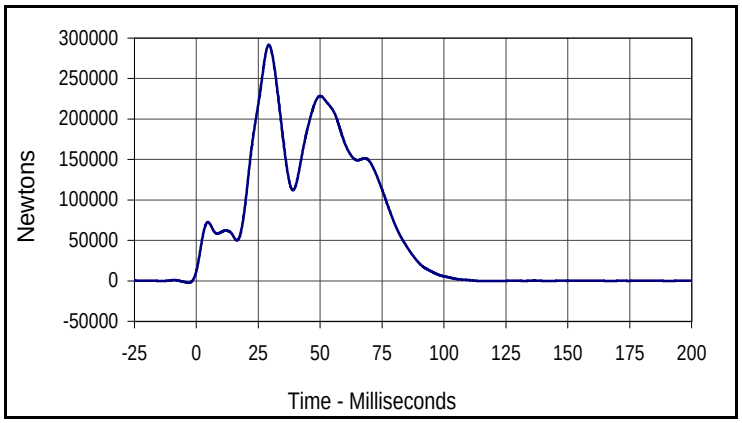


Curve Description			
Barrier Force D9			
CURNO	Type	SAE Class	Units
133	FIL	60	Newtons
Max	Time	Min	Time
1660.4	37.5	-1453.4	30.7

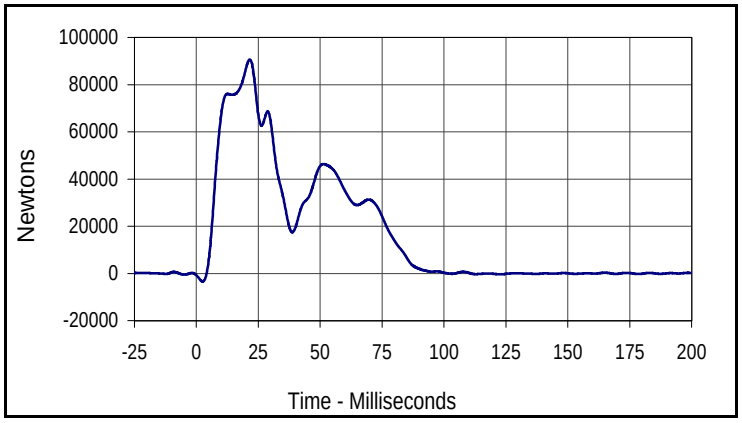
Test Vehicle:	2004 Mitsubishi Galant	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



Curve Description			
Barrier Force Sum Group 1			
CURNO	Type	SAE Class	Units
001	SUM	60	Newtons
Max	Time	Min	Time
109131.7	22.0	-5840.6	2.8

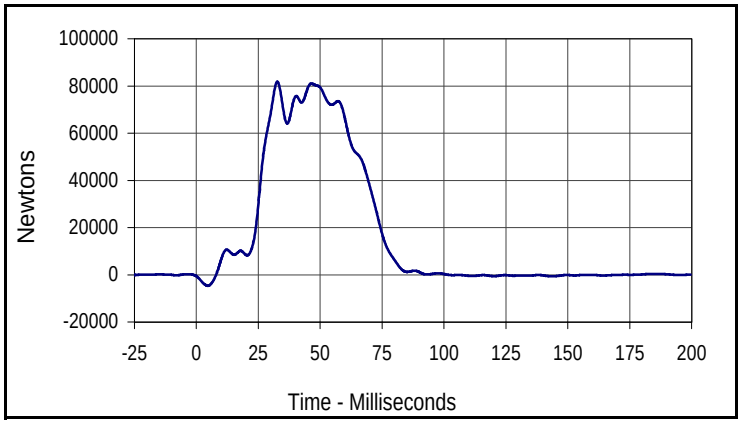


Curve Description			
Barrier Force Sum Group 2			
CURNO	Type	SAE Class	Units
002	SUM	60	Newtons
Max	Time	Min	Time
291636.3	29.3	-275.8	115.5

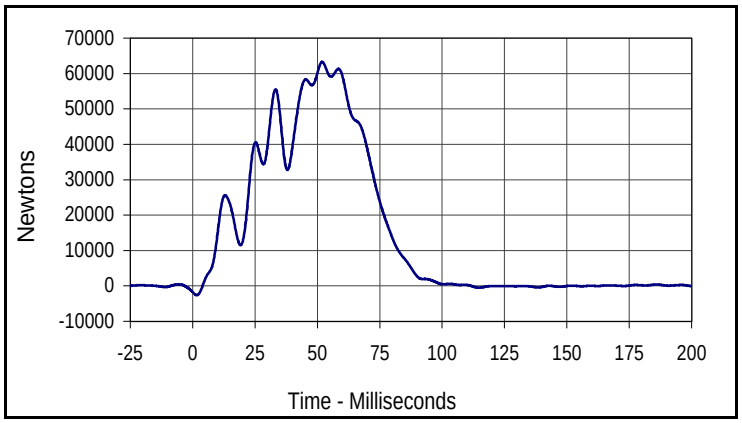


Curve Description			
Barrier Force Sum Group 3			
CURNO	Type	SAE Class	Units
003	SUM	60	Newtons
Max	Time	Min	Time
90657.9	21.6	-3399.7	2.5

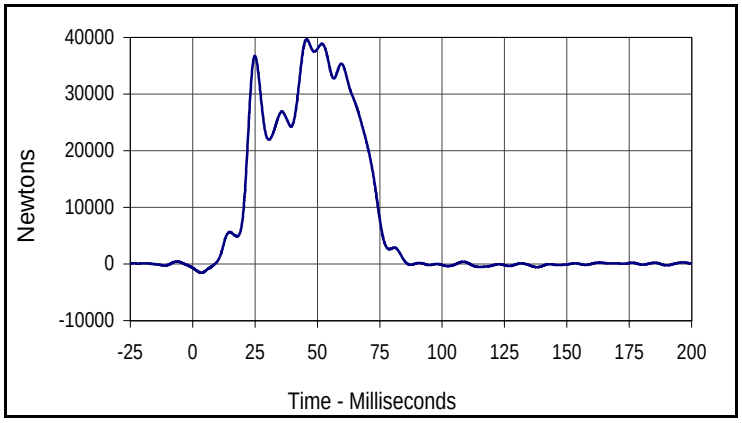
Test Vehicle:	2004 Mitsubishi Galant	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



Curve Description			
Barrier Force Sum Group 4			
CURNO	Type	SAE Class	Units
004	SUM	60	Newtons
Max	Time	Min	Time
81779.5	32.7	-4629.3	4.6

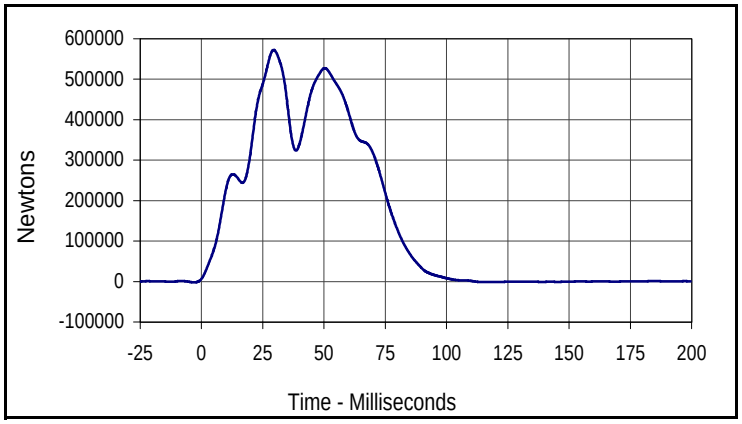


Curve Description			
Barrier Force Sum Group 5			
CURNO	Type	SAE Class	Units
005	SUM	60	Newtons
Max	Time	Min	Time
63268.4	51.9	-2617.0	1.7

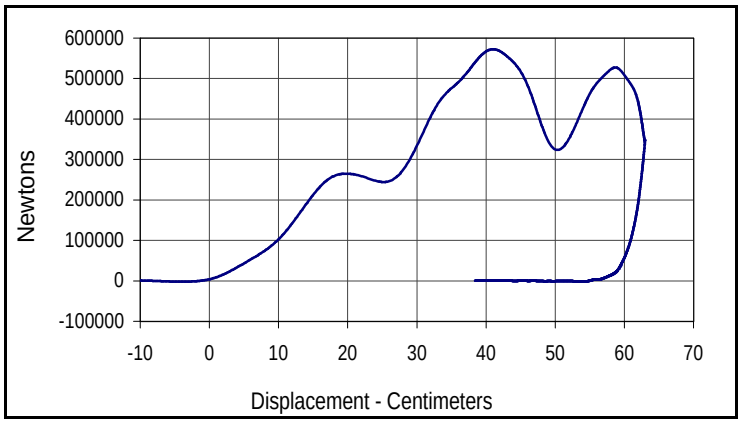


Curve Description			
Barrier Force Sum Group 6			
CURNO	Type	SAE Class	Units
006	SUM	60	Newtons
Max	Time	Min	Time
39664.2	45.7	-1547.8	3.5

Test Vehicle:	2004 Mitsubishi Galant	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



Curve Description			
Barrier Force Total Sum			
CURNO	Type	SAE Class	Units
007	SUM	60	Newtons
Max	Time	Min	Time
572564.8	29.5	-1283.0	114.3



Curve Description			
Barrier Force Total Sum vs. Displ.			
CURNO	Type	SAE Class	Units
001	XVY	60	Newtons
Max	CM	Min	CM
572564.8	41.1	-1283.0	54.4

BARRIER LOAD CELL SUMMARY DATA

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601

Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

Location	Units	Max	Time	Min	Time
Barrier Force A1	Newtons	3385.9	10.3	-2174.3	32.9
Barrier Force A2	Newtons	1511.7	28.9	-1083.6	32.8
Barrier Force A3	Newtons	1478.7	29.1	-1945.3	18.9
Barrier Force A4	Newtons	5083.6	29.0	-872.4	38.7
Barrier Force A5	Newtons	20306.8	29.1	-256.2	1.2
Barrier Force A6	Newtons	9977.0	23.6	-1774.5	38.7
Barrier Force A7	Newtons	2088.5	23.2	-1848.4	19.1
Barrier Force A8	Newtons	2167.2	56.6	-1089.8	25.2
Barrier Force A9	Newtons	1075.4	20.2	-1350.5	32.3
Barrier Force B1	Newtons	3393.9	20.4	-1414.8	5.3
Barrier Force B2	Newtons	44943.3	13.4	-1940.1	3.7
Barrier Force B3	Newtons	68706.5	33.3	-1625.7	1.6
Barrier Force B4	Newtons	90918.1	29.0	-47.4	122.9
Barrier Force B5	Newtons	86120.0	29.0	-113.3	156.7
Barrier Force B6	Newtons	82065.8	30.1	-67.8	142.0
Barrier Force B7	Newtons	87962.4	21.4	-2397.8	2.4
Barrier Force B8	Newtons	3354.0	56.4	-169.6	2.7
Barrier Force B9	Newtons	1123.3	20.2	-1239.8	24.8
Barrier Force C1	Newtons	15498.0	58.3	-1424.8	5.1
Barrier Force C2	Newtons	42618.0	31.8	-140.5	1.8
Barrier Force C3	Newtons	29269.8	51.1	-825.4	2.4
Barrier Force C4	Newtons	26314.8	55.6	-441.3	0.6
Barrier Force C5	Newtons	19753.2	55.6	-568.8	1.1
Barrier Force C6	Newtons	15295.8	52.5	-495.2	1.3
Barrier Force C7	Newtons	26390.4	25.6	-521.8	2.2
Barrier Force C8	Newtons	9576.6	45.8	-253.7	88.5
Barrier Force C9	Newtons	1114.4	37.1	-1221.3	32.3
Barrier Force D1	Newtons	6101.8	49.6	-1776.5	5.8
Barrier Force D2	Newtons	3839.6	32.5	-441.4	16.5
Barrier Force D3	Newtons	4016.3	24.3	-1223.2	4.6
Barrier Force D4	Newtons	6100.8	24.3	-1038.8	55.2
Barrier Force D5	Newtons	11420.8	24.3	-1128.4	4.0
Barrier Force D6	Newtons	4341.6	24.2	-2564.5	29.1
Barrier Force D7	Newtons	4394.3	24.2	-1045.9	55.5
Barrier Force D8	Newtons	15687.2	59.8	-1017.3	29.4
Barrier Force D9	Newtons	1660.4	37.5	-1453.4	30.7
Barrier Force Sum Group 1	Newtons	109131.7	22.0	-5840.6	2.8
Barrier Force Sum Group 2	Newtons	291636.3	29.3	-275.8	115.5
Barrier Force Sum Group 3	Newtons	90657.9	21.6	-3399.7	2.5
Barrier Force Sum Group 4	Newtons	81779.5	32.7	-4629.3	4.6
Barrier Force Sum Group 5	Newtons	63268.4	51.9	-2617.0	1.7
Barrier Force Sum Group 6	Newtons	39664.2	45.7	-1547.8	3.5
Barrier Force Total Sum	Newtons	572564.8	29.5	-1283.0	114.3

APPENDIX D

INSTRUMENTATION DATA CHANNEL ASSIGNMENTS

2004 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 34
12/22/03
2004 Mitsubishi Galant 4 Door Sedan

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 DISPLACEMENT	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

2004 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 34
12/22/03
2004 Mitsubishi Galant 4 Door Sedan

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

2004 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Passenger A.T.D. Serial Number 35
12/22/03
2004 Mitsubishi Galant 4 Door Sedan

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 DISPLACEMENT	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

2004 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Passenger A.T.D. Serial Number 35
12/22/03
2004 Mitsubishi Galant 4 Door Sedan

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

2004 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Vehicle Accelerometers
12/22/03
2004 Mitsubishi Galant 4 Door Sedan

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

2004 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Rigid Load Cell Barrier
12/22/03
2004 Mitsubishi Galant 4 Door Sedan

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

2004 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Rigid Load Cell Barrier
12/22/03
2004 Mitsubishi Galant 4 Door Sedan

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

2004 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Nine Accelerometer Array Head
12/22/03
2004 Mitsubishi Galant 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
160	DRIVER X-ARM	Y	GPAC016	Accel., 1/2 bridge	Endevco	7264-2000	G
161	DRIVER X-ARM	Z	GPAC015	Accel., 1/2 bridge	Endevco	7264-2000	G
162	DRIVER Y-ARM	X	GPAC004	Accel., 1/2 bridge	Endevco	7264-2000	G
163	DRIVER Y-ARM	Z	GPAC018	Accel., 1/2 bridge	Endevco	7264-2000	G
164	DRIVER Z-ARM	X	GPAC006	Accel., 1/2 bridge	Endevco	7264-2000	G
165	DRIVER Z-ARM	Y	GPAC007	Accel., 1/2 bridge	Endevco	7264-2000	G
166	PASS. X-ARM	Y	GPAC012	Accel., 1/2 bridge	Endevco	7264-2000	G
167	PASS. X-ARM	Z	GPAC001	Accel., 1/2 bridge	Endevco	7264-2000	G
168	PASS. Y-ARM	X	GPAC036	Accel., 1/2 bridge	Endevco	7264-2000	G
169	PASS. Y-ARM	Z	GPAC014	Accel., 1/2 bridge	Endevco	7264-2000	G
170	PASS. Z-ARM	X	GPAC030	Accel., 1/2 bridge	Endevco	7264-2000	G
171	PASS. Z-ARM	Y	GPAC037	Accel., 1/2 bridge	Endevco	7264-2000	G

APPENDIX E

DUMMY CALIBRATION DATA

Calibration Data Sheet
Hybrid III 50th Percentile Male
Knee Impact Test

ATD Serial No.: 034 Location: Left Knee Test I.D.: LK12F

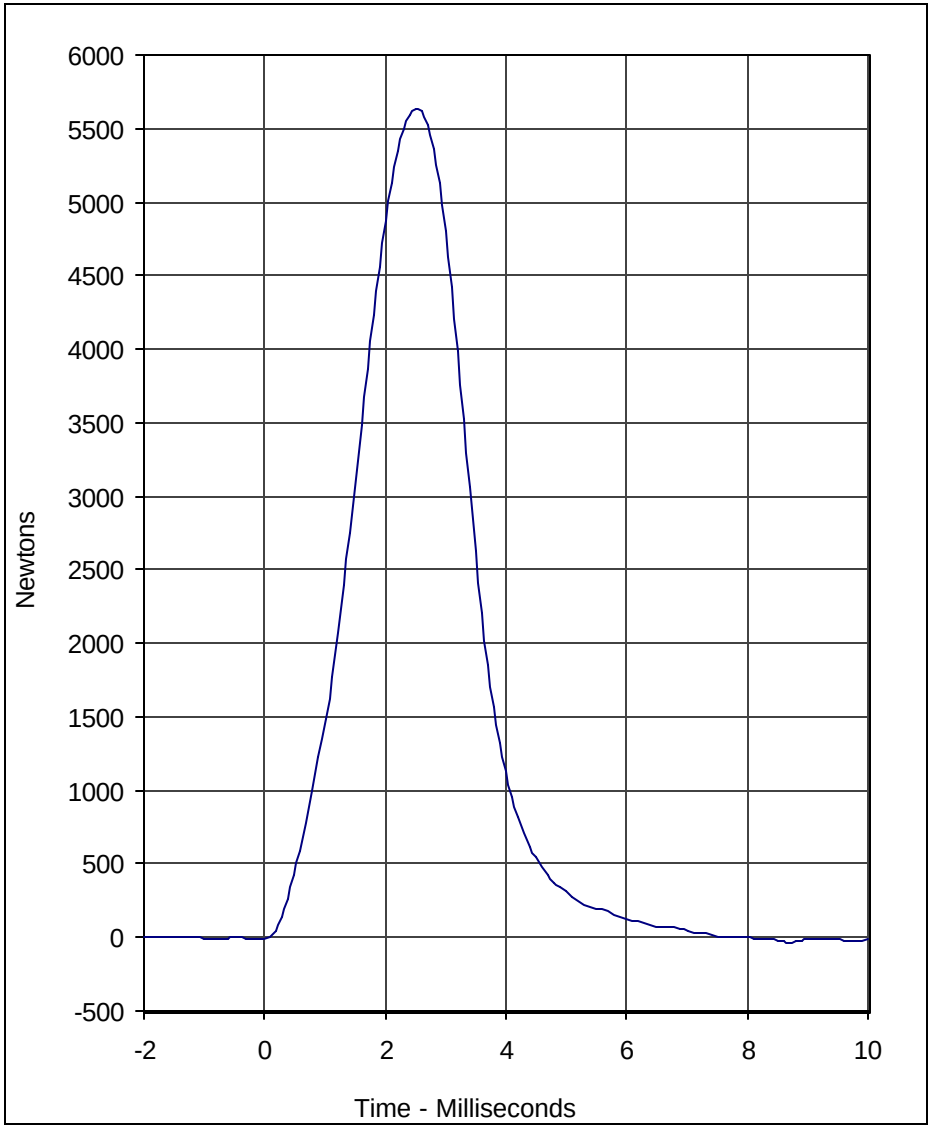
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.13	Pass
Peak Probe Force	N	4715 to 5782	5635	Pass
		Overall Test Results		Pass

ATD Serial No.: 034 Location: Right Knee Test I.D.: RK12V

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}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	N	4715 to 5782	5346	Pass
		Overall Test Results		Pass

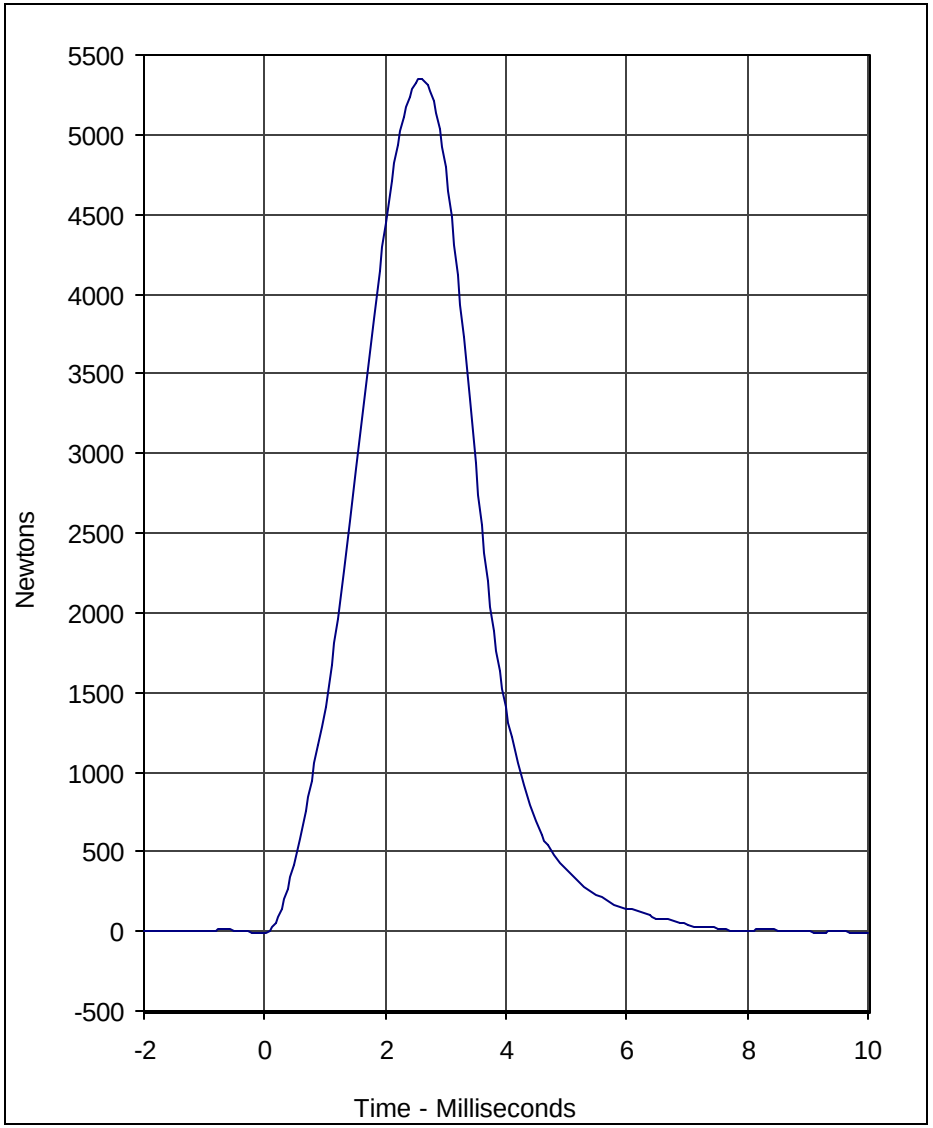
Laboratory Technician

December 20, 2003
Test Date



Curve Description	Location	Test I.D.	CURNO	Type
Probe Force	Left Knee	LK12F	001	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	5635.2	2.5	-31.2	8.7	600



Curve Description	Location	Test I.D.	CURNO	Type
Probe Force	Right Knee	RK12V	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	5345.9	2.6	-14.4	0.0	600

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

A.T.D. Serial No.: 034

Test Date: 12/20/03

KARCO Engineering

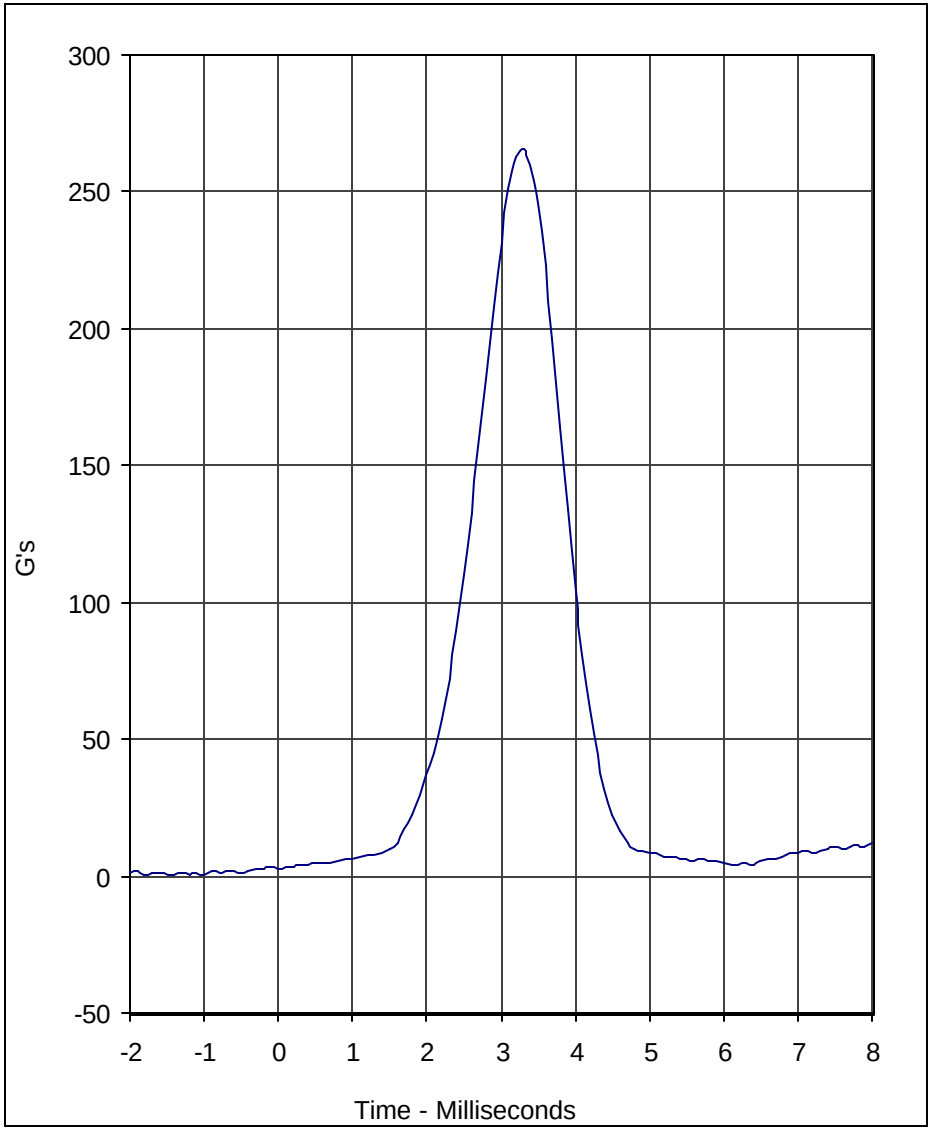
Calibration Data Sheet
Hybrid III 50th Percentile Male
Head Drop Test

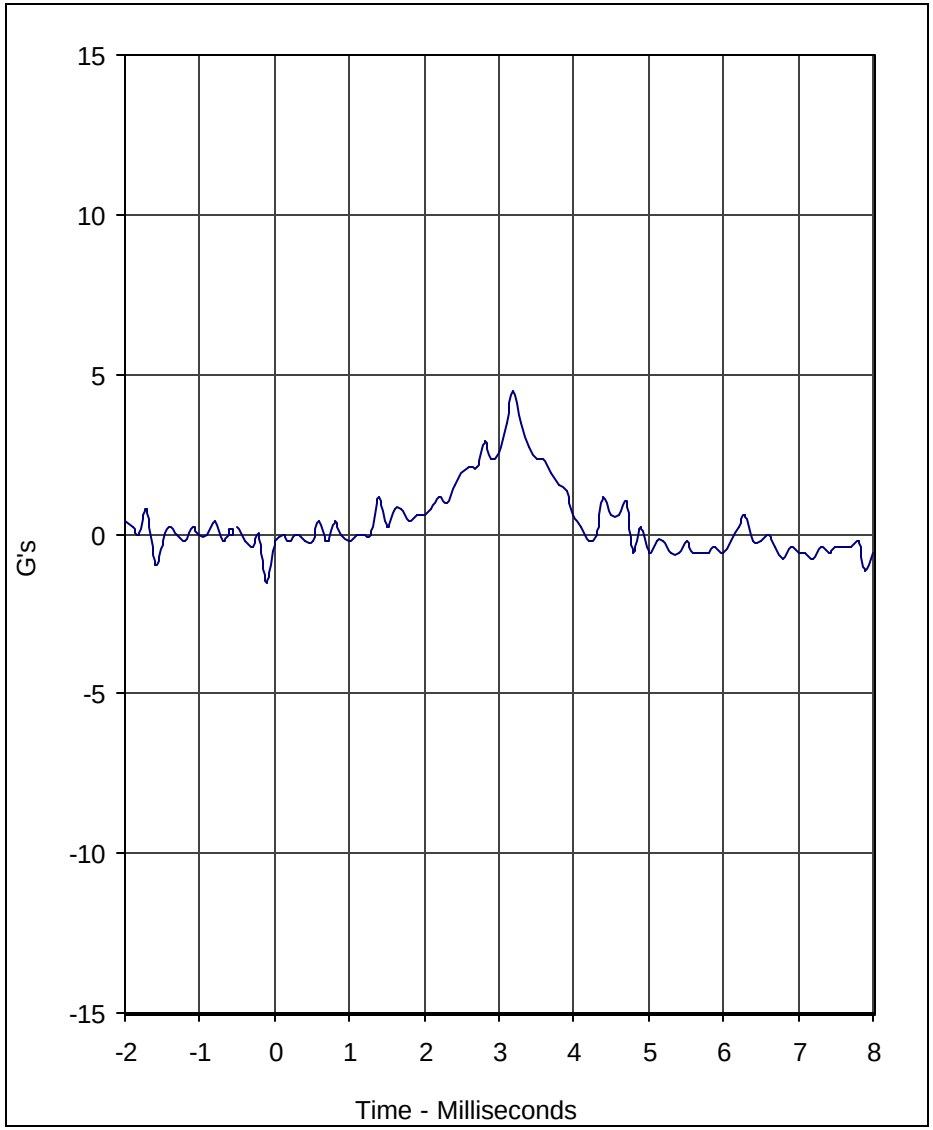
ATD Serial No.: 034 Test I.D.: HD12J

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	265.4	Pass
Peak Lateral Acceleration	G's	≤15.0	4.4	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
		Overall Test Results		Pass

Laboratory Technician

December 20, 2003
Test Date





Curve Description	CURNO	Type
Head Resultant	001	RES

Units	Max	Time	Min	Time	SAE Class
G's	265.4	3.3	0.3	-1.0	1000

Curve Description	CURNO	Type
Head Y	002	FIL

Units	Max	Time	Min	Time	SAE Class
G's	4.4	3.2	-1.5	-0.1	1000

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

Test Date: 12/20/03

A.T.D. Serial No.: 034

Test I.D.: HD12J

KARCO Engineering

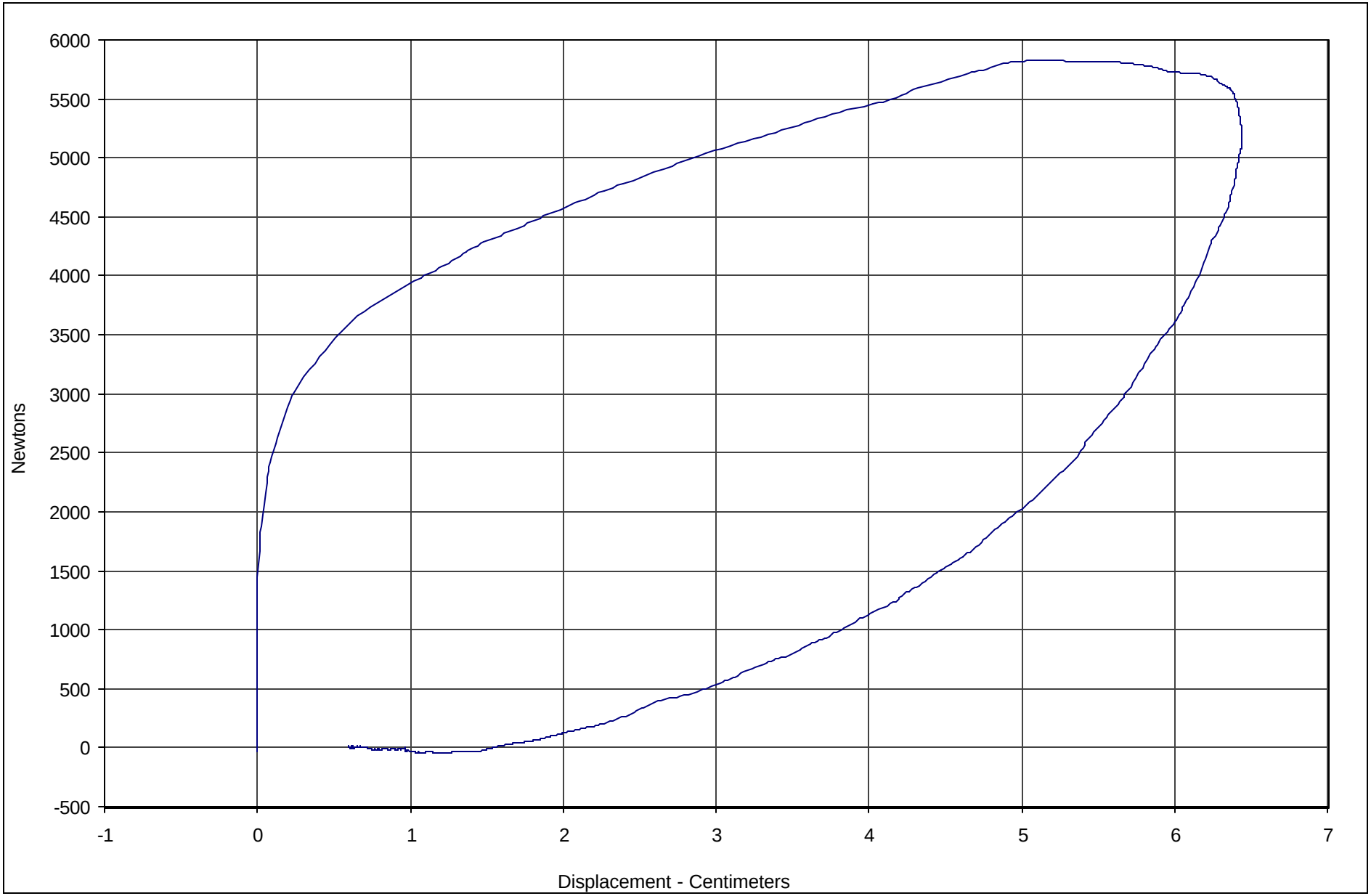
Calibration Data Sheet
Hybrid III 50th Percentile Male
Thorax Impact Test

ATD Serial No.: 034 Test I.D.: CH12E

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}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	6.71	Pass
Peak Probe Force	Newtons	5159 to 5893	5829	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.44	Pass
Internal Hysterysis	%	69 to 85	76.9	Pass
		Overall Test Results		Pass

Laboratory Technician

December 21, 2003
Test Date



Curve Description	CURNO	Type	Hysterysis	Peak Chest Displ.	Peak Probe Force	SAE Class
Probe Force vs. Chest Displacement	001	FIL	76.9	6.44	5828.9	600

KARCO Engineering

Test Program: Hybrid III 50th Percentile Male Thorax Impact

A.T.D. Serial No.: 034

Test Date: 12/21/03

Test I.D.: CH12E

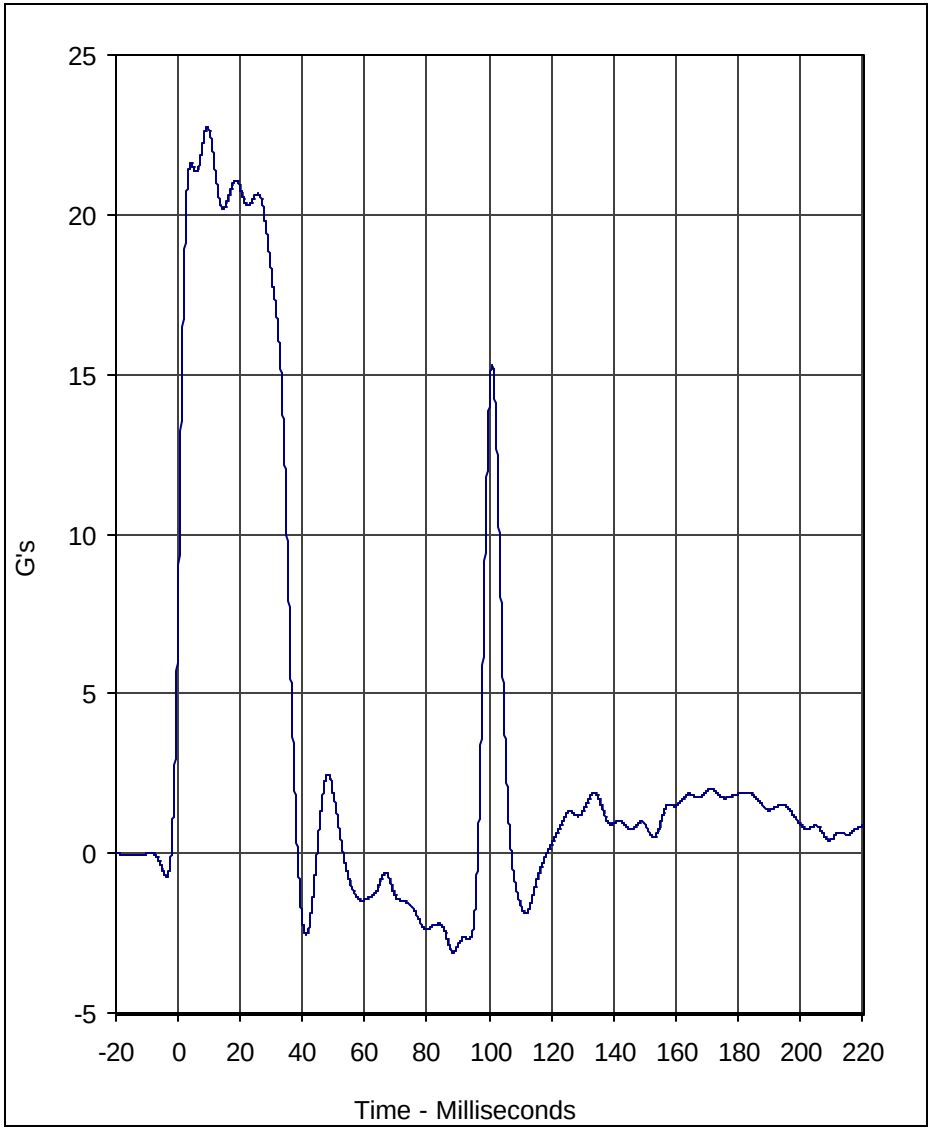
Calibration Data Sheet
Hybrid III 50th Percentile Male
Neck Flexion Test

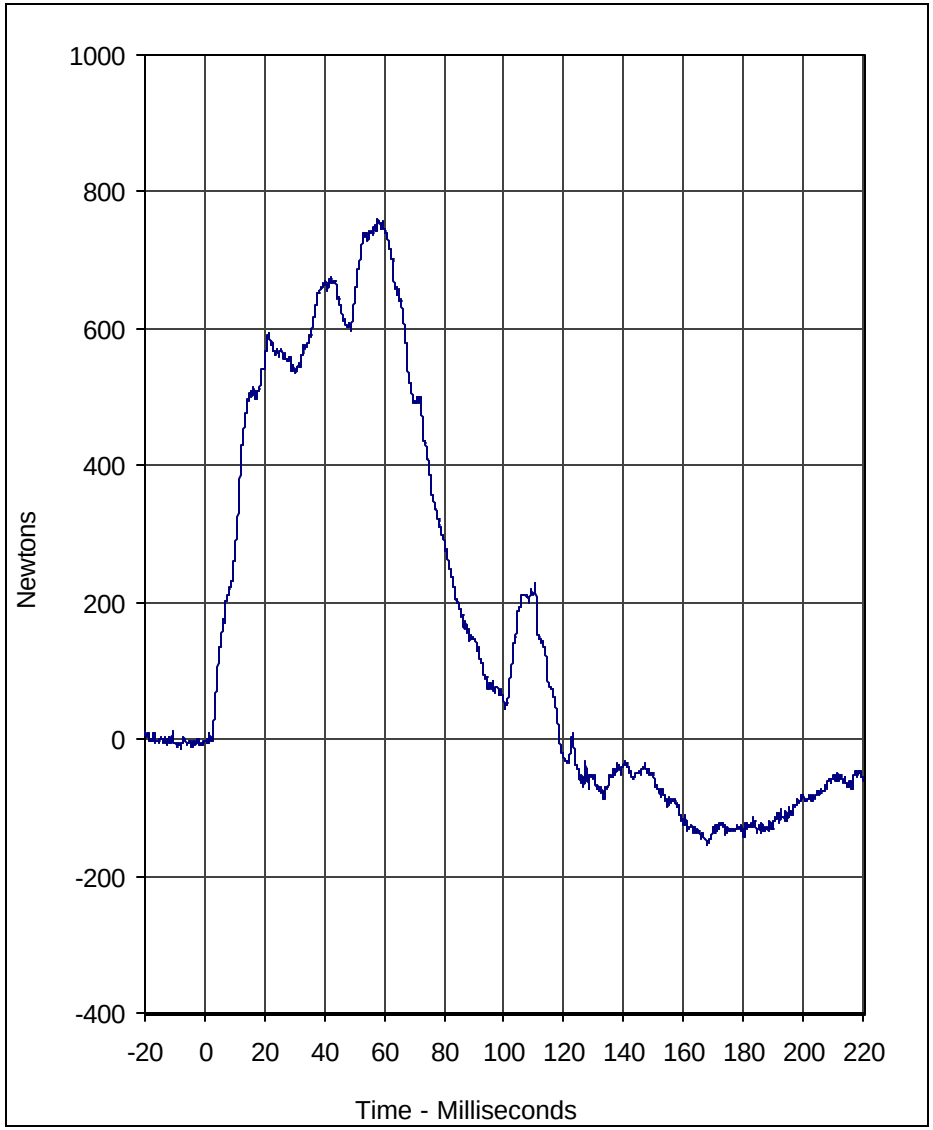
ATD Serial No.: 034 Test I.D.: NF12E

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	7.01	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	22.6	Pass
	20 Msec.	G's	17.6 to 22.6	20.8	Pass
	30 Msec.	G's	12.5 to 18.5	18.2	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	18.2	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	36.6	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	76.5	Pass
	Time	Msec.	57.0 to 64.0	63.3	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	125.2	Pass
Moment About Occipital Condyle	Maximum	Nm	84.1 to 108.5	95.3	Pass
	Time	Msec.	47.0 to 58.0	50.0	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	102.7	Pass
			Overall Test Results		Pass

Laboratory Technician

December 20, 2003
Test Date





Curve Description	CURNO	Type
Pendulum Deceleration	001	FIL

Units	Max	Time	Min	Time	SAE Class
G's	22.7	9.4	-3.1	88.6	60

Curve Description	CURNO	Type
Neck Force X	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	761.6	57.7	-154.6	167.8	600

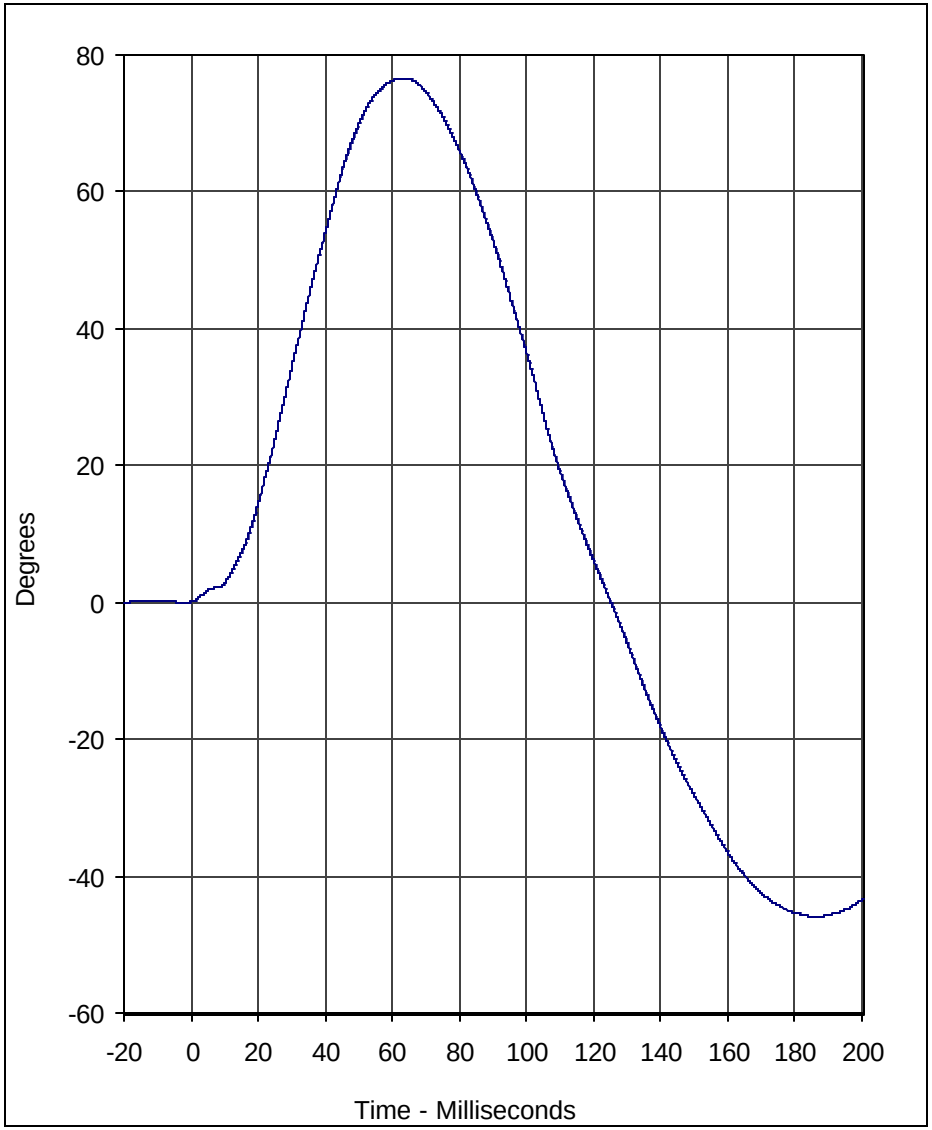
Test Program: Hybrid III 50th Percentile Male Neck Flexion Test

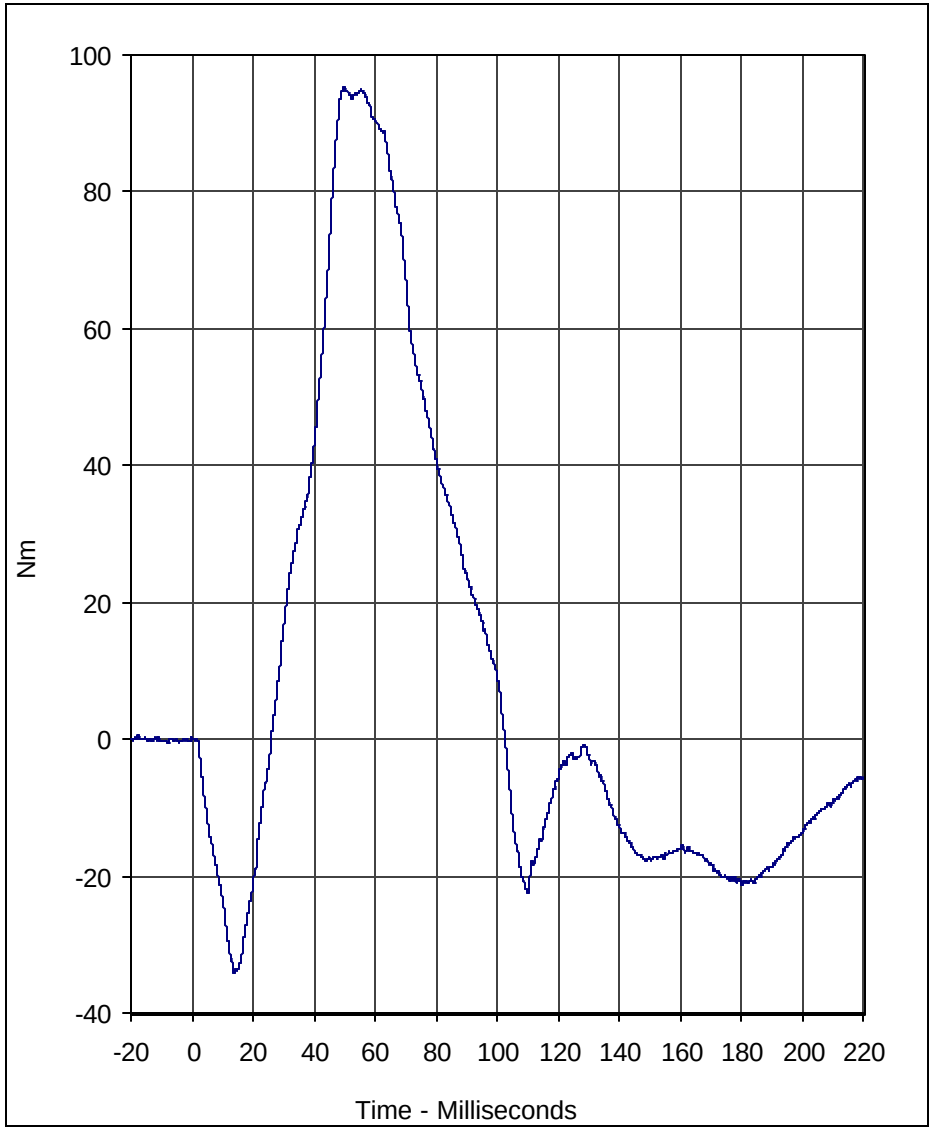
Test Date: 12/20/03

A.T.D. Serial No.: 034

Test I.D.: NF12E

KARCO Engineering





Curve Description	CURNO	Type
"D" Plane Rotation	003	FIL

Units	Max	Time	Min	Time	SAE Class
Degrees	76.5	63.3	-45.9	186.2	60

Curve Description	CURNO	Type
Moment About Occipital Condyle	004	FIL

Units	Max	Time	Min	Time	SAE Class
Nm	95.3	50.0	-34.2	13.9	600

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

Test Date: 12/20/03

A.T.D. Serial No.: 034

Test I.D.: NF12E

KARCO Engineering

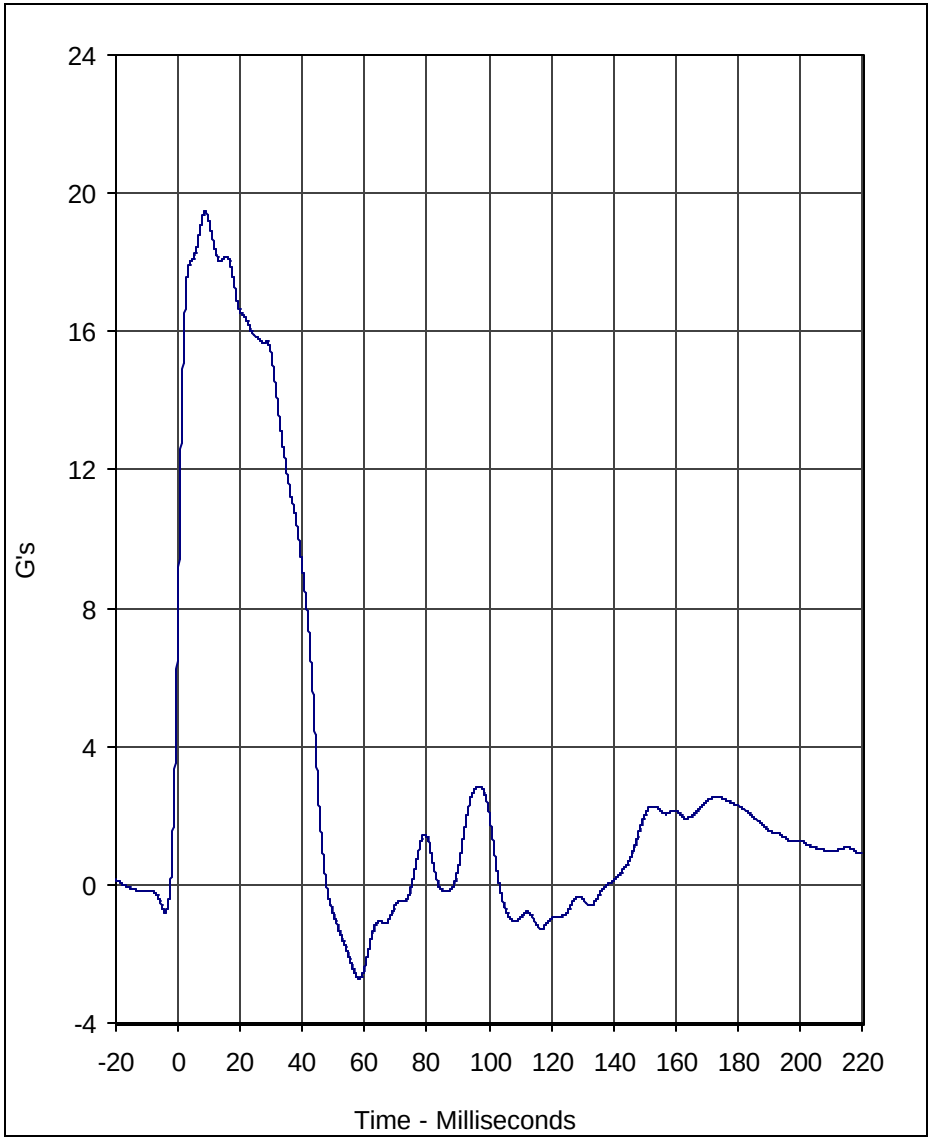
Calibration Data Sheet
Hybrid III 50th Percentile Male
Neck Extension Test

ATD Serial No.: 034 Test I.D.: NE12H

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		^{o}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	6.04	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	19.2	Pass
	20 Msec.	G's	14.0 to 19.0	16.6	Pass
	30 Msec.	G's	11.0 to 16.0	15.3	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	15.3	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	43.7	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	98.9	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	149.0	Pass
Moment About Occipital Condyle	Maximum	Nm	-52.9 to- 79.9	-78.1	Pass
	Time	Msec.	65.0 to 79.0	67.1	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	136.7	Pass
			Overall Test Results		Pass

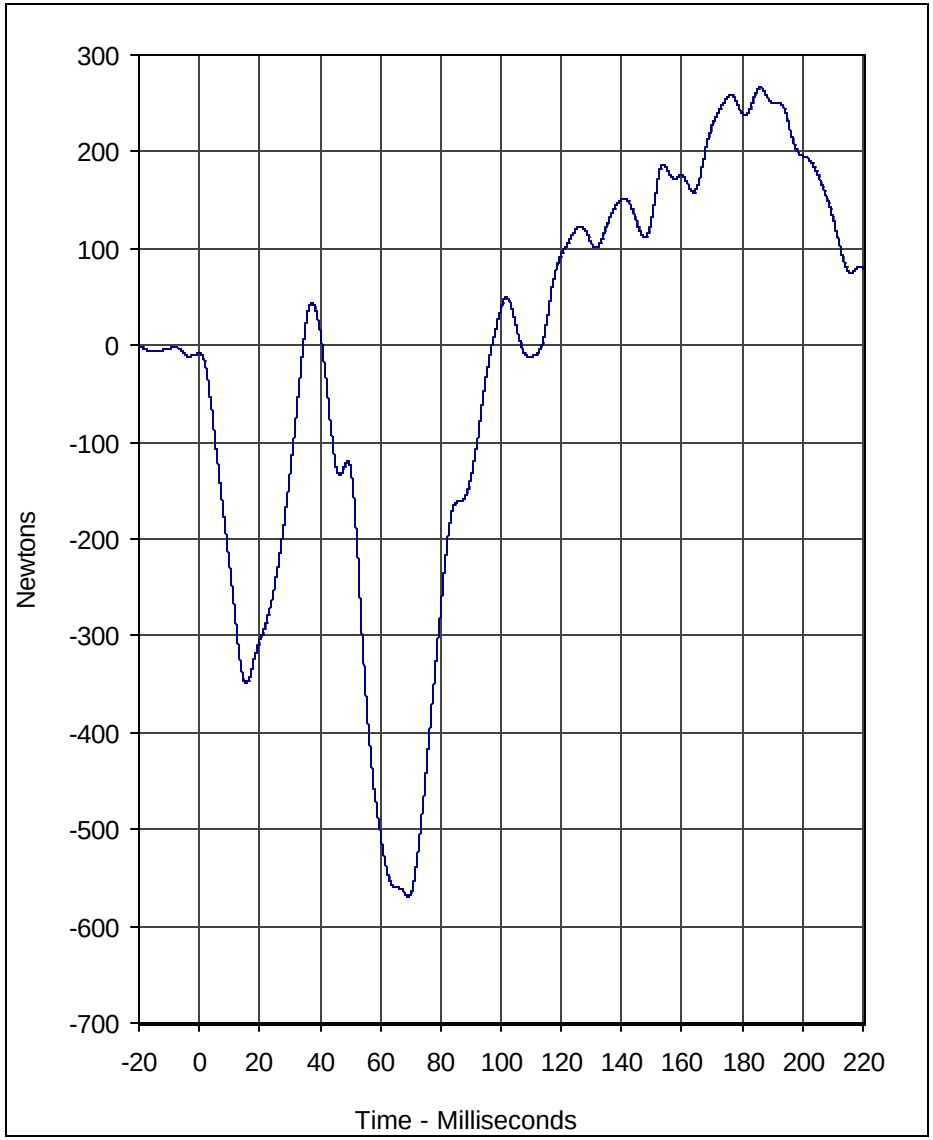
Laboratory Technician

12/20/03
Test Date



Curve Description	CURNO	Type
Pendulum Deceleration	001	FIL

Units	Max	Time	Min	Time	SAE Class
G's	19.5	8.7	-2.7	58.2	60



Curve Description	CURNO	Type
Neck Force X	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	266.9	185.9	-569.4	69.3	60

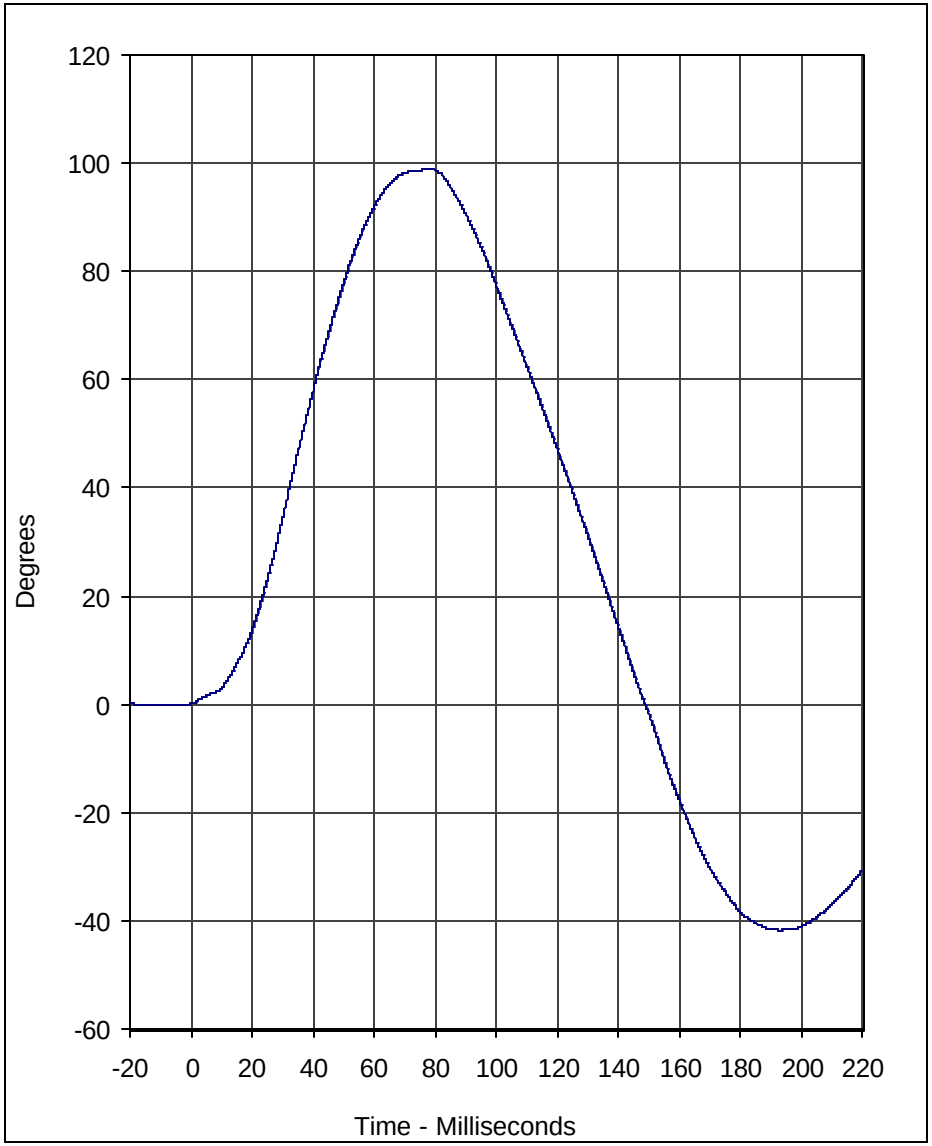
Test Program: Hybrid III 50th Percentile Male Neck Extension Test

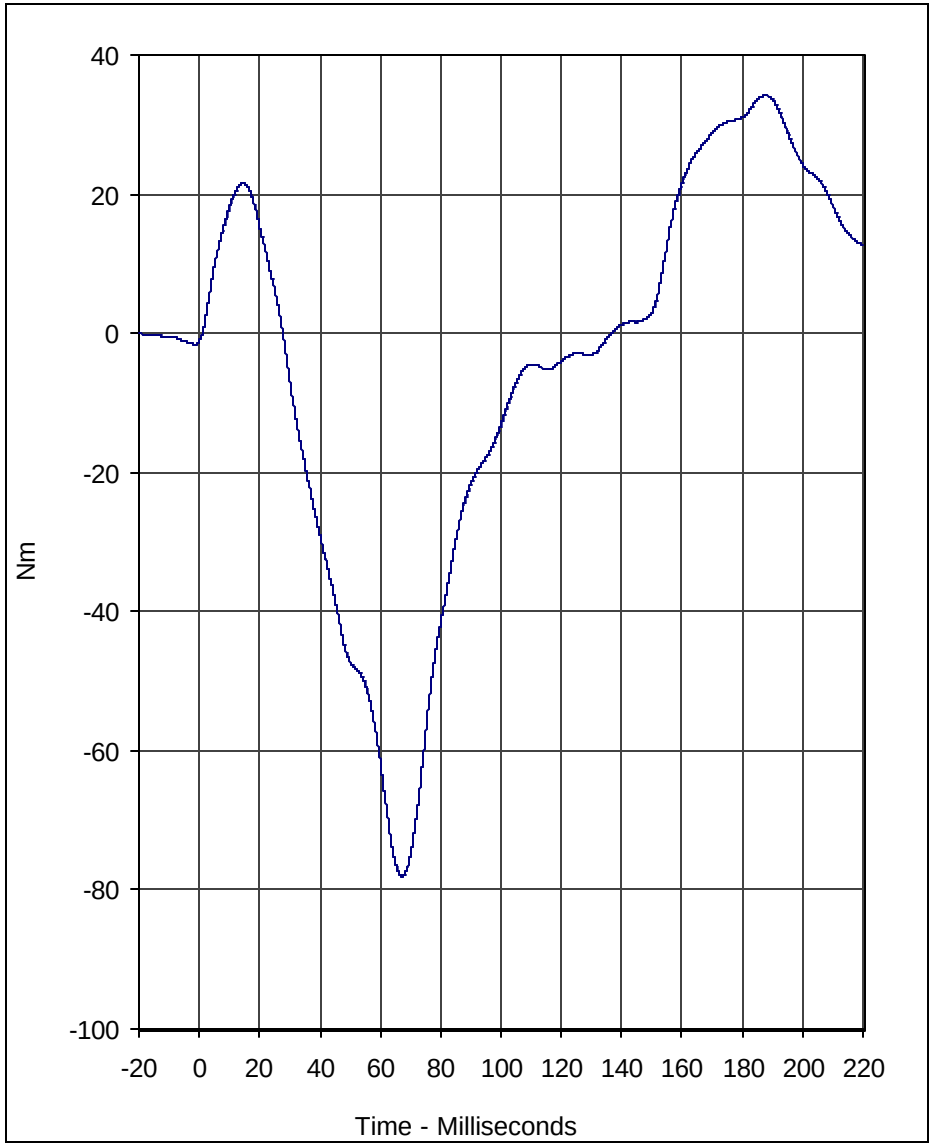
Test Date: 12/20/03

A.T.D. Serial No.: 034

Test I.D.: NE12H

KARCO Engineering





Curve Description	CURNO	Type
"D" Plane Rotation	003	FIL

Units	Max	Time	Min	Time	SAE Class
Degrees	98.9	78.1	-41.7	193.0	60

Curve Description	CURNO	Type
Moment About Occipital Condyle	004	FIL

Units	Max	Time	Min	Time	SAE Class
Nm	34.2	187.6	-78.1	67.1	60

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

Test Date: 12/20/03

A.T.D. Serial No.: 034

Test I.D.: NE12H

KARCO Engineering

Calibration Data Sheet
Hybrid III 50th Percentile Male
External Measurements

ATD Serial No.: 034

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
A - Total sitting height	mm	879 to 889	885	Pass
B - Shoulder pivot height	mm	505 to 521	515	Pass
C - "H" point height	mm	84 to 89	85	Pass
D - "H" point from seat back	mm	135 to 140	135	Pass
E - Shoulder pivot from back	mm	84 to 94	90	Pass
F - Thigh clearance	mm	140 to 155	150	Pass
G - Elbow back to wrist pivot	mm	290 to 305	300	Pass
H - Skull cap to back line	mm	41 to 46	45	Pass
I - Shoulder to elbow length	mm	330 to 345	335	Pass
J - Elbow rest height	mm	190 to 211	195	Pass
K - Buttock to knee length	mm	579 to 604	600	Pass
L - Poplipteal length	mm	429 to 455	445	Pass
M - Knee pivot height	mm	485 to 500	485	Pass
N - Buttock poplipteal length	mm	452 to 477	475	Pass
O - Chest depth	mm	213 to 229	225	Pass
P - Foot length	mm	251 to 267	265	Pass
V - Shoulder breadth	mm	422 to 437	430	Pass
W - Foot breadth	mm	91 to 107	105	Pass
Y - Chest circumference	mm	970 to 1001	985	Pass
Z - Waist circumference	mm	836 to 866	850	Pass
AA - Location for chest circumference	mm	429 to 434	430	Pass
BB - Location for waist circumference	mm	226 to 231	230	Pass
		Overall Test Results		Pass

Laboratory Technician

December 21, 2003
Test Date

Calibration Data Sheet
Hybrid III 50th Percentile Male
Knee Impact Test

ATD Serial No.: 035 Location: Left Knee Test I.D.: LK12N

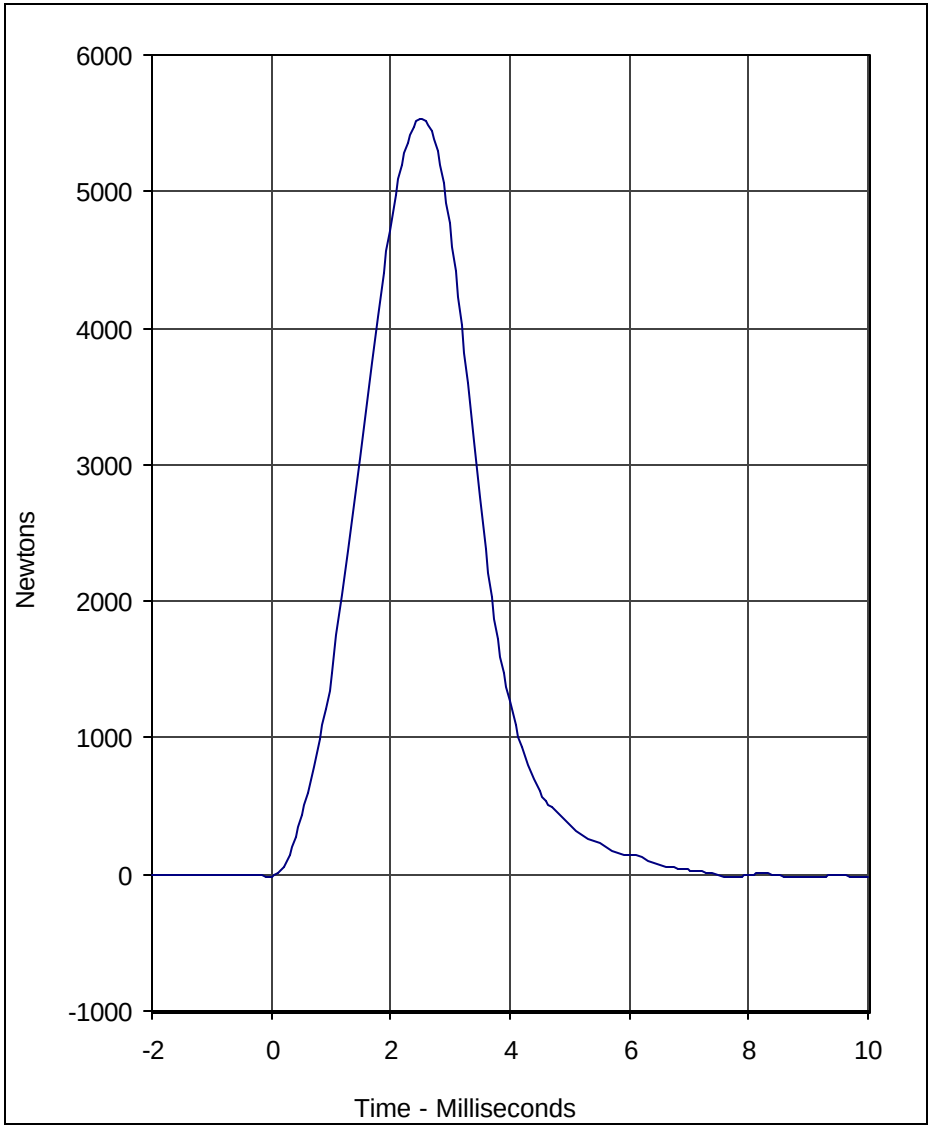
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.09	Pass
Peak Probe Force	N	4715 to 5782	5526	Pass
		Overall Test Results		Pass

ATD Serial No.: 035 Location: Right Knee Test I.D.: RK12N

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}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	N	4715 to 5782	5604	Pass
		Overall Test Results		Pass

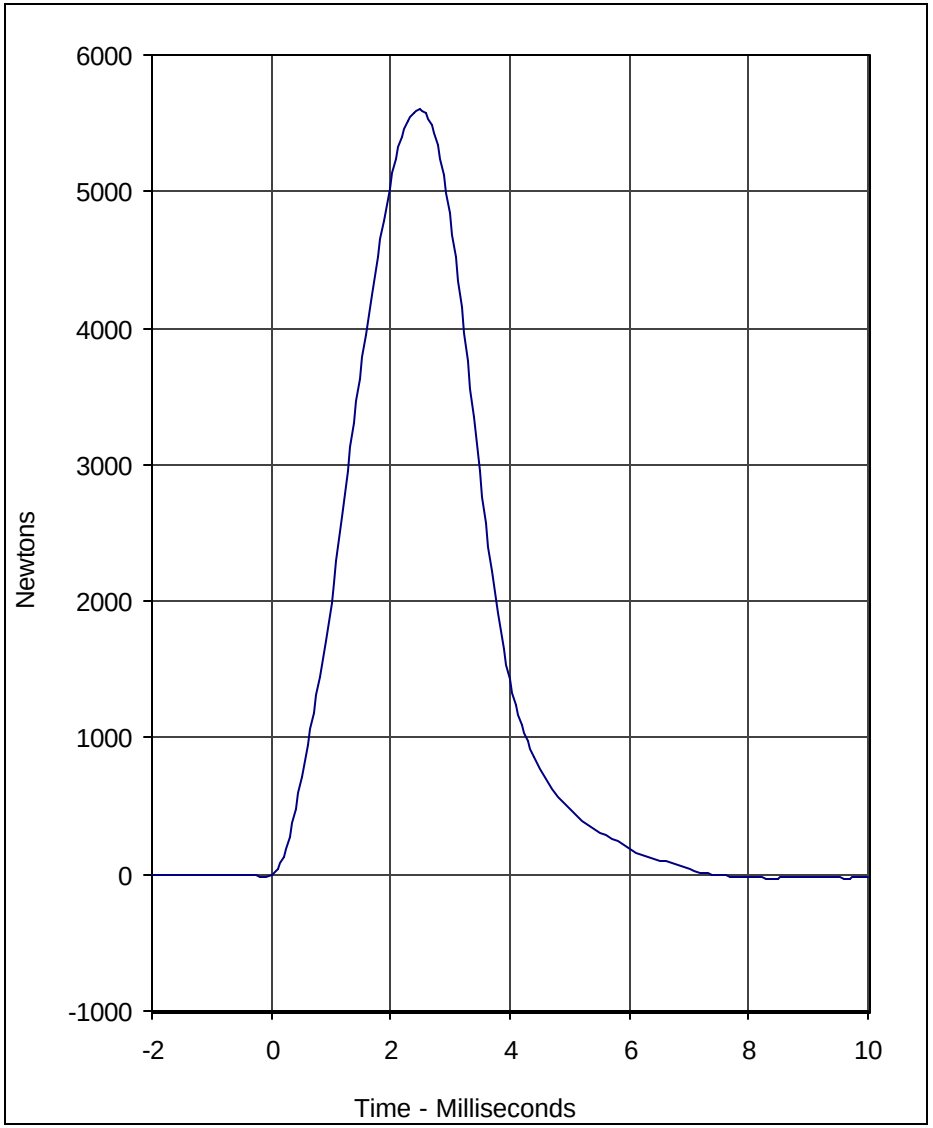
Laboratory Technician

December 20, 2003
Test Date



Curve Description	Location	Test I.D.	CURNO	Type
Probe Force	Left Knee	LK12N	001	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	5526.3	2.5	-25.3	9.1	600



Curve Description	Location	Test I.D.	CURNO	Type
Probe Force	Right Knee	RK12N	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	5603.6	2.5	-32.5	8.4	600

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

A.T.D. Serial No.: 035

Test Date: 12/20/03

KARCO Engineering

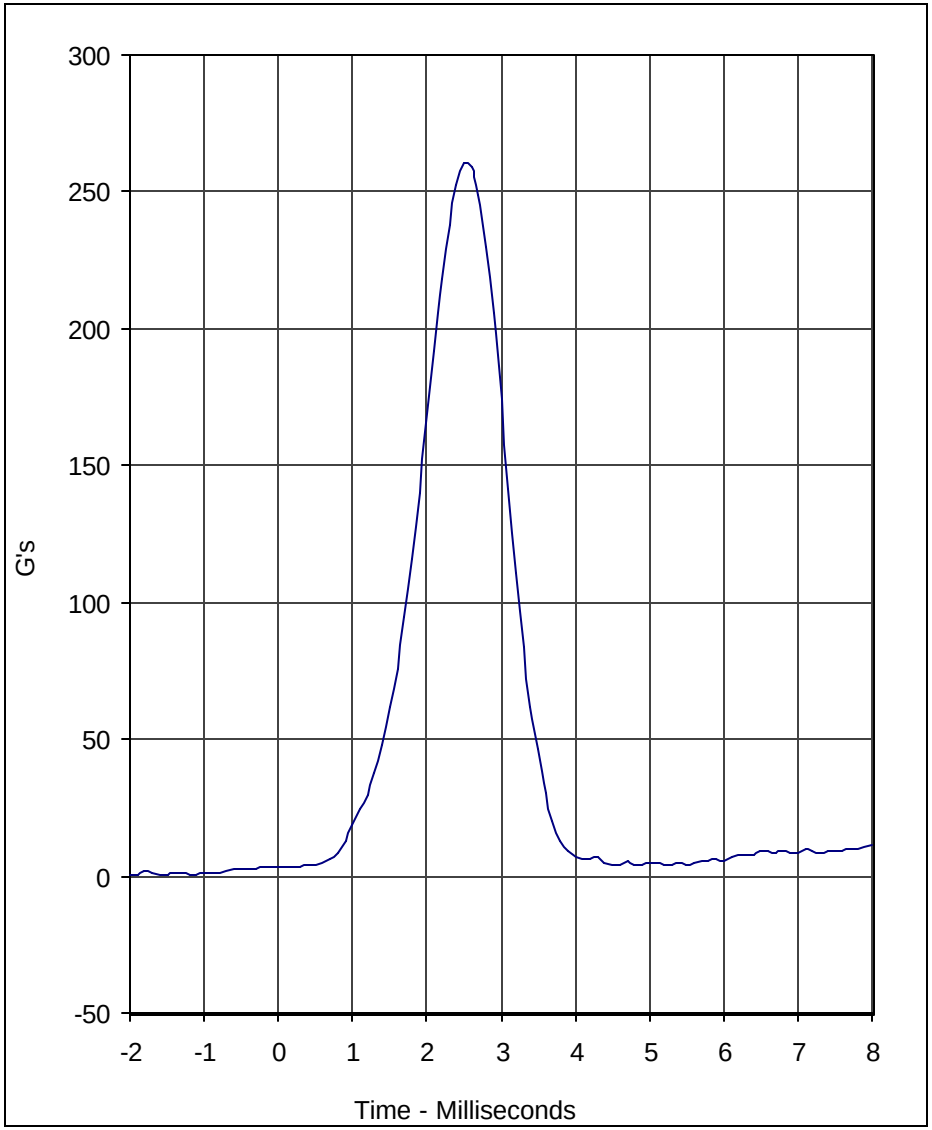
Calibration Data Sheet
Hybrid III 50th Percentile Male
Head Drop Test

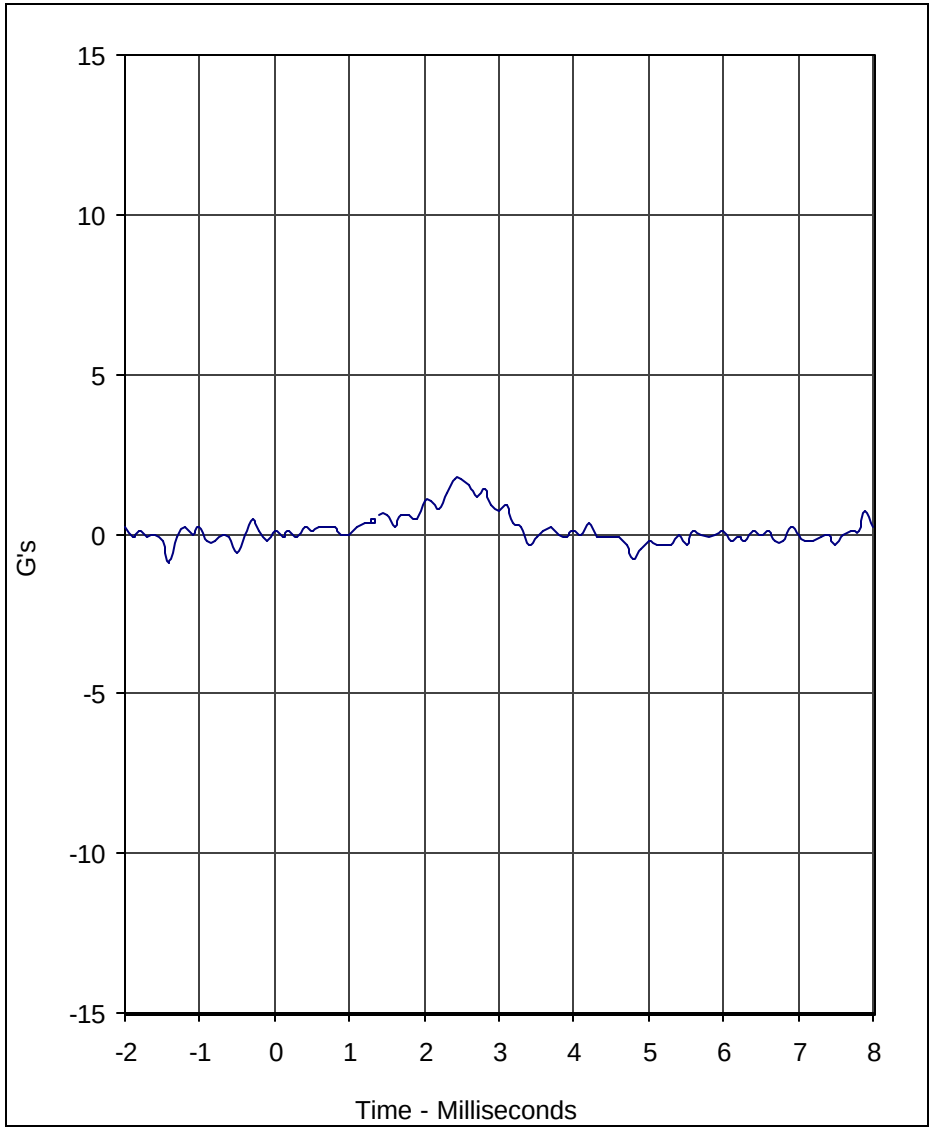
ATD Serial No.: 035 Test I.D.: HD12L

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	260.6	Pass
Peak Lateral Acceleration	G's	≤15.0	1.7	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
		Overall Test Results		Pass

Laboratory Technician

December 20, 2003
Test Date





Curve Description	CURNO	Type
Head Resultant	001	RES

Units	Max	Time	Min	Time	SAE Class
G's	260.6	2.5	0.4	-1.9	1000

Curve Description	CURNO	Type
Head Y	002	FIL

Units	Max	Time	Min	Time	SAE Class
G's	1.7	2.4	-0.9	-1.4	1000

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

Test Date: 12/20/03

A.T.D. Serial No.: 035

Test I.D.: HD12L

KARCO Engineering

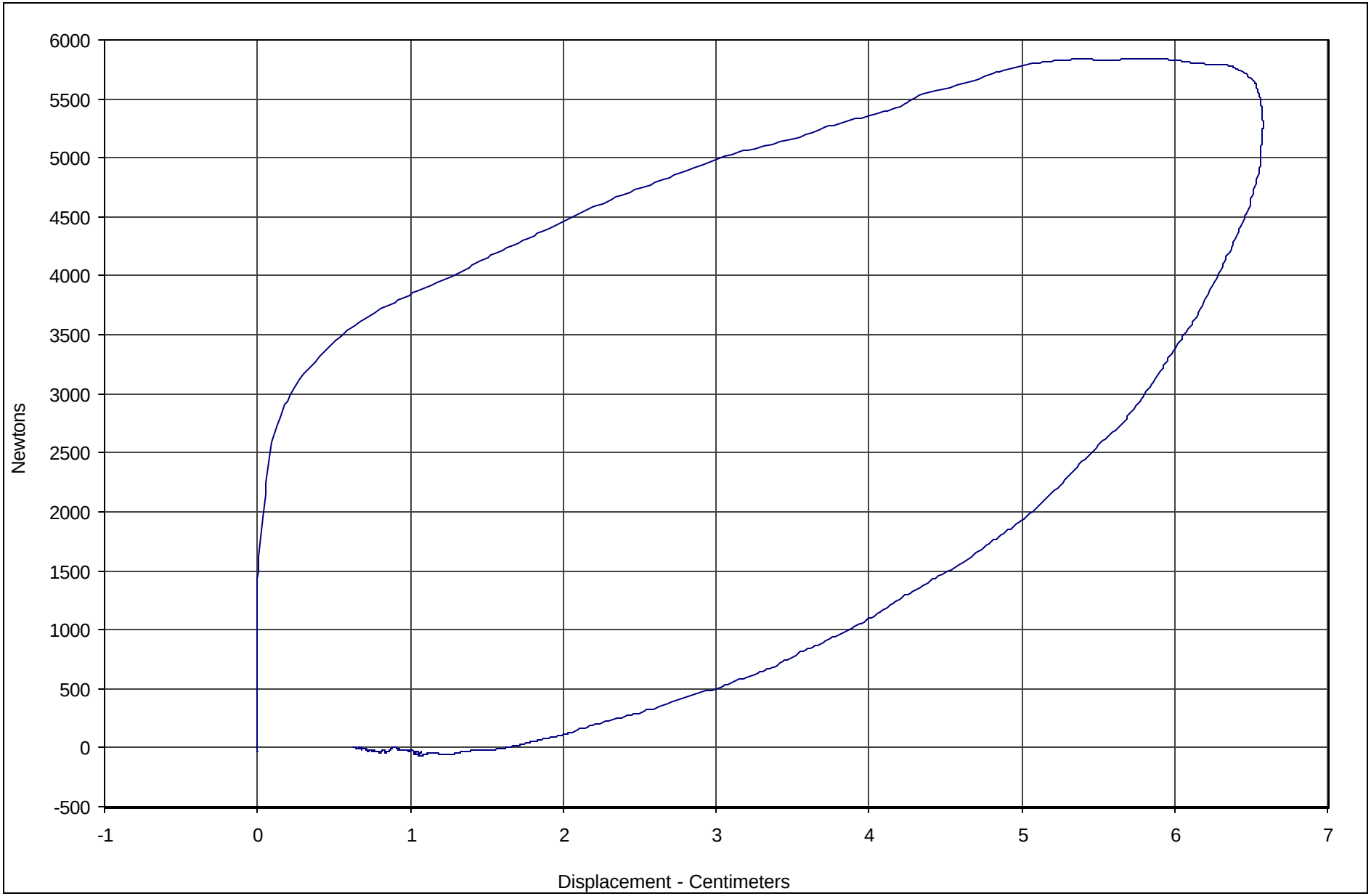
Calibration Data Sheet
Hybrid III 50th Percentile Male
Thorax Impact Test

ATD Serial No.: 035 Test I.D.: CH12F

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}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	5840	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.58	Pass
Internal Hysterysis	%	69 to 85	76.6	Pass
		Overall Test Results		Pass

Laboratory Technician

December 21, 2003
Test Date



Curve Description	CURNO	Type	Hysterysis	Peak Chest Displ.	Peak Probe Force	SAE Class
Probe Force vs. Chest Displacement	001	FIL	76.6	6.58	5839.9	600

Test Program: Hybrid III 50th Percentile Male Thorax Impact

A.T.D. Serial No.: 035

Test Date: 12/21/03

Test I.D.: CH12F

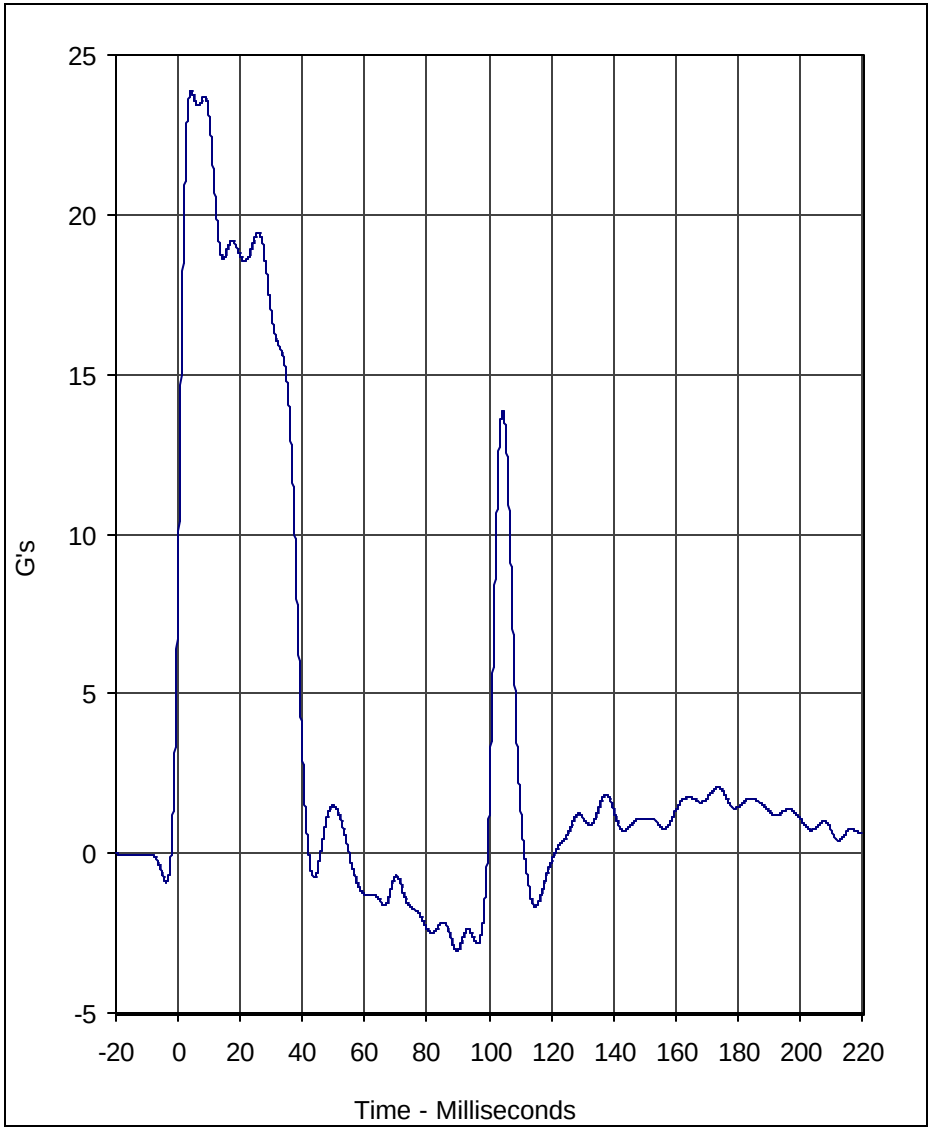
Calibration Data Sheet
Hybrid III 50th Percentile Male
Neck Flexion Test

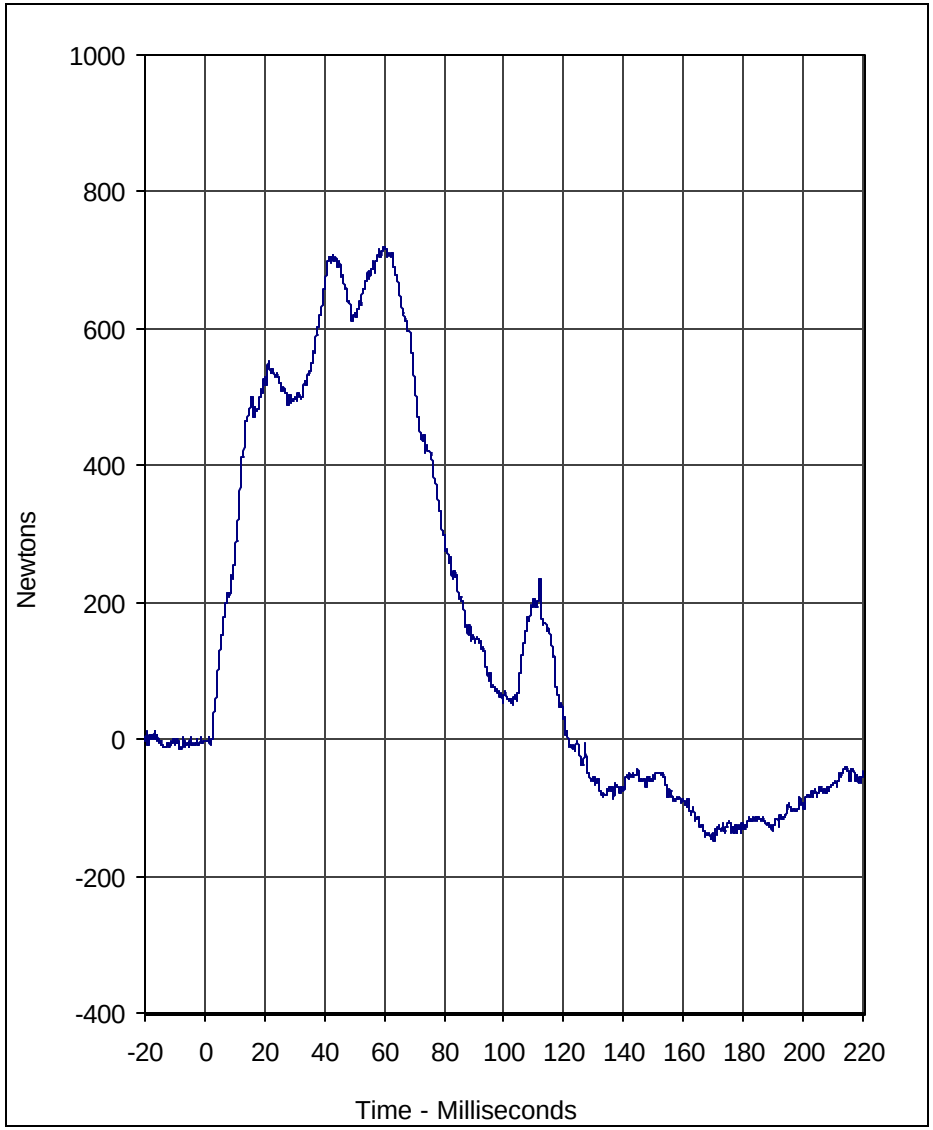
ATD Serial No.: 035 Test I.D.: NF12F

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	7.11	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	23.1	Pass
	20 Msec.	G's	17.6 to 22.6	18.7	Pass
	30 Msec.	G's	12.5 to 18.5	16.9	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	16.9	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	39.3	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	76.1	Pass
	Time	Msec.	57.0 to 64.0	63.9	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	125.3	Pass
Moment About Occipital Condyle	Maximum	Nm	84.1 to 108.5	105.4	Pass
	Time	Msec.	47.0 to 58.0	54.6	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	105.0	Pass
			Overall Test Results		Pass

Laboratory Technician

December 20, 2003
Test Date





Curve Description	CURNO	Type
Pendulum Deceleration	001	FIL

Units	Max	Time	Min	Time	SAE Class
G's	23.9	4.2	-3.1	89.7	60

Curve Description	CURNO	Type
Neck Force X	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	720.8	59.8	-148.3	170.2	600

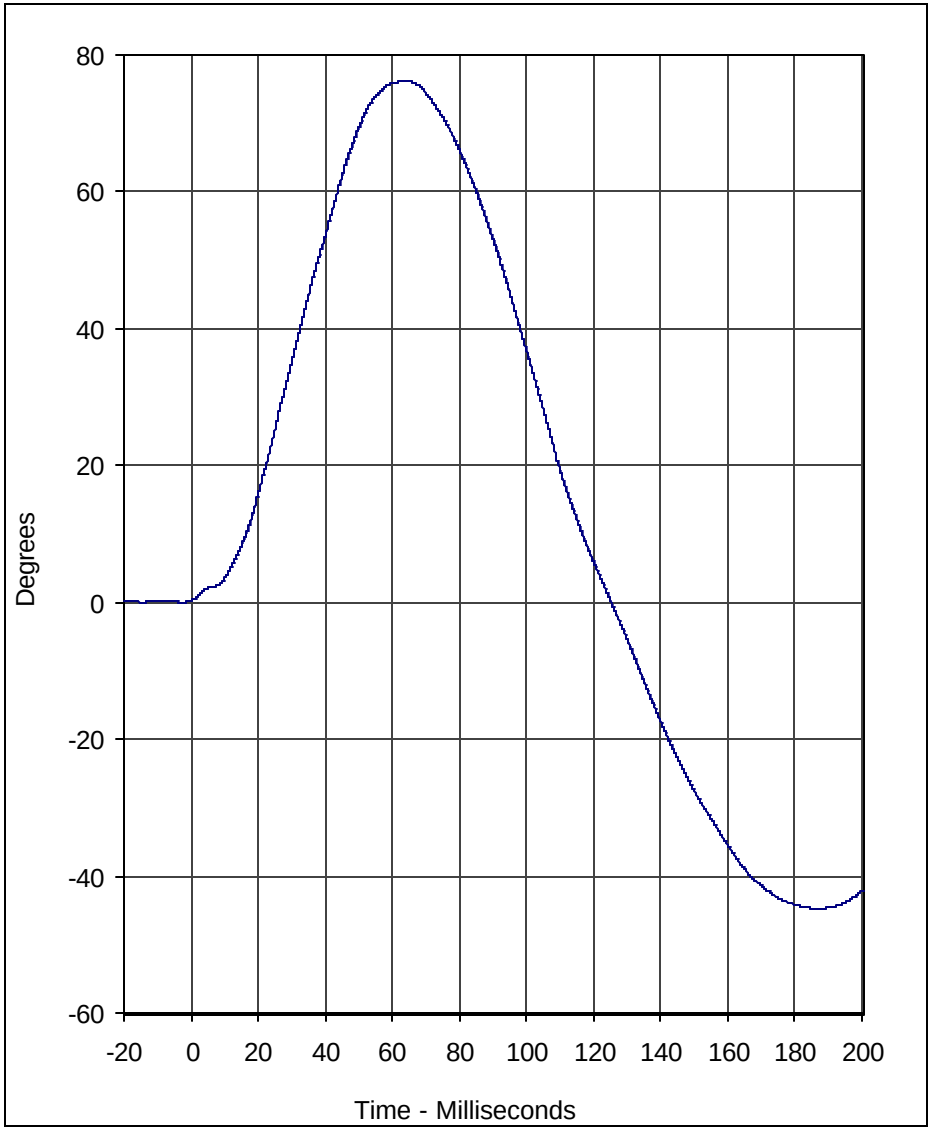
Test Program: Hybrid III 50th Percentile Male Neck Flexion Test

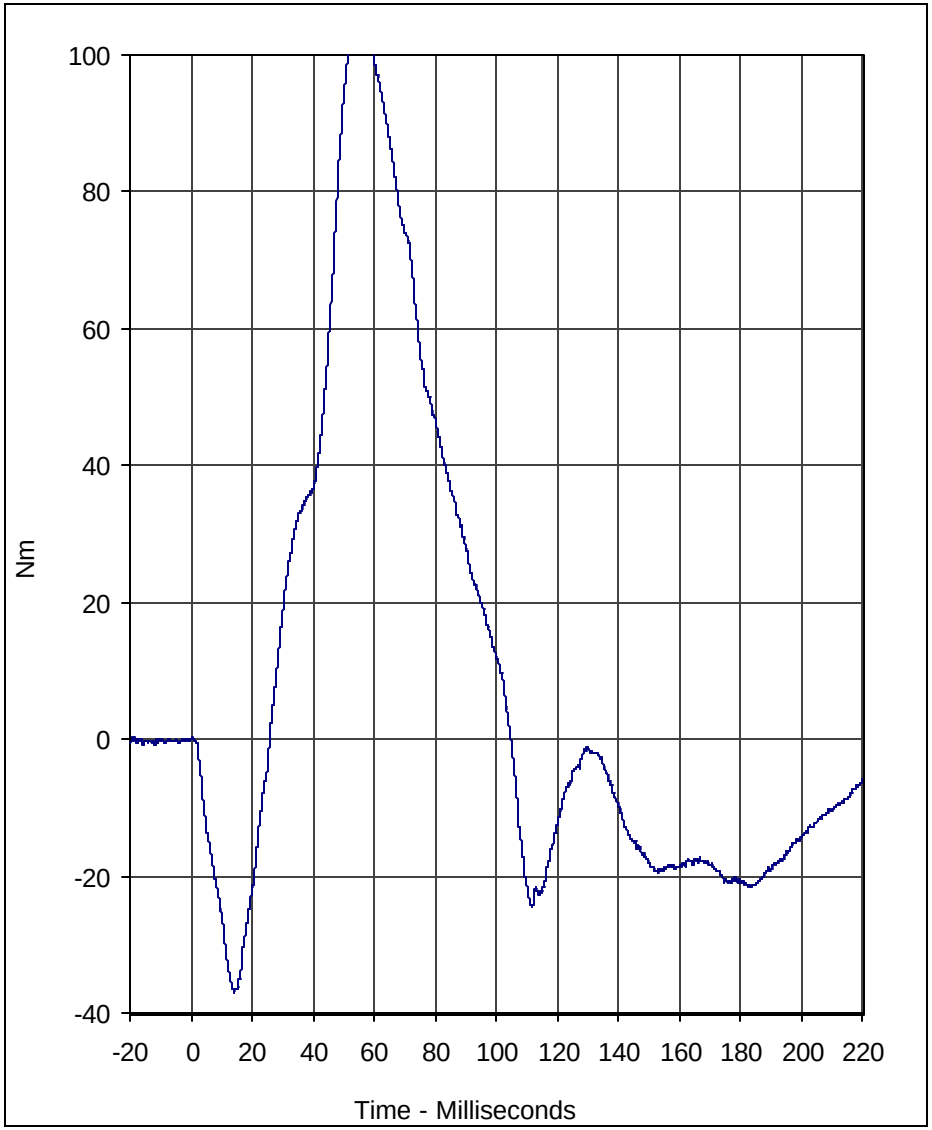
Test Date: 12/20/03

A.T.D. Serial No.: 035

Test I.D.: NF12F

KARCO Engineering





Curve Description	CURNO	Type
"D" Plane Rotation	003	FIL

Units	Max	Time	Min	Time	SAE Class
Degrees	76.1	63.9	-44.7	186.7	60

Curve Description	CURNO	Type
Moment About Occipital Condyle	004	FIL

Units	Max	Time	Min	Time	SAE Class
Nm	105.4	54.6	-37.0	14.1	600

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

Test Date: 12/20/03

A.T.D. Serial No.: 035

Test I.D.: NF12F

KARCO Engineering

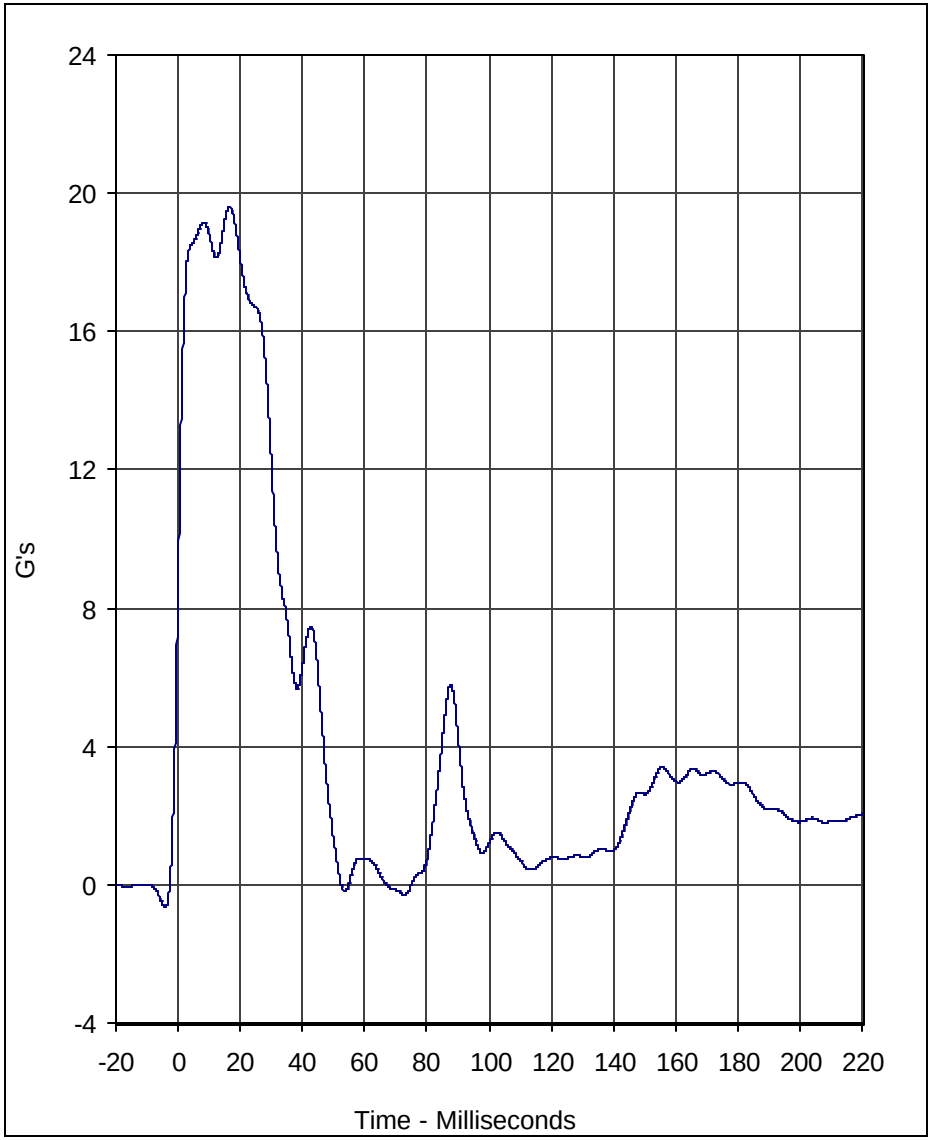
Calibration Data Sheet
Hybrid III 50th Percentile Male
Neck Extension Test

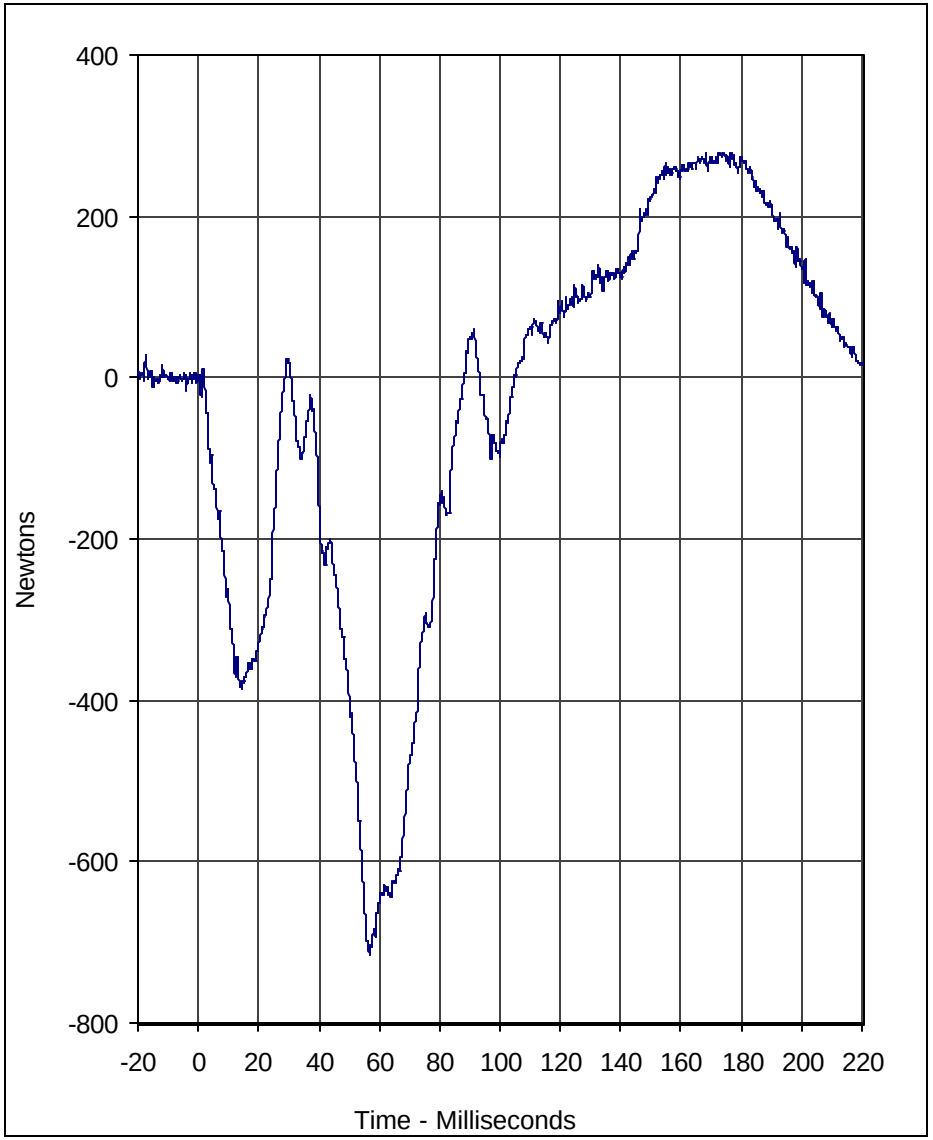
ATD Serial No.: 035 Test I.D.: NE12J

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	5.94 to 6.19	6.13	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	18.8	Pass
	20 Msec.	G's	14.0 to 19.0	18.1	Pass
	30 Msec.	G's	11.0 to 16.0	12.3	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	12.3	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	46.0	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	89.0	Pass
	Time	Msec.	72.0 to 82.0	73.7	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	148.3	Pass
Moment About Occipital Condyle	Maximum	Nm	-52.9 to- 79.9	-76.9	Pass
	Time	Msec.	65.0 to 79.0	66.0	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	131.6	Pass
			Overall Test Results		Pass

Laboratory Technician

December 20, 2003
Test Date





Curve Description	CURNO	Type
Pendulum Deceleration	001	FIL

Units	Max	Time	Min	Time	SAE Class
G's	19.6	16.6	-0.7	-4.2	60

Curve Description	CURNO	Type
Neck Force X	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	279.7	174.1	-714.6	56.7	600

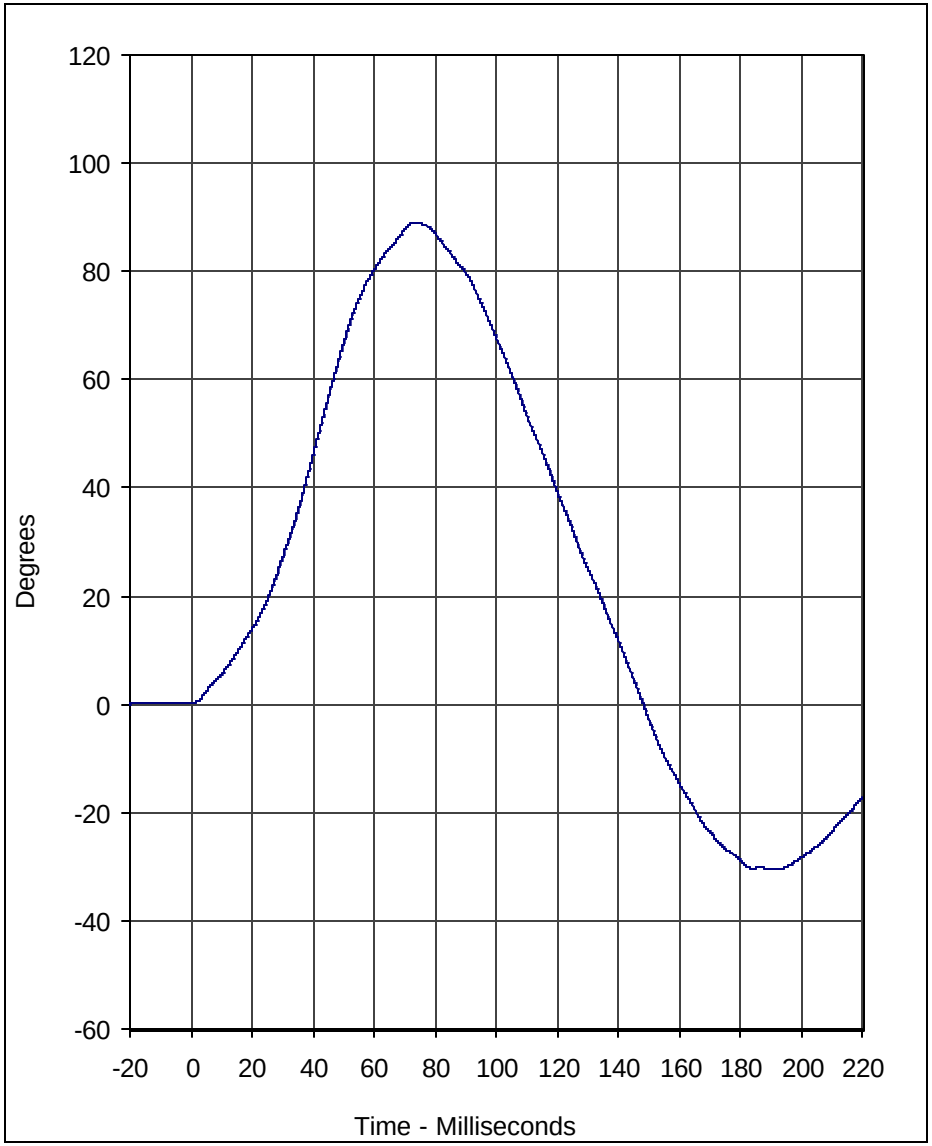
Test Program: Hybrid III 50th Percentile Male Neck Extension Test

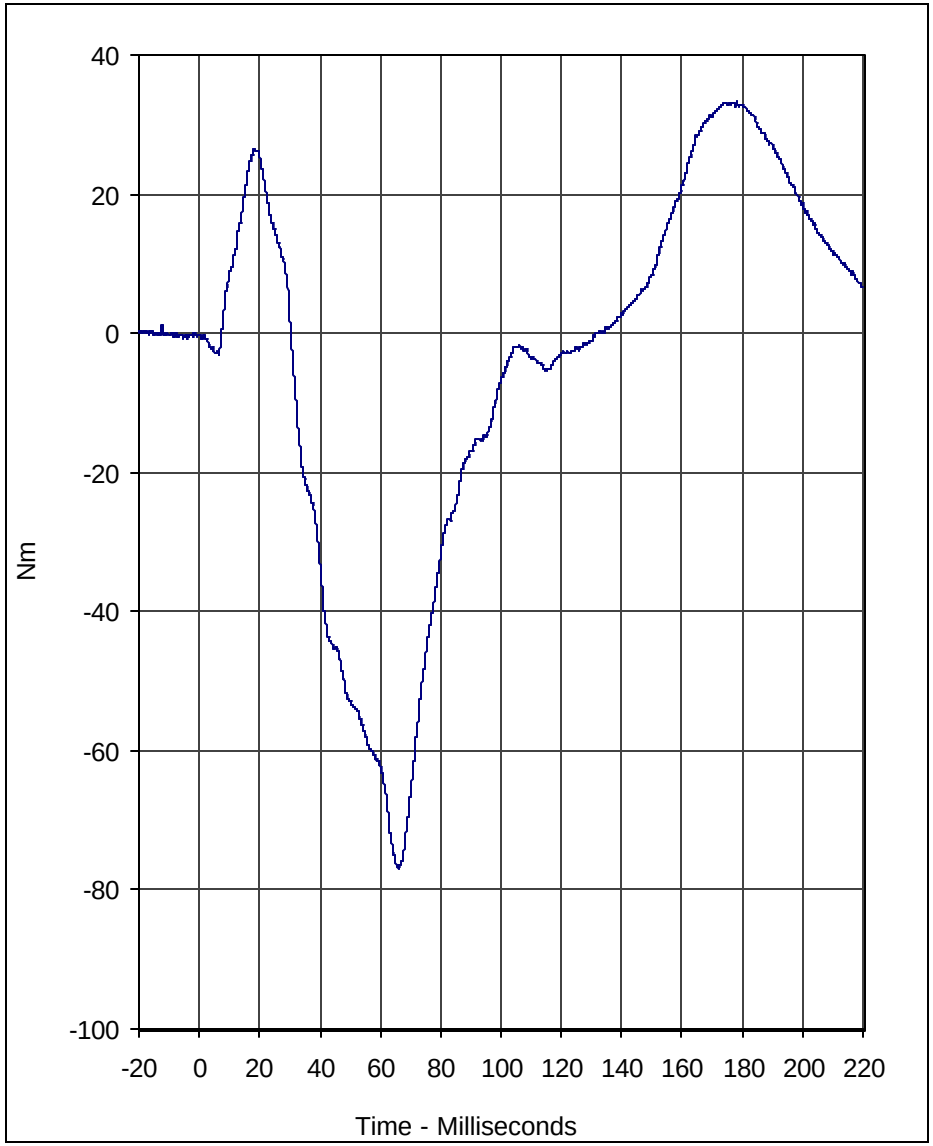
Test Date: 12/20/03

A.T.D. Serial No.: 035

Test I.D.: NE12J

KARCO Engineering





Curve Description	CURNO	Type
"D" Plane Rotation	003	FIL

Units	Max	Time	Min	Time	SAE Class
Degrees	89.0	73.7	-30.5	191.3	60

Curve Description	CURNO	Type
Moment About Occipital Condyle	004	FIL

Units	Max	Time	Min	Time	SAE Class
Nm	33.4	178.3	-76.9	66.0	600

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

Test Date: 12/20/03

A.T.D. Serial No.: 035

Test I.D.: NE12J

KARCO Engineering

Calibration Data Sheet
Hybrid III 50th Percentile Male
External Measurements

ATD Serial No.: 035

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
A - Total sitting height	mm	879 to 889	885	Pass
B - Shoulder pivot height	mm	505 to 521	510	Pass
C - "H" point height	mm	84 to 89	85	Pass
D - "H" point from seat back	mm	135 to 140	135	Pass
E - Shoulder pivot from back	mm	84 to 94	90	Pass
F - Thigh clearance	mm	140 to 155	145	Pass
G - Elbow back to wrist pivot	mm	290 to 305	295	Pass
H - Skull cap to back line	mm	41 to 46	45	Pass
I - Shoulder to elbow length	mm	330 to 345	340	Pass
J - Elbow rest height	mm	190 to 211	210	Pass
K - Buttock to knee length	mm	579 to 604	580	Pass
L - Poplipteal length	mm	429 to 455	445	Pass
M - Knee pivot height	mm	485 to 500	495	Pass
N - Buttock poplipteal length	mm	452 to 477	465	Pass
O - Chest depth	mm	213 to 229	215	Pass
P - Foot length	mm	251 to 267	265	Pass
V - Shoulder breadth	mm	422 to 437	435	Pass
W - Foot breadth	mm	91 to 107	105	Pass
Y - Chest circumference	mm	970 to 1001	990	Pass
Z - Waist circumference	mm	836 to 866	855	Pass
AA - Location for chest circumference	mm	429 to 434	430	Pass
BB - Location for waist circumference	mm	226 to 231	230	Pass
		Overall Test Results		Pass

Laboratory Technician

December 21, 2003
Test Date

APPENDIX F

CHILD RESTRAINT SYSTEM

REPORT NUMBER TR-P24001-07-NC

NEW CAR ASSESSMENT PROGRAM
FRONTAL BARRIER IMPACT TEST

MITSUBISHI MOTORS
2004 MITSUBISHI GALANT
4 DOOR SEDAN

NHTSA NUMBER: M45601

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

12/22/03

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

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Prepared by: _____ Date: December 29, 2003
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KARCO Engineering, LLC

Reviewed by: _____ Date: December 29, 2003
Mr. Jerry L. Kratzke, Director of Operations
KARCO Engineering, LLC

Approved by: _____ Date: December 29, 2003
Mr. Frank D. Richardson, Program Manager
KARCO Engineering, LLC

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.	2. Government Accession No.	3. Recipients Catalog No.
TR-P24001-07-NC		

4. Title and Subtitle	5. Report Date
Final Report of a Evenflo Vanguard 5 Convertble CRS NHTSA NO. M45601	December 29, 2003
	6. Performing Organization Code

7. Authors	8. Performing Organization Report No.
Mr. James E. Gorth, Project Engineer, Karco Mr. Frank Richardson, Program Manager, Karco	TR-P24001-07-NC

9. Performing Organization Name and Address	10. Work Unit No.
Karco Engineering, LLC 9270 Holly Rd. Adelanto, CA, 92301	11. Contract or Grant No. DTNH22-01-D-02005

12. Sponsoring Agency Name and Address	13. Type of Report and Period Covered
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	Final Test Report Option Year 3
	14. Sponsoring Agency Code DOT/NHTSA/NRM/OCS

15. Supplementary Notes

16. Abstract

A frontal test was conducted on the subject Evenflo Vanguar 5 Convertible CRS in conjunction with frontal NCAP testing on a 2004 Mitsubishi Galant 4 Door Sedan 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 December 22, 2003.

Measurement Description	Units		Left Rear	Right Rear
Head Injury Criteria (HIC) 36	N/A			710.0
Head Injury Criteria (HIC) 15	N/A			459.3
3 msec. Chest Clip	G's			51.6
Peak Chest Displacement	mm			-19.4

17. Key Words	18. Distribution of Statement
56.3 km/h NCAP Frontal Barrier Impact Test New Car Assesment Program (NCAP) Final Report of a Vanguard 5 Convertble NHTSA NO. M45601	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)	20. Security Classification (this page)	21. No. of Pages	22. Price
Unclassified	Unclassified	148	

Form DOT F1700.7 (8-72)

TABLE OF CONTENTS

SECTION F-1

PURPOSE AND SUMMARY OF TEST M45601

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

The 55.80 km/h NCAP frontal impact test was conducted in accordance with the Office of Crashworthiness Standards (OCS) NCAP Laboratory Test Procedure.

SUMMARY

One three year old child dummy was instrumented with head, chest, and pelvic triaxial accelerometers. In addition chest displacement and upper and lower six axial neck force and moment load cell sensors were utilized. Triaxial accelerometers were installed on the CRS.

The right rear (Position 3) child dummy (Serial No. 082) was calibrated prior to this test. Child dummy certification information is found in Section F-5.

CHILD DUMMY VALUES

Location	HIC 36 Values	HIC 15 Values	3 Msec. Chest Clip	Peak Chest Disp.
Right Rear Child	710	459.3	51.6	-19.4
Left Rear Child				

SECTION F-1

DATA SHEET NO.1…..CRASH TEST SUMMARY

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601

Test Program 2004 NHTSA 35mph NCAP Test Date: 12/22/03

CHILD RESTRAINT SYSTEM INFORMATION

Description	Position # 3 CRS	Position #4 CRS
Manufacturer	Evenflo	
Model Name	Vanguard 5	
Serial No.	3691261 P1	
Type	Convertible	
Forward/Rearward	Forward	

VISIBLE DUMMY CONTACT POINTS

Description	Position #3 CRS	Position #4 CRS
Head Contact	Chin to Retaing Clip	
Chest Contact	None	
Abdomen Contact	None	
Left Knee Contact	None	
Right Knee Contact	None	
Left Toe Contact	Seatback	
Right Toe Contact	Seatback	

POST TEST DOOR OPENINGS

Description	Position #3 CRS	Position #4 CRS
Left Side Doors	Remained closed/latched, opened w/o tools	
Right Side Doors	Remained closed/latched, opened w/o tools	
Hatch/Other Door	None	

POST TEST SEAT DATA

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

CAMERA COVERAGE

High Speed	2
Real Time	1
Total	3

DATA CHANNELS

SECTION F-1

DATA SHEET NO.2…..CRS PARAMETER DATA

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601

Test Program 2004 NHTSA 35mph NCAP Test Date: 12/22/03

RETAINING CLIP INFORMATION

Description	Position #3 CRS	Position #4 CRS
Ret. Clip Movement	70mm	

TEST VEHICLE WEIGHTS

	Units	As Delivered Weights (UVW)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	472	323		498	375	
Right	kg	453	300		488	366	
Ratio	%	59.8	40.2		57.1	42.9	
Totals	kg	925	623	1548	986	741	1727

TARGET TEST WEIGHT CALCULATION

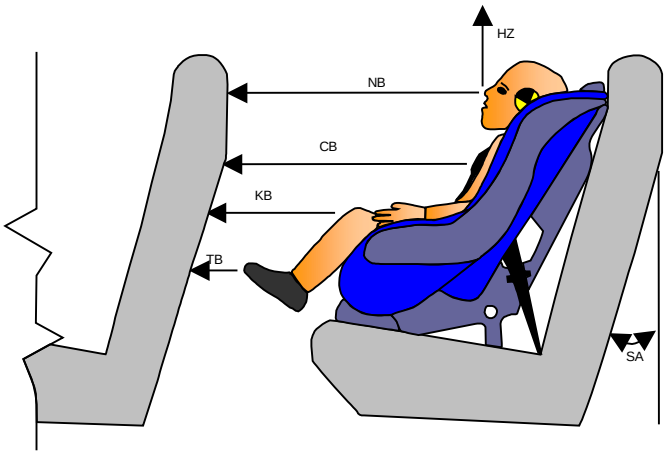
Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1548
Weight of 2 P572 ATD's	kg	152
Rated Cargo/Luggage Wt. (RCLW)	kg	35
Calculated Vehicle Target Wt. (TVTW)	kg	1735

SECTION F-1

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

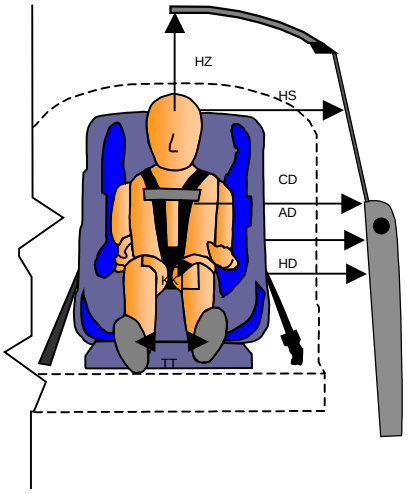
Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601

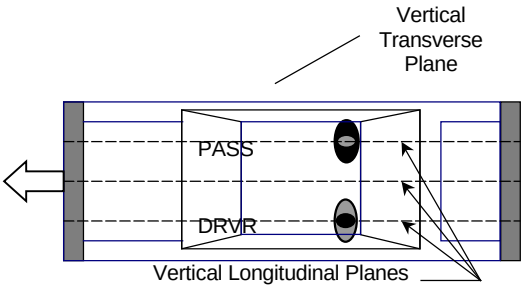
Test Program 2004 NHTSA 35mph NCAP Test Date: 12/22/03



AD	Arm to Door
CD	Chest to Door
HD	H-Point to Door
HS	Head to Side Window
KK	Knee to Knee
TT	Toe to Toe

CB	Chest to Seat Back
HZ	Head to Roof
KB	Knee to Seat Back
NB	Nose to Seat Back
SA	Seat Back Angle
TB	Toe to Seat Back





DUMMY MEASUREMENTS FOR REAR SEAT OCCUPANTS

SECTION F-1

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

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601

Test Program 2004 NHTSA 35mph NCAP Test Date: 12/22/03

CHILD DUMMY POSITION MEASUREMENTS

Code	Measurement	Units	P3 CRS Serial No. 082		
			Pre-Test	Post-Test	Diff.
SA	Seat Back Angle	deg.	26	26	0
HZ	Head to Roof (Z)	mm	382	328	-54
CD	Chest to Dash	mm	390	380	-10
KK	Knee to Knee (Y)	mm	165	220	55
HS	Head to Side Window	mm	380	320	-60
HD	H-Point to Door (Y)	mm	292	305	13
AD	Arm to Door	mm	245	240	-5
NB	Nose to Seat Back	mm	592	665	73
CB	Chest to Seat Back	mm	562	645	83
FF	Foot to Foot	mm	165	310	145
KB-Left	Knee to Seat Back	mm	368	470	102
KB-Right	Knee to Seat Back	mm	405	488	83
TB-Left	Toe to Seat Back	mm	95	125	30
TB-Right	Toe to Seat Back	mm	100	140	40

DATA SHEET NO. 4 - 3 YEAR OLD HYBRID III ATD INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601

Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Right Rear (3 Yr.)			
			Max	Time	Min	Time
Head CG	X	G's	54.5	188.1	-31.9	73.1
Head CG	Y	G's	7.1	86.2	-2.4	110.7
Head CG	Z	G's	63.6	82.5	-12.2	42.7
Head CG Resultant	N/A	G's	67.9	81.0		

PRIMARY HEAD INJURY CRITERAS (HIC)

Location	Right Rear (3 Yr.)			
	HIC	T^1	T^2	Avg G
Head CG Primary (HIC36)	710.0	62.8	98.8	52.2
Head CG Primary (HIC15)	459.3	73.3	88.3	62.3

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Right Rear (3 Yr.)			
			Max	Time	Min	Time
Chest CG	X	G's	15.1	199.5	-44.6	74.5
Chest CG	Y	G's	7.2	69.6	-4.3	86.0
Chest CG	Z	G's	17.7	88.7	-42.8	60.4
Chest CG Resultant	N/A	G's	53.1	60.3		

PRIMARY CHEST CLIP (3MSEC)

Location	Right Rear (3 Yr.)		
	CLIP	T^1	T^2
Chest CG Primary	51.6	59.3	62.3

CHEST PEAK DISPLACEMENTS

Location	Axis	Units	Right Rear (3 Yr.)			
			Max	Time	Min	Time
Chest CG	X	MM	0.1	24.0	-19.4	71.5

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Right Rear (3 Yr.)			
			Max	Time	Min	Time
Pelvis	X	G's	23.7	129.7	-65.7	66.6
Pelvis	Y	G's	6.8	64.1	-9.5	87.7
Pelvis	Z	G's	26.0	91.3	-36.7	52.8
Pelvis Resultant	N/A	G's	67.1	66.6		

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601

Test Program: 2004 NHTSA 35mph NCAP Test Date: 12/22/03

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Right Rear (3 Yr.)			
			Max	Time	Min	Time
Neck Force	X	Newtons	30.1	174.2	-764.0	74.5
Neck Force	Y	Newtons	117.7	86.5	-32.1	191.6
Neck Force	Z	Newtons	2064.5	79.8	-415.5	193.3
Neck Force Resultant	N/A	Newtons	2182.4	79.8		
Neck Moment	X	Nm	12.6	89.7	-4.2	110.5
Neck Moment	Y	Nm	3.9	70.3	-15.7	198.4
Neck Moment	Z	Nm	3.1	200.0	-1.7	91.9
Neck Moment Resultant	N/A	Nm	16.0	198.5		

LOWER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Right Rear (3 Yr.)			
			Max	Time	Min	Time
Neck Force	X	Newtons	217.5	181.0	-956.3	80.5
Neck Force	Y	Newtons	77.0	93.7	-134.8	69.6
Neck Force	Z	Newtons	920.1	83.8	-456.7	57.7
Neck Force Resultant	N/A	Newtons	1263.3	83.0		
Neck Moment	X	Nm	31.4	86.0	-4.0	138.2
Neck Moment	Y	Nm	126.0	78.3	-13.6	180.9
Neck Moment	Z	Nm	18.7	86.4	-2.6	110.5
Neck Moment Resultant	N/A	Nm	129.0	78.3		

CHILD SEAT TETHER BELT SENSOR PEAK VALUES

Location	Axis	Units	Right Rear (3 Yr.)			
			Max	Time	Min	Time
Car Seat Upper Tether Force	N/A	Newtons	1986.6	71.3	-21.0	170.2

CHILD SEAT ACCELEROMETER PEAK VALUES

Location	Axis	Units	Right Rear (3 Yr.)			
			Max	Time	Min	Time
Child Seat	X	G's	10.4	144.5	-59.8	50.6
Child Seat	Y	G's	6.5	71.8	-3.8	95.6
Child Seat	Z	G's	17.3	200.0	-28.4	54.1
Child Seat Resultant	N/A	G's	63.2	51.3		

SECTION F-1

DATA SHEET NO.5 …..CRS PERFORMANCE DATA

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601

Test Program 2004 NHTSA 35mph NCAP Test Date: 12/22/03

CRS PERFORMANCE DATA

Location	P3 CRS Serial No. 082	
	Damage	Post-Test
Upper Tether Strap	No	None
Upper Tether Buckle	No	None
Upper Tether Hook	No	None
Veh. Upper Tether Anchor	No	None
Lower Anchor Strap	No	None
Lower Anchor Buckle	No	None
Lower Anchor Hooks	No	None
Veh. Lower CRS Anchors	No	None
5 Point Harness Connections	No	None
Cracks on CRS	No	None
Fabric Tears on CRS	No	None
Vehicle Seat Structure	No	None
Vehicle Seat Fabric Tears	No	None

SECTION F-1

DATA SHEET NO.6 …..CRS CAMERA DATA

Test Vehicle: 2004 Mitsubishi Galant 4 Door Sedan NHTSA No.: M45601

Test Program 2004 NHTSA 35mph NCAP Test Date: 12/22/03

CAMERA LOCATIONS

No.	Camera View	Location(mm)			Angle (Deg.)	Film Plane to Head	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Passenger Side Child Dummy	3353	-1930	2286	25	1897	6	1000
2	Passenger Side Child Dummy	2100	8230	3200	25	9037	50	1030

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

SECTION F-2

PHOTOGRAPHS

LIST OF PHOTOGRAPHS CRS #3

Figure F2-1: Close-up View 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

Figure F2-11: Post-Test Position 3 Front View

Figure F2-12: Pre-Test Position 3 Left Side View

Figure F2-13: Post-Test Position 3 Left Side View

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

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

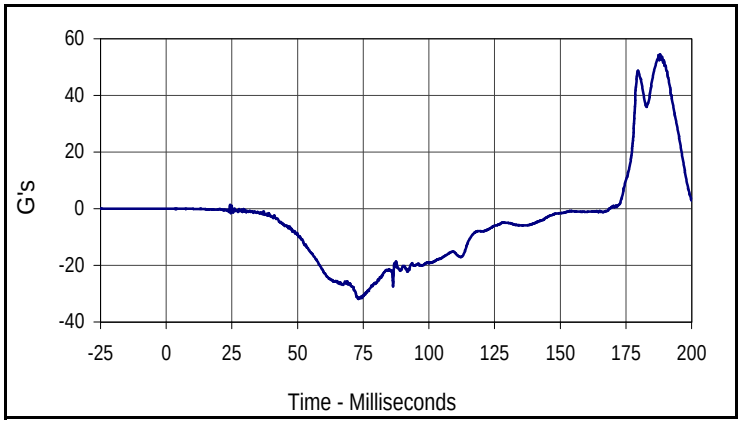
Figure F2-16: Post-Test Position 3 Contact Point (Back of Right Front Seat)

SECTION F-3

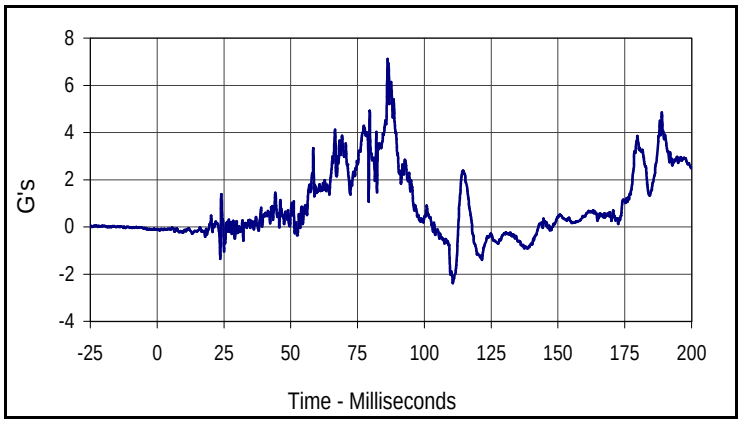
CHILD DUMMY RESPONSE AND CRS DATA TRACES

LIST OF DATA PLOTS #4

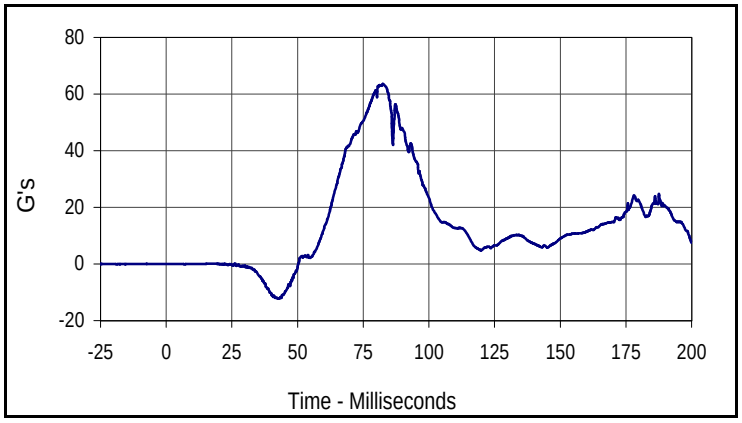
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



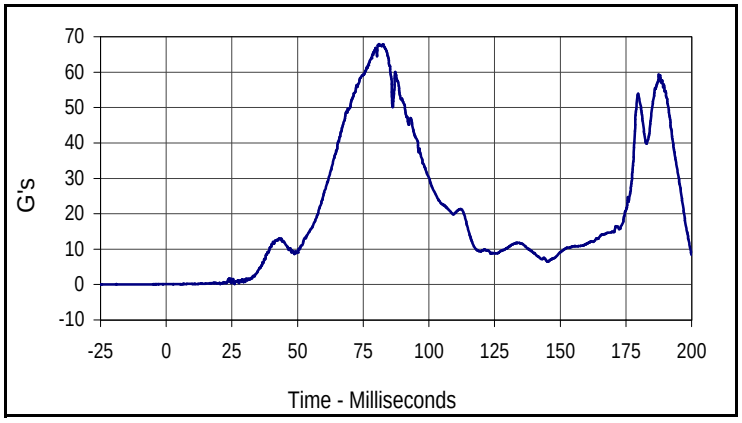
Curve Description			
Right Rear (3 Yr.) Head X			
CURNO	Type	SAE Class	Units
134	FIL	1000	G's
Max	Time	Min	Time
54.5	188.1	-31.9	73.1



Curve Description			
Right Rear (3 Yr.) Head Y			
CURNO	Type	SAE Class	Units
135	FIL	1000	G's
Max	Time	Min	Time
7.1	86.2	-2.4	110.7

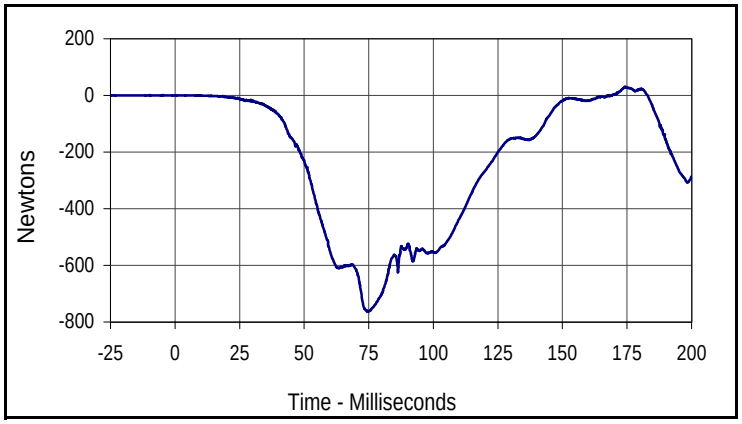


Curve Description			
Right Rear (3 Yr.) Head Z			
CURNO	Type	SAE Class	Units
136	FIL	1000	G's
Max	Time	Min	Time
63.6	82.5	-12.2	42.7

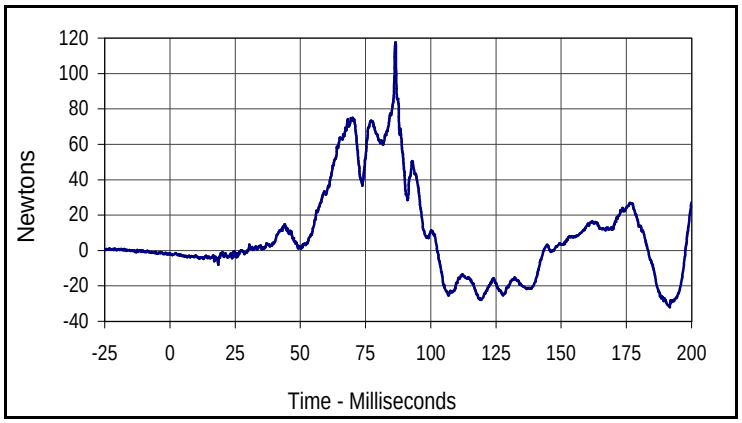


Curve Description			
Right Rear (3 Yr.) Head Resultant			
CURNO	Type	SAE Class	Units
134	RES	1000	G's
Max	Time	Min	Time
67.9	81.0	0.0	5.6

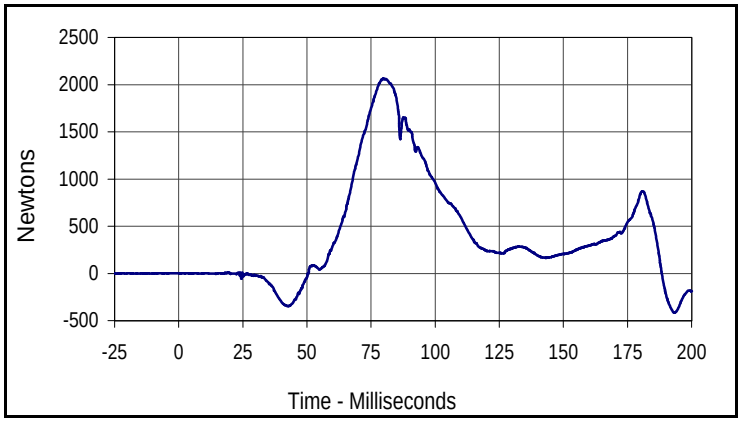
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



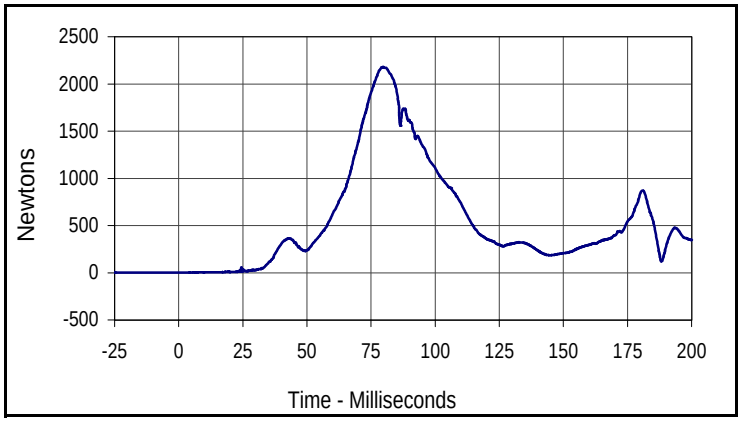
Curve Description			
Right Rear (3 Yr.) Upper Neck Force X			
CURNO	Type	SAE Class	Units
137	FIL	1000	Newtons
Max	Time	Min	Time
30.1	174.2	-764.0	74.5



Curve Description			
Right Rear (3 Yr.) Upper Neck Force Y			
CURNO	Type	SAE Class	Units
138	FIL	1000	Newtons
Max	Time	Min	Time
117.7	86.5	-32.1	191.6

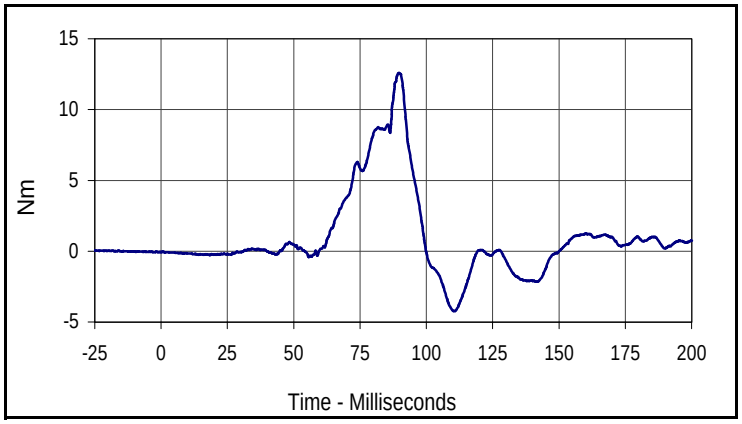


Curve Description			
Right Rear (3 Yr.) Upper Neck Force Z			
CURNO	Type	SAE Class	Units
139	FIL	1000	Newtons
Max	Time	Min	Time
2064.5	79.8	-415.5	193.3

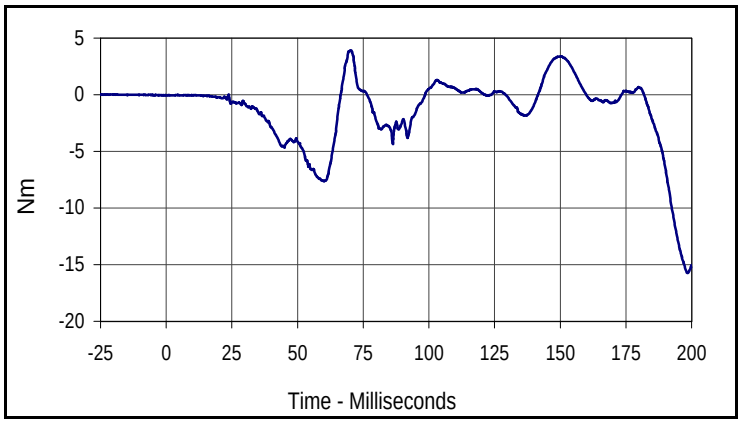


Curve Description			
Right Rear (3 Yr.) Upper Neck Force Res.			
CURNO	Type	SAE Class	Units
137	RES	1000	Newtons
Max	Time	Min	Time
2182.4	79.8	1.6	2.2

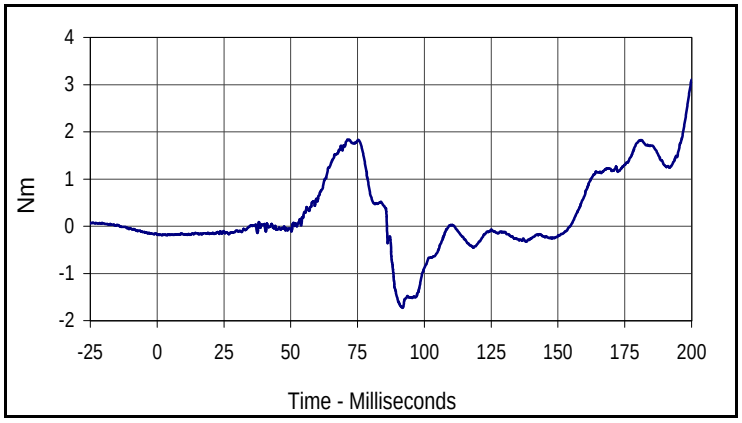
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



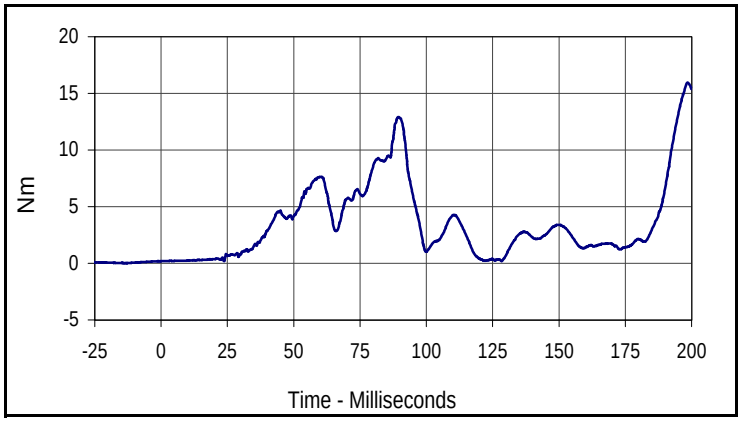
Curve Description			
Right Rear (3 Yr.) Upper Neck Moment X			
CURNO	Type	SAE Class	Units
140	FIL	600	Nm
Max	Time	Min	Time
12.6	89.7	-4.2	110.5



Curve Description			
Right Rear (3 Yr.) Upper Neck Moment Y			
CURNO	Type	SAE Class	Units
141	FIL	600	Nm
Max	Time	Min	Time
3.9	70.3	-15.7	198.4

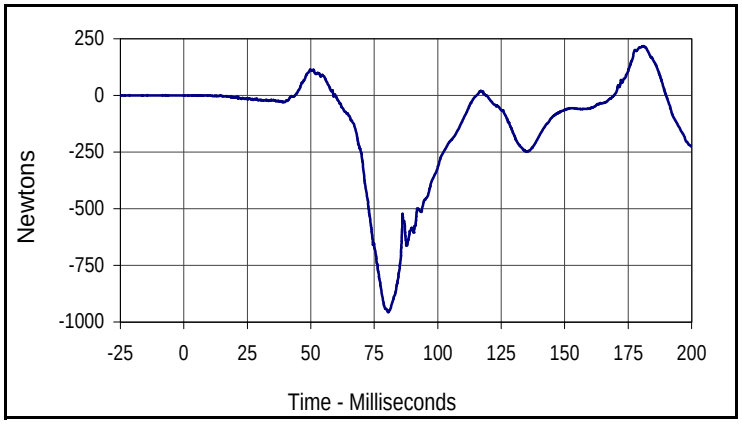


Curve Description			
Right Rear (3 Yr.) Upper Neck Moment Z			
CURNO	Type	SAE Class	Units
142	FIL	600	Nm
Max	Time	Min	Time
3.1	200.0	-1.7	91.9

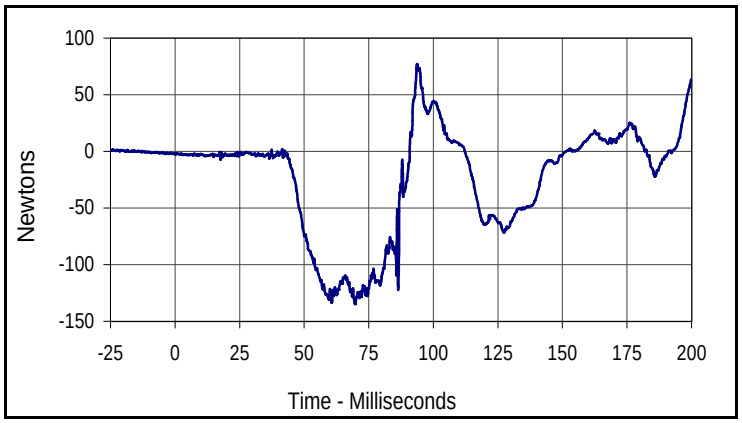


Curve Description			
Right Rear (3 Yr.) Upper Neck Moment Res.			
CURNO	Type	SAE Class	Units
140	RES	600	Nm
Max	Time	Min	Time
16.0	198.5	0.2	0.7

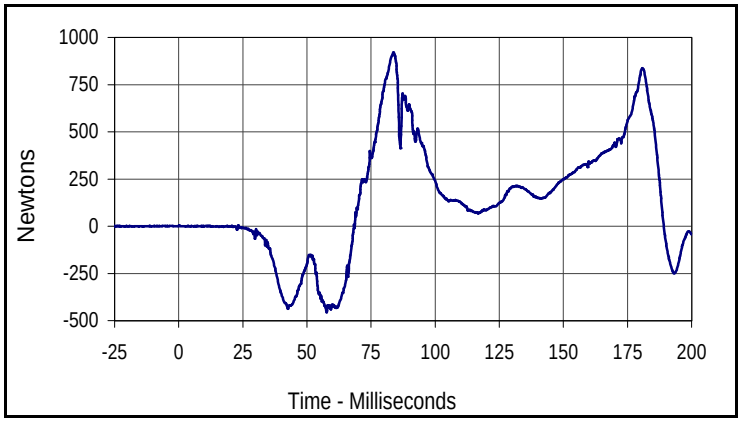
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



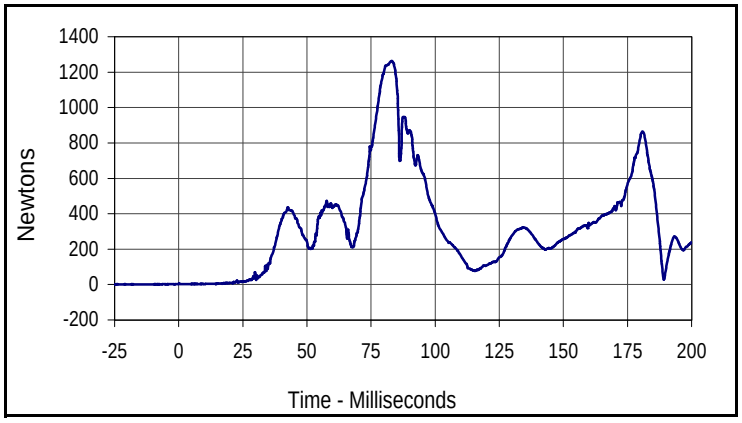
Curve Description			
Right Rear (3 Yr.) Lower Neck Force X			
CURNO	Type	SAE Class	Units
143	FIL	1000	Newtons
Max	Time	Min	Time
217.5	181.0	-956.3	80.5



Curve Description			
Right Rear (3 Yr.) Lower Neck Force Y			
CURNO	Type	SAE Class	Units
144	FIL	1000	Newtons
Max	Time	Min	Time
77.0	93.7	-134.8	69.6

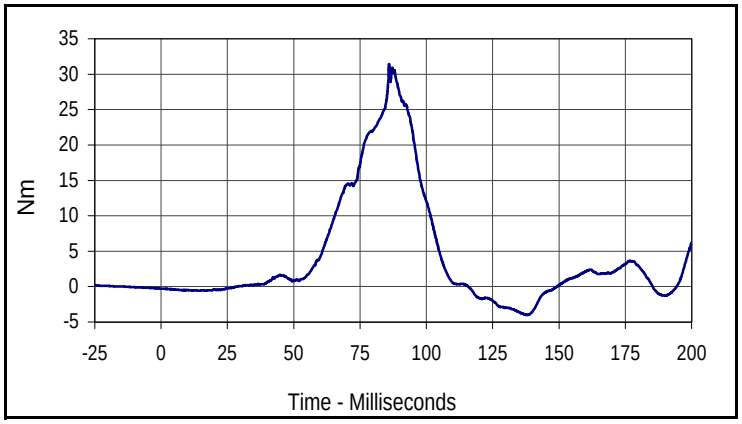


Curve Description			
Right Rear (3 Yr.) Lower Neck Force Z			
CURNO	Type	SAE Class	Units
145	FIL	1000	Newtons
Max	Time	Min	Time
920.1	83.8	-456.7	57.7

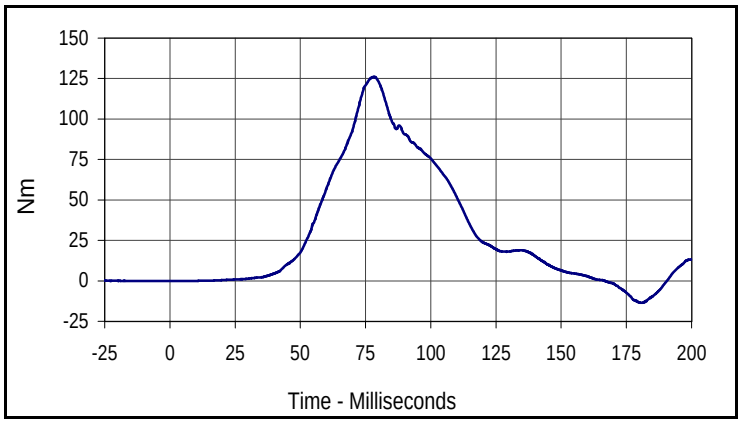


Curve Description			
Right Rear (3 Yr.) Lower Neck Force Res.			
CURNO	Type	SAE Class	Units
143	RES	1000	Newtons
Max	Time	Min	Time
1263.3	83.0	1.6	1.0

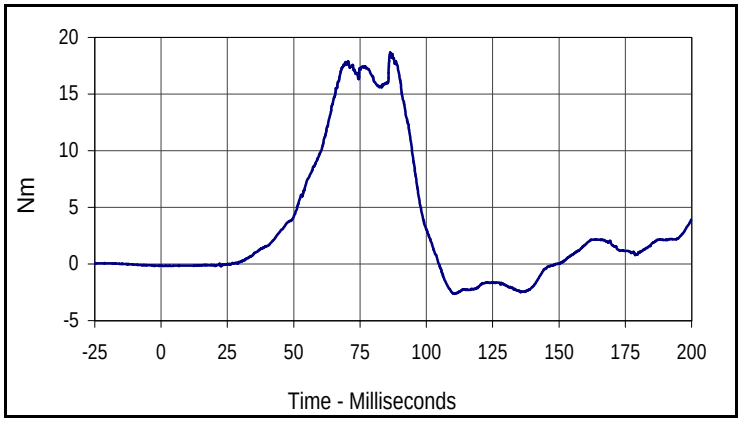
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



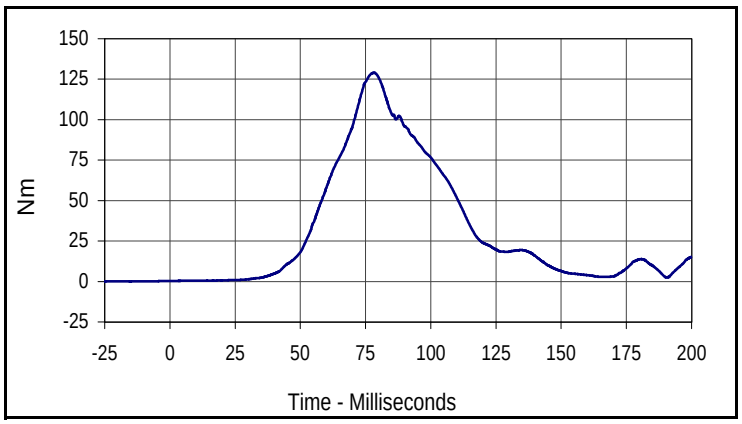
Curve Description			
Right Rear (3 Yr.) Lower Neck Moment X			
CURNO	Type	SAE Class	Units
146	FIL	600	Nm
Max	Time	Min	Time
31.4	86.0	-4.0	138.2



Curve Description			
Right Rear (3 Yr.) Lower Neck Moment Y			
CURNO	Type	SAE Class	Units
147	FIL	600	Nm
Max	Time	Min	Time
126.0	78.3	-13.6	180.9

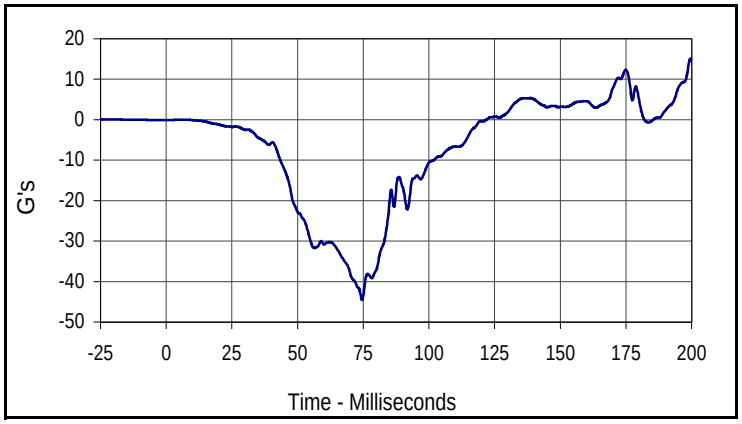


Curve Description			
Right Rear (3 Yr.) Lower Neck Moment Z			
CURNO	Type	SAE Class	Units
148	FIL	600	Nm
Max	Time	Min	Time
18.7	86.4	-2.6	110.5

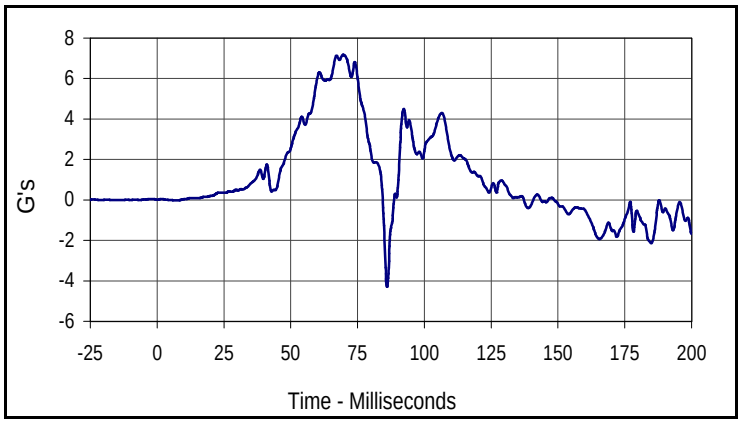


Curve Description			
Right Rear (3 Yr.) Lower Neck Moment Res.			
CURNO	Type	SAE Class	Units
146	RES	600	Nm
Max	Time	Min	Time
129.0	78.3	0.3	0.6

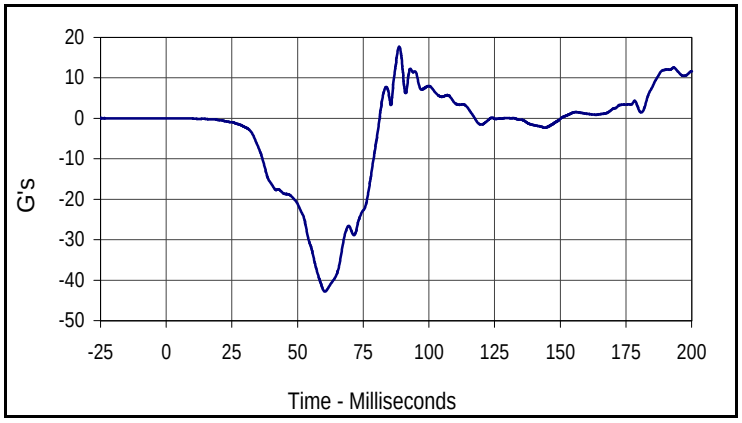
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



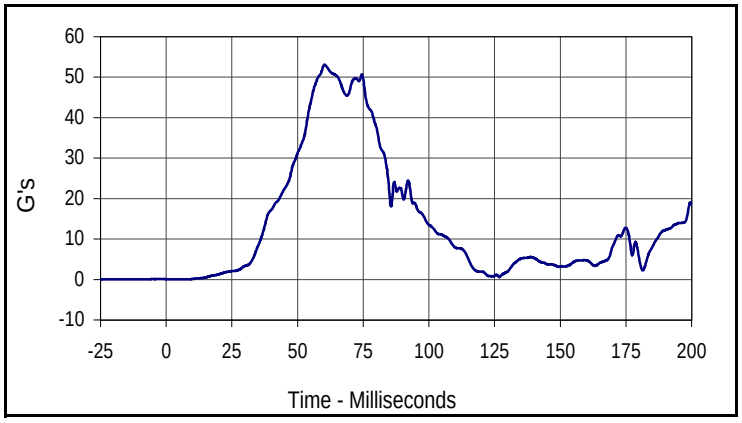
Curve Description			
Right Rear (3 Yr.) Chest X			
CURNO	Type	SAE Class	Units
149	FIL	180	G's
Max	Time	Min	Time
15.1	199.5	-44.6	74.5



Curve Description			
Right Rear (3 Yr.) Chest Y			
CURNO	Type	SAE Class	Units
150	FIL	180	G's
Max	Time	Min	Time
7.2	69.6	-4.3	86.0

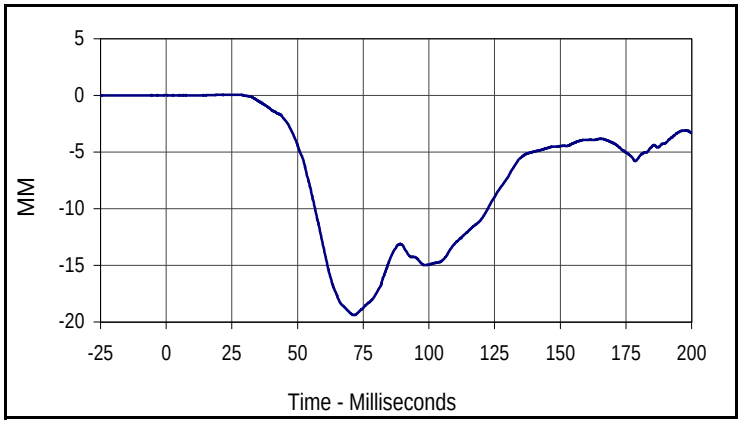


Curve Description			
Right Rear (3 Yr.) Chest Z			
CURNO	Type	SAE Class	Units
151	FIL	180	G's
Max	Time	Min	Time
17.7	88.7	-42.8	60.4



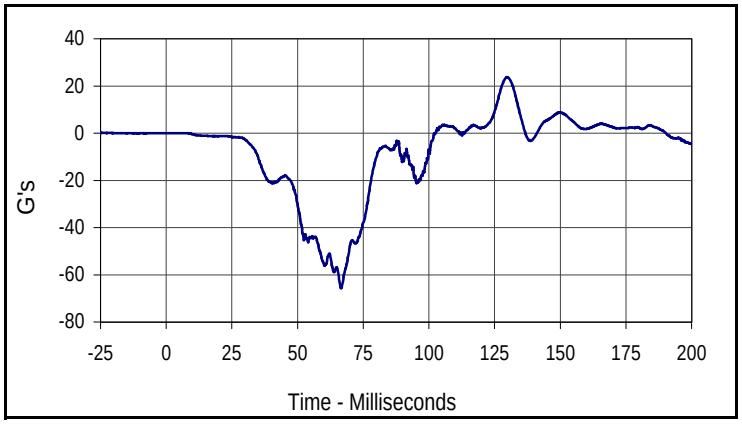
Curve Description			
Right Rear (3 Yr.) Chest Resultant			
CURNO	Type	SAE Class	Units
149	RES	180	G's
Max	Time	Min	Time
53.1	60.3	0.0	6.3

Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601

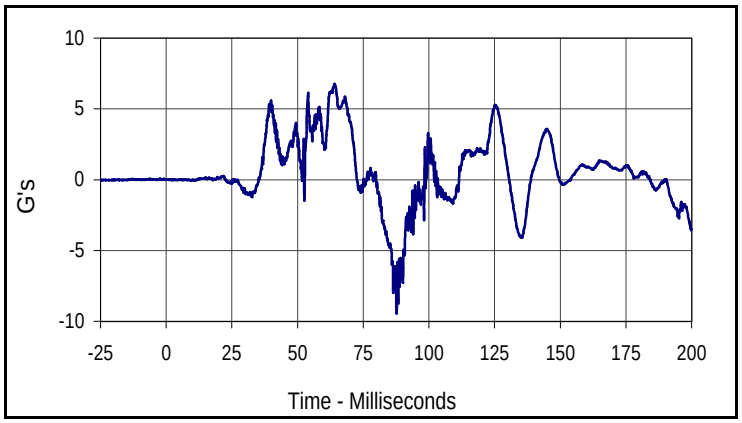


Curve Description			
Right Rear (3 Yr.) Chest Displacement			
CURNO	Type	SAE Class	Units
152	FIL	600	MM
Max	Time	Min	Time
0.1	24.0	-19.4	71.5

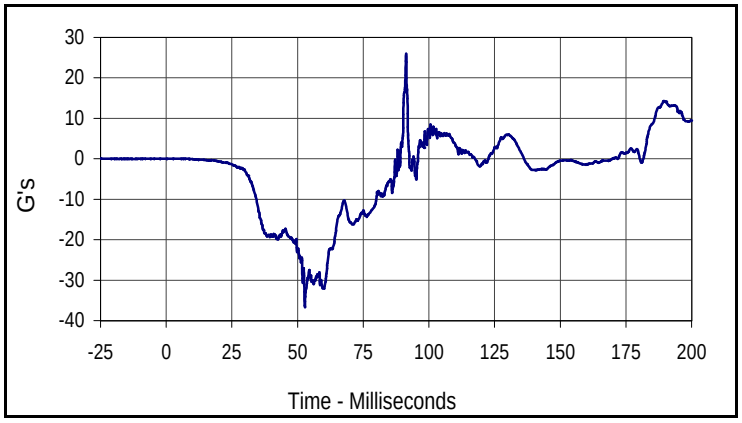
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



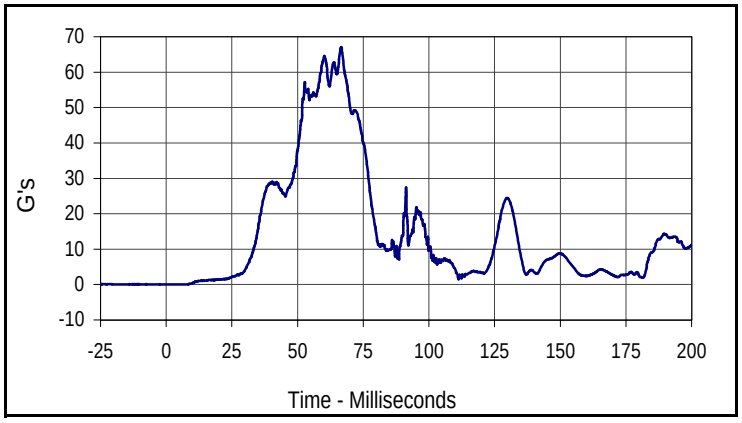
Curve Description			
Right Rear (3 Yr.) Pelvis X			
CURNO	Type	SAE Class	Units
153	FIL	1000	G's
Max	Time	Min	Time
23.7	129.7	-65.7	66.6



Curve Description			
Right Rear (3 Yr.) Pelvis Y			
CURNO	Type	SAE Class	Units
154	FIL	1000	G's
Max	Time	Min	Time
6.8	64.1	-9.5	87.7

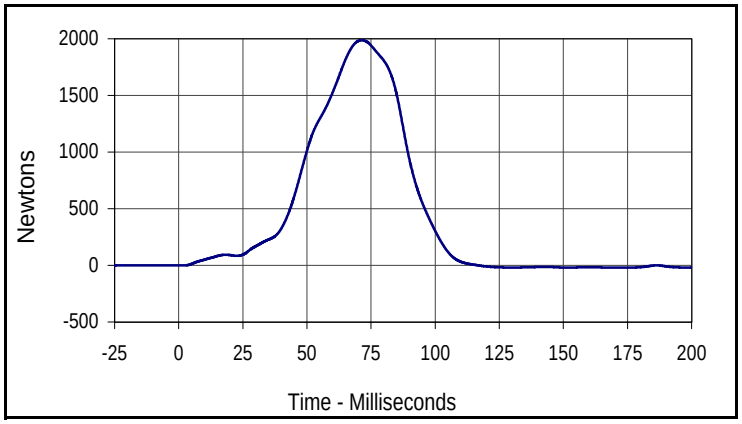


Curve Description			
Right Rear (3 Yr.) Pelvis Z			
CURNO	Type	SAE Class	Units
155	FIL	1000	G's
Max	Time	Min	Time
26.0	91.3	-36.7	52.8



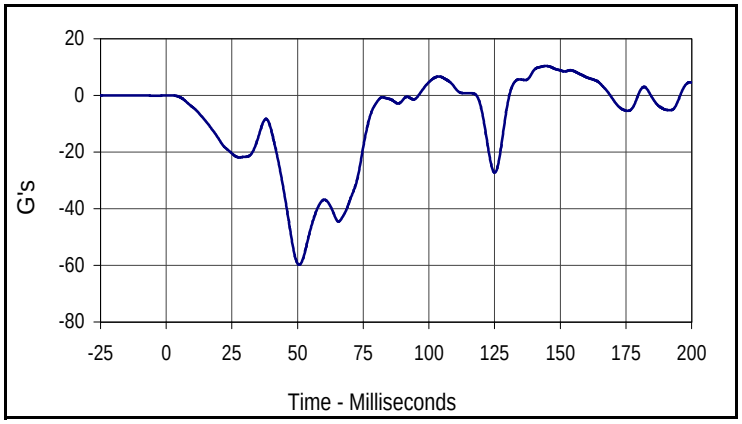
Curve Description			
Right Rear (3 Yr.) Pelvis Resultant			
CURNO	Type	SAE Class	Units
153	RES	1000	G's
Max	Time	Min	Time
67.1	66.6	0.0	5.6

Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601

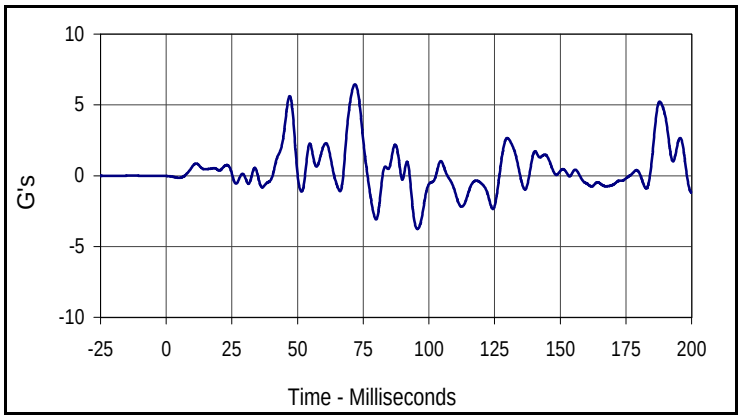


Curve Description			
Right Rear (3 Yr.) Child Seat Tether Load			
CURNO	Type	SAE Class	Units
156	FIL	60	Newtons
Max	Time	Min	Time
1986.6	71.3	-21.0	170.2

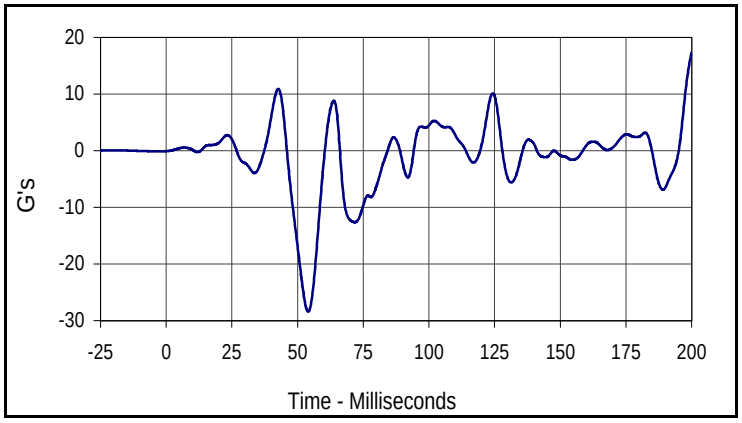
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



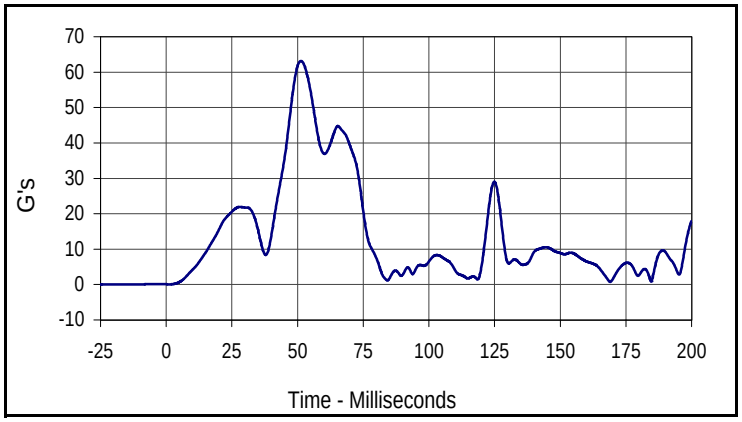
Curve Description			
Right Rear (3 Yr.) Car Seat X			
CURNO	Type	SAE Class	Units
157	FIL	60	G's
Max	Time	Min	Time
10.4	144.5	-59.8	50.6



Curve Description			
Right Rear (3 Yr.) Car Seat Y			
CURNO	Type	SAE Class	Units
158	FIL	60	G's
Max	Time	Min	Time
6.5	71.8	-3.8	95.6



Curve Description			
Right Rear (3 Yr.) Car Seat Z			
CURNO	Type	SAE Class	Units
159	FIL	60	G's
Max	Time	Min	Time
17.3	200.0	-28.4	54.1



Curve Description			
Right Rear (3 Yr.) Car Seat Resultant			
CURNO	Type	SAE Class	Units
157	RES	60	G's
Max	Time	Min	Time
63.2	51.3	0.1	1.3

SECTION F-4

CHILD DUMMY INSTRUMENTATION INFORMATION

2004 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Right Rear Child A.T.D. Serial Number 082
12/22/03
2004 Mitsubishi Galant 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
134	HEAD CG	X	GPAC050	Accel.,1/2 bridge	Endevco	7264-2000	G
135	HEAD CG	Y	GPAC051	Accel.,1/2 bridge	Endevco	7264-2000	G
136	HEAD CG	Z	GPAC052	Accel.,1/2 bridge	Endevco	7264-2000	G
137	UPPER NECK FORCE	X	082UNFX	Load cell, six axis neck	R. A. Denton	IF-234	N
138	UPPER NECK FORCE	Y	082UNFY	Load cell, six axis neck	R. A. Denton	IF-234	N
139	UPPER NECK FORCE	Z	082UNFZ	Load cell, six axis neck	R. A. Denton	IF-234	N
140	UPPER NECK MOMENT	X	082UNMX	Load cell, six axis neck	R. A. Denton	IF-234	Nm
141	UPPER NECK MOMENT	Y	082UNMY	Load cell, six axis neck	R. A. Denton	IF-234	Nm
142	UPPER NECK MOMENT	Z	082UNMZ	Load cell, six axis neck	R. A. Denton	IF-234	Nm
143	LOWER NECK FORCE	X	082LNFX	Load cell, six axis neck	R. A. Denton	3303	N
144	LOWER NECK FORCE	Y	082LNFY	Load cell, six axis neck	R. A. Denton	3303	N
145	LOWER NECK FORCE	Z	082LNFZ	Load cell, six axis neck	R. A. Denton	3303	N
146	LOWER NECK MOMENT	X	082LNMX	Load cell, six axis neck	R. A. Denton	3303	Nm
147	LOWER NECK MOMENT	Y	082LNMY	Load cell, six axis neck	R. A. Denton	3303	Nm
148	LOWER NECK MOMENT	Z	082LNMZ	Load cell, six axis neck	R. A. Denton	3303	Nm
149	CHEST CG	X	2116-A11	Accel., Full Bridge	Entran	2000JF	G
150	CHEST CG	Y	2116-A14	Accel., Full Bridge	Entran	2000JF	G
151	CHEST CG	Z	2116-A23	Accel., Full Bridge	Entran	2000JF	G
152	CHEST DISPLACEMENT	X	082CP	Rotary Pot Chest	Servo	14CBI	MM
153	PELVIS	X	2116-A12	Accel., Full Bridge	Entran	2000JF	G
154	PELVIS	Y	2116-A19	Accel., Full Bridge	Entran	2000JF	G
155	PELVIS	Z	2116-A17	Accel., Full Bridge	Entran	2000JF	G
156	CAR SEAT UPPER TETHER FORCE	X	BL112	Load cell, Seat belt	FGP	FN4060	N
157	CAR SEAT	X	KETX1A	Accel.,1/2 bridge	Endevco	7264-200	G
158	CAR SEAT	Y	KETX1B	Accel.,1/2 bridge	Endevco	7264-200	G
159	CAR SEAT	Z	KETX1C	Accel.,1/2 bridge	Endevco	7264-200	G

SECTION F-5

CHILD DUMMY CALIBRATION INFORMATION

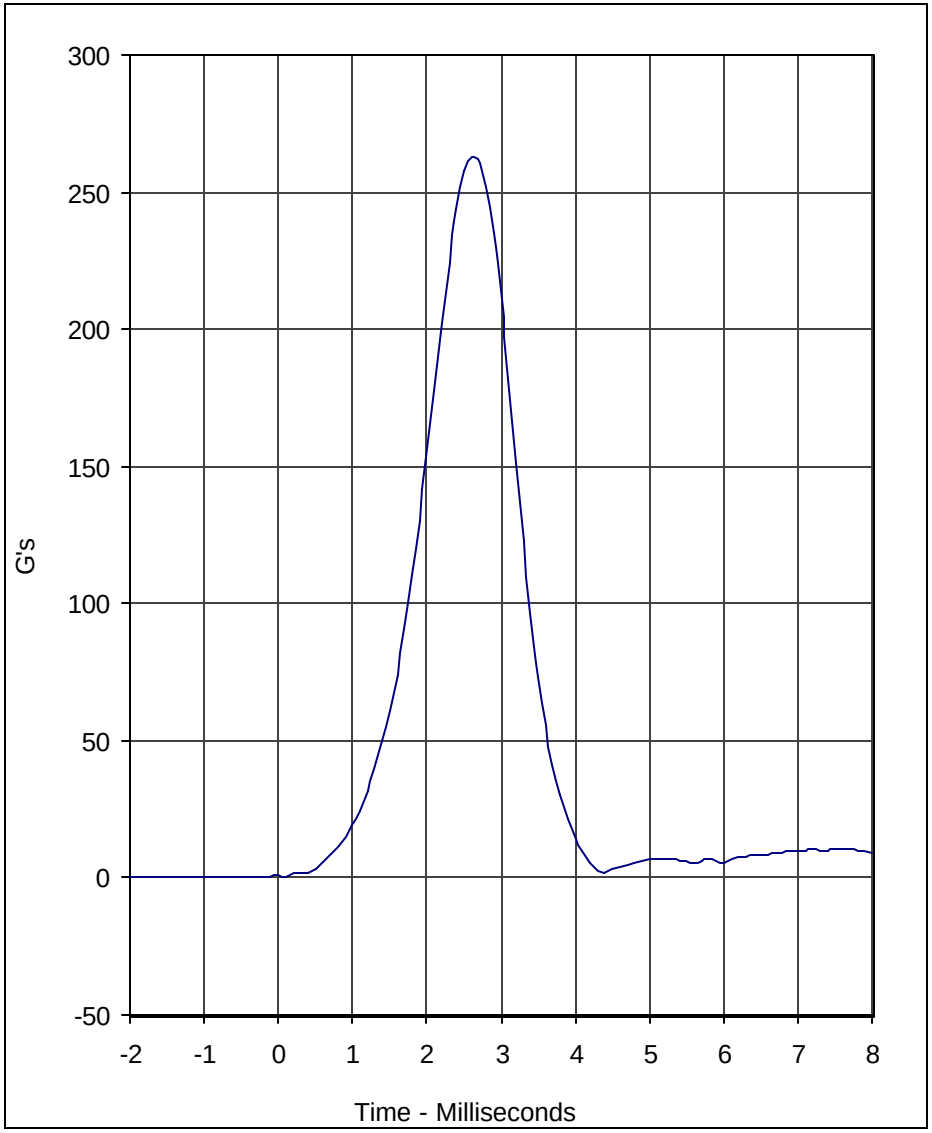
Calibration Data Sheet
Hybrid III 3 Year Old
Head Drop Test

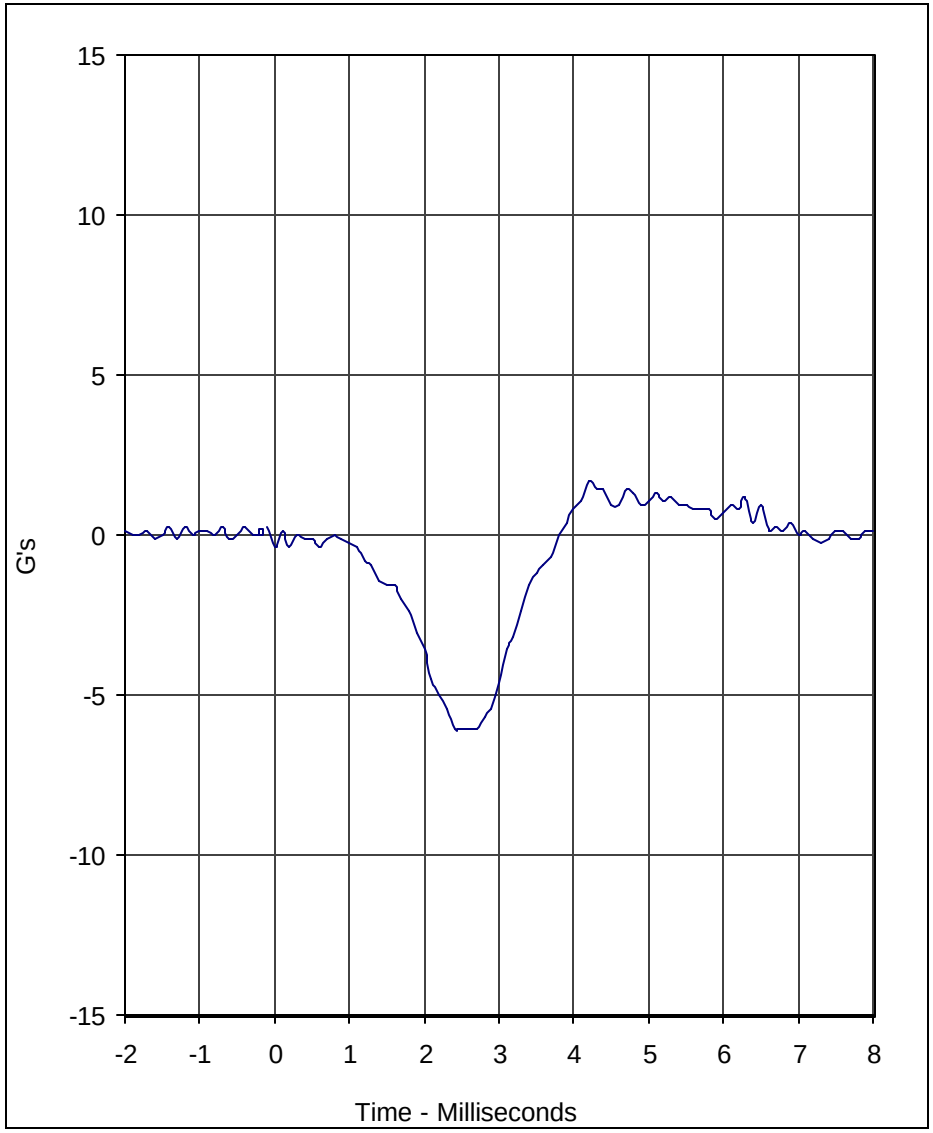
ATD Serial No.: 082 Test I.D.: HD11D

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 280.0	263.2	Pass
Peak Lateral Acceleration	G's	≤15.0	6.1	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<10	5.4	Pass
		Overall Test Results		Pass

Laboratory Technician

December 18, 2003
Test Date





Curve Description	CURNO	Type
Head Resultant	001	RES

Units	Max	Time	Min	Time	SAE Class
G's	263.2	2.6	0.0	-1.8	1000

Curve Description	CURNO	Type
Head Y	002	FIL

Units	Max	Time	Min	Time	SAE Class
G's	1.7	4.2	-6.1	2.4	1000

Test Program: Hybrid III 3 Year Old Head Drop Test

Test Date: 12/18/03

A.T.D. Serial No.: 082

Test I.D.: HD11D

KARCO Engineering

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TR-P24001-07-NC

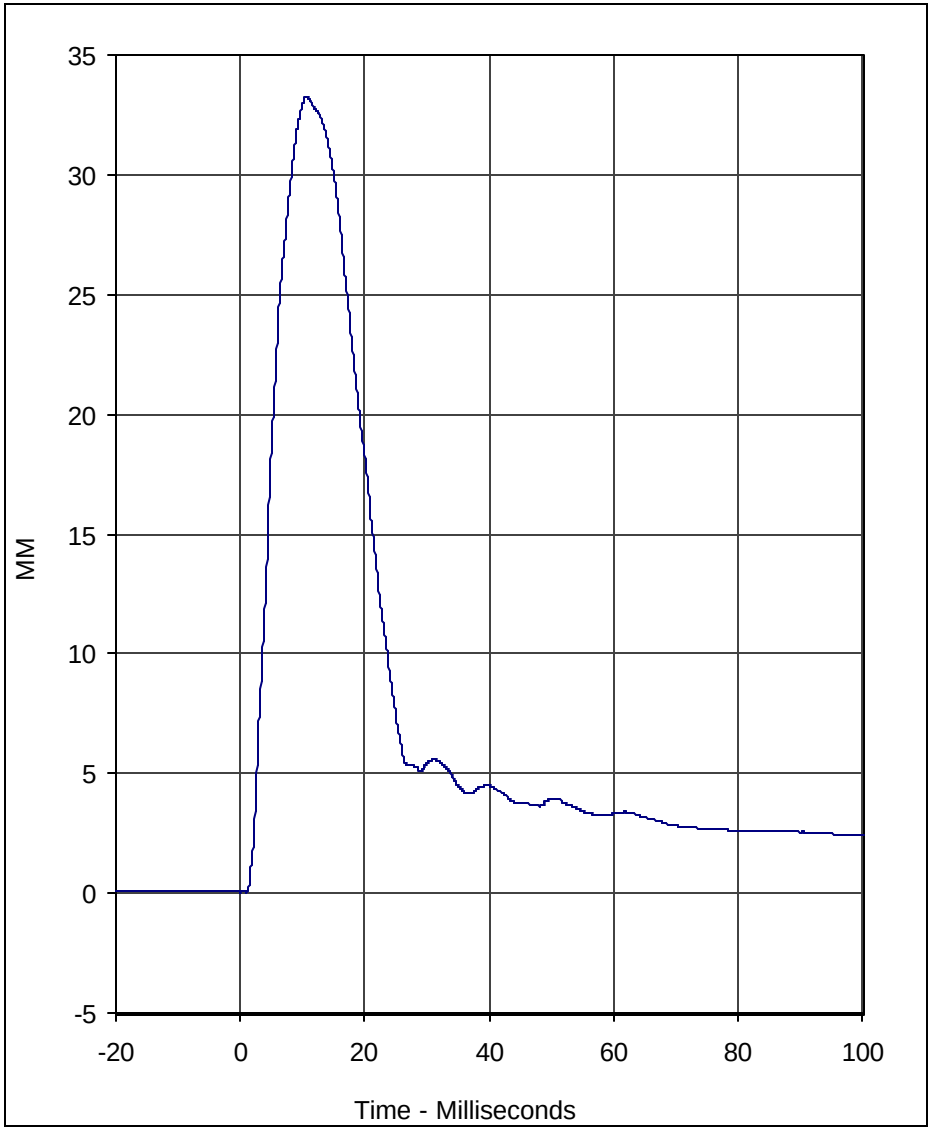
Calibration Data Sheet
Hybrid III 3 Year Old
Thorax Impact Test

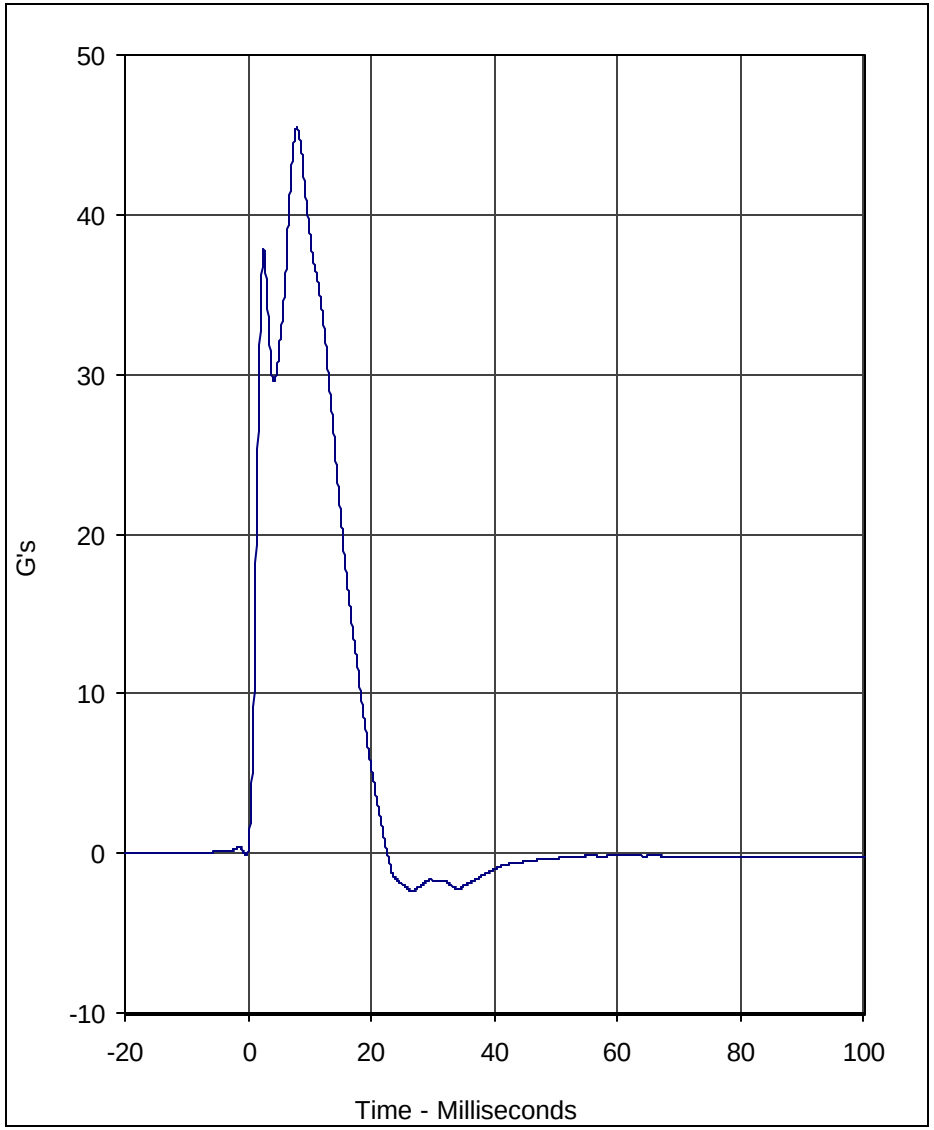
ATD Serial No.: 082 Test I.D.: CH12D

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	^{o}C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	5.9 to 6.1	5.94	Pass
Peak Chest Compression	MM	32 to 38	33.2	Pass
Peak Probe Force Between 32 and 38 MM	Newtons	680 to 810	680.0	Pass
Peak Probe Force Between 12.5 and 32 MM	Newtons	≤860	707.4	Pass
Internal Hysterysis	%	65 to 85	78.2	Pass
		Overall Test Results		Pass

Laboratory Technician

December 18, 2003
Test Date





Curve Description	CURNO	Type
Chest Compression	001	FIL

Units	Max	Time	Min	Time	SAE Class
MM	33.2	10.7	0.0	1.0	600

Curve Description	CURNO	Type
Probe Acceleration	002	FIL

Units	Max	Time	Min	Time	SAE Class
G's	45.4	8.0	-2.3	26.7	600

Test Program: Hybrid III 3 Year Old Thorax Impact

Test Date: 12/18/03

A.T.D. Serial No.: 082

Test I.D.: CH12D

KARCO Engineering

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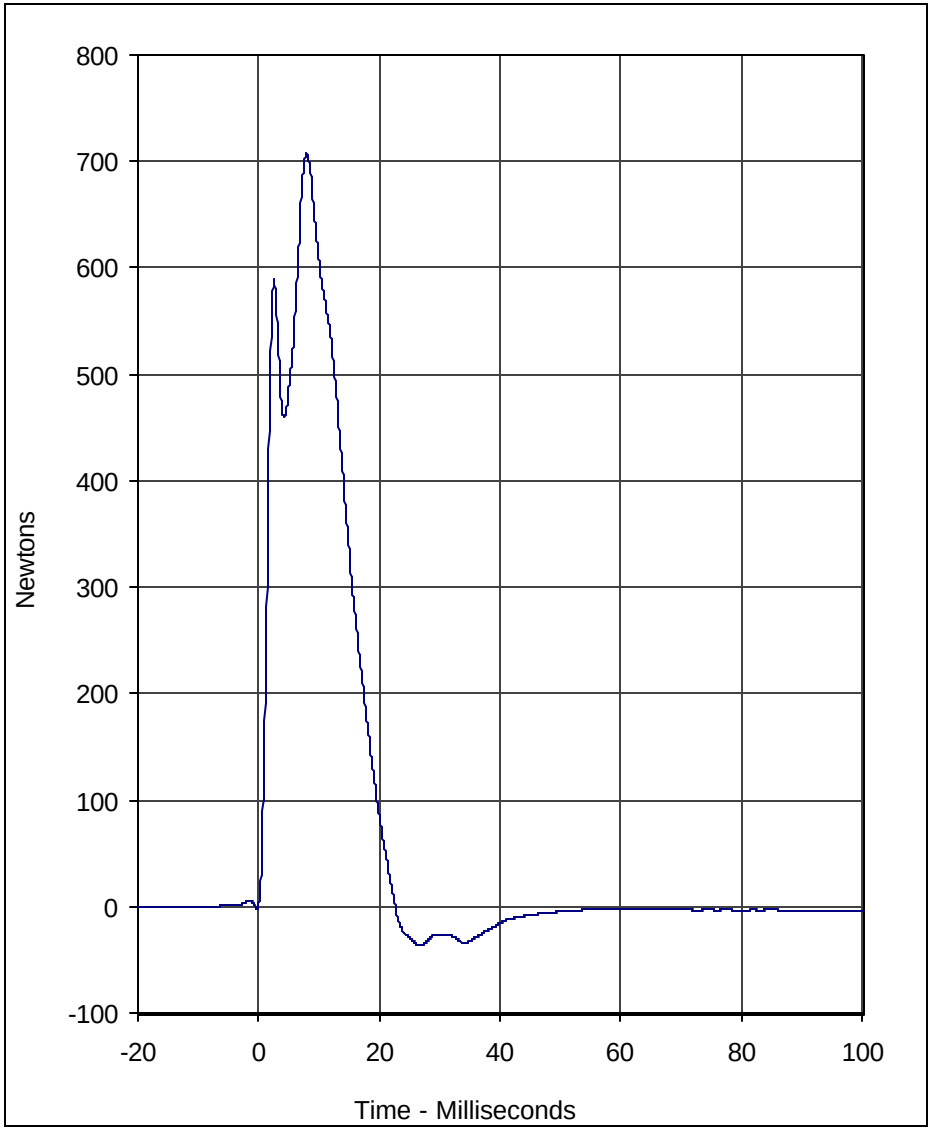
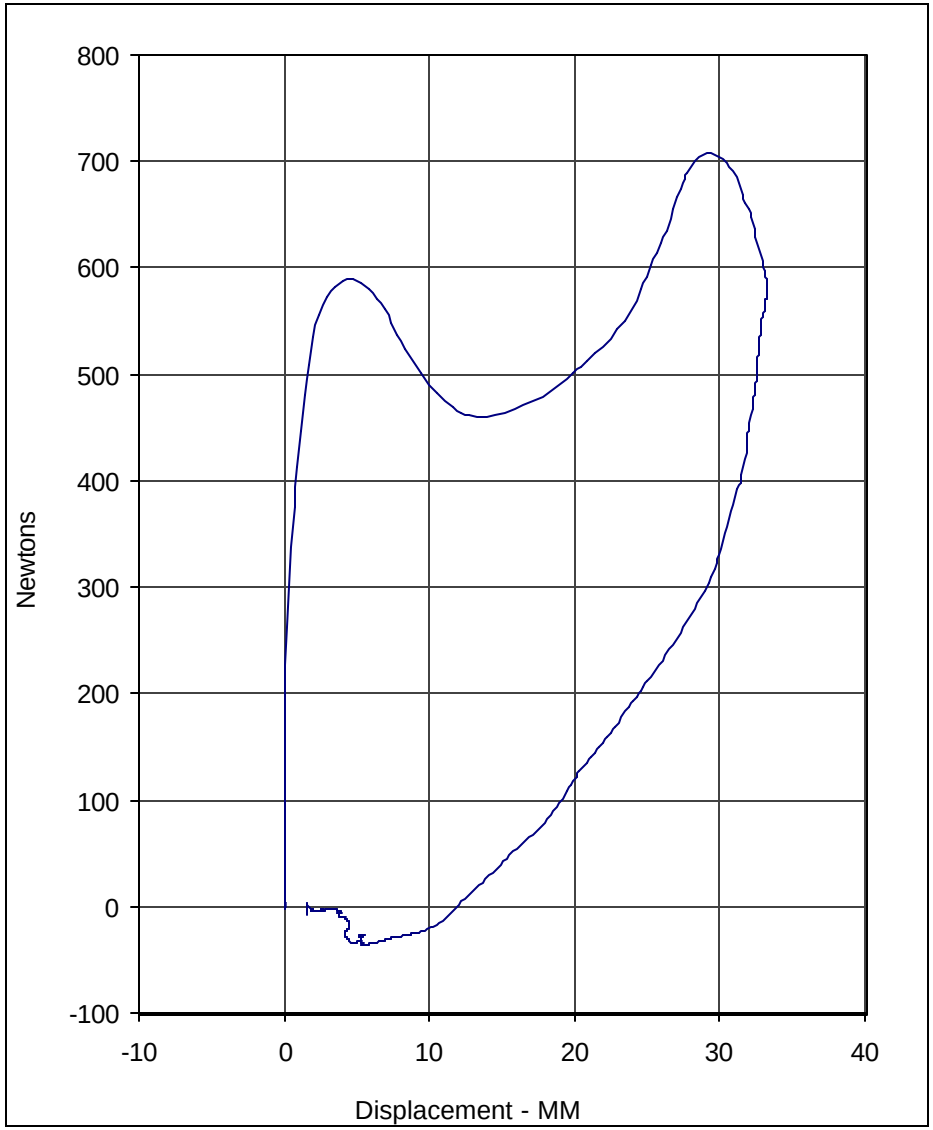
TR-P24001-07-NC





Curve Description	CURNO	Type
Probe Force	003	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	707.4	8.0	-36.5	26.7	180

Curve Description	CURNO	Type
Probe Force vs. Chest Compression	004	FIL

Units	Hysterysis	SAE Class
%	78.2	180/600

Test Program: Hybrid III 3 Year Old Thorax Impact

Test Date: 12/18/03

A.T.D. Serial No.: 082

Test I.D.: CH12D

KARCO Engineering

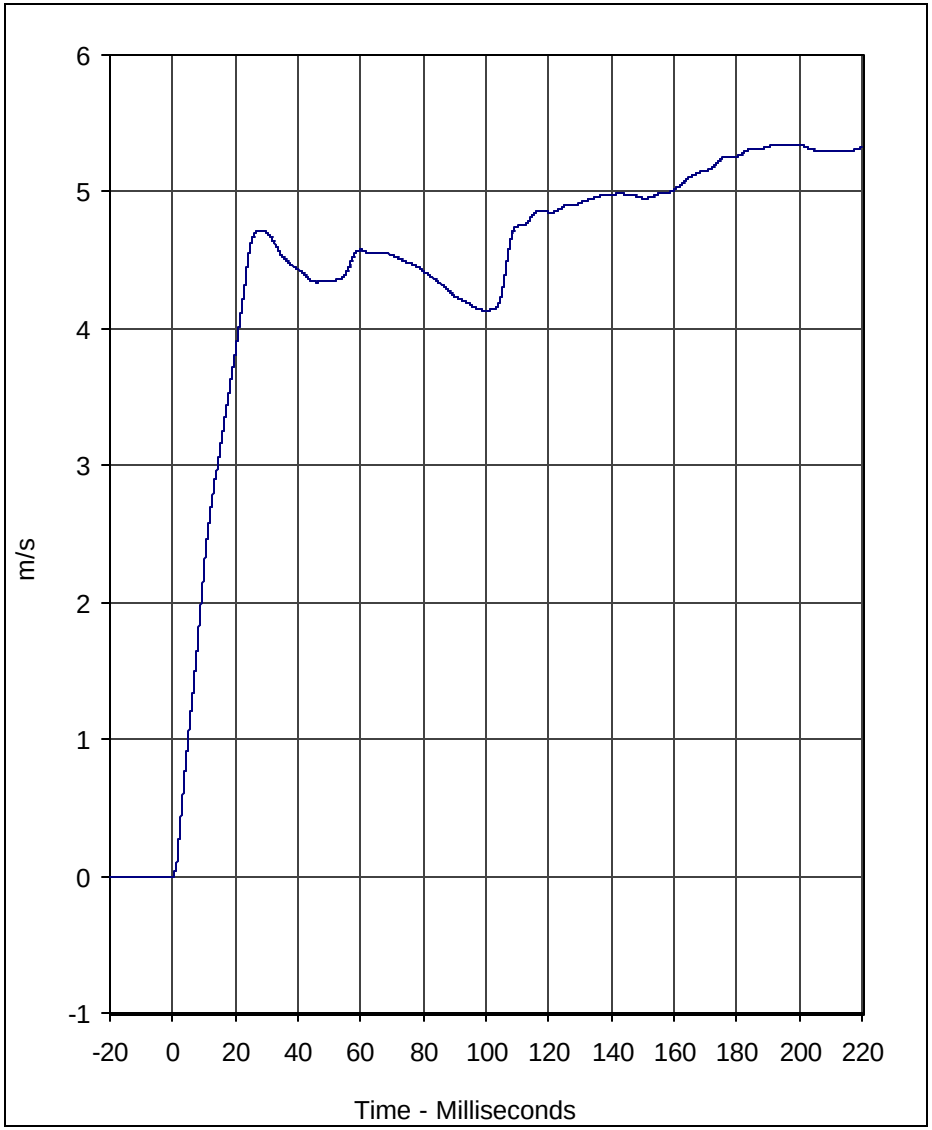
Calibration Data Sheet
Hybrid III 3 Year Old
Neck Flexion Test

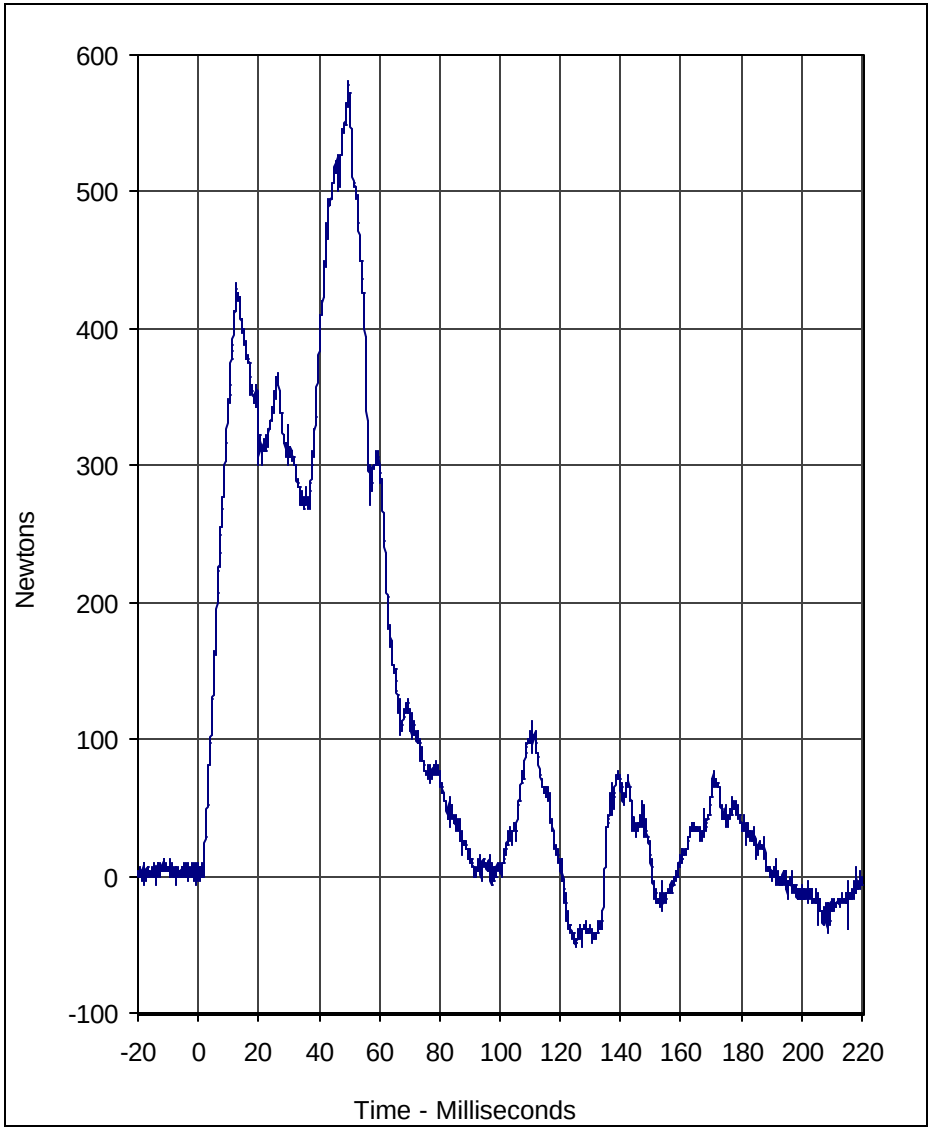
ATD Serial No.: 082 Test I.D.: NF12D

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	5.40 to 5.60	5.49	Pass
Pendulum Deceleration	10 Msec.	m/s	2.0 to 2.7	2.2	Pass
	20 Msec.	m/s	3.0 to 4.0	3.8	Pass
	30 Msec.	m/s	4.0 to 5.1	4.7	Pass
"D" Plane Rotation	Maximum	Degrees	70.0 to 82.0	79.8	Pass
Peak Moment in Rotation	Maximum	Nm	42.0 to 53.0	45.0	Pass
Positive Moment Decay, Time to 10Nm		Msec.	60.0 to 80.0	69.8	Pass
			Overall Test Results		Pass

Laboratory Technician

December 18, 2003
Test Date





Curve Description	CURNO	Type
Pendulum Velocity	001	FIL

Units	Max	Time	Min	Time	SAE Class
m/s	5.3	193.4	0.0	-0.2	180

Curve Description	CURNO	Type
Neck Force X	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	581.2	49.7	-51.7	124.9	1000

Test Program: 3 Year Old Hybrid III Neck Flexion Test

Test Date: 12/18/03

A.T.D. Serial No.: 082

Test I.D.: NF12D

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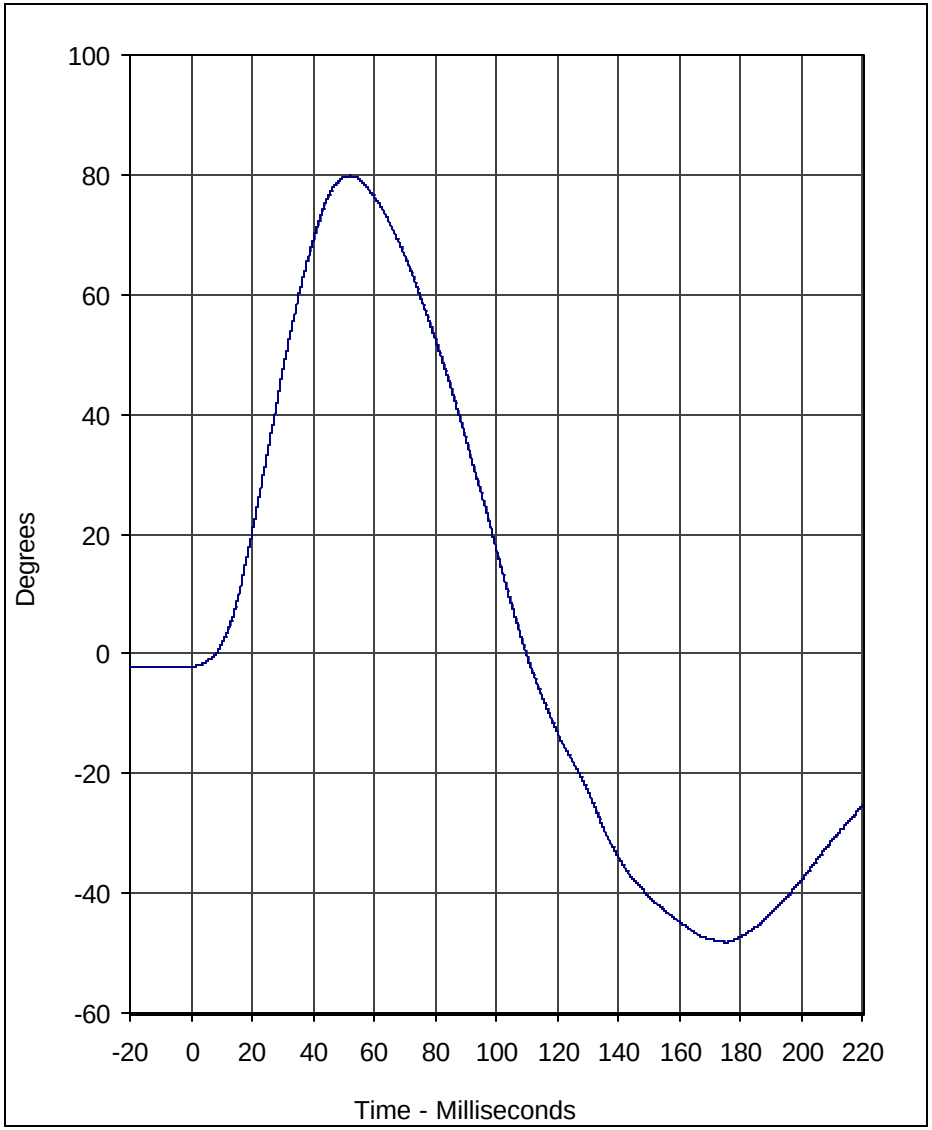
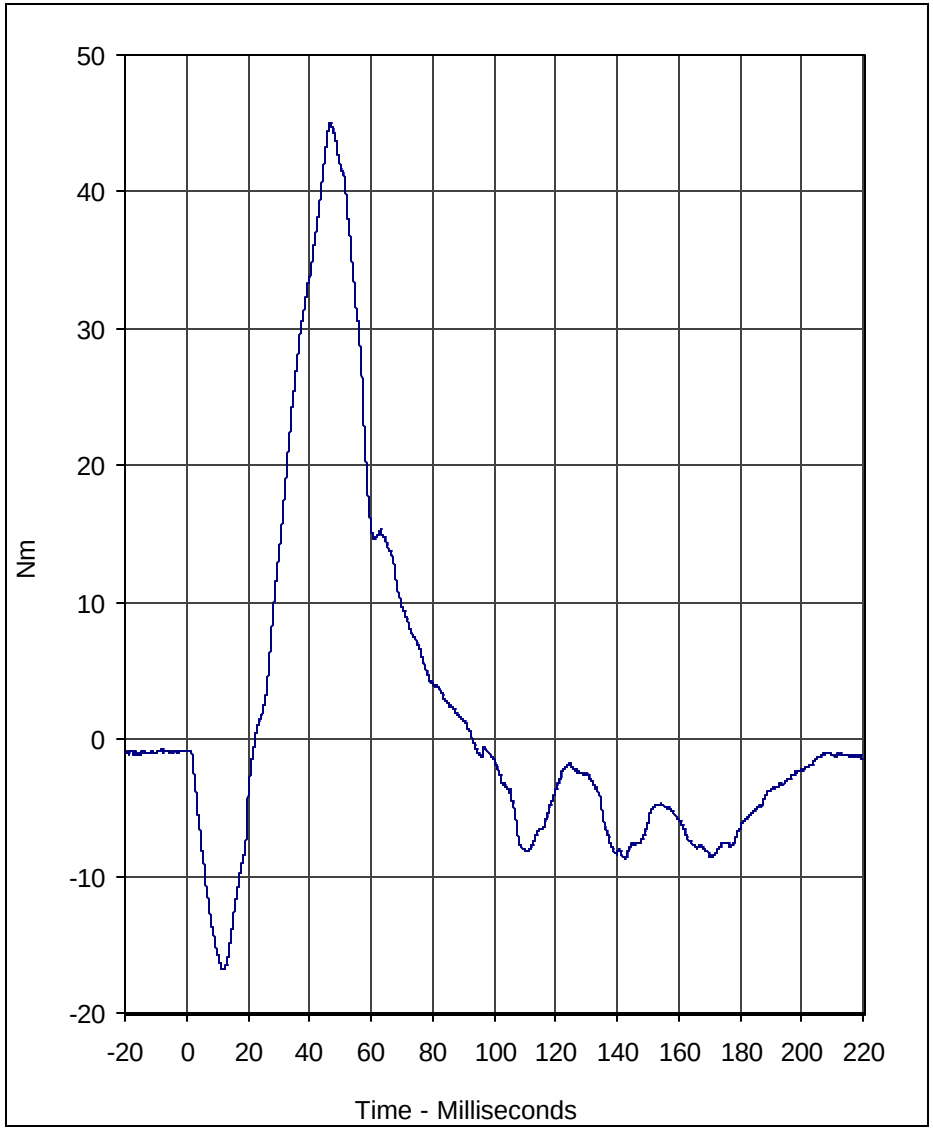




Curve Description	CURNO	Type
"D" Plane Rotation	003	FIL

Units	Max	Time	Min	Time	SAE Class
Degrees	79.8	52.2	-48.2	175.4	60

Curve Description	CURNO	Type
Neck Moment Y	002	FIL

Units	Max	Time	Min	Time	SAE Class
Nm	45.0	46.6	-16.8	11.7	600

Test Program: 3 Year Old Hybrid III Neck Flexion Test

Test Date: 12/18/03

A.T.D. Serial No.: 082

Test I.D.: NF12D

KARCO Engineering

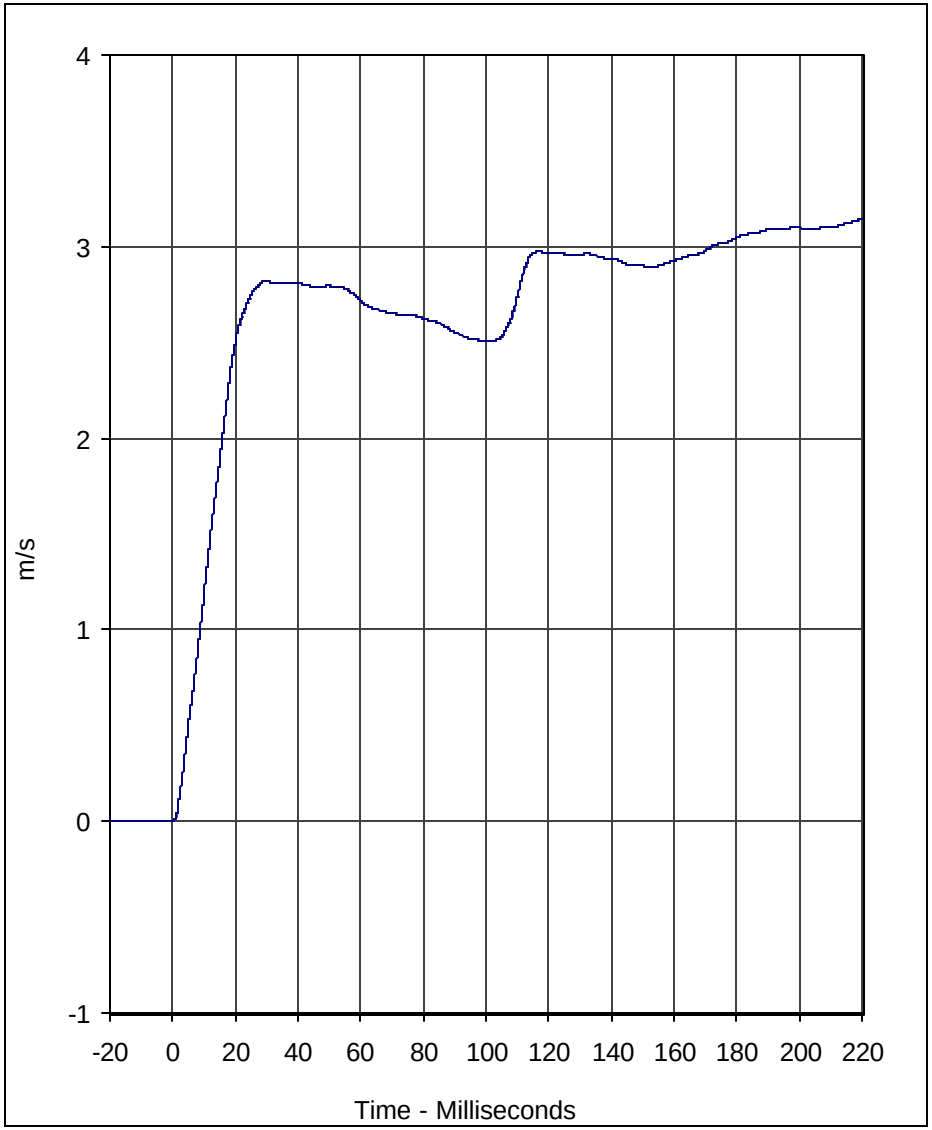
Calibration Data Sheet
Hybrid III 3 Year Old
Neck Extension Test

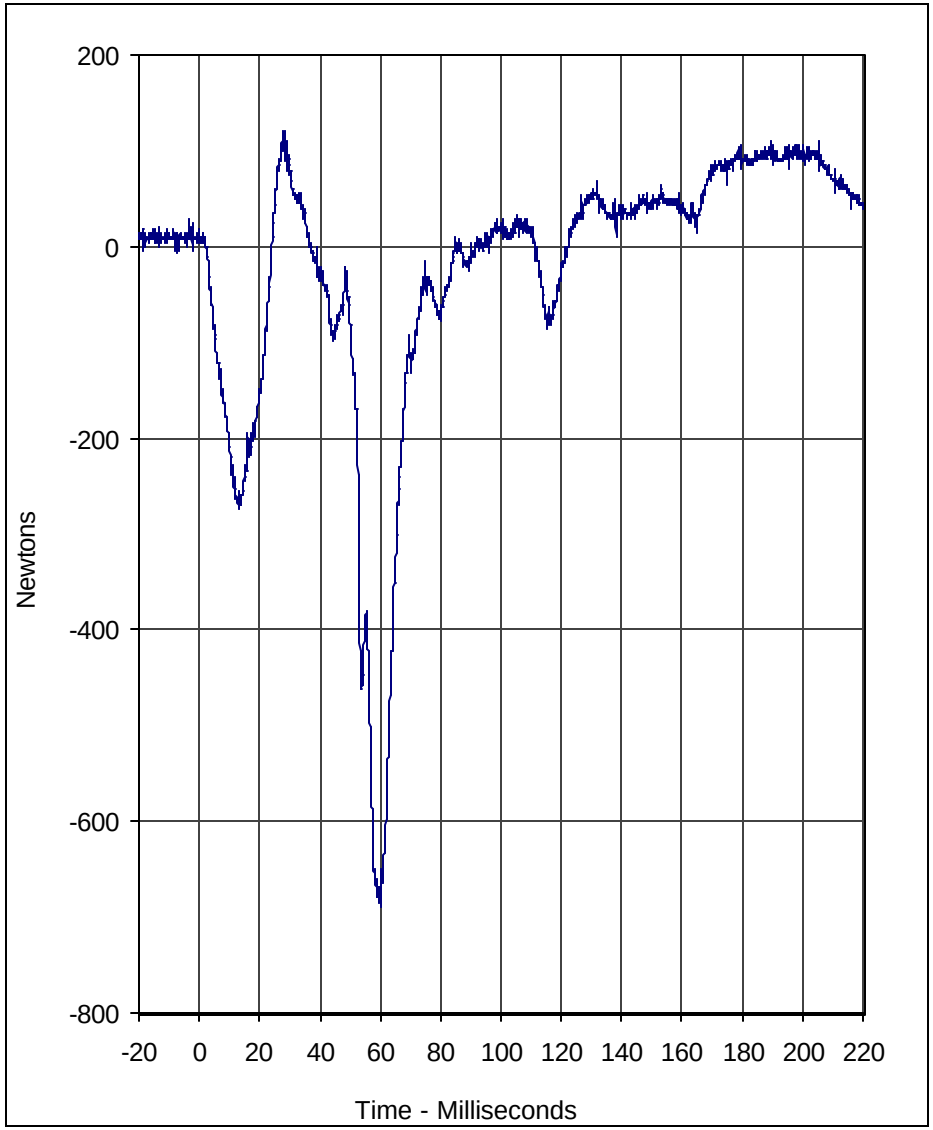
ATD Serial No.: 082 Test I.D.: NE12G

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	3.55 to 3.75	3.72	Pass
Pendulum Deceleration	10 Msec.	m/s	1.0 to 1.4	1.2	Pass
	20 Msec.	m/s	1.9 to 2.5	2.5	Pass
	30 Msec.	m/s	2.8 to 3.5	2.8	Pass
"D" Plane Rotation	Maximum	Degrees	83.0 to 93.0	85.9	Pass
Peak Moment in Rotation	Maximum	Nm	-43.7 to -53.3	-50.5	Pass
Positive Moment Decay, Time to 10Nm		Msec.	60.0 to 80.0	69.4	Pass
			Overall Test Results		Pass

Laboratory Technician

December 18, 2003
Test Date





Curve Description	CURNO	Type
Pendulum Velocity	001	FIL

Units	Max	Time	Min	Time	SAE Class
m/s	3.1	220.0	0.0	-0.5	180

Curve Description	CURNO	Type
Neck Force X	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	120.8	27.9	-689.1	59.9	1000

Test Program: 3 Year Old Hybrid III Neck Extension Test

Test Date: 12/18/03

A.T.D. Serial No.: 082

Test I.D.: NE12G

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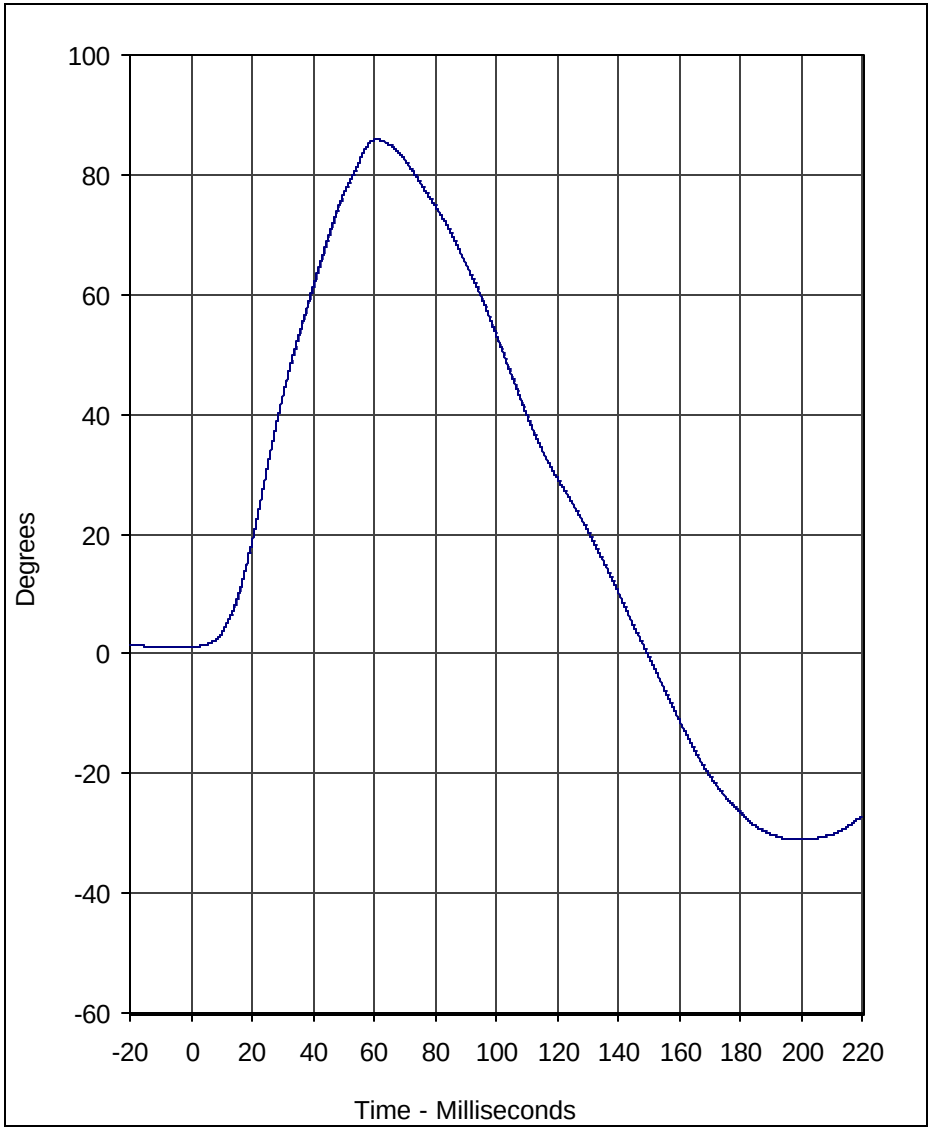
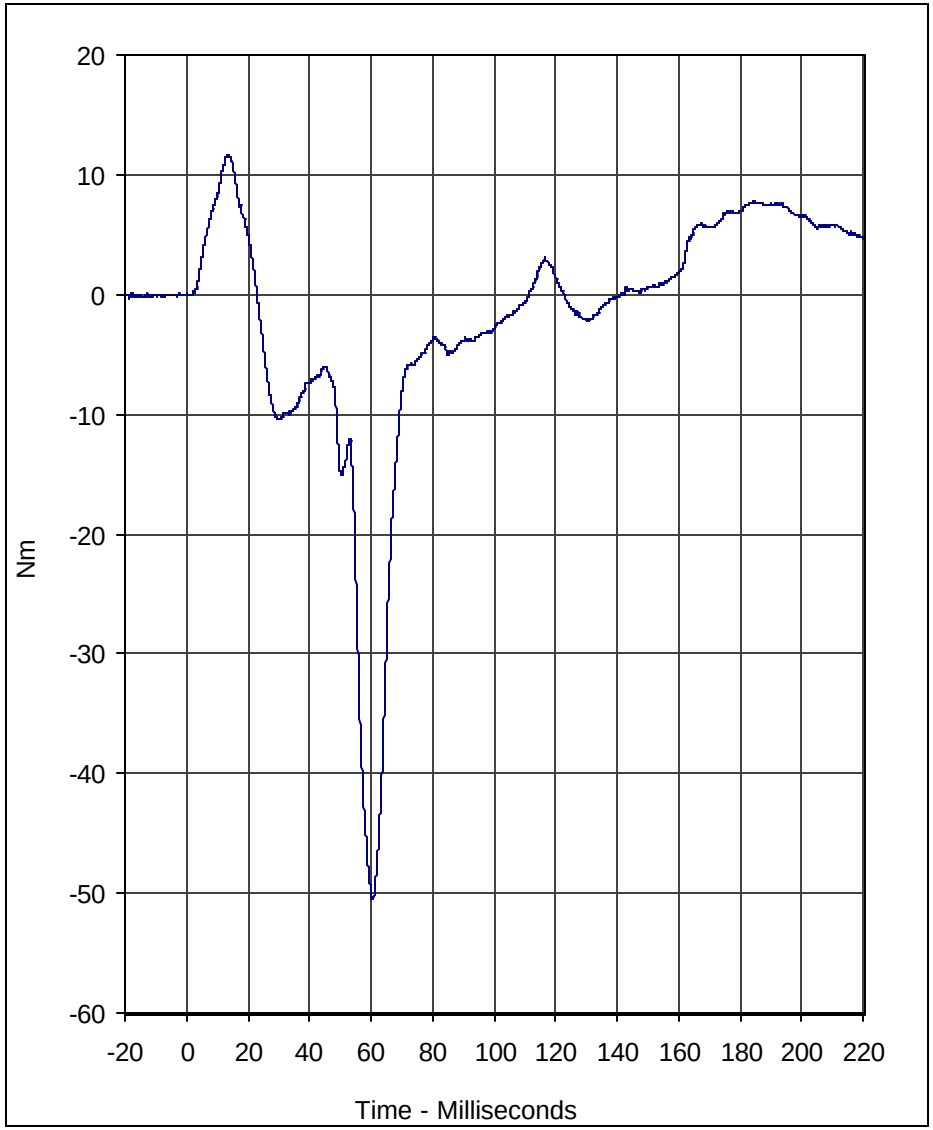




Curve Description	CURNO	Type
"D" Plane Rotation	003	FIL

Units	Max	Time	Min	Time	SAE Class
Degrees	85.9	61.2	-31.1	199.1	60

Curve Description	CURNO	Type
Neck Moment Y	002	FIL

Units	Max	Time	Min	Time	SAE Class
Nm	11.7	13.6	-50.5	60.5	600

Test Program: 3 Year Old Hybrid III Neck Extension Test

Test Date: 12/18/03

A.T.D. Serial No.: 082

Test I.D.: NE12G

KARCO Engineering

Calibration Data Sheet
Hybrid III 3 Year Old
Torso Flexion Test

ATD Serial No.: 082 Test I.D.: FL12H

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
Initial reference plane angle	Degrees	≤15.0	3.4	Pass
Peak Force at 45 +/-0.5 degrees	Newtons	130.0 to 180.0	177.6	Pass
Torso rotation rate	deg/sec	0.5 to 1.5	0.8	Pass
Final reference plane angle	Degrees	+/-10	5.2	Pass
		Overall Test Results		Pass

Laboratory Technician

December 18, 2003
Test Date

Calibration Data Sheet
Hybrid III 3 Year Old
External Measurements

ATD Serial No.: 082

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	539 to 554	540	Pass
B - Shoulder pivot height	mm	307 to 323	320	Pass
C - "H" point height	mm	34 to 45	35	Pass
D - "H" point from backline	mm	57 to 67	65	Pass
E - Shoulder pivot from back	mm	61 to 71	65	Pass
F - Thigh clearance	mm	81 to 91	85	Pass
G - Elbow back to wrist pivot	mm	247 to 263	255	Pass
H - Skull cap to back line	mm	48 to 58	55	Pass
I - Shoulder to elbow length	mm	185 to 201	195	Pass
J - Elbow rest height	mm	134 to 149	145	Pass
K - Buttock to knee length	mm	285 to 300	290	Pass
L - Poplipteal length	mm	219 to 234	230	Pass
M - Knee pivot height	mm	242 to 257	255	Pass
N - Buttock poplipteal length	mm	218 to 233	225	Pass
O - Chest depth with jacket	mm	139 to 154	145	Pass
P - Foot length	mm	138 to 148	145	Pass
R - Buttock to knee pivot length	mm	251 to 262	260	Pass
S - Head Breadth	mm	128 to 144	140	Pass
T - Head Depth	mm	167 to 183	175	Pass
U - Hip breadth	mm	201 to 216	215	Pass
V - Shoulder breadth	mm	237 to 252	245	Pass
W - Foot breadth	mm	54 to 64	60	Pass
X - Head circumference	mm	500 to 516	505	Pass
Y - Chest circumference with jacket	mm	527 to 553	545	Pass
Z - Waist circumference	mm	527 to 553	550	Pass
AA - Location for chest circumference	mm	249 to 259	255	Pass
BB - Location for waist circumference	mm	160 to 170	165	Pass
		Overall Test Results		Pass

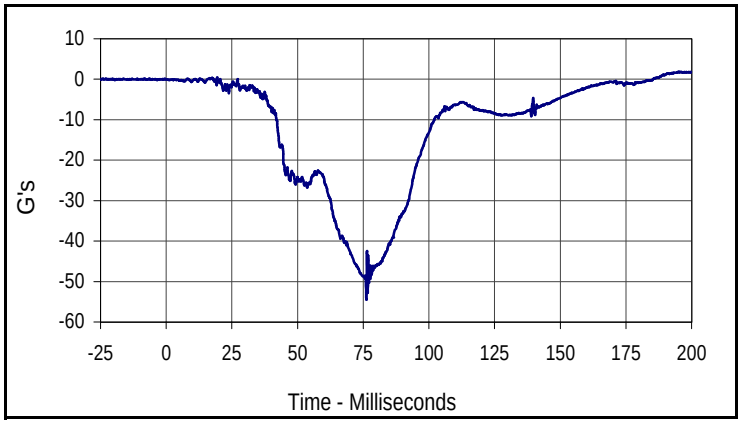
Laboratory Technician

December 18, 2003
Test Date

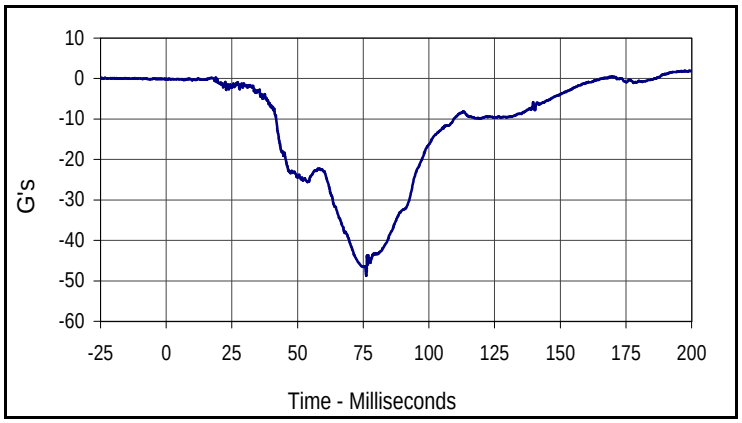
APPENDIX G

NINE ACCELEROMETER ARRAY HEAD

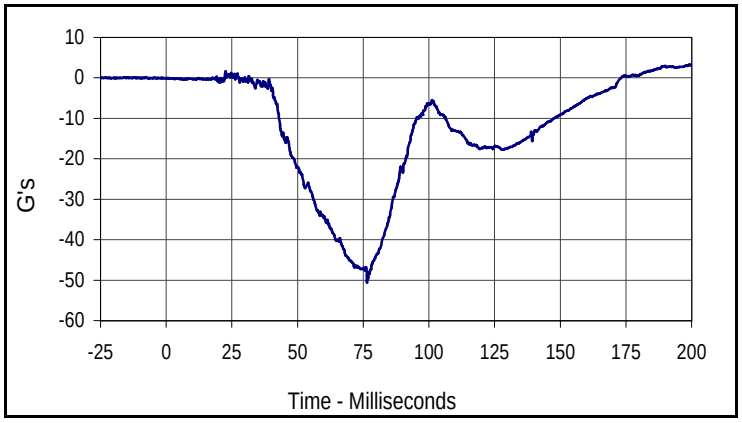
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



Curve Description			
Driver Head Primary X			
CURNO	Type	SAE Class	Units
001	FIL	1000	G's
Max	Time	Min	Time
1.8	195.9	-54.4	76.2

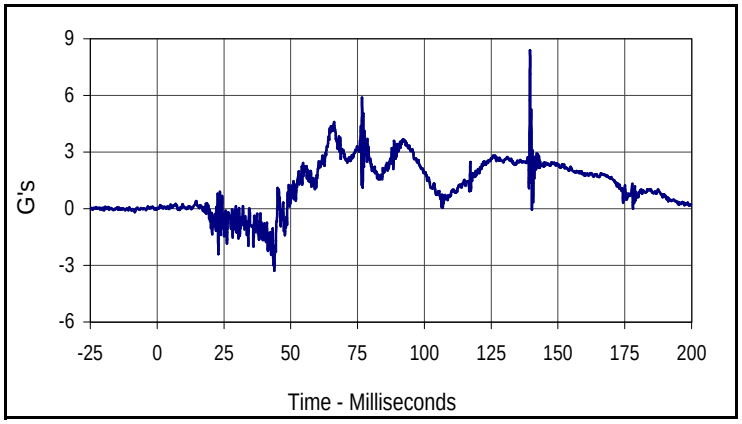


Curve Description			
Driver NAAH Yarm-X			
CURNO	Type	SAE Class	Units
162	FIL	1000	G's
Max	Time	Min	Time
2.0	199.2	-48.8	76.1

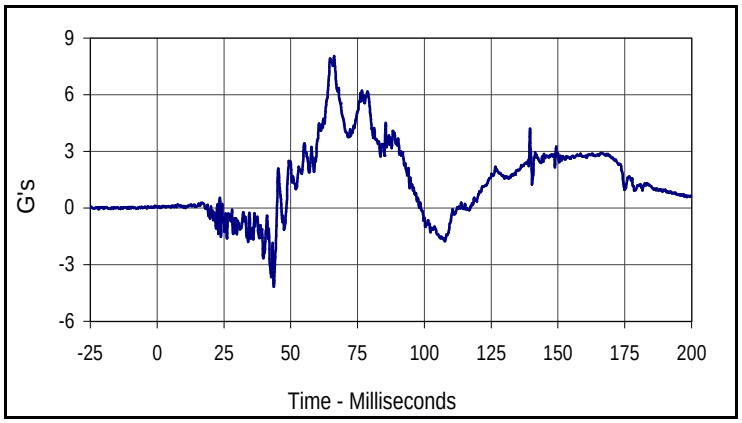


Curve Description			
Driver NAAH Zarm-X			
CURNO	Type	SAE Class	Units
164	FIL	1000	G's
Max	Time	Min	Time
3.3	200.0	-50.6	76.5

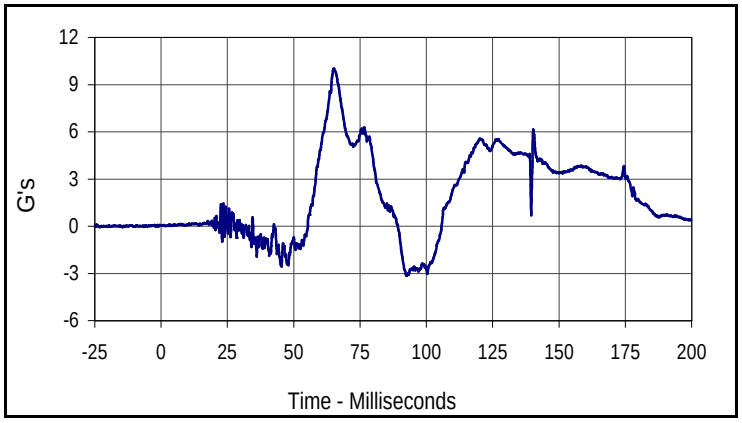
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



Curve Description			
Driver Head Primary Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
8.4	139.5	-3.3	43.9

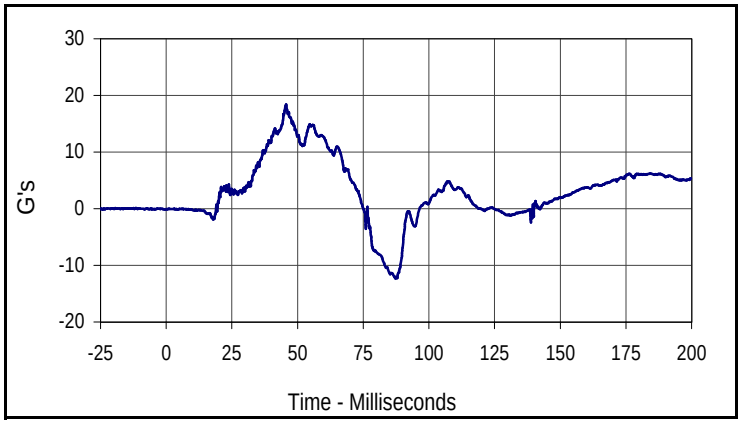


Curve Description			
Driver NAAH Xarm-Y			
CURNO	Type	SAE Class	Units
160	FIL	1000	G's
Max	Time	Min	Time
8.1	66.2	-4.2	43.6

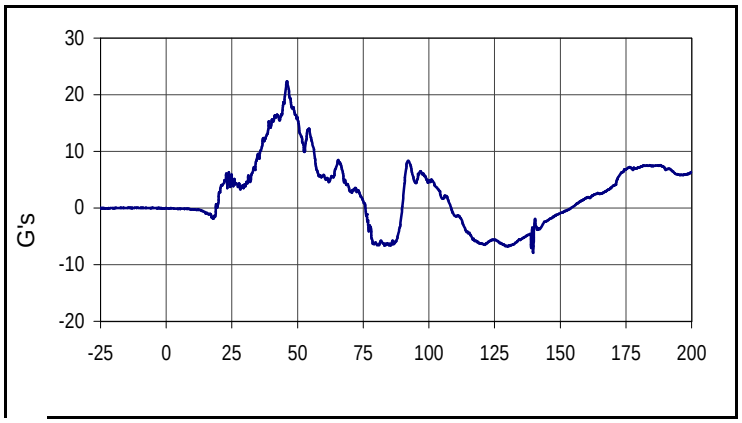


Curve Description			
Driver NAAH Zarm-Y			
CURNO	Type	SAE Class	Units
165	FIL	1000	G's
Max	Time	Min	Time
10.0	65.2	-3.1	92.5

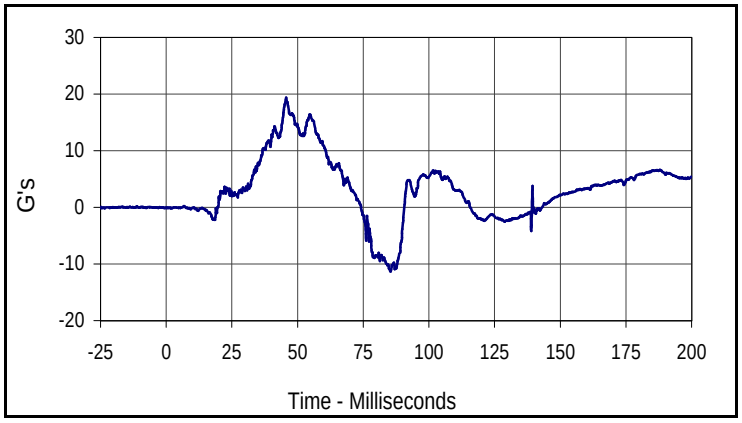
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



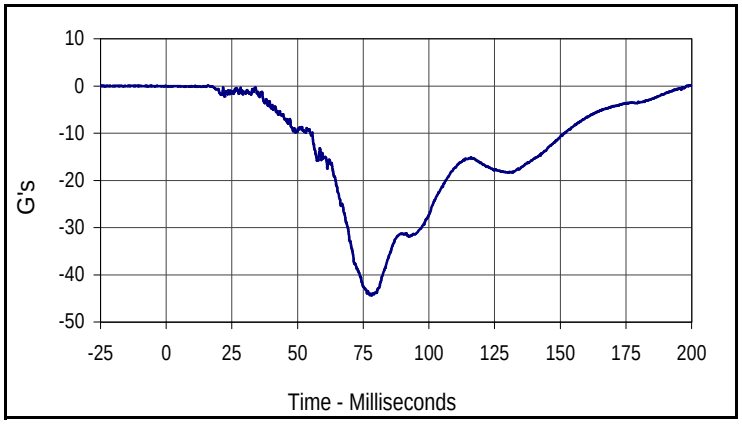
Curve Description			
Driver Head Primary Z			
CURNO	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
18.4	45.7	-12.4	87.3



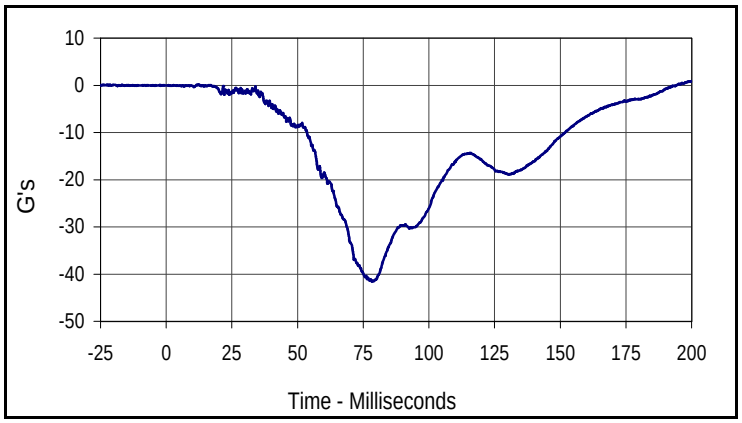
Curve Description			
Driver NAAH Xarm-Z			
CURNO	Type	SAE Class	Units
161	FIL	1000	G's
Max	Time	Min	Time
22.3	46.0	-7.9	139.7



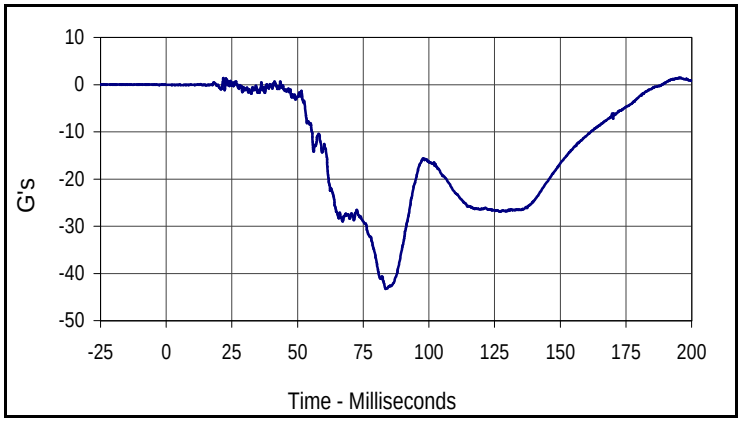
Curve Description			
Driver NAAH Yarm-Z			
CURNO	Type	SAE Class	Units
163	FIL	1000	G's
Max	Time	Min	Time
19.4	45.6	-11.4	85.4



Curve Description			
Passenger Head Primary X			
CURNO	Type	SAE Class	Units
045	FIL	1000	G's
Max	Time	Min	Time
0.2	200.0	-44.5	78.2

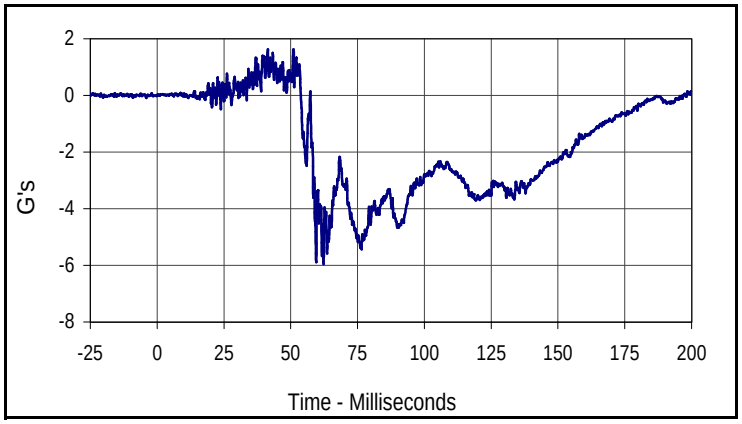


Curve Description			
Passenger NAAH Yarm-X			
CURNO	Type	SAE Class	Units
168	FIL	1000	G's
Max	Time	Min	Time
0.9	200.0	-41.6	78.4

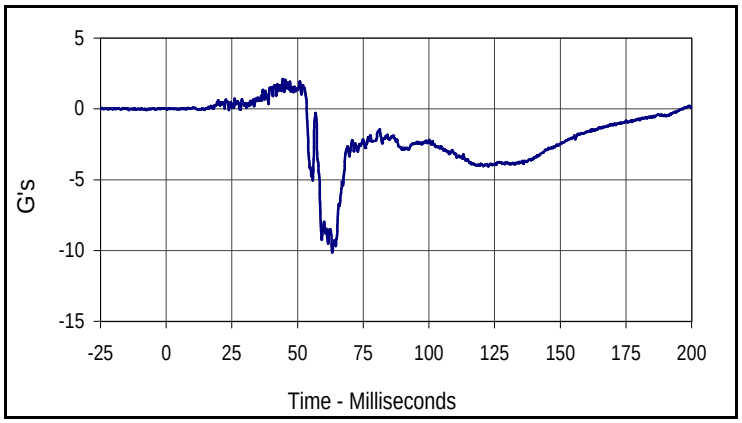


Curve Description			
Passenger NAAH Zarm-X			
CURNO	Type	SAE Class	Units
170	FIL	1000	G's
Max	Time	Min	Time
1.5	195.9	-43.3	83.6

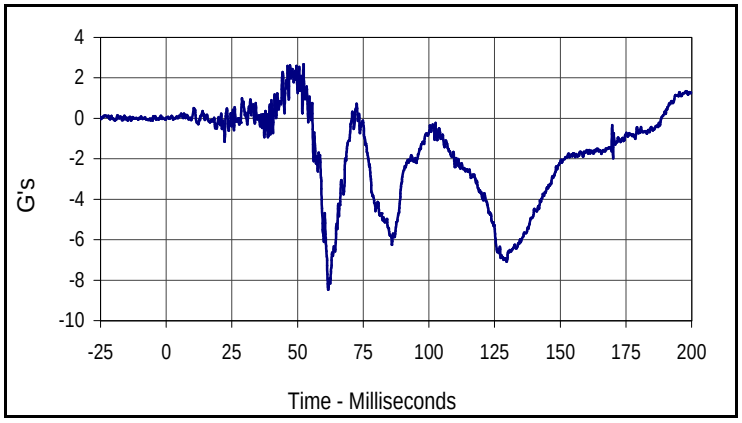
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



Curve Description			
Passenger Head Primary Y			
CURNO	Type	SAE Class	Units
046	FIL	1000	G's
Max	Time	Min	Time
1.6	51.0	-6.0	62.3

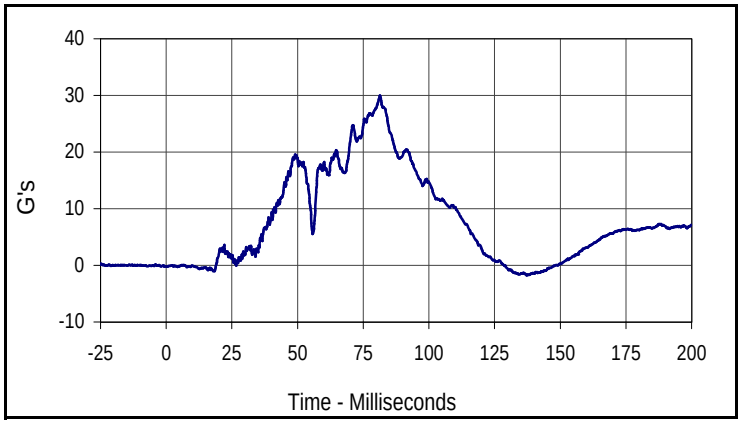


Curve Description			
Passenger NAAH Xarm-Y			
CURNO	Type	SAE Class	Units
166	FIL	1000	G's
Max	Time	Min	Time
2.1	44.3	-10.1	63.2

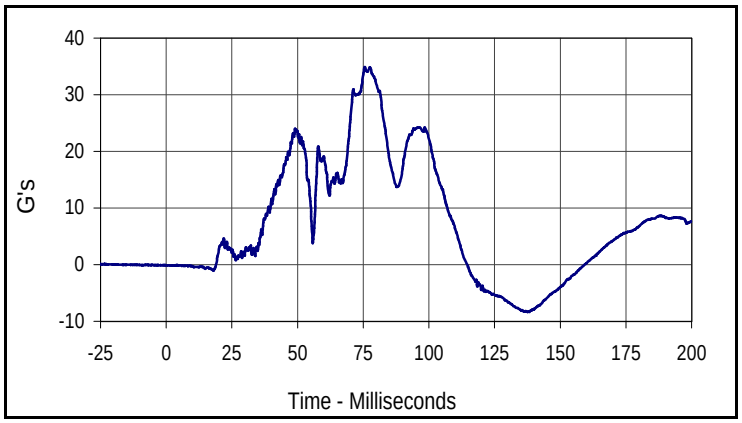


Curve Description			
Passenger NAAH Zarm-Y			
CURNO	Type	SAE Class	Units
171	FIL	1000	G's
Max	Time	Min	Time
2.7	52.3	-8.5	61.6

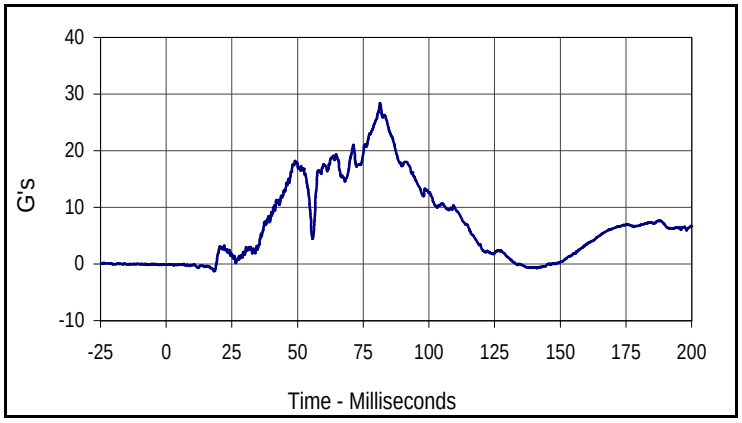
Test Vehicle:	2004 Mitsubishi Galant 4 Door Sedan	Test Date:	12/22/03
Test Program:	2004 NHTSA 35mph NCAP	NHTSA No.:	M45601



Curve Description			
Passenger Head Primary Z			
CURNO	Type	SAE Class	Units
047	FIL	1000	G's
Max	Time	Min	Time
30.0	81.3	-1.8	137.3



Curve Description			
Passenger NAAH Xarm-Z			
CURNO	Type	SAE Class	Units
167	FIL	1000	G's
Max	Time	Min	Time
34.9	75.6	-8.4	137.6



Curve Description			
Passenger NAAH Yarm-Z			
CURNO	Type	SAE Class	Units
169	FIL	1000	G's
Max	Time	Min	Time
28.4	81.4	-1.3	18.2