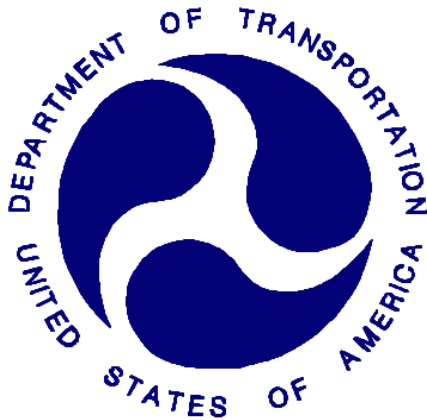


**NEW CAR ASSESSMENT PROGRAM
FRONTAL BARRIER IMPACT TEST**

**HONDA OF AMERICA
2004 ACURA 3.2 TL
4 DOOR SEDAN**

NHTSA NUMBER: M45300

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



12/19/03

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: _____
Mr. James E. Gorth, Project Engineer
KARCO Engineering, LLC

Date: December 22, 2003

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

Date: December 22, 2003

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

Date: December 22, 2003

FINAL REPORT ACCEPTED BY:

Manager, New Car Assessment Program

Date of Acceptance

COTR, NCAP Frontal Impact Program

Date of Acceptance

Technical Report Documentation Page

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16. Abstract A 35 mph (56.3 km/h) frontal barrier impact was conducted on a 2004 Acura 3.2 TL 4 Door Sedan at Karco Engineering, LLC on 12/19/03. This test was conducted to obtain data indicant of FMVSS 208, 212, 219 (partial), 301, and footwell intrusion performance. The impact velocity is 56.04 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 444 mm to the right of 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	306.4	279.1
Max. Chest Accel. (3 msec Clip)		G's	60	43.2	42.8
Left Femur Force		Newtons	10008	-1123.2	-217.4
Right Femur Force		Newtons	10008	-728.9	-239.8
17. Key Words 56.3 km/h NCAP Frontal Barrier Impact Test New Car Assessment Program (NCAP) 2004 Acura 3.2 TL 4 Door Sedan NHTSA No. M45300				18. Distribution of Statement Copies of this report available from: NHTSA Technical Reference Division National Highway Traffic Safety Admin. 400 Seventh St., SW, Room 5108 Washington, D.C. 20590	
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SECTION 1

PURPOSE AND SUMMARY OF TEST M45300

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 Acura 3.2 TL 4 Door Sedan at a velocity of 56.04 km/h. The test was performed at Karco Engineering, LLC on December 19, 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. 35) and the right-front passenger (position 2) ATD (Serial No. 34) were calibrated two tests prior 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 Head Array 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 444 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 and the right knee contacted the steering column/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 glove box.

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	306.4	43.2	-28.9	-1123.2	-728.9	74.6
Passenger	279.1	42.8	-29.0	-217.4	-239.8	191.3

SECTION 2
OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan

NHTSA No.: M45300

Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03

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	°F	°C	=(tf -32)/1.8
Force	Dynamic Forces	lbf	N	4.448
Moment	Torque	lbf/ft	Nm	1.355

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

DATA SHEET NO. 1
CRASH TEST SUMMARY

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
Test Date: 12/19/03

PRIMARY IMPACT DATA

Measured Parameter	Units	Value
Velocity at Impact	km/h	56.04
Test Weight	kg	1805
Impact Angle	degrees	0
Average Rebound	mm	715
Maximum Static Crush	mm	444

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. 35	50% Male Hybrid III No. 34
Head Contact	Airbag	Airbag
Chest Contact	Airbag	Airbag
Abdomen Contact	None	None
Left Knee Contact	Steering Column	Glovebox
Right Knee Contact	Steering Column/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 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
 Test Date: 12/19/03

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	M45300	Anti-Lock Brakes	Yes
Make	Acura	All Wheel Drive	No
Model	TL	Power Steering	Yes
Body Style	4-Door	Driver Front Airbag	Yes
Vin No.	19UUA66264A006543	Driver Side Airbag	Yes
Color	Blue Pearl	Driver Head Airbag	No
Delivery Date	12/16/2003	Driver Curtain Airbag	Yes
Odometer	218	Pass. Airbag	Yes
Dealer	Metro Acura	Pass. Side Airbag	Yes
Transmission	5 Speed Automatic	Pass. Head Airbag	No
Final Drive	Front	Pass. Curtain Airbag	Yes
Type/No. Cyl.	V-6	Pre-Tensioners	Yes
Engine Disp. (L)	3.2	Load Limiters	Yes
Engine Placement	Transverse	Bucket Seats	Yes
Roof Rack	No	Air. Cond.	Yes
Sunroof/T-Top	Yes	AM/FM Cassette	Yes
Tinted Glass	Yes	Tilt Steering	Yes
Traction Control	No	Power Door Locks	Yes
Power Brakes	Yes	Power Windows	Yes
Front Disc	Yes	Power Seats	Yes
Rear Disc	Yes	Other	None

DATA FROM CERTIFICATION LABEL

Manufactured By	Honda of America	GVWR (kg)	2053
Date of Manufacture	Oct-03	GAWR Front (kg)	1132
		GAWR Rear (kg)	941

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

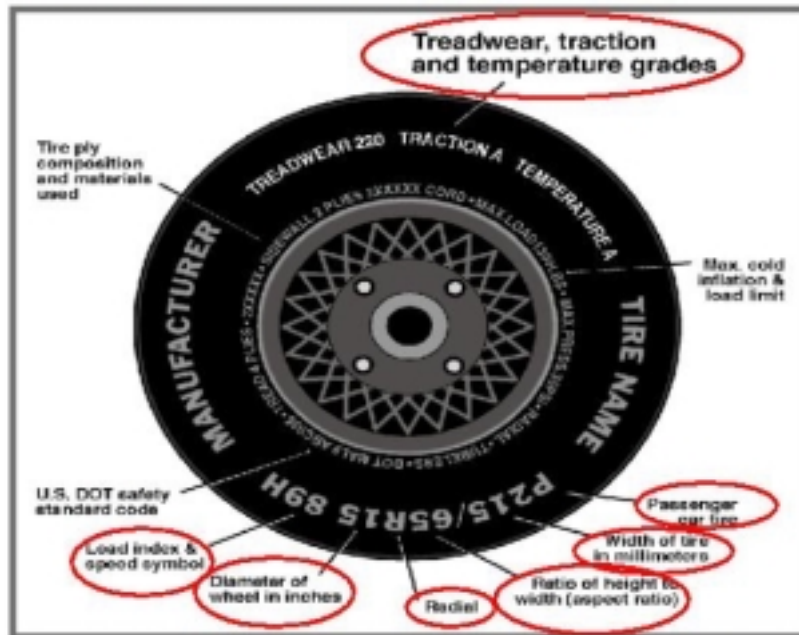
Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bucket	None	
Number of Occupants	2	3	N/A	5
Capacity Weight (VCW) (kg)				395
Cargo Weight (RCLW) (kg)				45

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

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
 Test Date: 12/19/03

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)	308	308
Cold Pressure (kpa)	220	220
Recommended Tire Size	P235/45R17	P235/45R17
Tire Size on Vehicle	P235/45R17	P235/45R17
Tire Manufacturer	Bridgestone	Bridgestone
Treadwear	200	200
Traction	A	A
Temperature Grades	A	A
Tire Plies Sidewall	2	2
Tire Plies Body	2	2
Load Index/Speed Symbol	93 W	93 W
Tire Material	Polyester/Steel/Nylon	Polyester/Steel/Nylon
DOT Safety Code Right	OBGNPVC4103	OBGNPVC4103
DOT Safety Code Left	OBGNPVC4103	OBGNPVC4103

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

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
 Test Date: 12/19/03

TEST VEHICLE WEIGHTS

	Units	As Delivered Weights (UVW)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	493	315		536	387	
Right	kg	501	305		525	357	
Ratio	%	61.6	38.4		58.8	41.2	
Totals	kg	994	620	1614	1061	744	1805

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1614
Weight of 2 P572 ATD's	kg	152
Rated Cargo/Luggage Wt. (RCLW)	kg	45
Calculated Vehicle Target Wt. (TVTW)	kg	1811

TEST VEHICLE ATTITUDE AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	705	710	705	709	1058
As Tested	mm	697	698	685	693	1135

Vehicle Wheel Base (mm) 2755

Weight of Ballast Secured in cargo area (kg) _____

Vehicle Components Removed Rear Door panels, Window and Bumper, Mufflers, 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) 64.69

Usable Capacity Furnished by COTR (L) 64.73

Actual Test Volume with entire fuel System Filled (L) 60.15

1/3 of Usable Capacity (L) 21.57

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 Acura 3.2 TL 4 Door Sedan
Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
Test Date: 12/19/03

SPEED TRAP DATA

Measured Parameter	Units	Requirement	Value
Trap No.1 Velocity (Primary)	km/h	55.51 to 57.12	56.05
Trap No. 1 Entry Distance	mm	<1524	1524
Trap No.1 Exit Distance	mm	<1524	305
Trap No.2 Velocity (Redun.)	km/h	55.51 to 57.12	56.07
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	4539	4361	-178
Center	mm	4791	4400	-391
Right Side	mm	4541	4257	-284

VEHICLE REBOUND FROM BARRIER

Measured Parameter	Units	Value
Left Side	mm	675
Center	mm	690
Right Side	mm	780
Average	mm	715

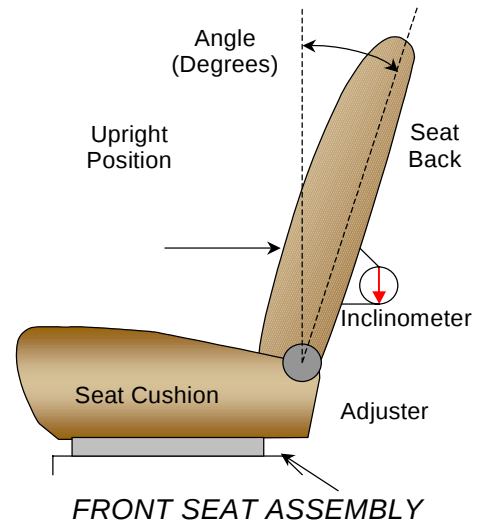
DATA SHEET NO. 4 TEST VEHICLE INFORMATION

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
 Test Date: 12/19/03

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.



SEAT BACK ANGLES

	Deg.
Driver w/seated dummy	9.0
Passenger w/seated Dummy	9.0

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	240mm	120mm
Passenger Seat	240mm	120mm

SEAT BELT UPPER ANCHORAGE

Position number one (1) is the uppermost position.

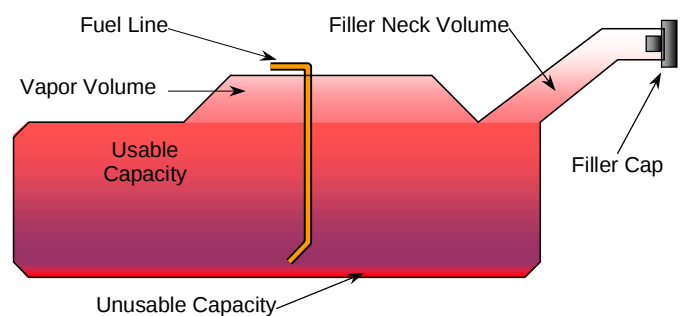
SEAT BELT UPPER ANCHORAGE

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

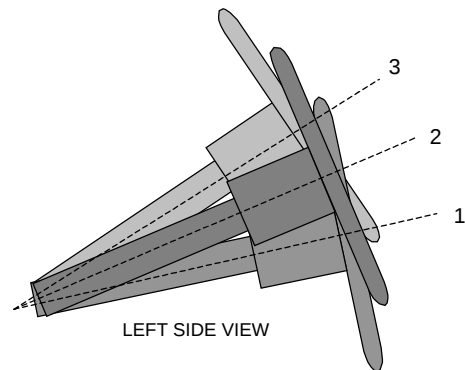
DATA SHEET NO. 4.....(CONTINUED)**TEST VEHICLE INFORMATION**Test Vehicle: 2004 Acura 3.2 TL 4 Door SedanNHTSA No.: M45300Test Program: 2004 NHTSA 35mph NCAPTest Date: 12/19/03**FUEL TANK CAPACITY**

	Liters
Usable Capacity of "Standard Tank"	64.73
Usable Capacity of "Optional" Tank	N/A
Usable Capacity used for FMVSS 301	59.51 to 60.79
Actual Amount of Solvent used	60.15
1/3 of Usable Capacity	21.57

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 position No. 1	15.0
Geometric center position No. 2	22.0
Uppermost position No. 3	24.9

DATA SHEET NO. 5
DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
Test Date: 12/19/03

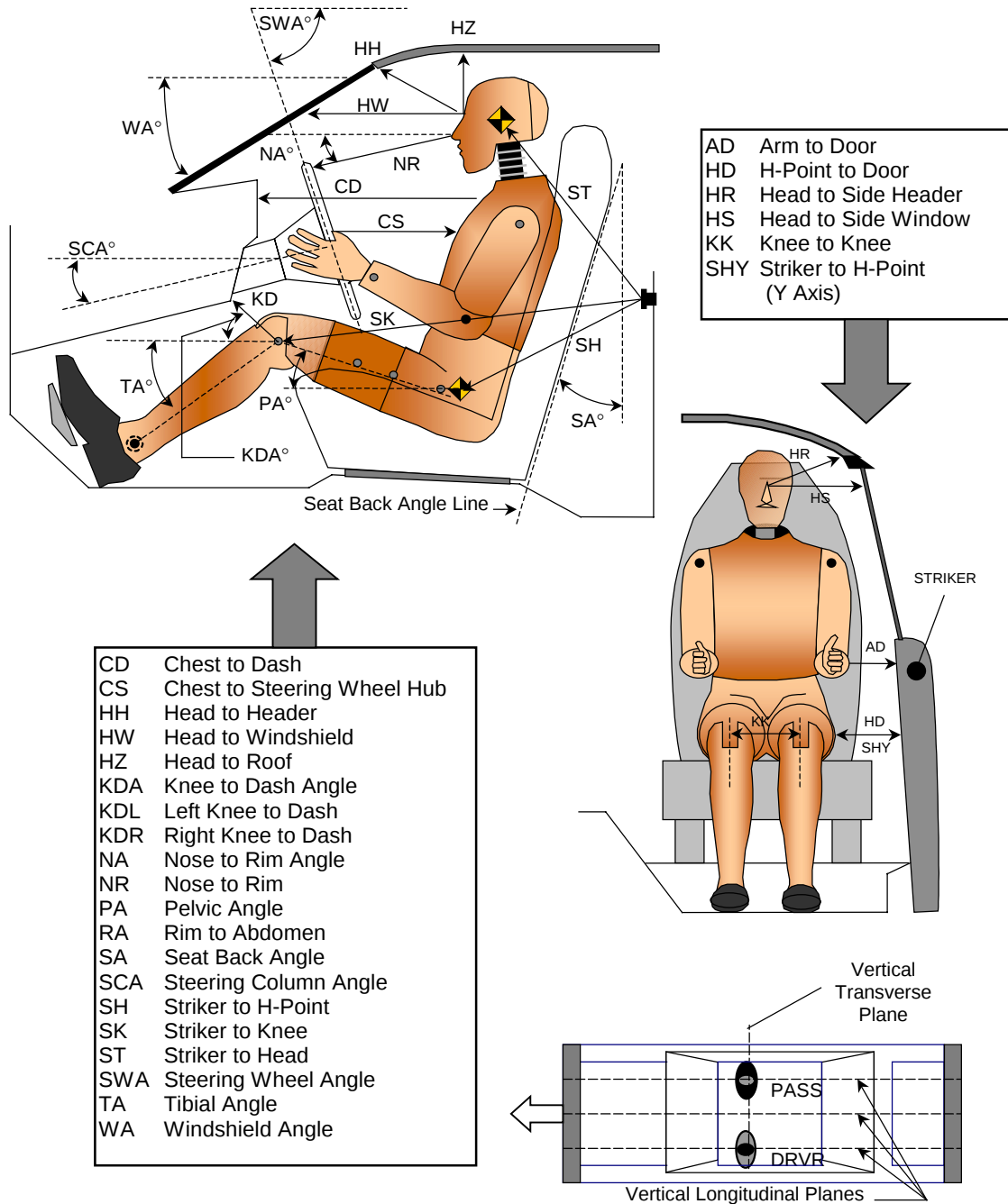
TEST DUMMY POSITION MEASUREMENTS

Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (deg)	Length (mm)	Angle (deg)
WA	Windshield Angle		67		
SWA	Steering Wheel Angle		68.0		
SCA	Steering Column Angle		22.0		
SA	Seat Back Angle		9.0		12.0
HZ	Head to Roof (Z)	180	90	157	90
HH	Head to Header	318		325	
HW	Head to Windshield	615		605	
HR	Head to Side Header (Y)	240		240	
NR	Nose to Rim	315	13		
CD	Chest to Dash	492		595	
CS	Chest to Steering Hub	283			
RA	Rim to Abdomen	195			
KDL	Left Knee to Dash	185	17	170	
KDR	Right Knee to Dash	190		180	26
PA	Pelvic Angle		22		20
TA	Tibia Angle		33		35
KK	Knee to Knee (Y0	328		275	
SK	Striker to Knee	609	8	535	8
ST	Striker to Head	518	77	625	74
SH	Striker to H-Point	254	40	264	32
SHY	Striker to H-Point (Y)	244		227	
HS	Head to Side Window	332		310	
HD	H-Point to Door (Y)	125		128	
AD	Arm to Door (Y)	162		50	

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

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
 Test Date: 12/19/03

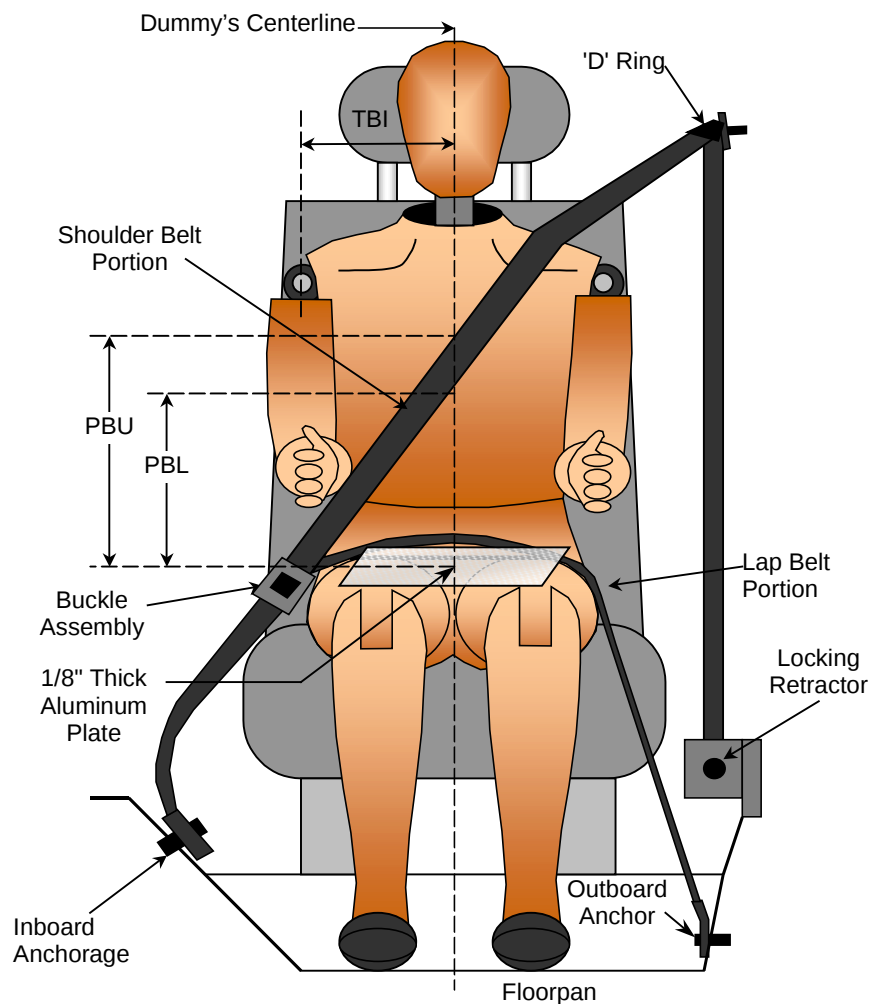


DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS

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

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
 Test Date: 12/19/03



SEAT BELT POSITIONING MEASUREMENTS

Measured Parameter	Units	Driver	Passenger
TBI -Dummy C/L to Lap/Shoulder Belt Intersect	mm	190	185
PBU - Top Surface of reference to belt upper edge	mm	330	300
PBL - Top Surface of reference to belt lower edge	mm	260	210
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 Acura 3.2 TL 4 Door Sedan

NHTSA No.: M45300

Test Program: 2004 NHTSA 35mph NCAP

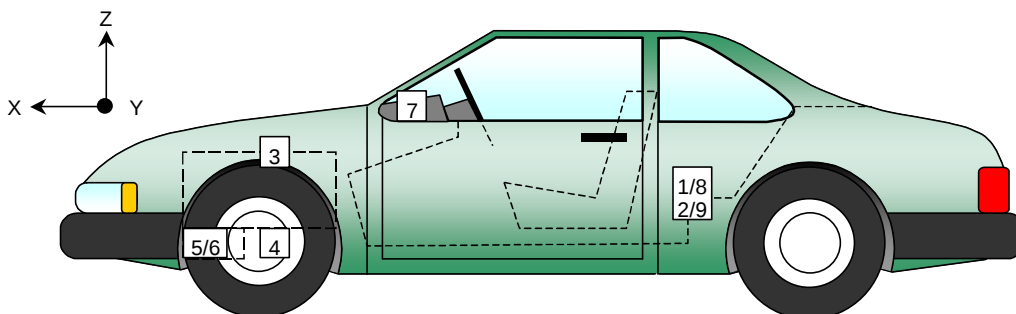
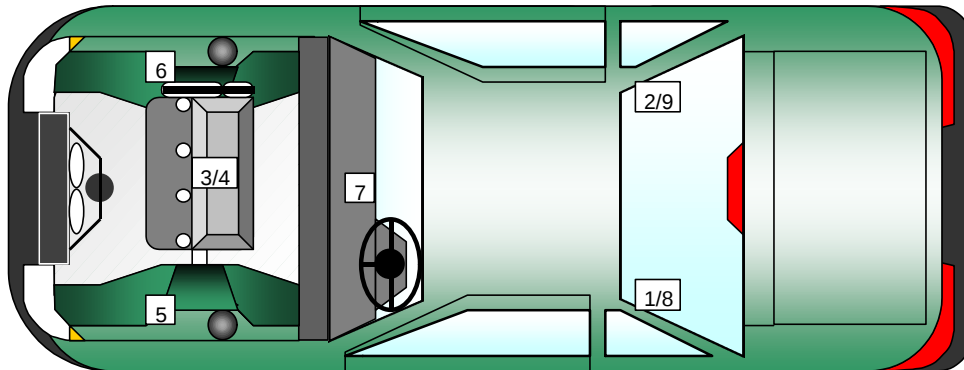
Test Date: 12/19/03

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	1830	-730	380	G's	2.1	136.1	-36.8	49.7
2	Right Rear X-Member	1830	730	380	G's	2.7	145.1	-33.6	51.9
3	Engine Top	3930	90	880	G's	0.0	0.0	0.0	0.0
4	Engine Bottom	4100	270	160	G's	23.7	42.6	-125.0	29.9
5	Left Brake Caliper	3950	-750	250	G's	79.2	49.8	-137.9	39.9
6	Right Brake Caliper	3950	750	250	G's	91.7	54.4	-86.0	33.3
7	Instrument Panel	3100	0	970	G's	12.0	94.9	-70.4	47.1
8	Left Rear X-Member (Z-Axis)	1750	-730	380	G's	7.6	22.8	-9.3	44.5
9	Right Rear X-Member (Z-Axis)	1750	730	380	G's	5.1	22.5	-6.4	55.1

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

1.) Channel failed, no data



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

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan

NHTSA No.: M45300

Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	13.7	195.0	-42.5	63.4	0.8	200.0	-44.9	72.6
Head CG	Y	G's	2.5	199.1	-10.7	79.7	8.7	72.9	-2.2	146.0
Head CG	Z	G's	17.6	48.0	-3.0	79.2	15.2	43.9	-11.7	89.4
Head CG Resultant	N/A	G's	44.3	63.4			45.2	72.6		

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	4.5	191.6	-42.2	63.6	2.1	199.1	-41.9	73.0
Chest CG	Y	G's	2.4	56.8	-2.7	41.3	6.0	87.8	-2.9	71.1
Chest CG	Z	G's	8.2	31.7	-17.6	81.0	6.7	45.3	-12.4	73.8
Chest CG Resultant	N/A	G's	43.9	73.4			43.6	73.1		

FEMUR PEAK FORCES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Femur	Z	Newtons	1150.7	55.6	-1123.2	21.6	959.9	46.7	-217.4	38.9
Right Femur	Z	Newtons	956.0	54.6	-728.9	28.9	1427.0	71.6	-239.8	23.8

SEAT BELT SENSOR PEAK VALUES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Shoulder Belt Pullout	N/A	MM	74.6	89.0	-31.6	34.4	191.3	103.9	-31.4	45.6
Shoulder Belt Stretch	N/A	MM/CM	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0
Lap Belt Force	N/A	Newtons	5973.1	60.9	-2.4	8.6	7823.7	76.2	-8.5	195.5
Shoulder Belt Force	N/A	Newtons	5903.1	77.2	-66.7	10.6	5387.6	65.3	-56.2	150.2

1.) Not used with pre-tensioners

Location	Driver				Passenger			
	HIC	T ¹	T ²	Avg G	HIC	T ¹	T ²	Avg G
Head CG Primary	306.4	47.0	83.0	37.3	279.1	52.7	88.7	35.9

PRIMARY CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Primary	43.2	72.4	75.4	42.8	72.0	75.0

DATA SHEET NO. 8...(continued)

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan

NHTSA No.: M45300

Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	7.0	195.3	-39.3	62.9	4.5	200.0	-36.1	66.7
Pelvis	Y	G's	5.6	81.7	-3.0	29.7	4.3	69.1	-6.0	93.5
Pelvis	Z	G's	6.1	193.0	-39.1	76.1	2.9	199.8	-40.6	77.8
Pelvis Resultant	N/A	G's	52.4	63.7			53.4	78.0		

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	265.5	62.0	-500.1	101.8	98.7	87.8	-396.0	138.5
Neck Force	Y	Newtons	72.3	194.8	-142.6	93.8	72.4	43.7	-117.9	87.6
Neck Force	Z	Newtons	1243.6	53.1	-48.7	17.7	778.4	43.1	-270.8	89.5
Neck Force Resultant	N/A	Newtons	1248.3	53.0			840.4	43.1		
Neck Moment	X	N•m	8.5	86.5	-13.4	60.1	10.1	61.1	-14.3	93.4
Neck Moment	Y	N•m	54.5	61.2	-15.3	198.6	32.2	127.9	-40.0	78.1
Neck Moment	Z	N•m	17.7	82.1	-7.3	133.7	4.8	156.8	-12.1	93.8
Neck Moment Resultant	N/A	N•m	56.5	61.2			42.5	95.2		

FOOT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Foot Aft	X	G's	2.2	94.7	-36.0	55.9	30.4	54.9	-59.7	45.4
Left Foot Aft	Z	G's	3.8	197.0	-36.2	19.9	3.1	157.2	-57.9	44.6
Left Foot Fore	Z	G's	27.3	22.9	-76.0	19.5	31.6	58.7	-96.7	43.9
Right Foot Aft	X	G's	14.7	27.0	-43.6	35.7	7.1	40.9	-53.4	45.3
Right Foot Aft	Z	G's	4.8	198.1	-60.1	27.8	4.1	20.2	-43.9	42.5
Right Foot Fore	Z	G's	27.7	30.3	-163.9	28.2	19.7	26.7	-68.1	42.9

UPPER AND LOWER TIBIA PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Upper Moment	X	N•m	19.9	109.8	-33.0	81.6	22.1	99.4	-18.5	46.4
Left Upper Moment	Y	N•m	21.9	193.1	-61.9	54.7	20.5	199.1	-81.4	71.9
Right Upper Moment	X	N•m	15.6	143.7	-31.4	73.1	19.3	92.0	-29.6	49.4
Right Upper Moment	Y	N•m	21.9	190.5	-73.1	36.7	18.5	200.0	-83.1	48.8
Left Lower Moment	X	N•m	19.6	73.3	-7.2	25.9	9.9	75.0	-5.2	62.9
Left Lower Moment	Y	N•m	21.1	21.6	-21.9	56.0	21.3	52.3	-33.0	45.6
Left Lower Force	Z	Newtons	86.3	111.5	-2674.2	21.6	117.0	163.3	-2096.4	37.6
Right Lower Moment	X	N•m	11.2	78.9	-11.8	57.7	23.1	85.7	-16.6	39.9
Right Lower Moment	Y	N•m	17.6	199.2	-22.1	50.6	39.9	40.2	-25.8	46.2
Right Lower Force	Z	Newtons	54.8	166.0	-2641.6	29.7	99.3	171.3	-2304.6	40.1

DATA SHEET NO. 8...(continued)Test Vehicle: 2004 Acura 3.2 TL 4 Door SedanNHTSA No.: M45300Test Program: 2004 NHTSA 35mph NCAPTest Date: 12/19/03**CHEST PEAK DISPLACEMENTS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	MM	0.0	0.8	-28.9	65.6	0.0	6.2	-29.0	96.8

HEAD REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	14.3	195.1	-42.3	63.5	0.9	199.6	-44.9	72.6
Head CG	Y	G's	2.6	198.9	-10.6	80.3	8.6	72.8	-2.5	145.9
Head CG	Z	G's	17.6	48.0	-3.0	79.7	15.2	43.8	-11.9	89.7
Head CG Resultant	N/A	G's	44.1	63.4			45.2	72.6		

CHEST REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	4.4	191.8	-42.2	63.5	2.2	198.5	-41.8	73.0
Chest CG	Y	G's	2.7	56.4	-2.5	41.3	6.2	87.7	-2.9	71.1
Chest CG	Z	G's	8.1	31.7	-17.7	81.0	6.5	45.3	-12.7	73.6
Chest CG Resultant	N/A	G's	43.9	73.4			43.7	73.1		

REDUNDANT HEAD INJURY CRITERIA (HIC)

Location	Driver				Passenger			
	HIC	T ¹	T ²	Avg G	HIC	T ¹	T ²	Avg G
Head CG Redundant	305.2	47.1	83.1	37.2	279.9	52.7	88.7	36.0

REDUNDANT CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Redundant	43.3	72.3	75.3	42.8	72.0	75.0

DATA SHEET NO. 9
SEATBELT ASSESSMENT TEST DATA

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
 Test Date: 12/19/03

SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
TBI -Dummy C/L to Lap/Shoulder Belt Intersect	mm	190	185
PBU - Top Surface of reference to belt upper edge	mm	330	300
PBL - Top Surface of reference to belt lower edge	mm	260	210
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	695	695
Shoulder Belt length as measured on ATD	mm	885	910
Lap Belt length as measured on ATD	mm	810	840
Remainder of belt on reel	mm	755	720
Total belt length for continuous webbing systems	mm	3145	3165

SHOULDER BELT SPOOL-OFF DATA

Measurement Description	Units	Driver	Passenger
As determined mechanically	mm	60.0	N/A
As determined electronically	mm	74.6	191.3

BELT STRETCH DATA

Measurement 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 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
 Test Date: 12/19/03

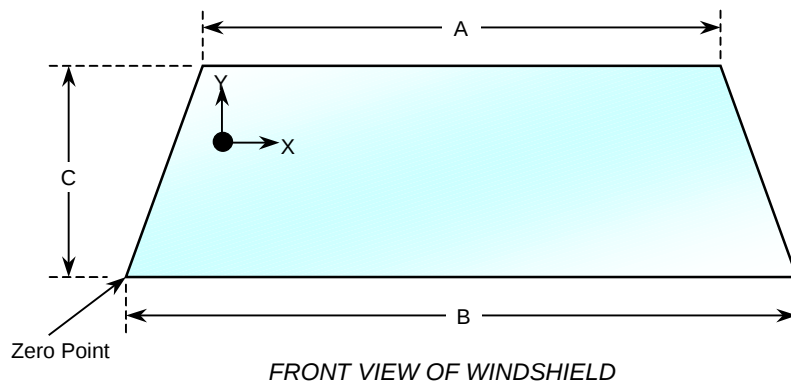
Windshield Mounting Details: Windshield glass is secured to the vehicle frame with a rubber type adhesive. No molding covers the windshield periphery at any point.

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	2532.0	2532.0	100.0
Right Side	2532.0	2532.0	100.0
Total	5064.0	5064.0	100.0



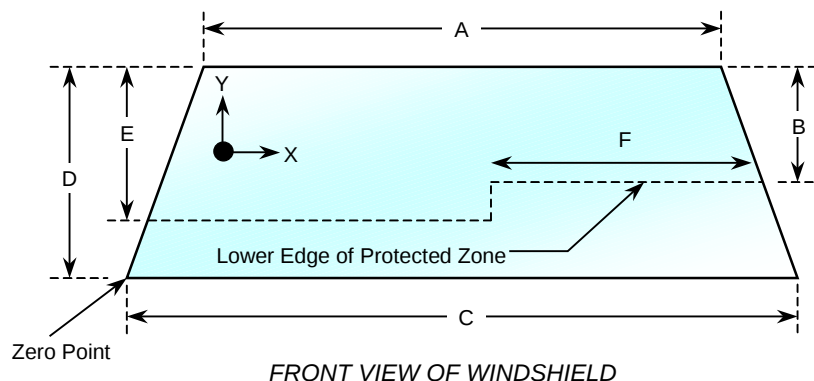
WINDSHIELD DIMENSIONS

Item	Units	Segment Length	Molding Width
A	mm	1802.0	12.0
B	mm	1540.0	10.0
C-Left	mm	861.0	12.0
C-Right	mm	861.0	12.0

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

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
 Test Date: 12/19/03



**WINDSHIELD AND
PROTECTED ZONE**

Item	Units	Value
A	mm	1802
B	mm	484
C	mm	1540
D	mm	861
E	mm	520
F	mm	512

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 Acura 3.2 TL 4 Door Sedan

NHTSA No.: M45300

Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03

Test Time: 1:22 PM

Temperature: 13.3 Deg. C.

STODDARD SOLVENT SPILLAGE MEASUREMENTS

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

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

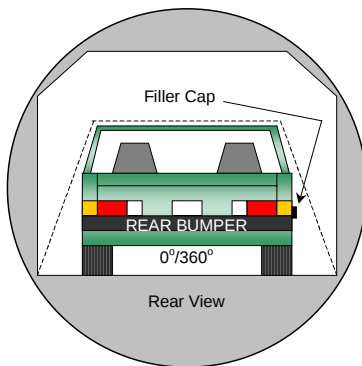
C. For the following 25 minutes: 0.0 oz.
(Maximum Allowable = 1 oz./minute)

D. Spillage Location Details: No leakage occurred

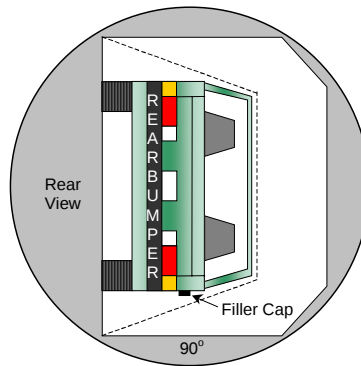
DATA SHEET NO. 13
FMVSS 301 STATIC ROLLOVER DATA

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
Test Program: 2004 NHTSA 35mph NCAP

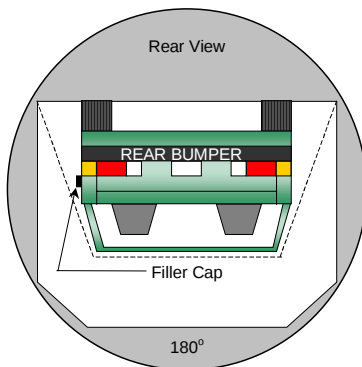
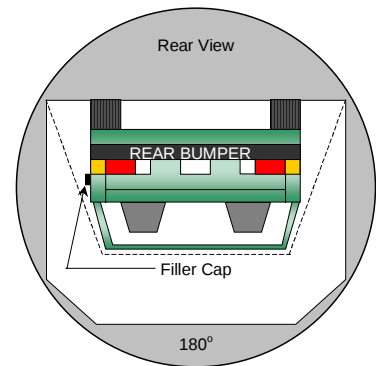
NHTSA No.: M45300
Test Date: 12/19/03



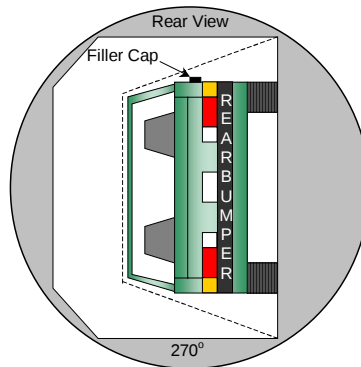
0° to 90°



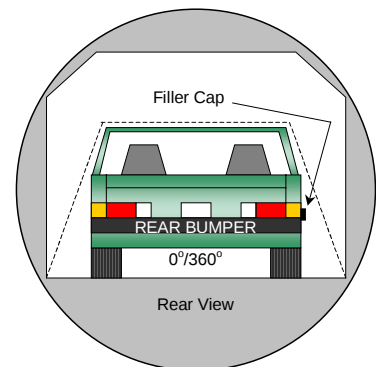
90° to 180°



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 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
 Test Date: 12/19/03

SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° to 90°	84	300	384
90° to 180°	77	300	377
180° to 270°	78	300	378
270° to 360°	79	300	379

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 Acura 3.2 TL 4 Door Sedan
Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
Test Date: 12/19/03

VEHICLE MEASUREMENT TABLE

No.	Measurement Description	Units	Pre-Test	Post-Test	Diff.
1	Total length of vehicle at centerline	mm	4791	4400	-391
2	RSOV to front of engine	mm	4300	4046	-254
3	RSOV to firewall centerline	mm	3676	3651	-25
4	RSOV to leading edge of right door	mm	3298	3295	-3
5	RSOV to leading edge of left door	mm	3296	3295	-1
6	RSOV to lower leading edge of right door	mm	3290	3290	0
7	RSOV to lower leading edge of left door	mm	3285	3276	-9
8	RSOV to upper trailing edge of right door	mm	2164	2160	-4
9	RSOV to upper trailing edge of left door	mm	2164	2159	-5
10	RSOV to lower trailing edge of right door	mm	2175	2173	-2
11	RSOV to lower trailing edge of left door	mm	2171	2161	-10
12	RSOV to bottom of right 'A' pillar	mm	3288	3271	-17
13	RSOV to bottom of left 'A' pillar	mm	3276	3264	-12
14	RSOV to firewall on right side	mm	3641	3626	-15
15	RSOV to firewall on left side	mm	3641	3630	-11
16	RSOV to steering column	mm	2800	2820	20
17	Center of steering column to left 'A' pillar	mm	520	385	-135
18	Center of steering column to headlining	mm	433	430	-3
19	RSOV to right side of front bumper	mm	4541	4257	-284
20	RSOV to left side of front bumper	mm	4539	4361	-178
21	Length of engine block	mm	478	478	0
RD	RSOV to right side of dash panel	mm	3001	2987	-14
CD	RSOV to center of dash panel	mm	3030	2987	-43
LD	RSOV to left side of dash panel	mm	3001	2985	-16

All measurements in millimeters

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

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
 Test Date: 12/19/03

VEHICLE STRUCTURAL MEASUREMENT TABLE

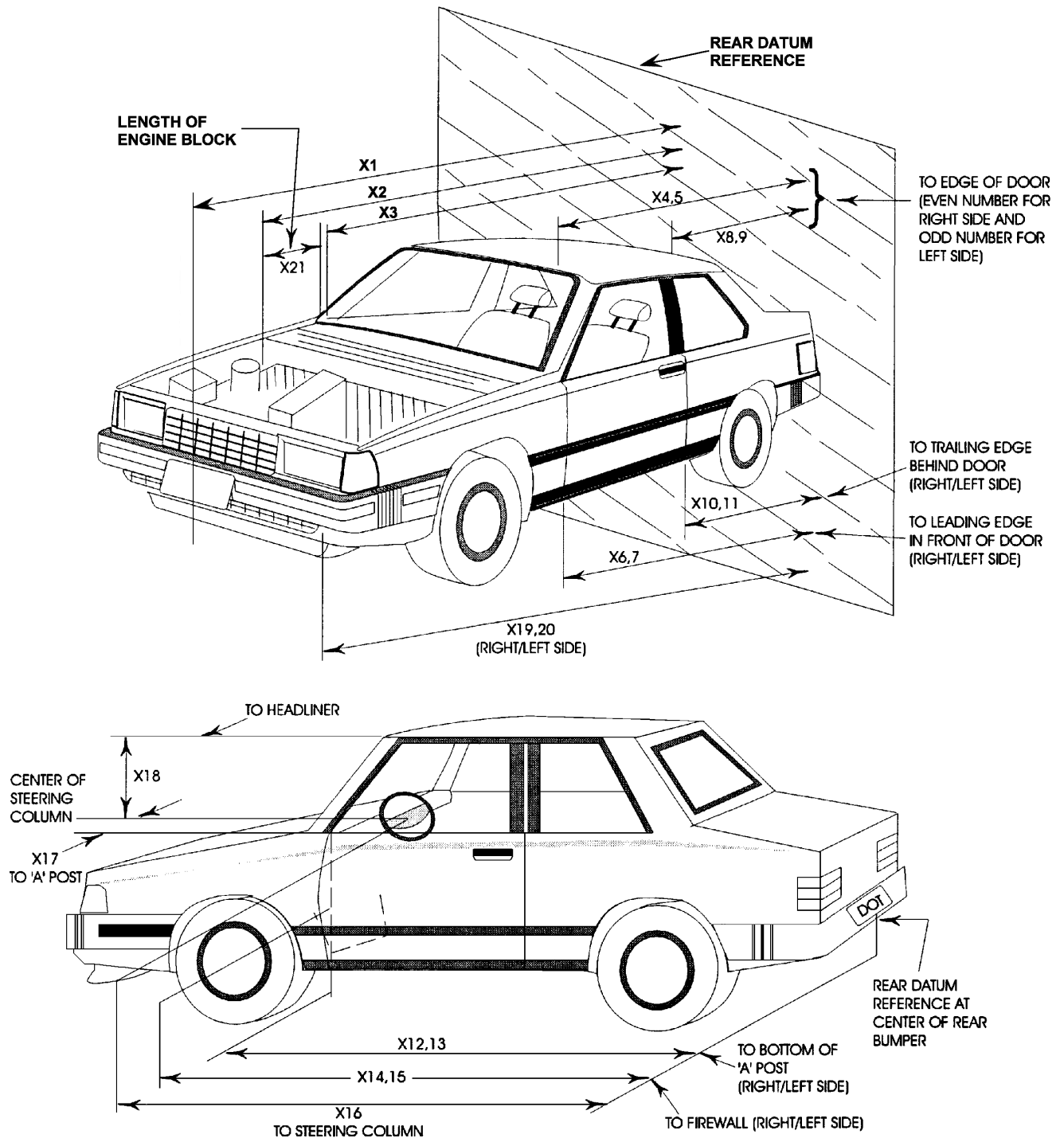
No.	Measurement Description	Units	Pre-Test	Post-Test	Diff.
1	Total length	mm	4791	4400	-391
2	Total width	mm	1840	1835	-5
3	Bumper top height	mm	620	664	44
4	Bumper bottom height	mm	135	250	115
5	Longitudinal member top height	mm	537	568	31
6	Longitudinal member bottom height	mm	411	496	85
7	Distance between longitudinal members	mm	900	850	-50
8	Longitudinal member width	mm	126	130	4
9	Engine top height	mm	845	802	-43
10	Engine bottom height	mm	173	144	-29
11	Engine and gear box width	mm	676	676	0
12	Front bumper to engine distance	mm	505	280	-225
13	Front shock absorber fixing width	mm	829	870	41
14	Bonnet leading edge height	mm	632	743	111
15	Front shock absorber fixing width	mm	1053	995	-58
16	Front bumper to front axle distance	mm	1015	815	-200
17	Front axle to 'A' pillar distance	mm	490	350	-140
18	'A' pillar to 'B' pillar distance	mm	1350	1340	-10
19	'B' pillar to rear axle distance	mm	1125	1111	-14
20	'B' pillar to 'C' pillar distance	mm	999	993	-6
21	Roof sill bottom height	mm	1340	1380	40
22	Roof sill top height	mm	1415	1456	41
23	Floor sill bottom height	mm	176	266	90
24	Floor sill top height	mm	326	431	105

All measurements in millimeters

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

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
Test Date: 12/19/03



DATA SHEET NO. 15
CAMERA LOCATIONS

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
Test Date: 12/19/03

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	1000
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	105	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	3353	1930	2286	25	1897	6	1020
8	Passenger Overall	2286	-8230	1524	6	7732	13	1010
9	Passenger Close-Up	1219	-6096	1524	4	5741	35	1010
10	3/4 Passenger	8026	-8941	2997	9	10252	80	900
11	Passenger Door	1626	-8836	1702	4	8389	50	1000
12	Passenger Side Child	3353	-1930	2286	25	1897	6	1000
13	Overhead	610	0	6172	90	N/A	13	1010
14	Driver Front	-610	406	2743	40	N/A	13	NTM
15	Passenger Front	-610	406	2743	40	N/A	13	NTM
16	Pit Engine	762	0	-1499	90	N/A	9	1020
17	Pit Fuel Tank	3658	0	-1499	90	N/A	6	1020

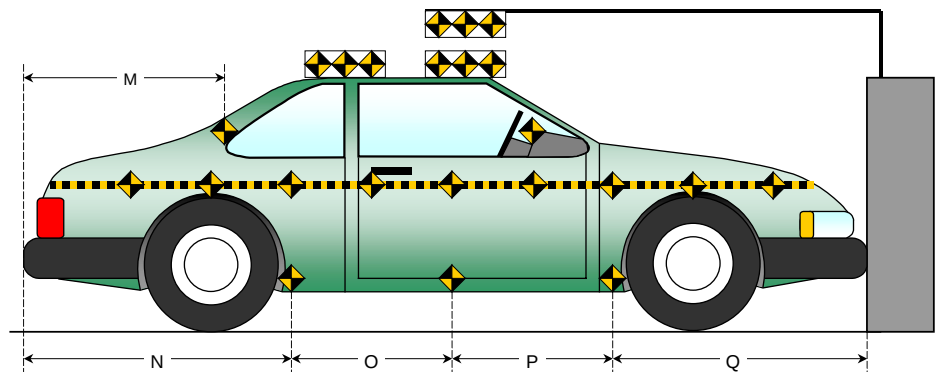
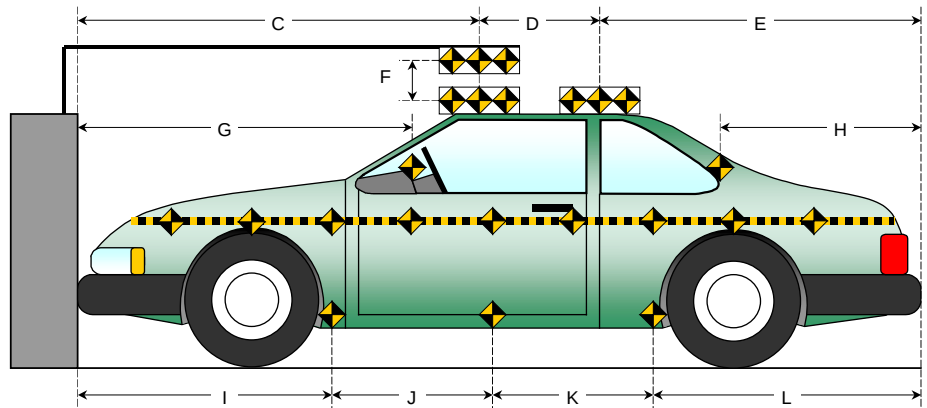
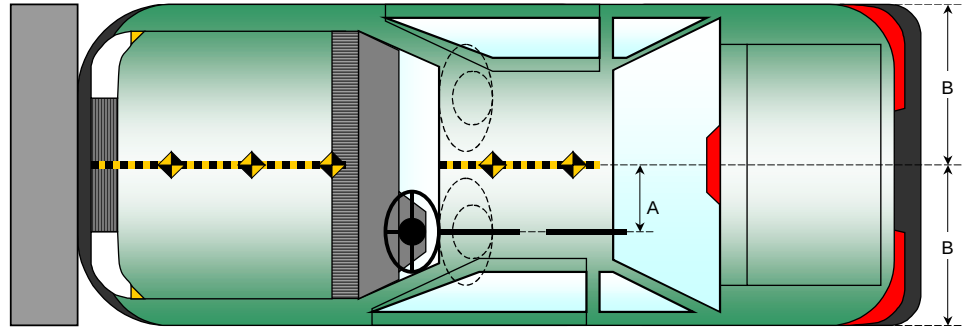
X = Barrier Face Y = Monorail Centerline Z = Ground DNR = Did Not Run NTM = No Timing Marks

DATA SHEET NO. 16
PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
 Test Date: 12/19/03

All Dimensions in (mm)	
Item	Value
A	N/A
B	920
C	N/A
D	N/A
E	N/A
F	N/A
G	1821
H	1080
I	1510
J	908
K	908
L	1494
M	1080
N	1500
O	913
P	913
Q	1500



DATA SHEET NO. 17
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

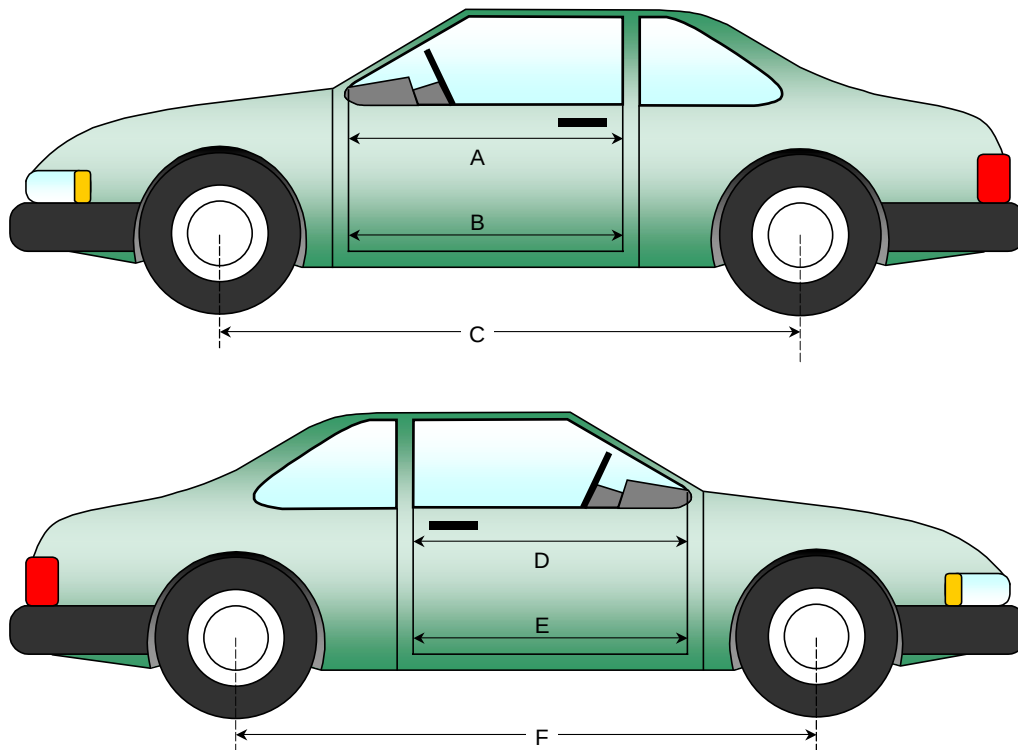
NHTSA No.: M45300
 Test Date: 12/19/03

DOOR OPENING WIDTH TABLE

Item	Description	Units	Pre-Test	Post-Test	Diff.
A	Left Side Upper	mm	1056	1051	-5
B	Left Side Lower	mm	940	941	1
D	Right Side Upper	mm	1056	1051	-5
E	Right Side Lower	mm	926	926	0

WHEELBASE MEASUREMENT TABLE

Item	Description	Units	Pre-Test	Post-Test	Diff.
C	Left Side Wheel Base	mm	2755	2620	-135
F	Right Side Wheel Base	mm	2755	2660	-95



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

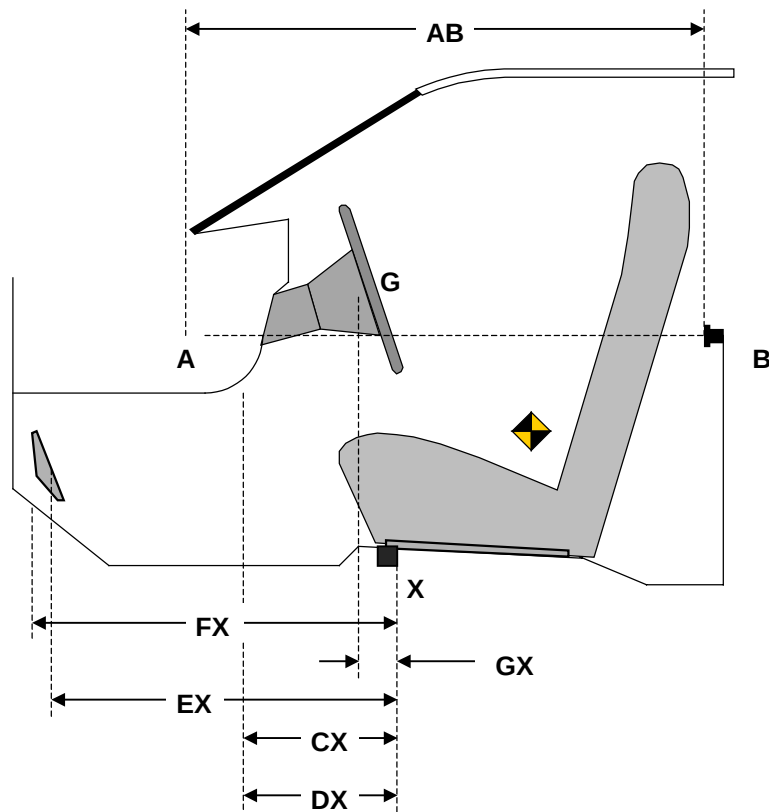
Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
 Test Date: 12/19/03

DRIVER COMPARTMENT INTRUSION TABLE

Item	Description	Units	Pre-Test	Post-Test	Diff.
AB	Door Opening (Inside window jam)	mm	1056	1051	-5
CX	Left Knee Bolster to X	mm	280	305	25
DX	Right Knee Bolster to X	mm	253	283	30
EX	Brake Pedal to X	mm	513	577	64
FX	Foot Rest to X	mm	616	566	-50
GX	Center of Steering Wheel Hub to X	mm	51	122	71

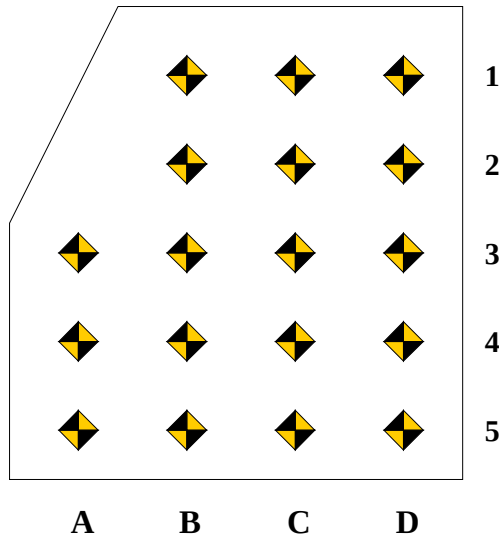
X = Left Front Seat Outboard Anchor Bolt Head



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

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
 Test Date: 12/19/03



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

2 Columns A through D are evenly spaced.

3 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		711	706	699		698	699	694		-13	-7	-5
2		635	630	630		627	627	631		-8	-3	1
3	540	543	530	525	540	532	529	529	0	-11	-1	4
4	444	440	433	426	440	430	429	429	-4	-10	-4	3
5	355	315	335	330	342	330	329	325	-13	15	-6	-5

DRIVER FLOOR PAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1		-23	-22	-23		20	17	17		43	39	40
2		-42	-40	-44		-45	-50	-50		-3	-10	-6
3	-41	-35	-30	-40	-45	-50	-55	-64	-4	-15	-25	-24
4	-50	-40	-40	-40	-70	-47	-55	-63	-20	-7	-15	-23
5	-55	-35	-35	-40	-69	-55	-46	-64	-14	-20	-11	-24

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

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

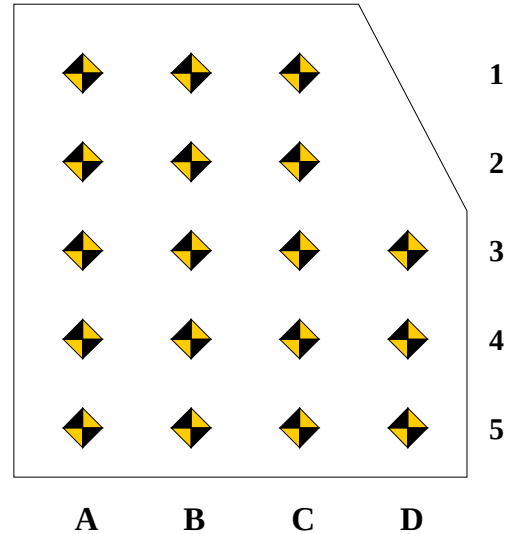
NHTSA No.: M45300
 Test Date: 12/19/03

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 X-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	644	646	652		642	626	647		-2	-20	-5	
2	568	572	572		558	567	575		-10	-5	3	
3	470	470	474	471	465	473	477	491	-5	3	3	20
4	370	370	370	371	370	371	377	389	0	1	7	18
5	265	270	271	271	270	271	275	288	5	1	4	17

PASSENGER FLOOR PAN Z-AXIS

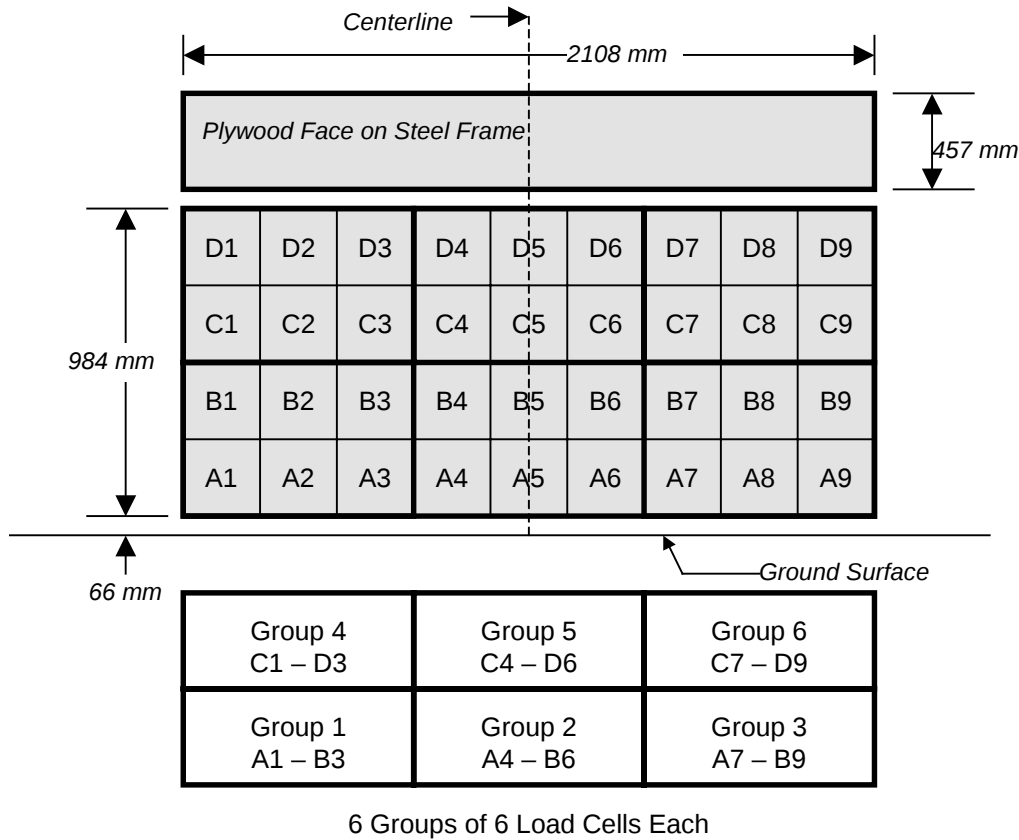
	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	17	12	6		25	31	40		8	19	34	
2	-44	-44	-46		-45	-31	-35		-1	13	11	
3	-45	-44	-51	-50	-52	-42	-58	-60	-7	2	-7	-10
4	-50	-42	-48	-50	-60	-64	-50	-54	-10	-22	-2	-4
5	-20	-39	-40	-40	-20	-55	-60	-55	0	-16	-20	-15

DATA SHEET NO. 18
FIXED BARRIER LOAD CELL LOCATIONS

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
 Test Date: 12/19/03

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



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 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
 Test Date: 12/19/03

VEHICLE INFORMATION

VIN: 19UUA66264A006543
 Vehicle Size Category: 4-Door

Wheel base (mm): 2755
 Test Weight (kg): 1805

ACCELEROMETER DATA

Accelerometer Location: Left rear floor pan
 Cal. Procedure/Interval: 6 months / drop test
 Integration Algorithm: NHTSA Standard
 Impact Velocity (km/h): 56.05
 Velocity Change (km/h): 66.15

Linearity: Good

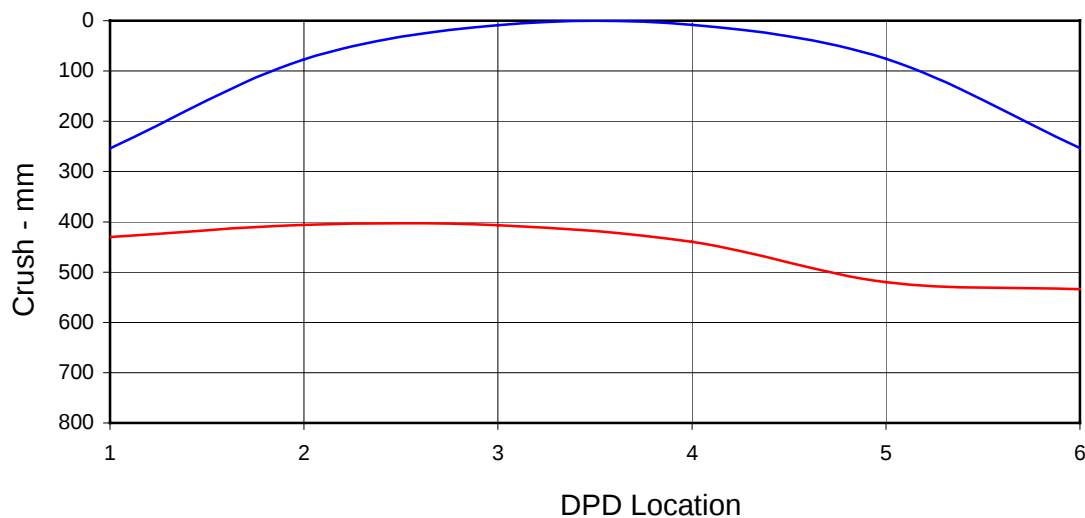
Time of Separation (msec): 72.6

CRUSH PROFILE

Collision Deformation Classification: 12FDEW6
 Damage Region Length (mm): 1394

Midpoint of Damage: Vehicle Centerline
 Impact Mode: Full Frontal

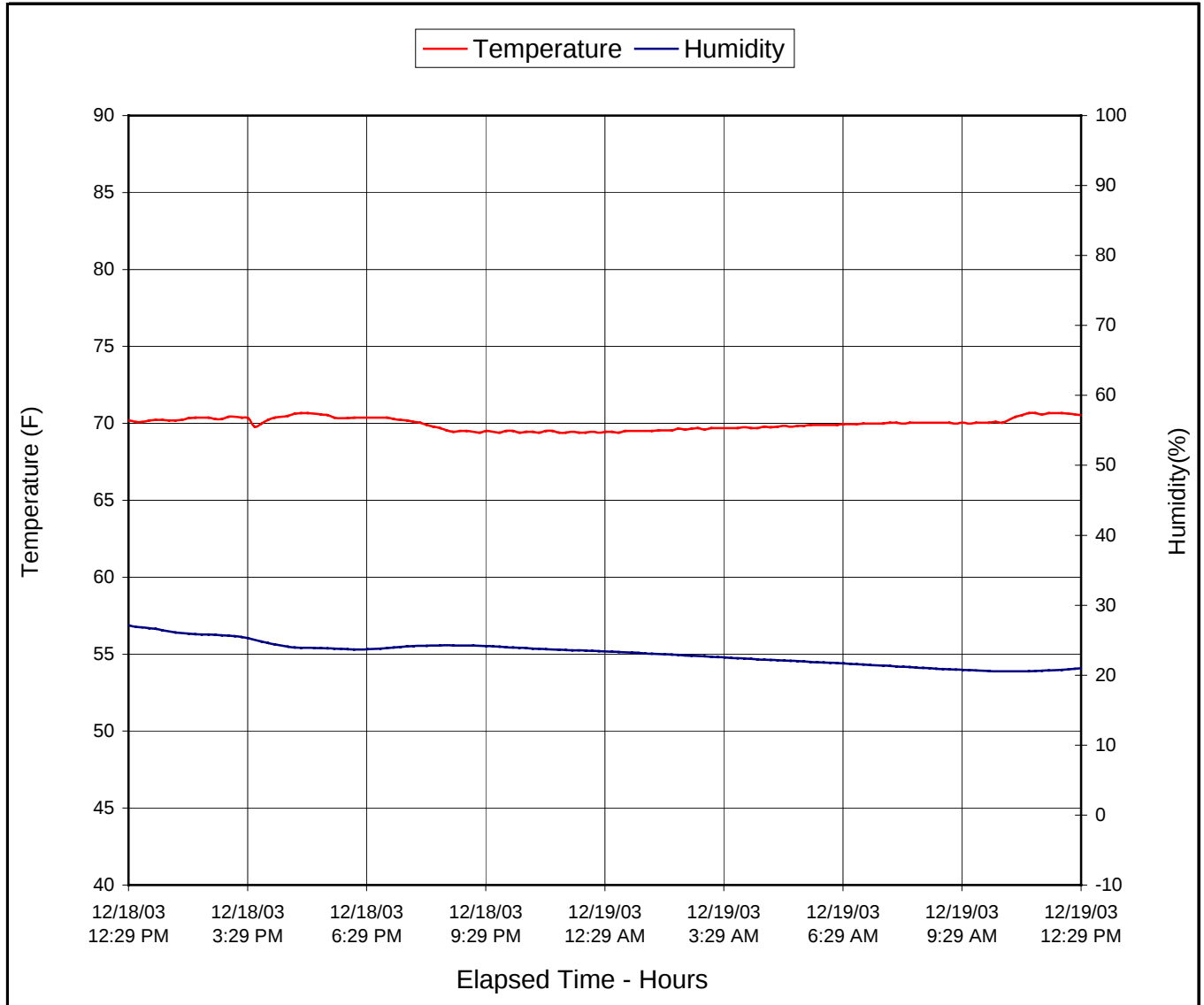
No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	254	430	-176
C2	Crush zone 2 on left side	mm	77	406	-329
C3	Crush zone 3 on left side	mm	9	407	-398
C4	Crush zone 4 on right side	mm	8	440	-432
C5	Crush zone 5 on right side	mm	76	520	-444
C6	Crush zone 6 at right side	mm	253	534	-281



DATA SHEET NO. 20
DUMMY/VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
Test Program: 2004 NHTSA 35mph NCAP

NHTSA No.: M45300
Test Date: 12/19/03



APPENDIX A
PHOTOGRAPHS

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

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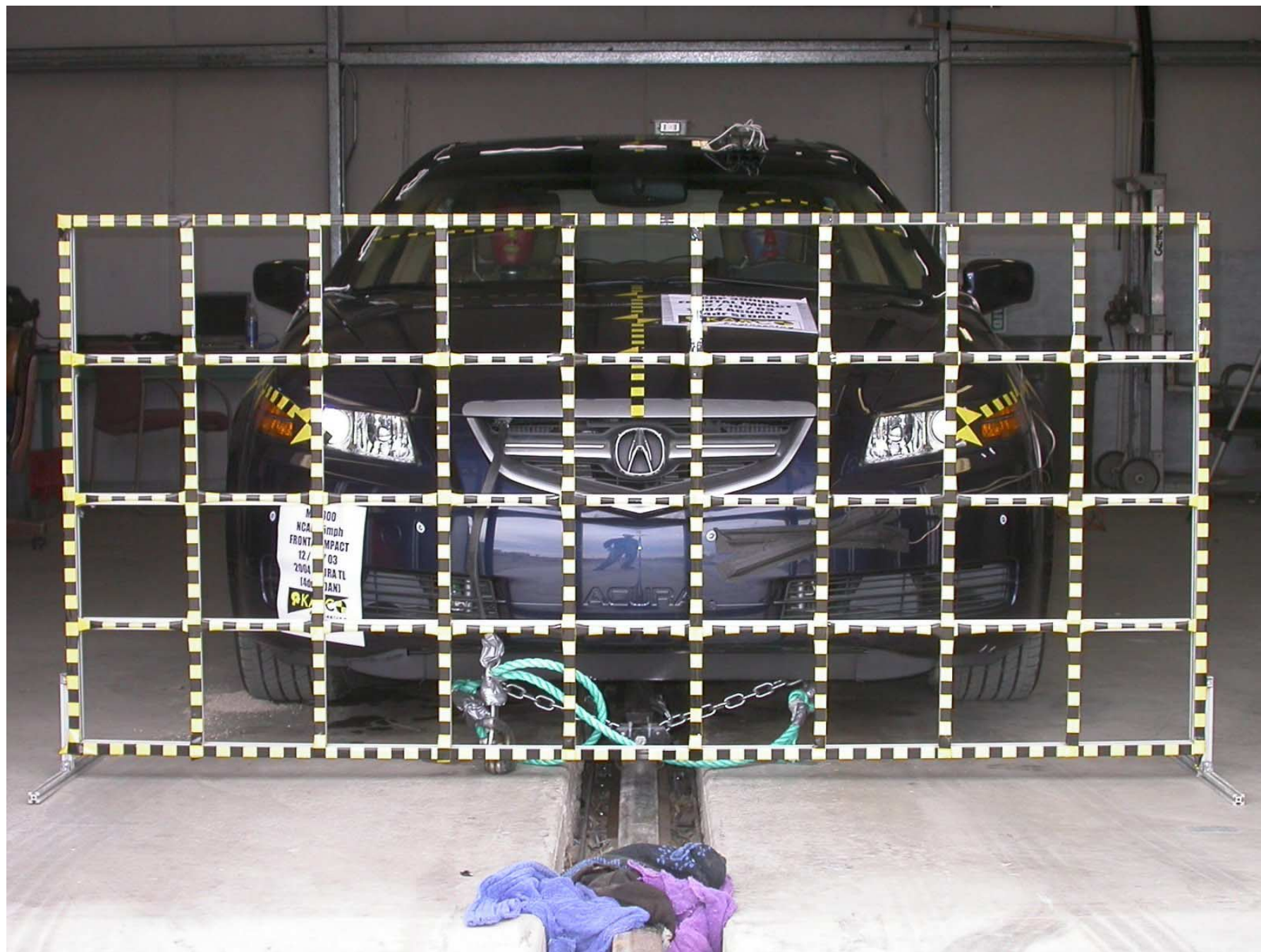


Figure A-1: Load Cell Location

MFD. BY HONDA OF AMERICA MFG., INC. 10/03
GVWR 4525LBS GAWR F 2495LBS R 2075LBS
THIS VEHICLE CONFORMS TO ALL APPLICABLE
FEDERAL MOTOR VEHICLE SAFETY, BUMPER,
AND THEFT PREVENTION STANDARDS IN EFFECT
ON THE DATE OF MANUFACTURE SHOWN ABOVE:

V.I.N. 19UUA66264A006543



PASSENGER CAR

Figure A-2: Vehicle Certification Label

M40128



TIRE AND LOADING INFORMATION

SEATING CAPACITY : TOTAL 5 : FRONT 2 : REAR 3

The combined weight of occupants and cargo should never exceed 395kg or 850lbs

ORIGINAL TIRE SIZE	COLD TIRE INFLATION PRESSURE		SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION
P235/45R17 93W	FRONT	220kPa, 32PSI	
	REAR	220kPa, 32PSI	
COMPACT SPARE TIRE	COLD TIRE INFLATION PRESSURE		
T135/80R16 101M	420kPa, 60PSI		

42762-SEP-A040

Figure A-3: Vehicle Tire Label



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



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



Figure A-6: Pre-Test Front View

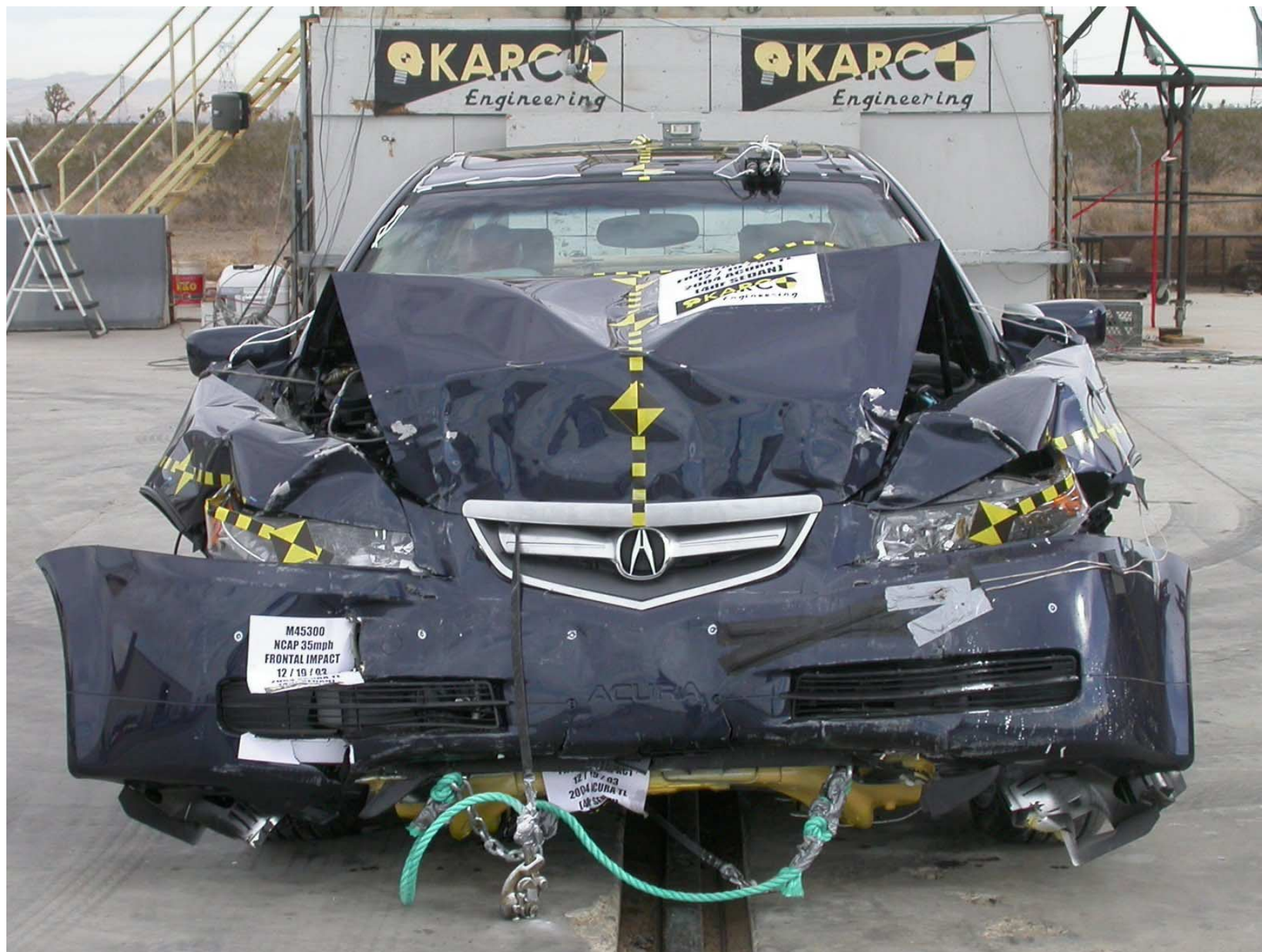


Figure A-7: Post-Test Front View (Vehicle Moved)



Figure A-8: Pre-Test Left Side View



Figure A-9: Post-Test Left Side View



Figure A-10: Pre-Test Right Side View



Figure A-11: Post-Test Right Side View



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



Figure A-13: Post-Test Right Front $\frac{3}{4}$ View



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



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



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



Figure A-17: Right Rear 3/4 View of Doors After Impact

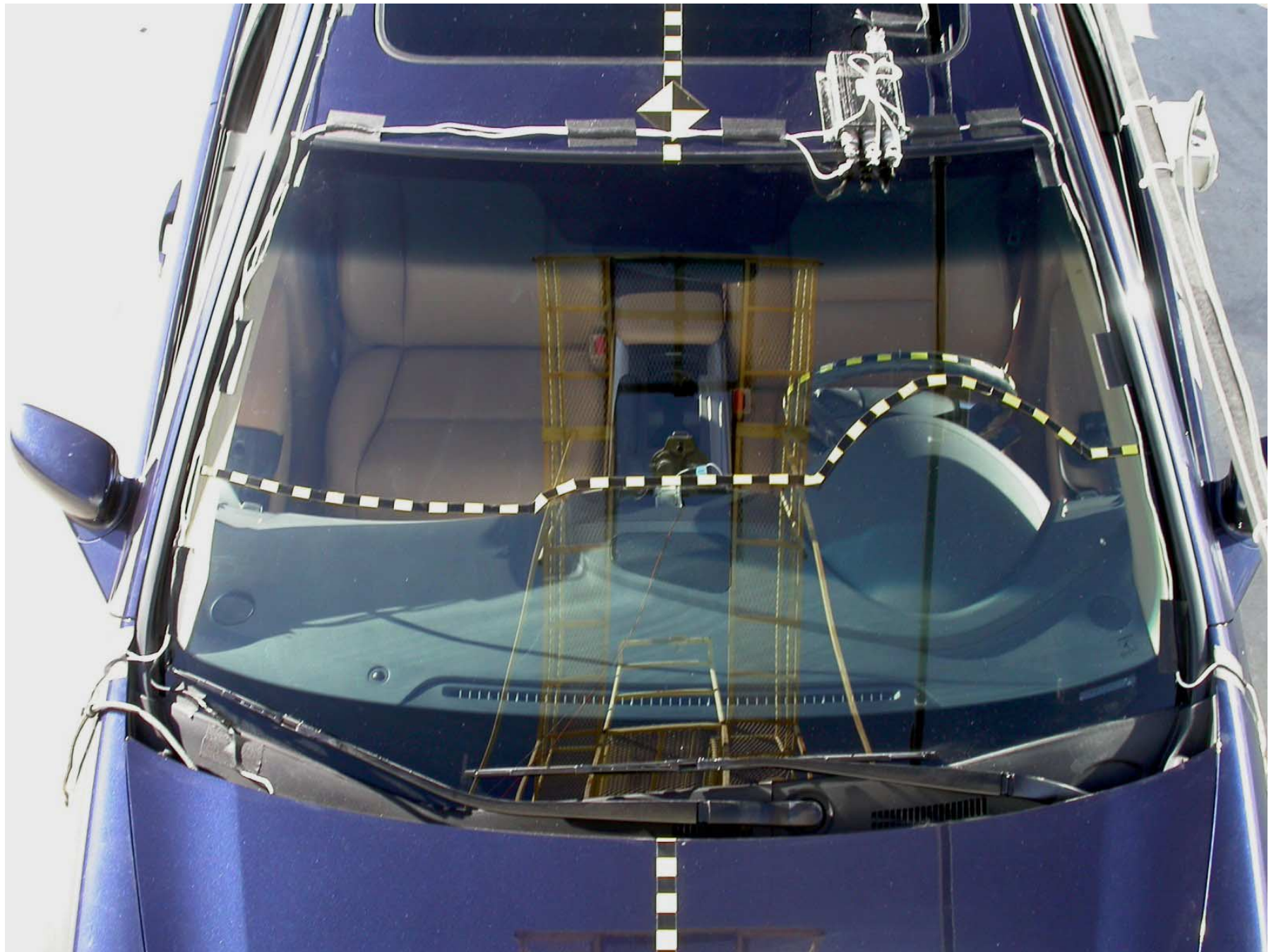


Figure A-18: Pre-Test Windshield View



Figure A-19: Post-Test Windshield View

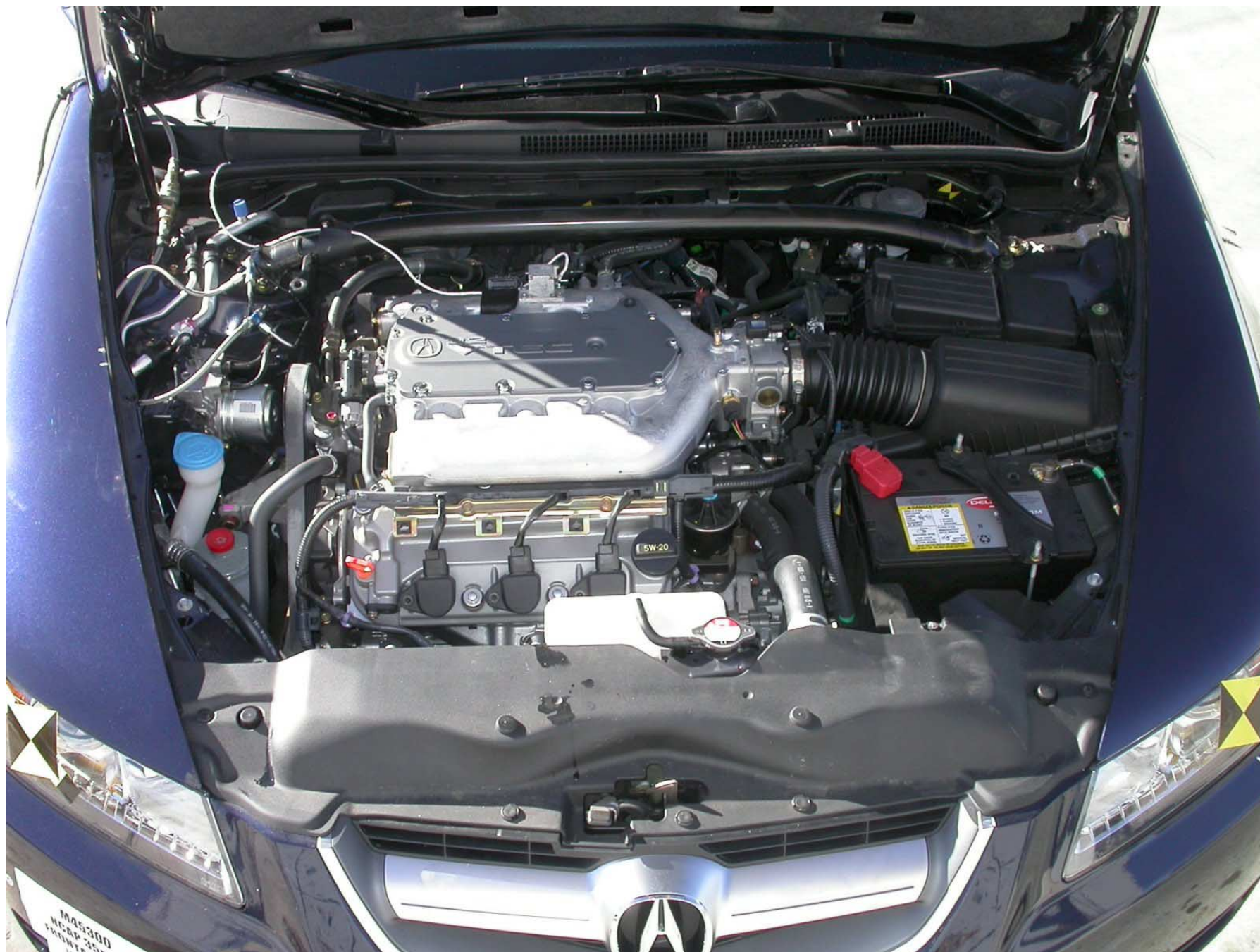


Figure A-20: Pre-Test Engine Compartment



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

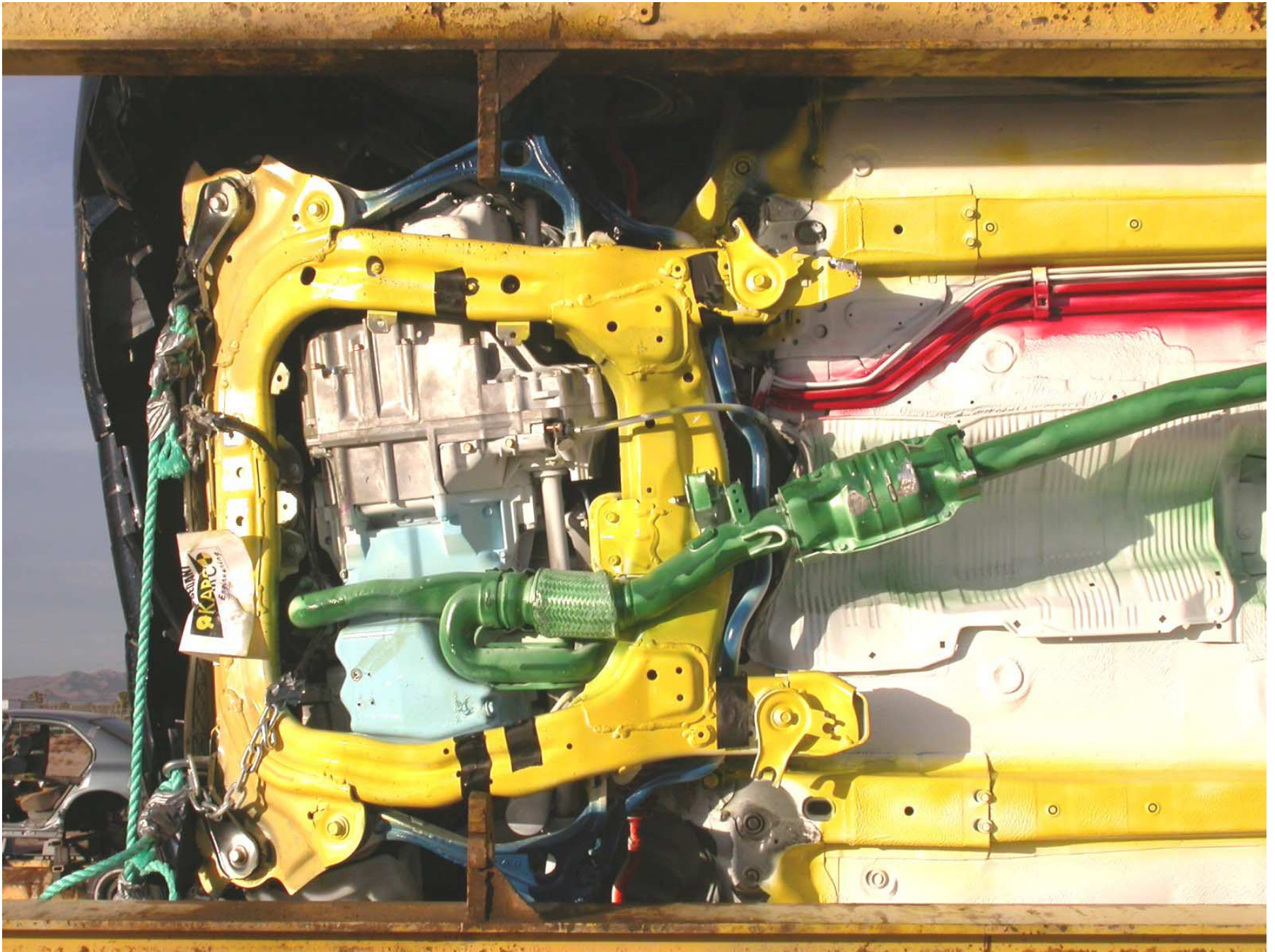


Figure A-25: Post-Test Front Underbody View

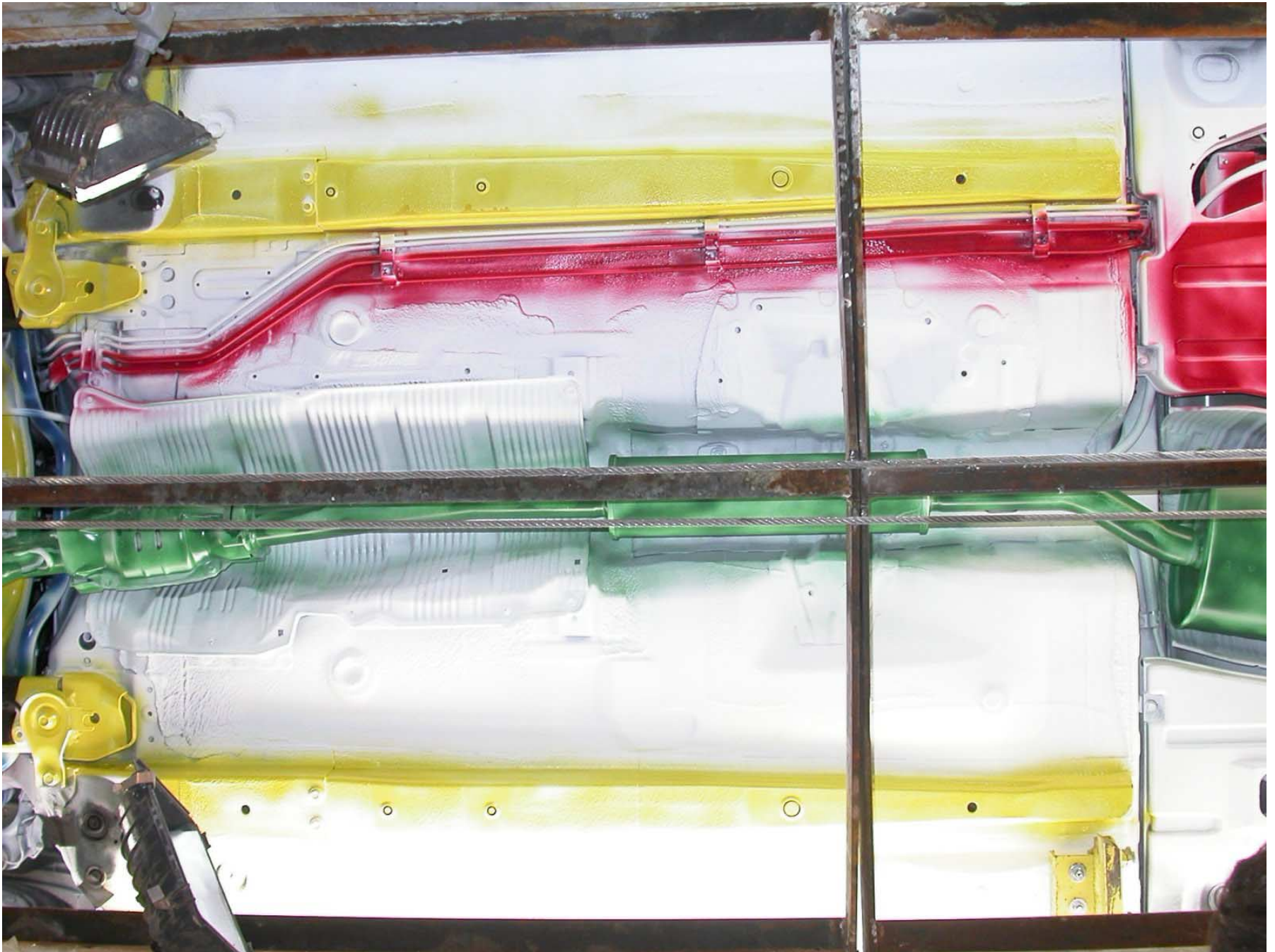


Figure A-26: Pre-Test Mid Underbody View

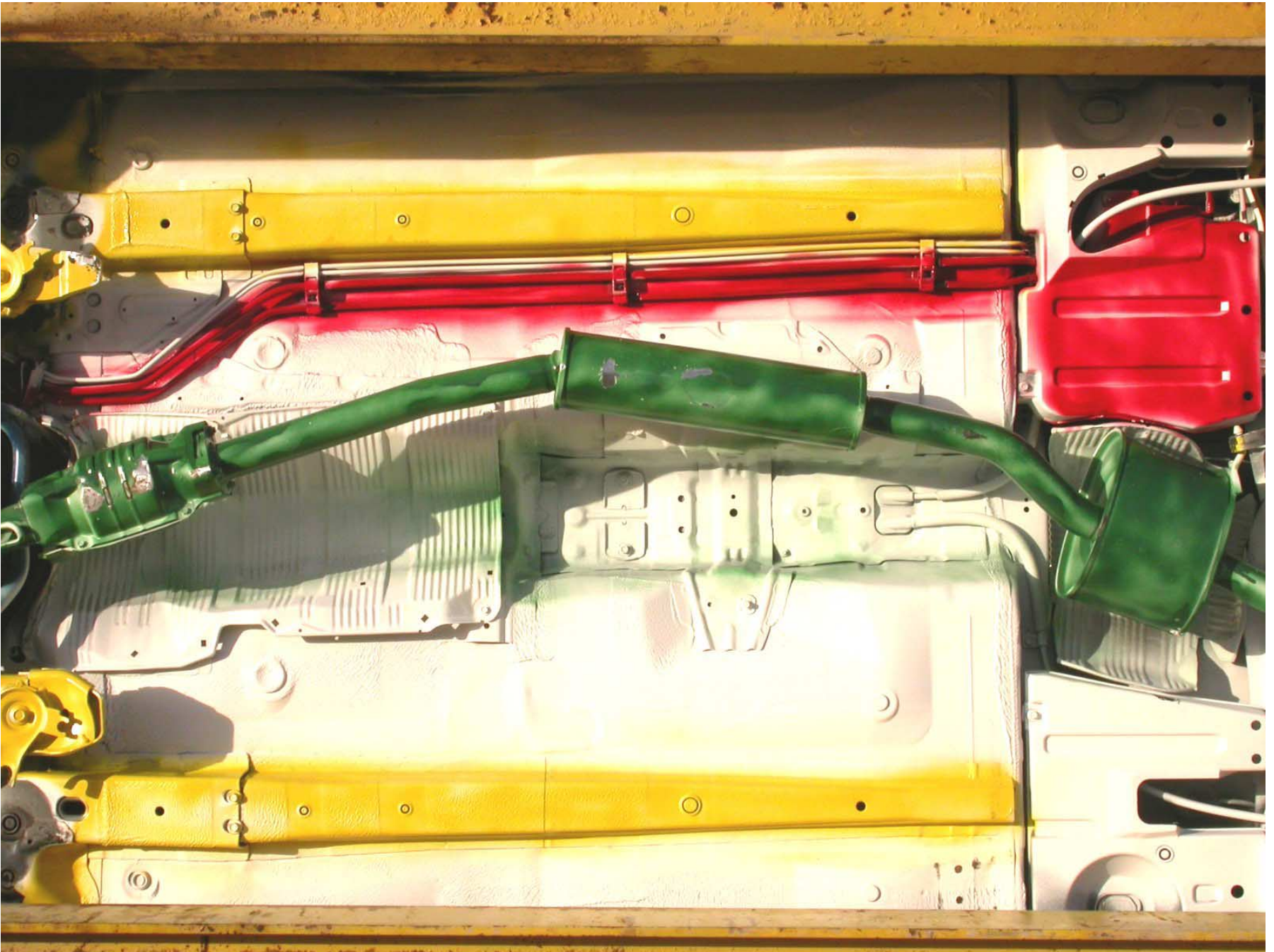


Figure A-27: Post-Test Mid Underbody View

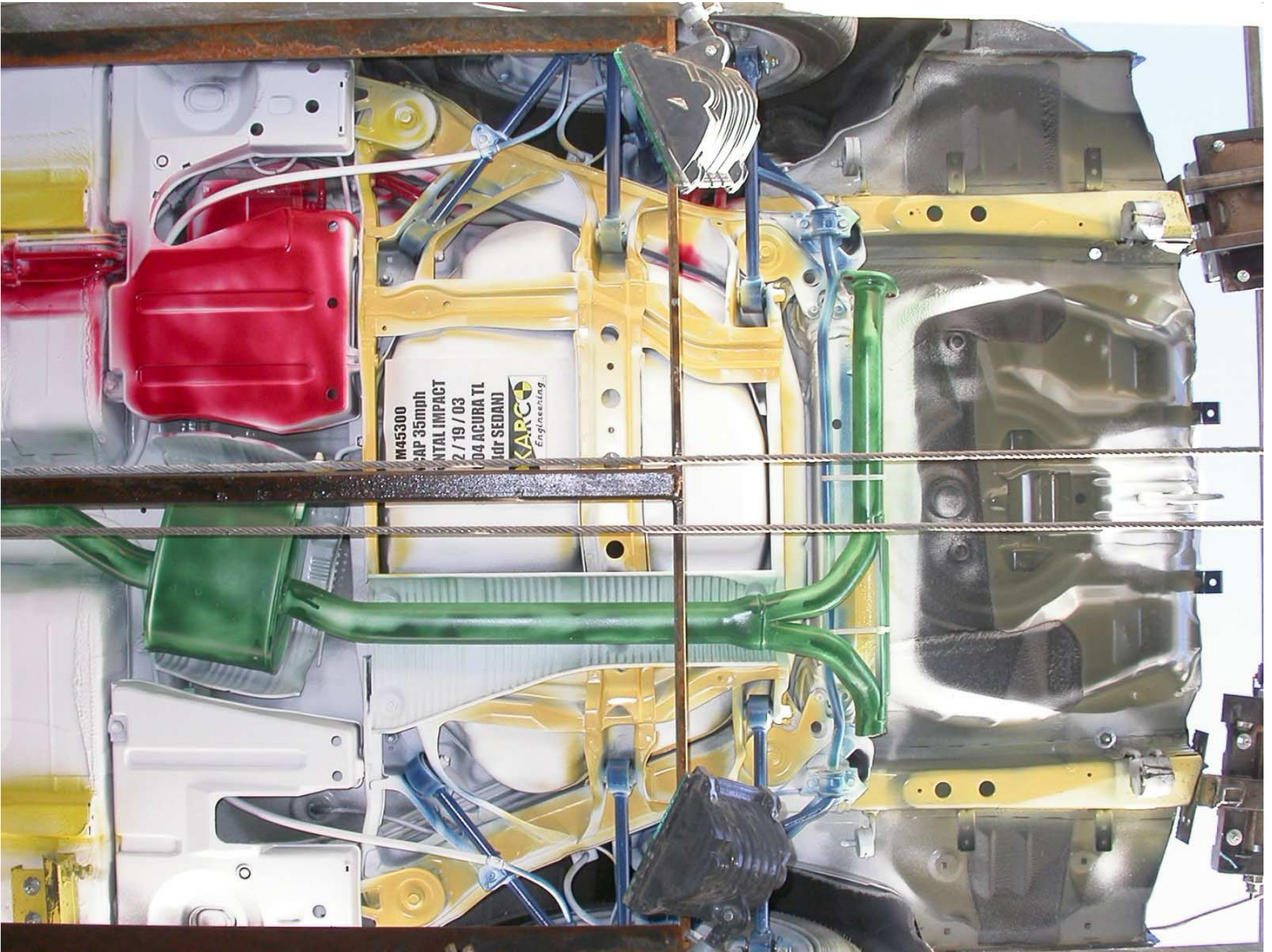


Figure A-28: Pre-Test Rear Underbody View

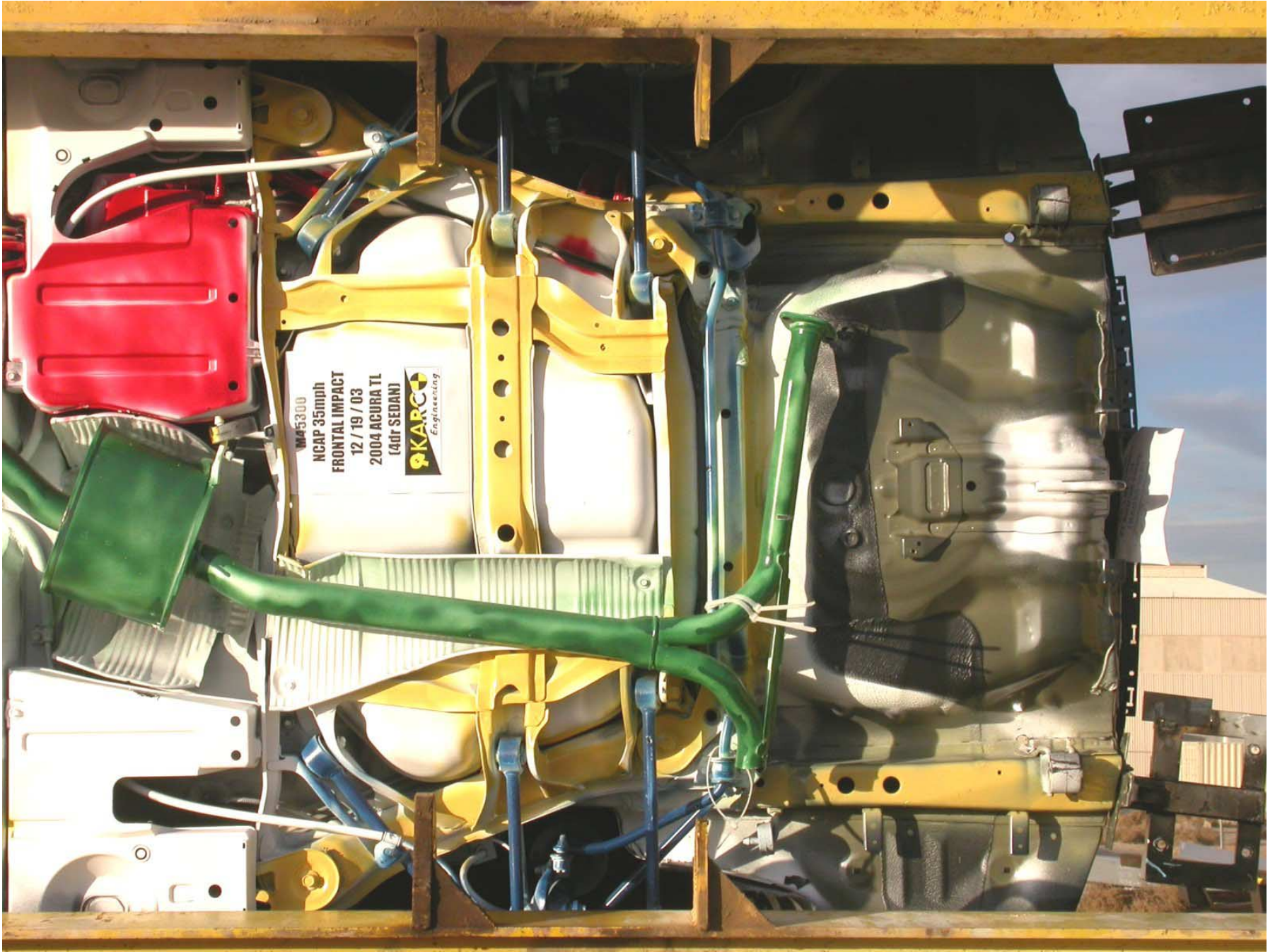


Figure A-29: Post-Test Rear Underbody View



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

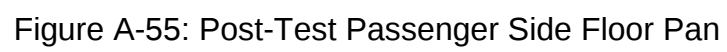




Figure A-56: Post-Test Passenger Dummy Head



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

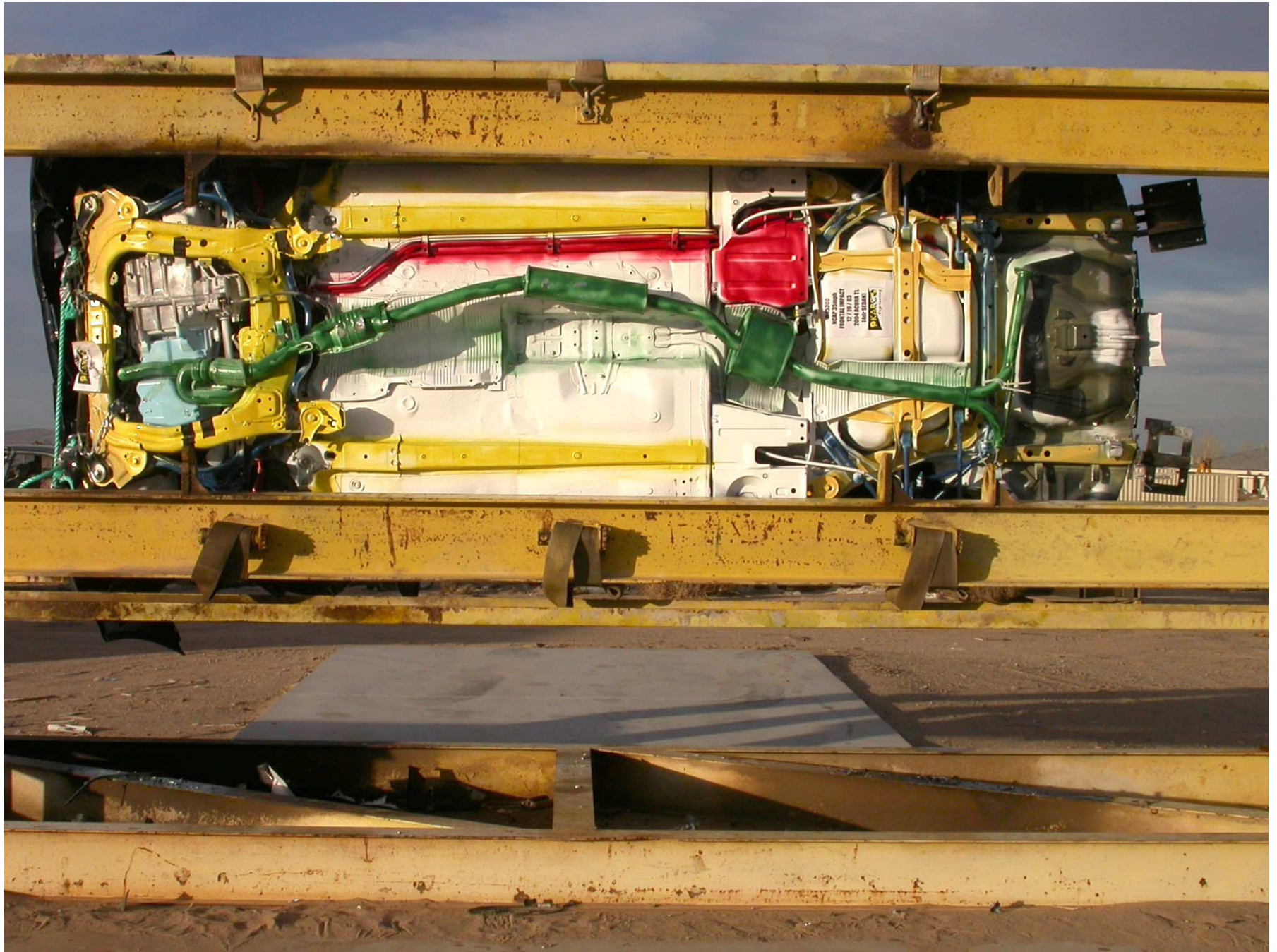


Figure A-61: Vehicle on Rollover Device



Figure A-62: Vehicle During Impact

APPENDIX B

DATA PLOTS

LIST OF DATA PLOTS

Data Plot	Page
B-1	Driver Head Primary X
	Driver Head Primary Y
	Driver Head Primary Z
	Driver Head Resultant Primary
B-2	Driver Head Primary X Velocity
	Driver Head Primary X Displacement
B-3	Driver Head Redundant X
	Driver Head Redundant Y
	Driver Head Redundant Z
	Driver Head Resultant Redundant
B-4	Driver Head Redundant X Velocity
	Driver Head Redundant X Displacement
B-5	Driver Upper Neck Force X
	Driver Upper Neck Force Y
	Driver Upper Neck Force Z
	Driver Upper Neck Force Resultant
B-6	Driver Upper Neck Moment X
	Driver Upper Neck Moment Y
	Driver Upper Neck Moment Z
	Driver Upper Neck Moment Resultant
B-7	Driver Chest Primary X
	Driver Chest Primary Y
	Driver Chest Primary Z
	Driver Chest Resultant Primary
B-8	Driver Chest Primary X Velocity
	Driver Chest Primary X Displacement
B-9	Driver Chest Redundant X
	Driver Chest Redundant Y
	Driver Chest Redundant Z
	Driver Chest Resultant Redundant
B-10	Driver Chest Redundant X Velocity
	Driver Chest Redundant X Displacement
B-11	Driver Chest Displacement

LIST OF DATA PLOTS...(Continued)

Data Plot	Page
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	Driver Pelvis Y
	Driver Pelvis Z
	Driver Pelvis Resultant
B-13	Driver Pelvis X Velocity
	Driver Pelvis X Displacement
B-14	Driver Left Femur Force
	Driver Right Femur Force
B-15	Driver Left Upper Tibia Moment X
	Driver Left Upper Tibia Moment Y
	Driver Right Upper Tibia Moment X
	Driver Right Upper Tibia Moment Y
B-16	Driver Left Lower Tibia Moment X
	Driver Left Lower Tibia Moment Y
	Driver Left Lower Tibia Force Z
B-17	Driver Right Lower Tibia Moment X
	Driver Right Lower Tibia Moment Y
	Driver Right Lower Tibia Force Z
B-18	Driver Left Foot Aft X
	Driver Left Foot Aft Z
	Driver Left Foot Fore Z
B-19	Driver Right Foot Aft X
	Driver Right Foot Aft Z
	Driver Right Foot Fore Z
B-20	Driver Lap Belt Force
	Driver Shoulder Belt Force
	Driver Shoulder Belt Pullout
	Driver Shoulder Belt Elongation
B-21	Passenger Head Primary X
	Passenger Head Primary Y
	Passenger Head Primary Z
	Passenger Head Resultant Primary
B-22	Passenger Head Primary X Velocity
	Passenger Head Primary X Displacement

LIST OF DATA PLOTS...(Continued)

Data Plot	Page
B-23	Passenger Head Redundant X
	Passenger Head Redundant Y
	Passenger Head Redundant Z
	Passenger Head Resultant Redundant
B-24	Passenger Head Redundant X Velocity
	Passenger Head Redundant X Displacement
B-25	Passenger Upper Neck Force X
	Passenger Upper Neck Force Y
	Passenger Upper Neck Force Z
	Passenger Upper Neck Force Resultant
B-26	Passenger Upper Neck Moment X
	Passenger Upper Neck Moment Y
	Passenger Upper Neck Moment Z
	Passenger Upper Neck Moment Resultant
B-27	Passenger Chest Primary X
	Passenger Chest Primary Y
	Passenger Chest Primary Z
	Passenger Chest Resultant Primary
B-28	Passenger Chest Primary X Velocity
	Passenger Chest Primary X Displacement
B-29	Passenger Chest Redundant X
	Passenger Chest Redundant Y
	Passenger Chest Redundant Z
	Passenger Chest Resultant Redundant
B-30	Passenger Chest Redundant X Velocity
	Passenger Chest Redundant X Displacement
B-31	Passenger Chest Displacement
B-32	Passenger Pelvis X
	Passenger Pelvis Y
	Passenger Pelvis Z
	Passenger Pelvis Resultant
B-33	Passenger Pelvis X Velocity
	Passenger Pelvis X Displacement

LIST OF DATA PLOTS...(Continued)

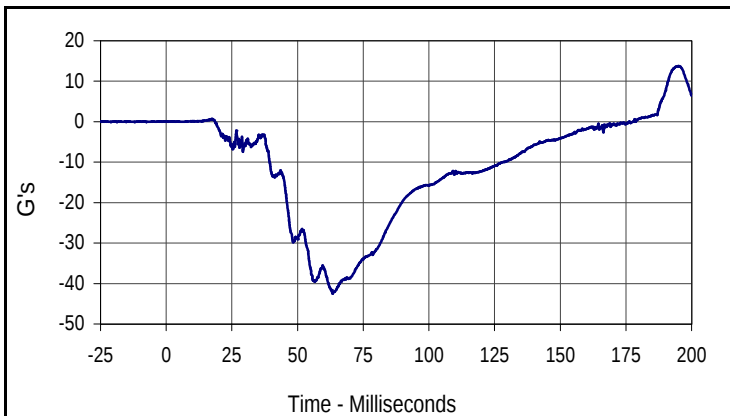
Data Plot		Page
B-34	Passenger Left Femur Force	B-34
	Passenger Right Femur Force	B-34
B-35	Passenger Left Upper Tibia Moment X	B-35
	Passenger Left Upper Tibia Moment Y	B-35
	Passenger Right Upper Tibia Moment X	B-35
	Passenger Right Upper Tibia Moment Y	B-35
B-36	Passenger Left Lower Tibia Moment X	B-36
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	Passenger Left Lower Tibia Force Z	B-36
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	Passenger Left Foot Fore Z	B-38
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	Vehicle Engine Top Velocity	B-43
	Vehicle Engine Top Displacement	B-43
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	Vehicle Engine Bottom Velocity	B-44
	Vehicle Engine Bottom Displacement	B-44

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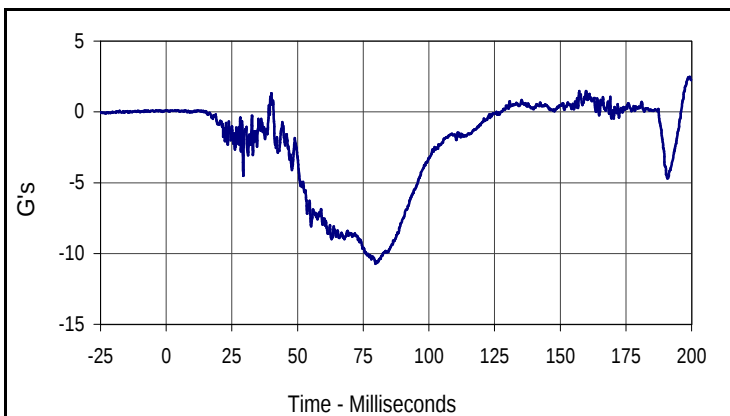
<u>Data Plot</u>	<u>Page</u>
B-45	Vehicle Left Brake Caliper
	Vehicle Left Brake Caliper Velocity
	Vehicle Left Brake Caliper Displacement
B-46	Vehicle Right Brake Caliper
	Vehicle Right Brake Caliper Velocity
	Vehicle Right Brake Caliper Displacement
B-47	Vehicle Instrument Panel
	Vehicle Instrument Panel Velocity
	Vehicle Instrument Panel Displacement
B-48	Vehicle Left Rear Z
	Vehicle Left Rear Z Velocity
	Vehicle Left Rear Z Displacement
B-49	Vehicle Right Rear Z
	Vehicle Right Rear Z Velocity
	Vehicle Right Rear Z Displacement

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

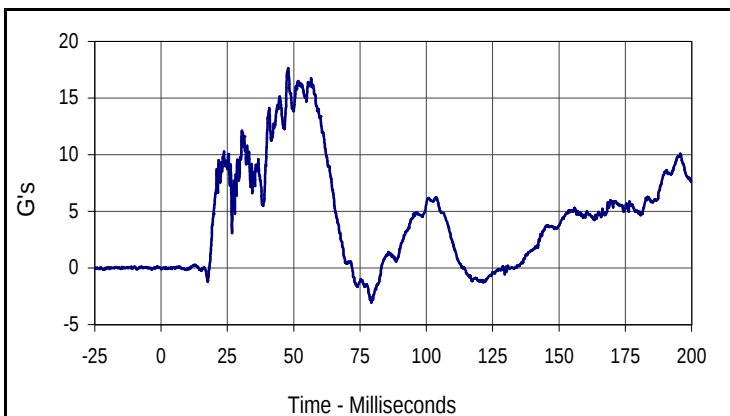
Test Date: 12/19/03
 NHTSA No.: M45300



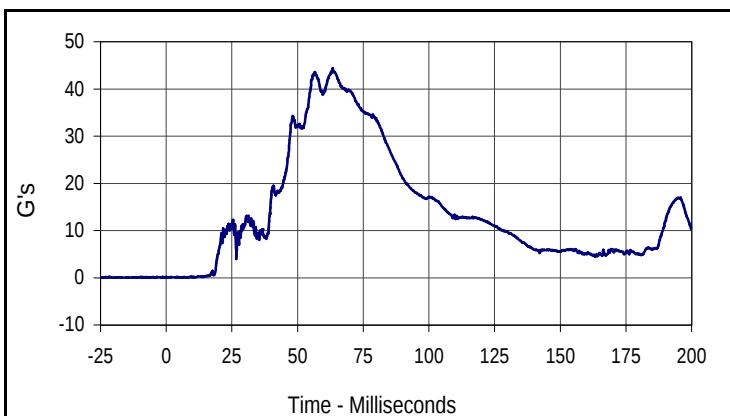
Curve Description			
Driver Head Primary X			
CURNO	Type	SAE Class	Units
001	FIL	1000	G's
Max	Time	Min	Time
13.7	195.0	-42.5	63.4



Curve Description			
Driver Head Primary Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
2.5	199.1	-10.7	79.7



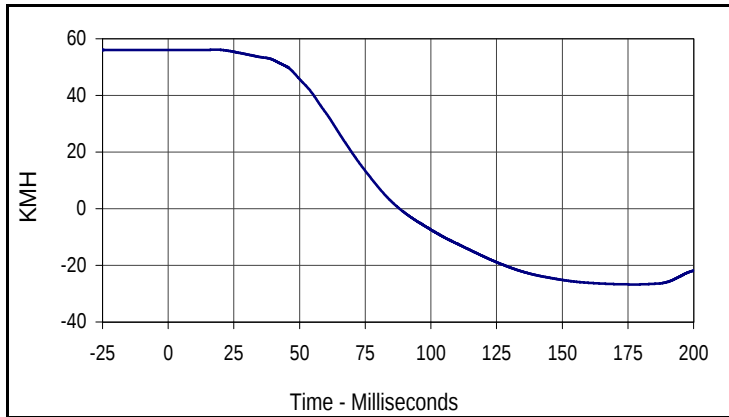
Curve Description			
Driver Head Primary Z			
CURNO	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
17.6	48.0	-3.0	79.2



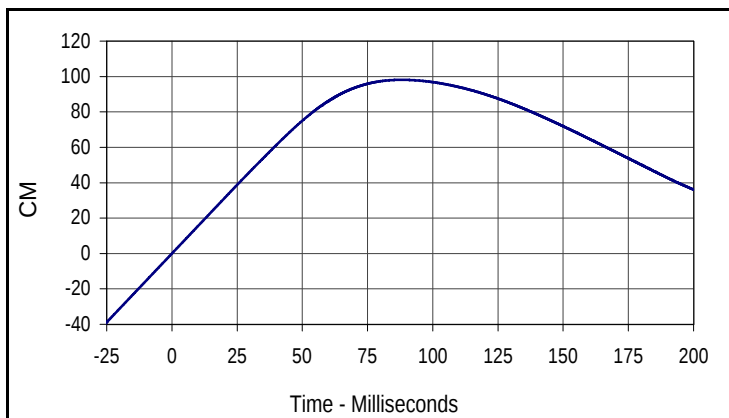
Curve Description			
Driver Head Resultant Primary			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
44.3	63.4	0.0	5.2

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03
 NHTSA No.: M45300



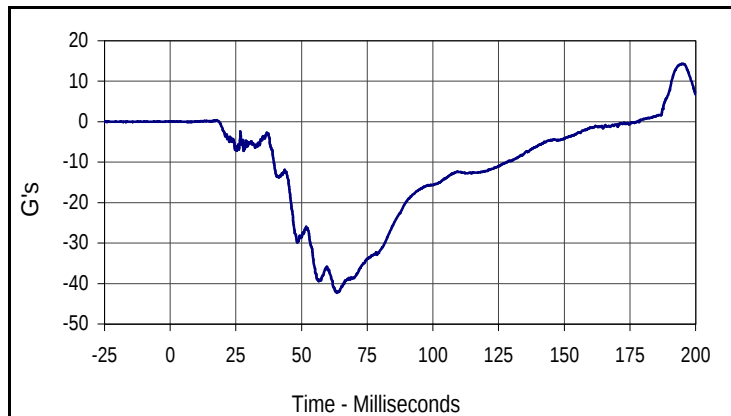
Curve Description			
Driver Head Primary X Velocity			
CURNO	Type	SAE Class	Units
001	IN1	180	KMH
Max	Time	Min	Time
56.1	18.6	-26.7	177.7



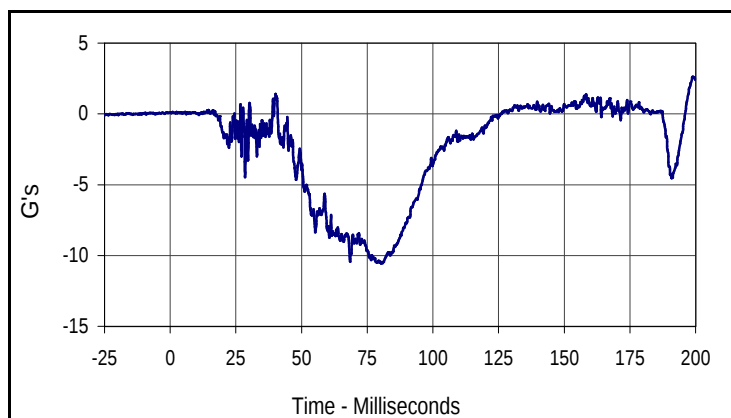
Curve Description			
Driver Head Primary X Displacement			
CURNO	Type	SAE Class	Units
001	IN2	180	CM
Max	Time	Min	Time
98.1	88.0	0.0	0.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

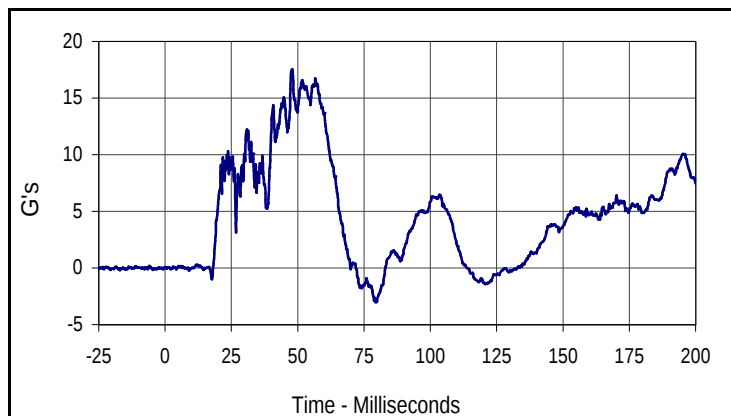
Test Date: 12/19/03
 NHTSA No.: M45300



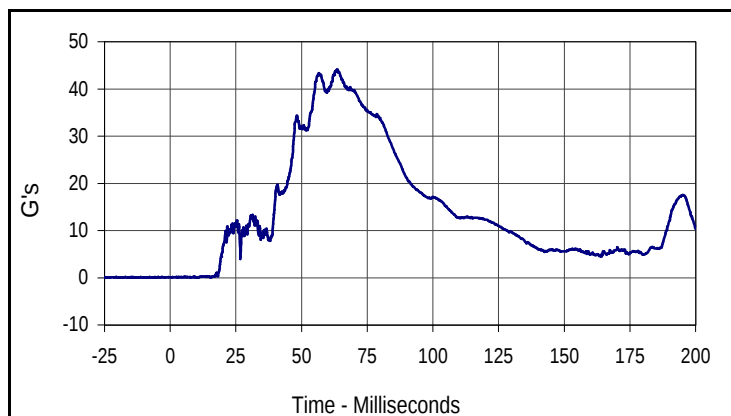
Curve Description			
Driver Head Redundant X			
CURNO	Type	SAE Class	Units
004	FIL	1000	G's
Max	Time	Min	Time
14.3	195.1	-42.3	63.5



Curve Description			
Driver Head Redundant Y			
CURNO	Type	SAE Class	Units
005	FIL	1000	G's
Max	Time	Min	Time
2.6	198.9	-10.6	80.3



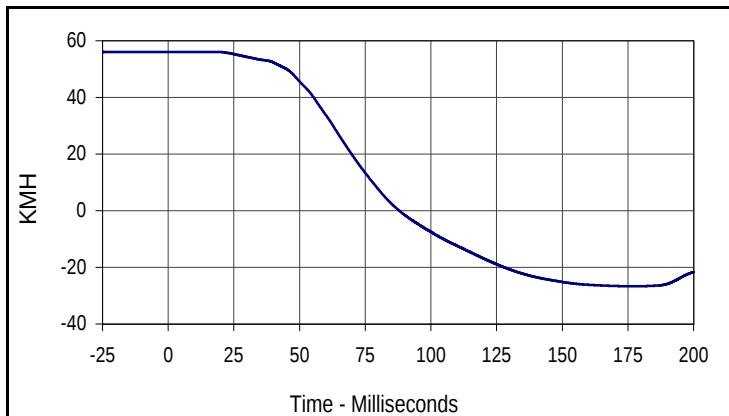
Curve Description			
Driver Head Redundant Z			
CURNO	Type	SAE Class	Units
006	FIL	1000	G's
Max	Time	Min	Time
17.6	48.0	-3.0	79.7



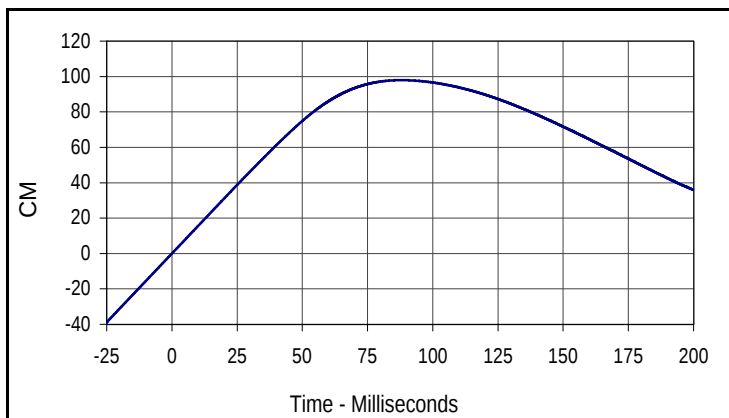
Curve Description			
Driver Head Resultant Redundant			
CURNO	Type	SAE Class	Units
004	RES	1000	G's
Max	Time	Min	Time
44.1	63.4	0.0	10.6

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03
 NHTSA No.: M45300



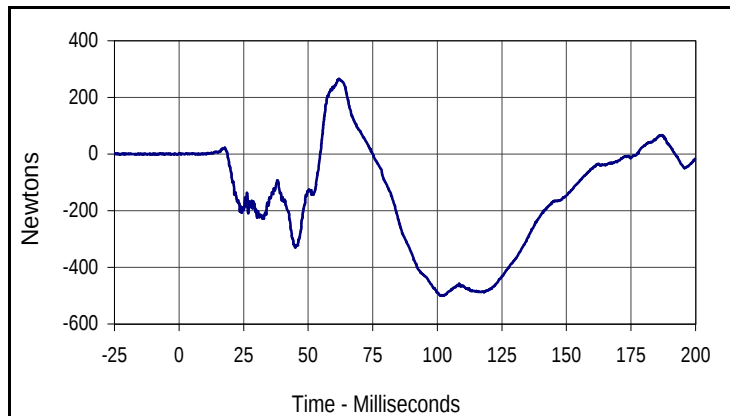
Curve Description			
Driver Head Redundant X Velocity			
CURNO	Type	SAE Class	Units
004	IN1	180	KMH
Max	Time	Min	Time
56.1	18.5	-26.7	177.9



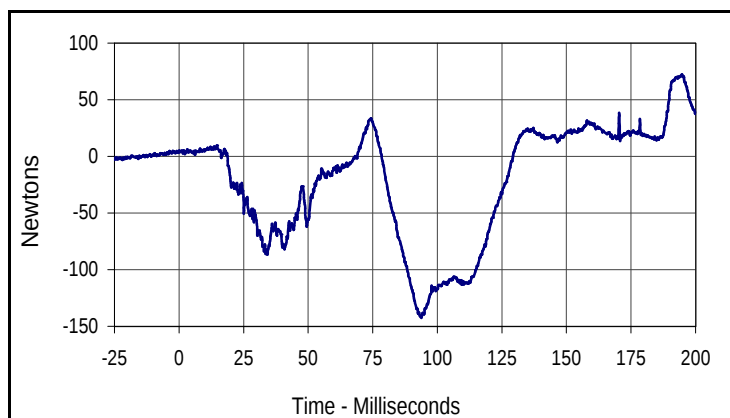
Curve Description			
Driver Head Redundant X Displacement			
CURNO	Type	SAE Class	Units
004	IN2	180	CM
Max	Time	Min	Time
97.9	88.0	0.0	0.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

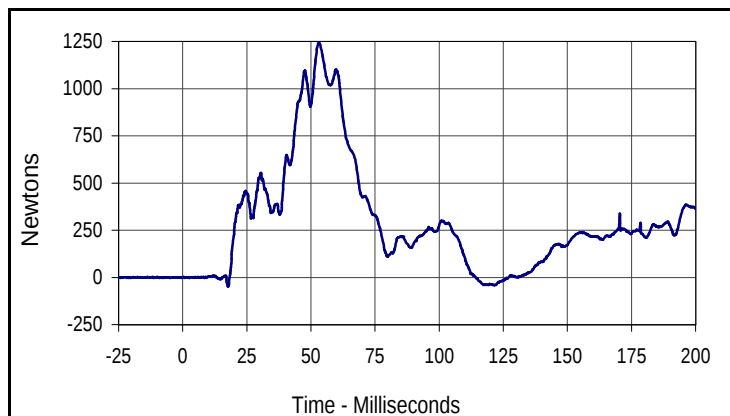
Test Date: 12/19/03
 NHTSA No.: M45300



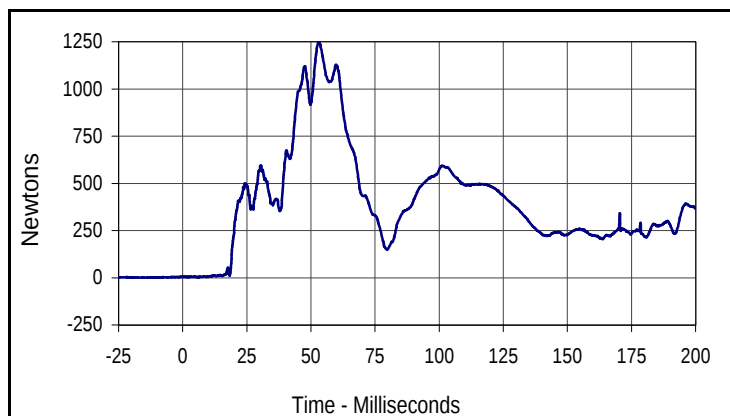
Curve Description			
Driver Upper Neck Force X			
CURNO	Type	SAE Class	Units
007	FIL	1000	Newtons
Max	Time	Min	Time
265.5	62.0	-500.1	101.8



Curve Description			
Driver Upper Neck Force Y			
CURNO	Type	SAE Class	Units
008	FIL	1000	Newtons
Max	Time	Min	Time
72.3	194.8	-142.6	93.8



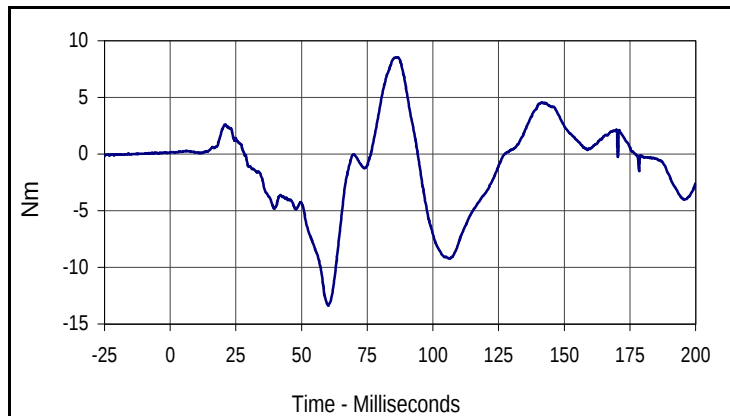
Curve Description			
Driver Upper Neck Force Z			
CURNO	Type	SAE Class	Units
009	FIL	1000	Newtons
Max	Time	Min	Time
1243.6	53.1	-48.7	17.7



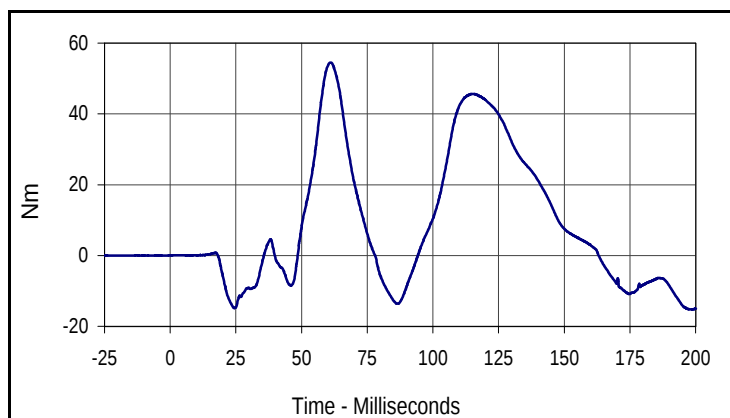
Curve Description			
Driver Upper Neck Force Res.			
CURNO	Type	SAE Class	Units
007	RES	1000	Newtons
Max	Time	Min	Time
1248.3	53.0	1.6	6.2

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

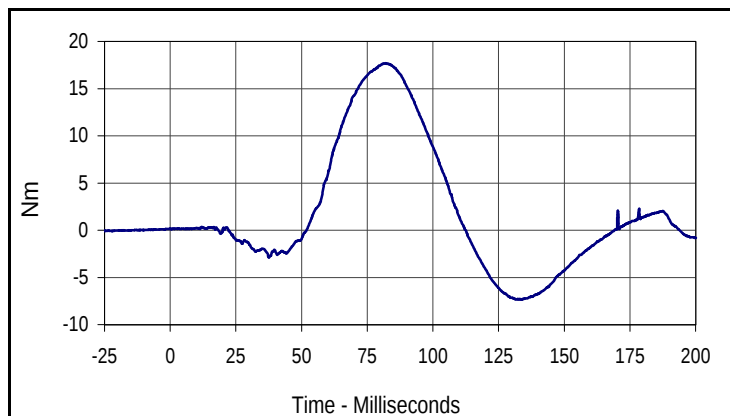
Test Date: 12/19/03
 NHTSA No.: M45300



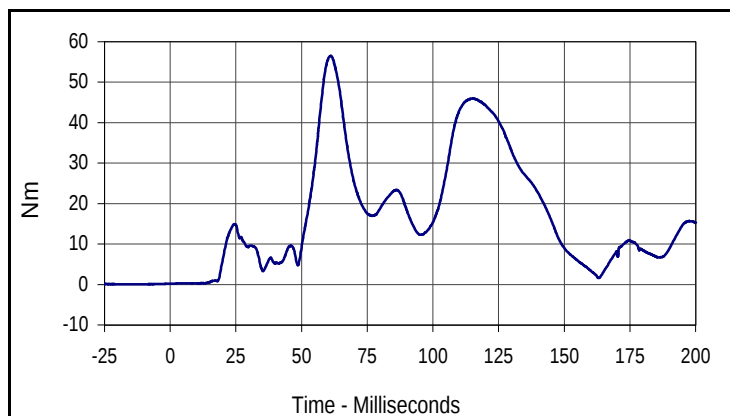
Curve Description			
Driver Upper Neck Moment X			
CURNO	Type	SAE Class	Units
010	FIL	600	Nm
Max	Time	Min	Time
8.5	86.5	-13.4	60.1



Curve Description			
Driver Upper Neck Moment Y			
CURNO	Type	SAE Class	Units
011	FIL	600	Nm
Max	Time	Min	Time
54.5	61.2	-15.3	198.6



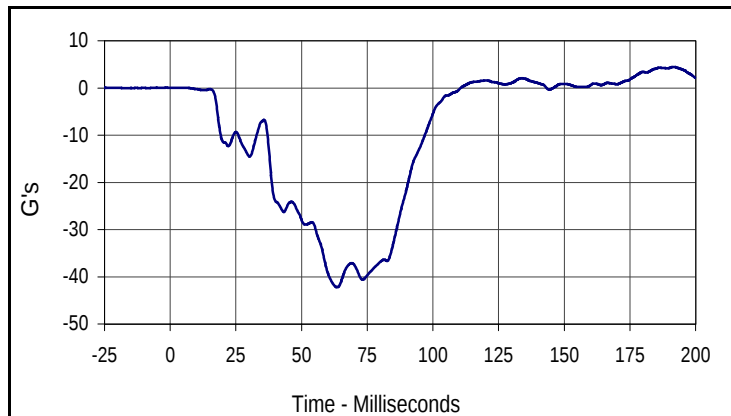
Curve Description			
Driver Upper Neck Moment Z			
CURNO	Type	SAE Class	Units
012	FIL	600	Nm
Max	Time	Min	Time
17.7	82.1	-7.3	133.7



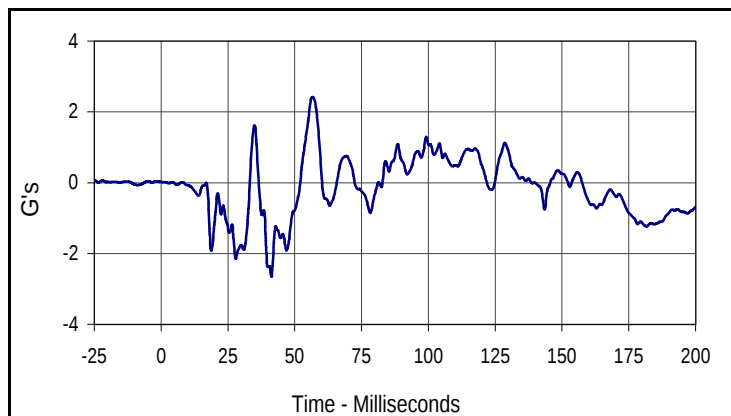
Curve Description			
Driver Upper Neck Moment Res.			
CURNO	Type	SAE Class	Units
010	RES	600	Nm
Max	Time	Min	Time
56.5	61.2	0.2	0.5

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

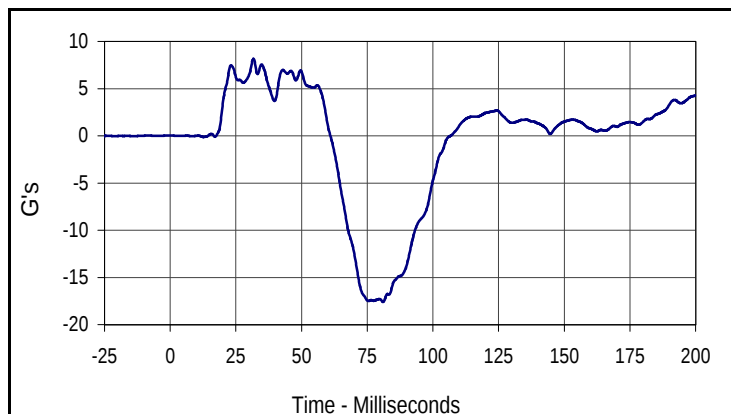
Test Date: 12/19/03
 NHTSA No.: M45300



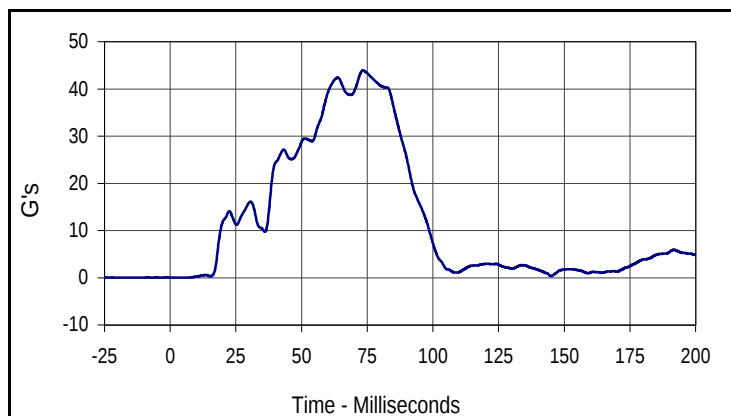
Curve Description			
Driver Chest Primary X			
CURNO	Type	SAE Class	Units
013	FIL	180	G's
Max	Time	Min	Time
4.5	191.6	-42.2	63.6



Curve Description			
Driver Chest Primary Y			
CURNO	Type	SAE Class	Units
014	FIL	180	G's
Max	Time	Min	Time
2.4	56.8	-2.7	41.3



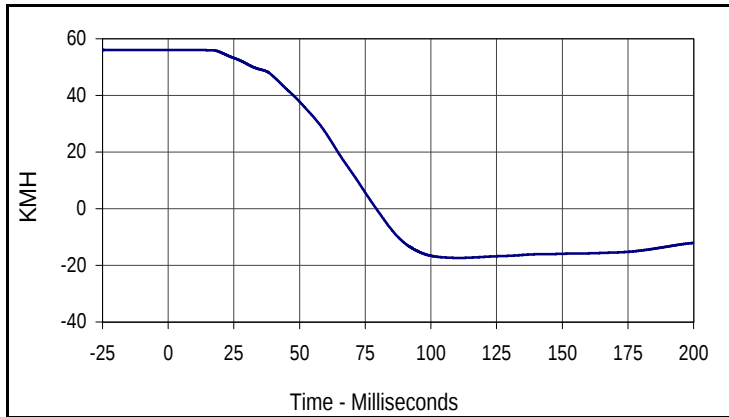
Curve Description			
Driver Chest Primary Z			
CURNO	Type	SAE Class	Units
015	FIL	180	G's
Max	Time	Min	Time
8.2	31.7	-17.6	81.0



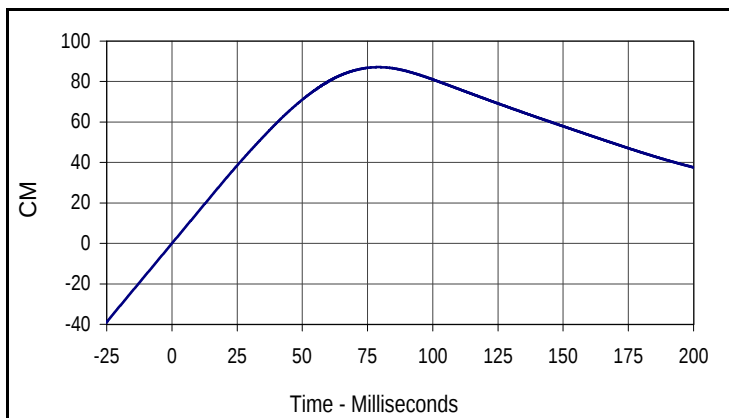
Curve Description			
Driver Chest Resultant Primary			
CURNO	Type	SAE Class	Units
013	RES	180	G's
Max	Time	Min	Time
43.9	73.4	0.0	7.2

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03
 NHTSA No.: M45300



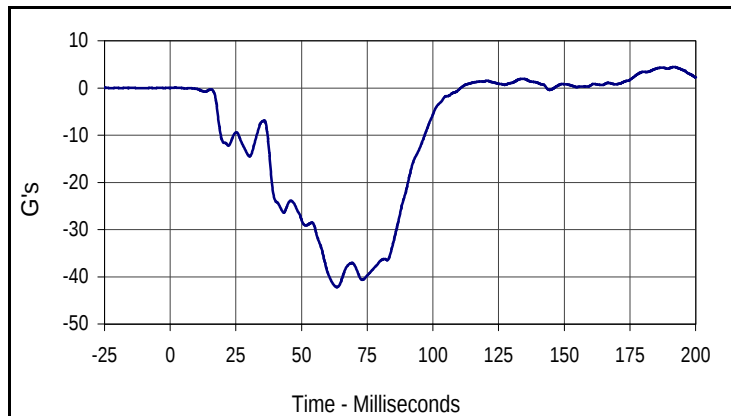
Curve Description			
Driver Chest Primary X Velocity			
CURNO	Type	SAE Class	Units
013	IN1	180	KMH
Max	Time	Min	Time
56.1	7.2	-17.4	110.6



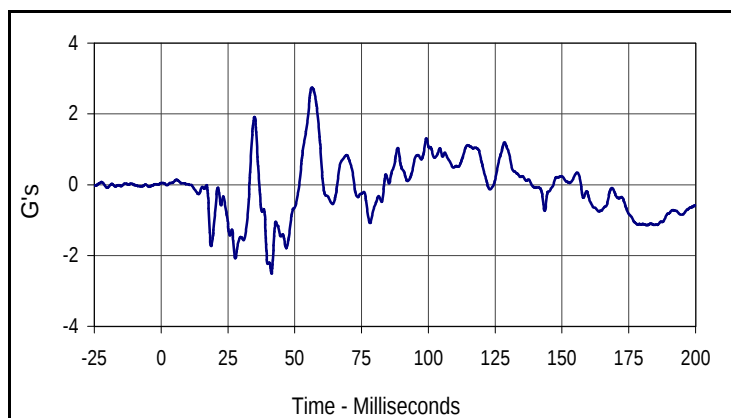
Curve Description			
Driver Chest Primary X Displacement			
CURNO	Type	SAE Class	Units
013	IN2	180	CM
Max	Time	Min	Time
87.1	79.2	0.0	0.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

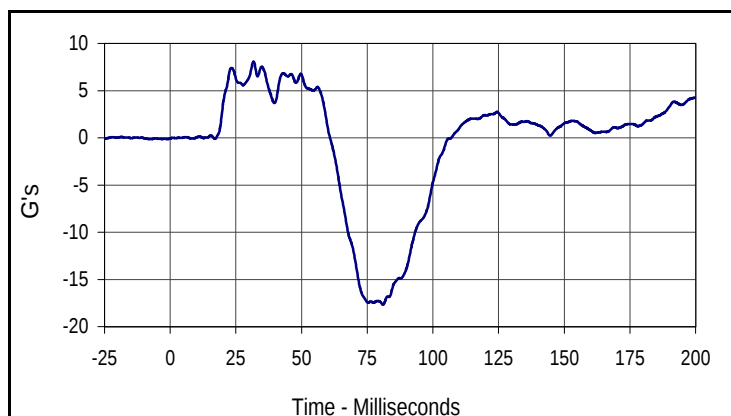
Test Date: 12/19/03
 NHTSA No.: M45300



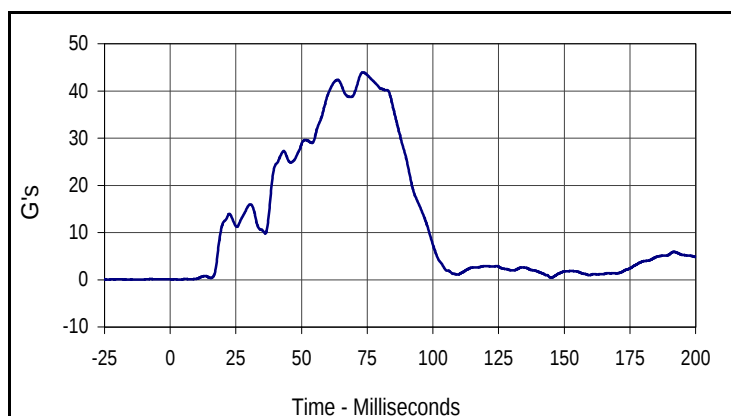
Curve Description			
Driver Chest Redundant X			
CURNO	Type	SAE Class	Units
016	FIL	180	G's
Max	Time	Min	Time
4.4	191.8	-42.2	63.5



Curve Description			
Driver Chest Redundant Y			
CURNO	Type	SAE Class	Units
017	FIL	180	G's
Max	Time	Min	Time
2.7	56.4	-2.5	41.3



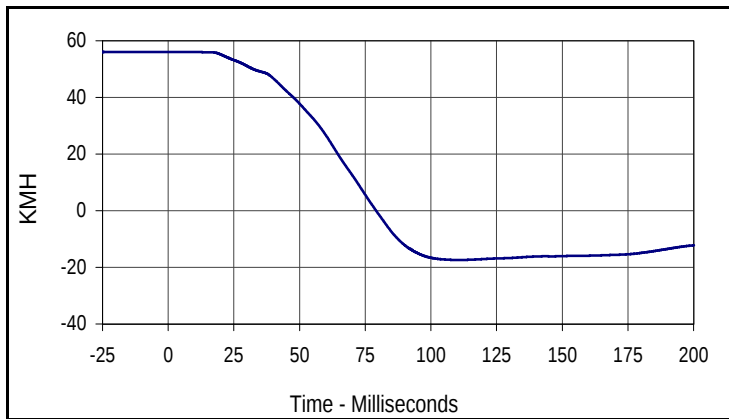
Curve Description			
Driver Chest Redundant Z			
CURNO	Type	SAE Class	Units
018	FIL	180	G's
Max	Time	Min	Time
8.1	31.7	-17.7	81.0



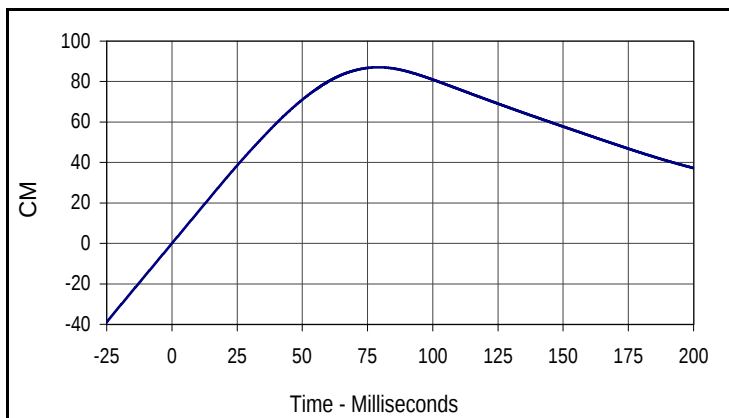
Curve Description			
Driver Chest Resultant Redundant			
CURNO	Type	SAE Class	Units
016	RES	180	G's
Max	Time	Min	Time
43.9	73.4	0.0	2.9

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03
 NHTSA No.: M45300



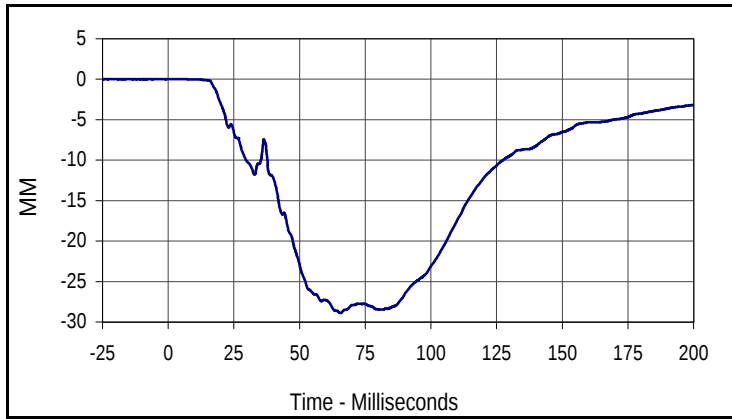
Curve Description			
Driver Chest Redundant X Velocity			
CURNO	Type	SAE Class	Units
016	IN1	180	KMH
Max	Time	Min	Time
56.1	4.3	-17.4	110.6



Curve Description			
Driver Chest Redundant X Displacement			
CURNO	Type	SAE Class	Units
016	IN2	180	CM
Max	Time	Min	Time
87.1	79.1	0.0	0.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

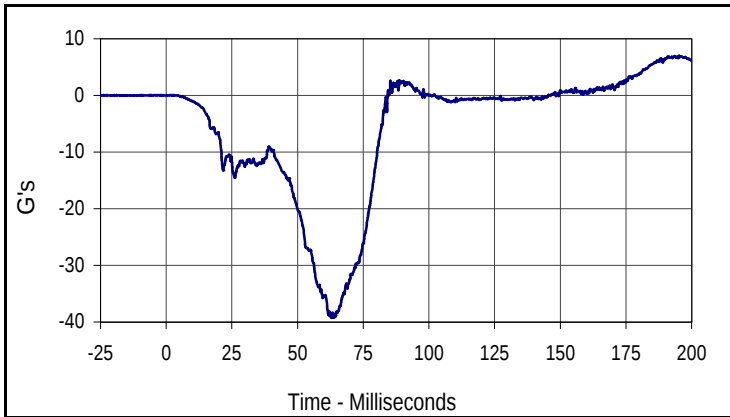
Test Date: 12/19/03
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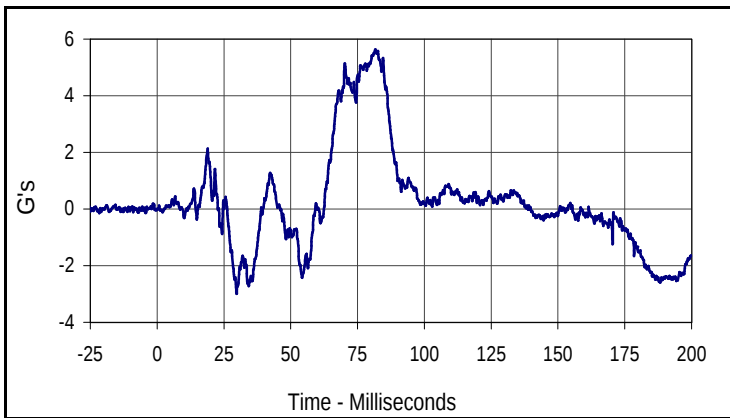
Curve Description			
Driver Chest Displacement			
CURNO	Type	SAE Class	Units
019	FIL	600	MM
Max	Time	Min	Time
0.0	0.8	-28.9	65.6

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

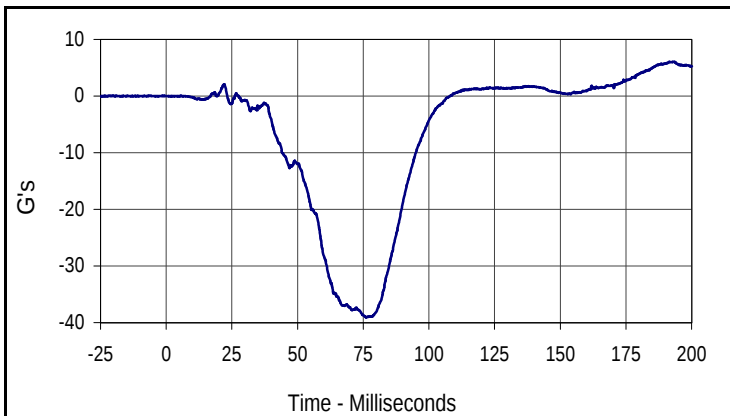
Test Date: 12/19/03
 NHTSA No.: M45300



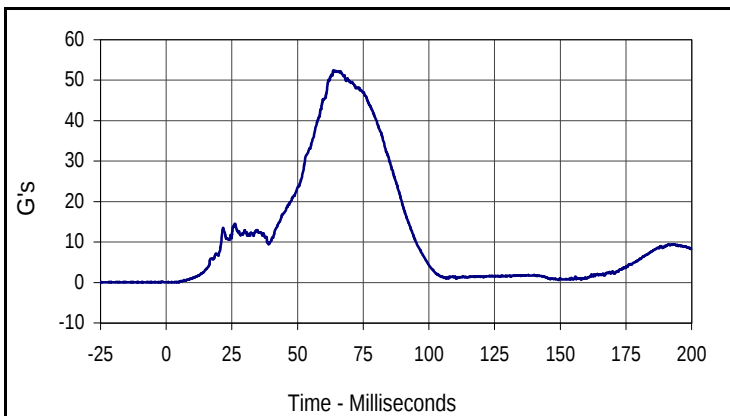
Curve Description			
Driver Pelvis X			
CURNO	Type	SAE Class	Units
020	FIL	1000	G's
Max	Time	Min	Time
7.0	195.3	-39.3	62.9



Curve Description			
Driver Pelvis Y			
CURNO	Type	SAE Class	Units
021	FIL	1000	G's
Max	Time	Min	Time
5.6	81.7	-3.0	29.7



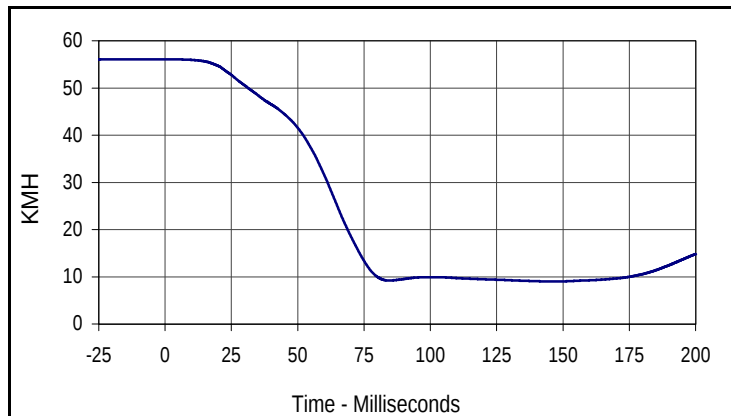
Curve Description			
Driver Pelvis Z			
CURNO	Type	SAE Class	Units
022	FIL	1000	G's
Max	Time	Min	Time
6.1	193.0	-39.1	76.1



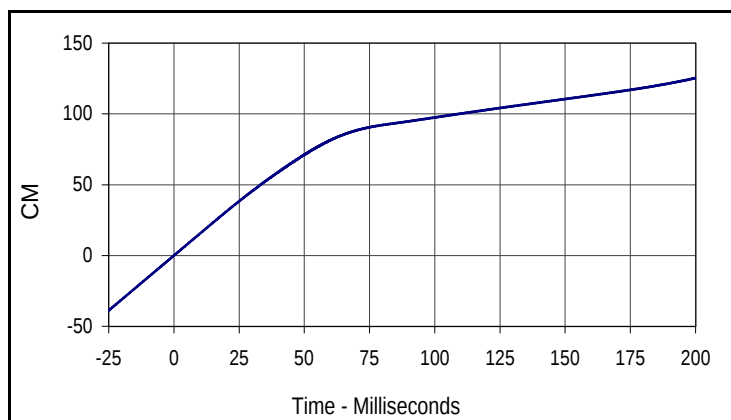
Curve Description			
Driver Pelvis Resultant			
CURNO	Type	SAE Class	Units
020	RES	1000	G's
Max	Time	Min	Time
52.4	63.7	0.0	0.3

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03
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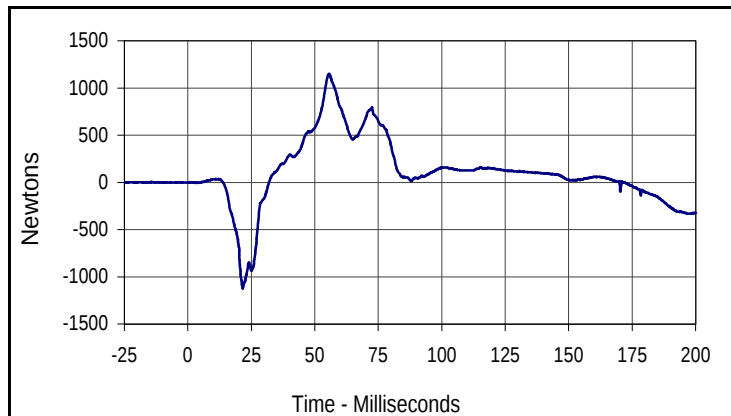
Curve Description			
Driver Pelvis X Velocity			
CURNO	Type	SAE Class	Units
020	IN1	180	KMH
Max	Time	Min	Time
56.0	3.7	9.0	145.9



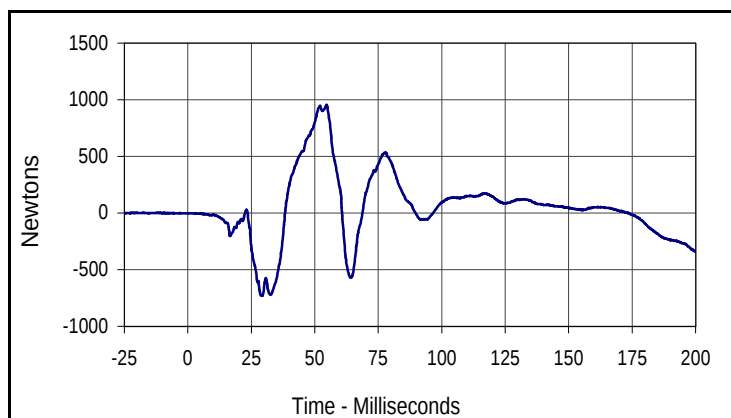
Curve Description			
Driver Pelvis X Displacement			
CURNO	Type	SAE Class	Units
020	IN2	180	CM
Max	Time	Min	Time
125.4	200.0	0.0	0.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03
 NHTSA No.: M45300



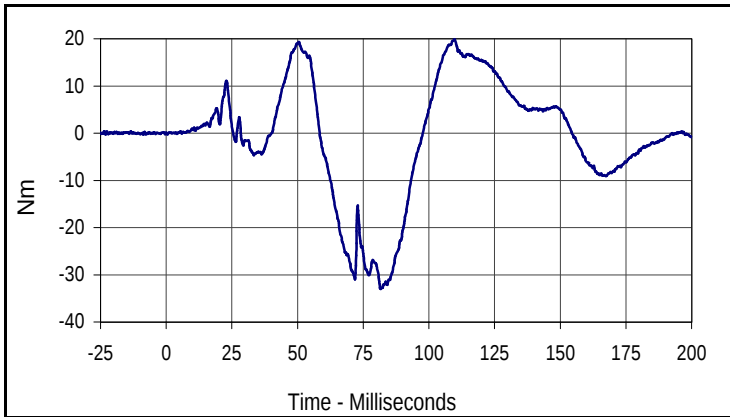
Curve Description			
Driver Left Femur Force			
CURNO	Type	SAE Class	Units
023	FIL	600	Newtons
Max	Time	Min	Time
1150.7	55.6	-1123.2	21.6



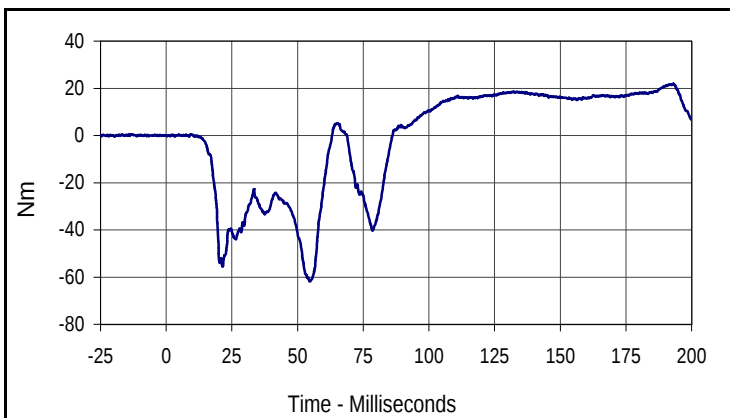
Curve Description			
Driver Right Femur Force			
CURNO	Type	SAE Class	Units
024	FIL	600	Newtons
Max	Time	Min	Time
956.0	54.6	-728.9	28.9

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

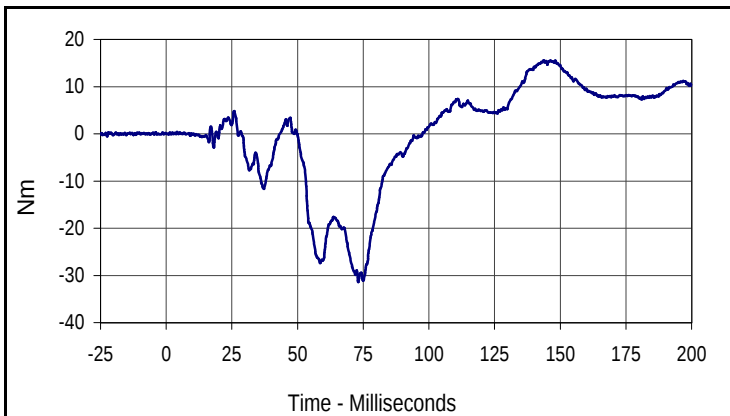
Test Date: 12/19/03
 NHTSA No.: M45300



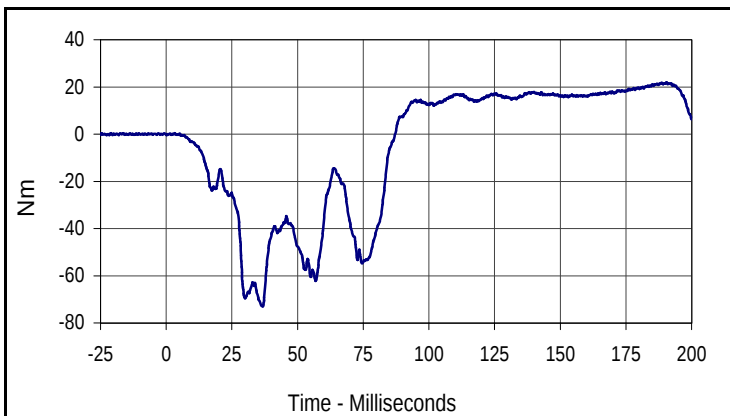
Curve Description			
Driver Left Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
025	FIL	600	Nm
Max	Time	Min	Time
19.9	109.8	-33.0	81.6



Curve Description			
Driver Left Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
026	FIL	600	Nm
Max	Time	Min	Time
21.9	193.1	-61.9	54.7



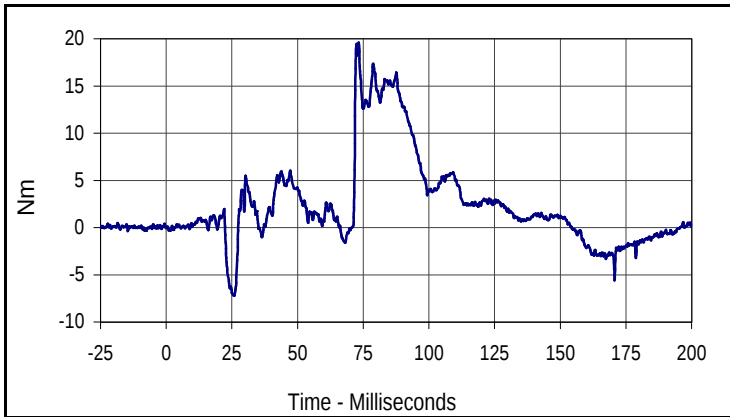
Curve Description			
Driver Right Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
027	FIL	600	Nm
Max	Time	Min	Time
15.6	143.7	-31.4	73.1



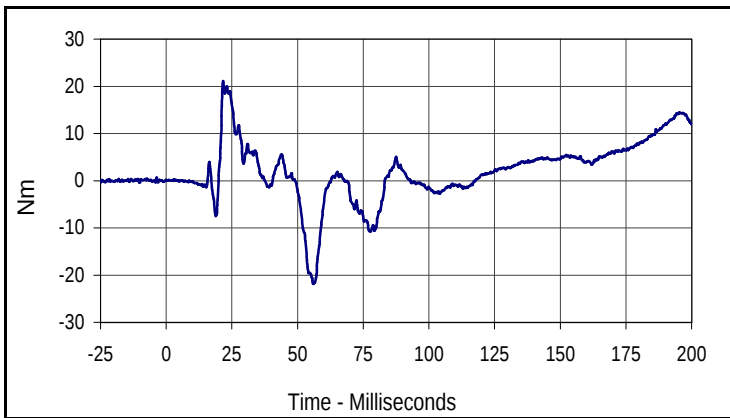
Curve Description			
Driver Right Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
028	FIL	600	Nm
Max	Time	Min	Time
21.9	190.5	-73.1	36.7

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

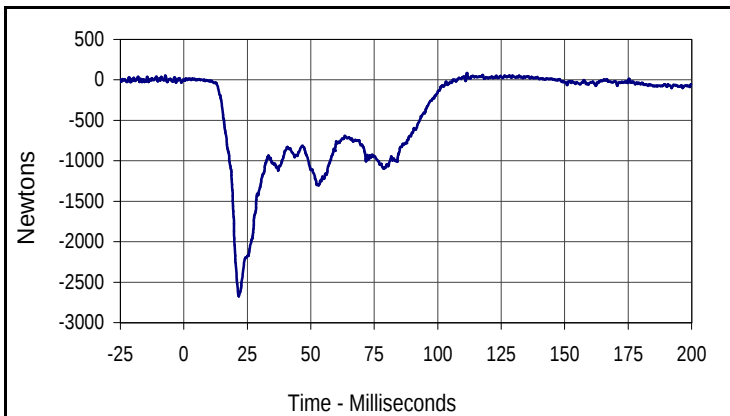
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Driver Left Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
029	FIL	600	Nm
Max	Time	Min	Time
19.6	73.3	-7.2	25.9



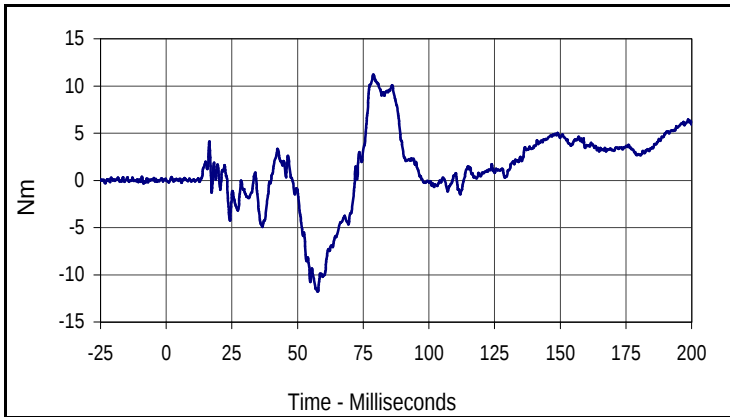
Curve Description			
Driver Left Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
030	FIL	600	Nm
Max	Time	Min	Time
21.1	21.6	-21.9	56.0



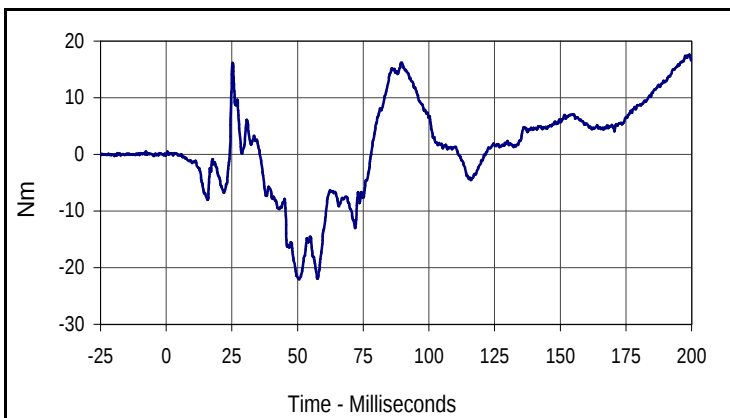
Curve Description			
Driver Left Lower Tibia Force Z			
CURNO	Type	SAE Class	Units
031	FIL	600	Newtons
Max	Time	Min	Time
86.3	111.5	-2674.2	21.6

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

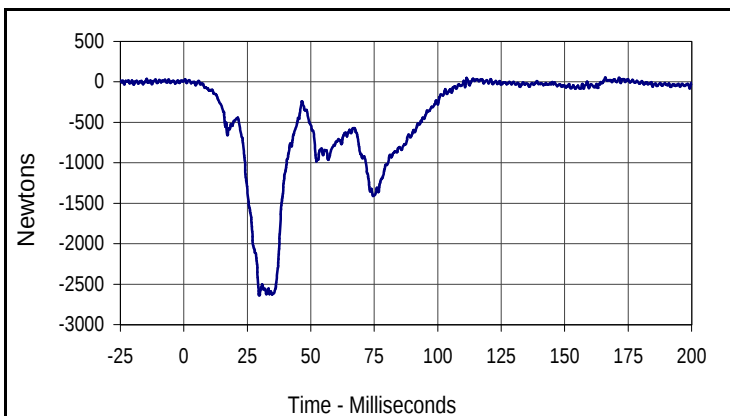
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Driver Right Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
032	FIL	600	Nm
Max	Time	Min	Time
11.2	78.9	-11.8	57.7



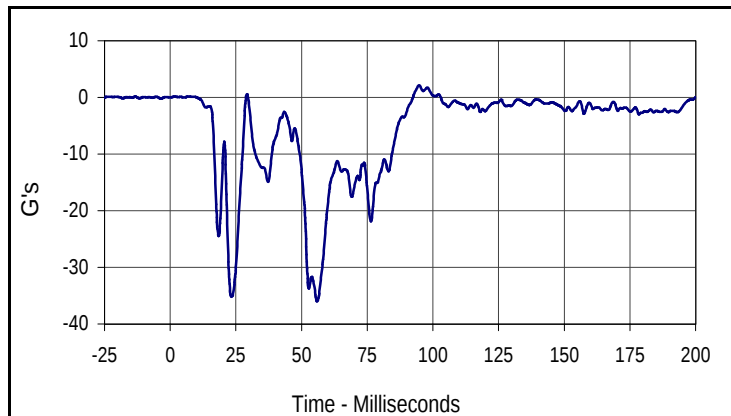
Curve Description			
Driver Right Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
033	FIL	600	Nm
Max	Time	Min	Time
17.6	199.2	-22.1	50.6



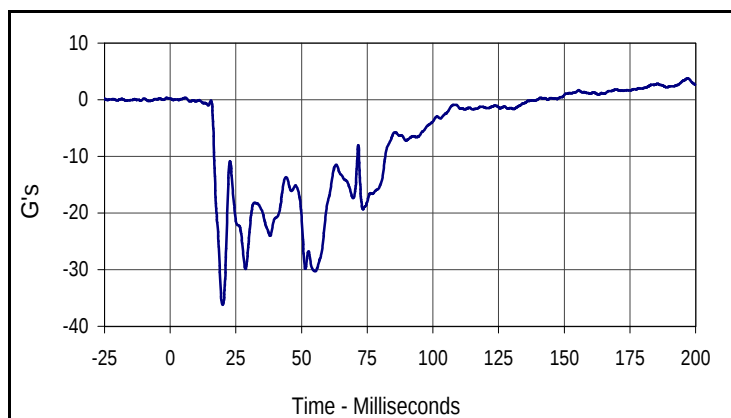
Curve Description			
Driver Right lower Tibia Force Z			
CURNO	Type	SAE Class	Units
034	FIL	600	Newtons
Max	Time	Min	Time
54.8	166.0	-2641.6	29.7

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

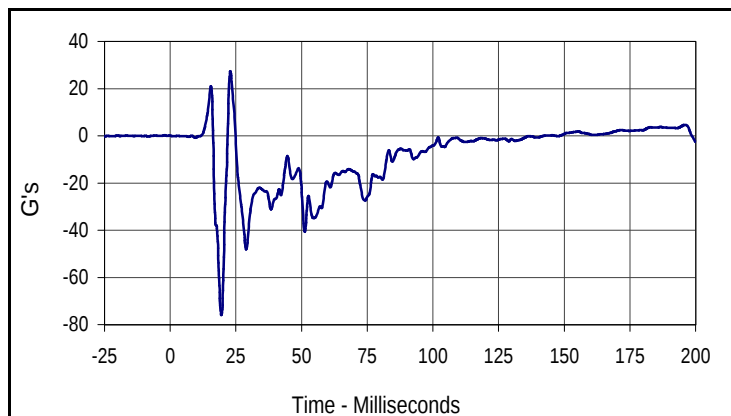
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Driver Left Foot Aft X			
CURNO	Type	SAE Class	Units
035	FIL	180	G's
Max	Time	Min	Time
2.2	94.7	-36.0	55.9



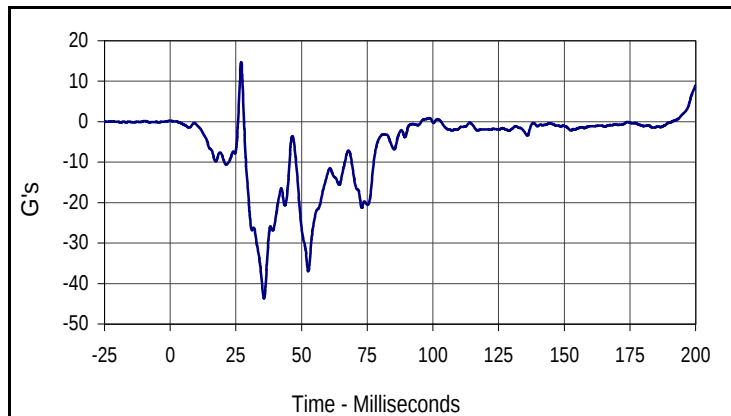
Curve Description			
Driver Left Foot Aft Z			
CURNO	Type	SAE Class	Units
036	FIL	180	G's
Max	Time	Min	Time
3.8	197.0	-36.2	19.9



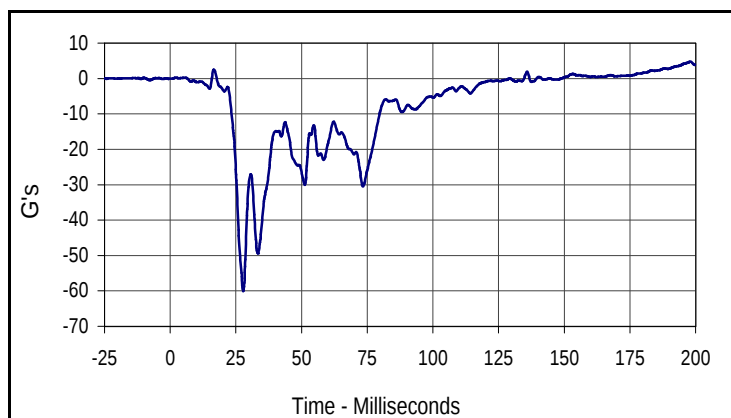
Curve Description			
Driver Left Foot Fore Z			
CURNO	Type	SAE Class	Units
037	FIL	180	G's
Max	Time	Min	Time
27.3	22.9	-76.0	19.5

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

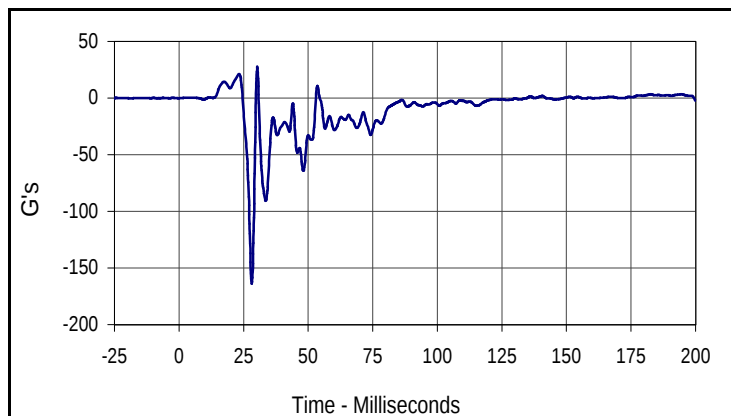
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Driver Right Foot Aft X			
CURNO	Type	SAE Class	Units
038	FIL	180	G's
Max	Time	Min	Time
14.7	27.0	-43.6	35.7



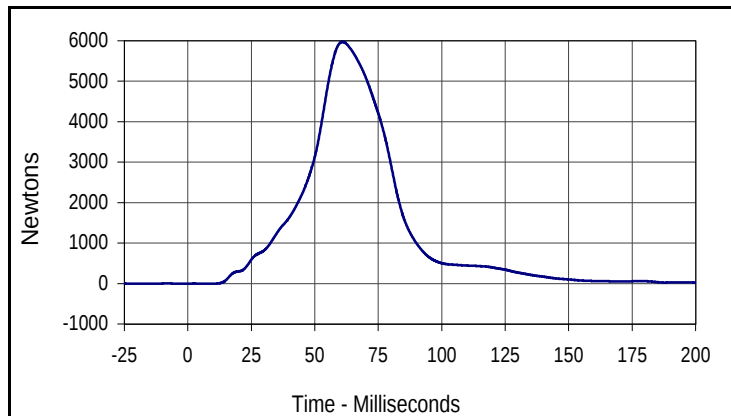
Curve Description			
Driver Right Foot Aft Z			
CURNO	Type	SAE Class	Units
039	FIL	180	G's
Max	Time	Min	Time
4.8	198.1	-60.1	27.8



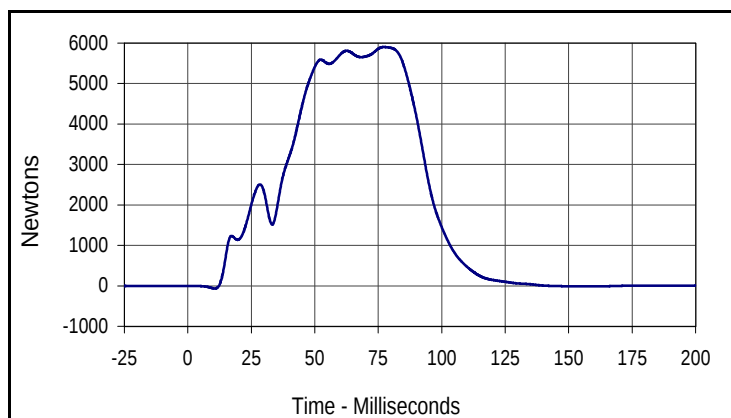
Curve Description			
Driver Right Foot Fore Z			
CURNO	Type	SAE Class	Units
040	FIL	180	G's
Max	Time	Min	Time
27.7	30.3	-163.9	28.2

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

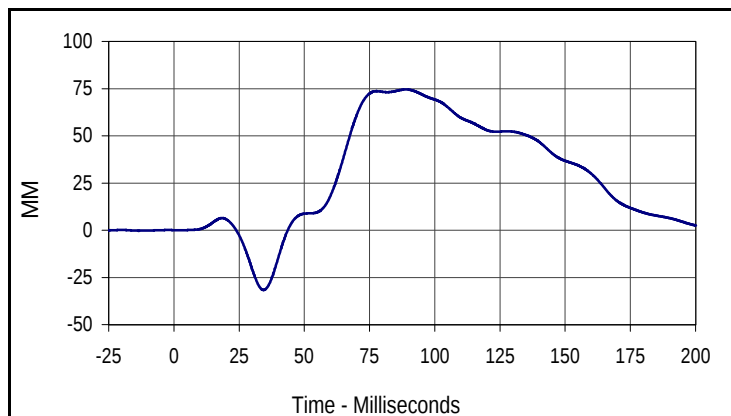
Test Date: 12/19/03
 NHTSA No.: M45300



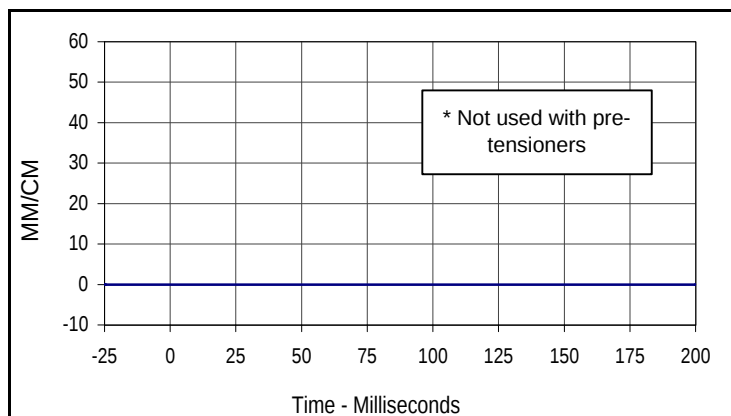
Curve Description			
Driver Lap Belt Force			
CURNO	Type	SAE Class	Units
041	FIL	60	Newtons
Max	Time	Min	Time
5973.1	60.9	-2.4	8.6



Curve Description			
Driver Shoulder Belt Force			
CURNO	Type	SAE Class	Units
042	FIL	60	Newtons
Max	Time	Min	Time
5903.1	77.2	-66.7	10.6



Curve Description			
Driver Shoulder Belt Pullout			
CURNO	Type	SAE Class	Units
043	FIL	60	MM
Max	Time	Min	Time
74.6	89.0	-31.6	34.4

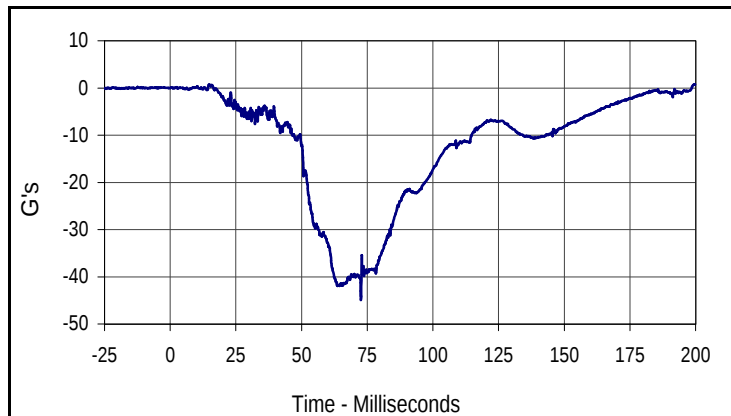


Curve Description			
Driver Shoulder Belt Elongation			
CURNO	Type	SAE Class	Units
044	FIL	60	MM/CM
Max	Time	Min	Time
0.0	0.0	0.0	0.0

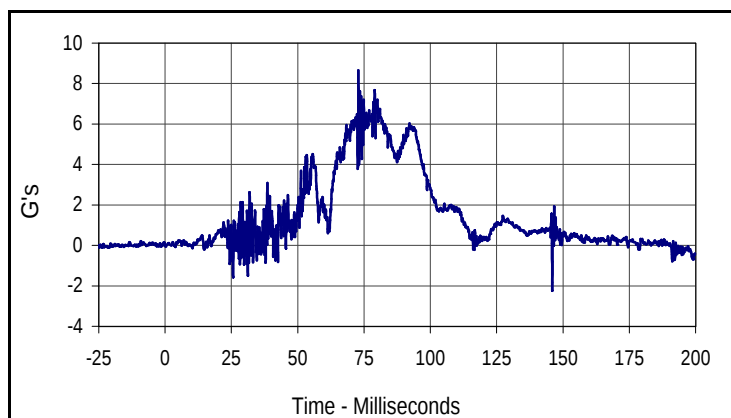
* Not used with pre-tensioners

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

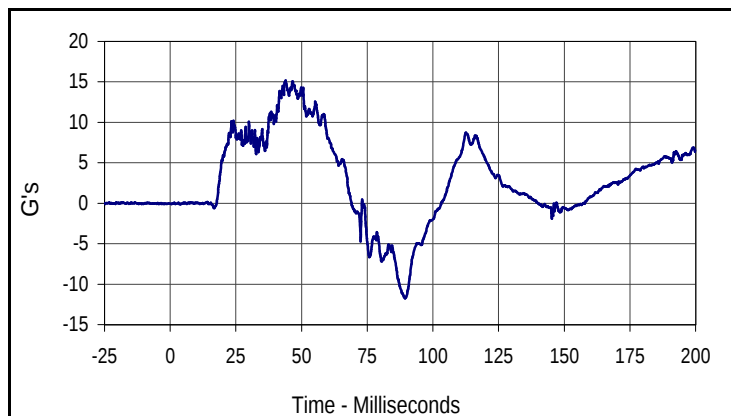
Test Date: 12/19/03
 NHTSA No.: M45300



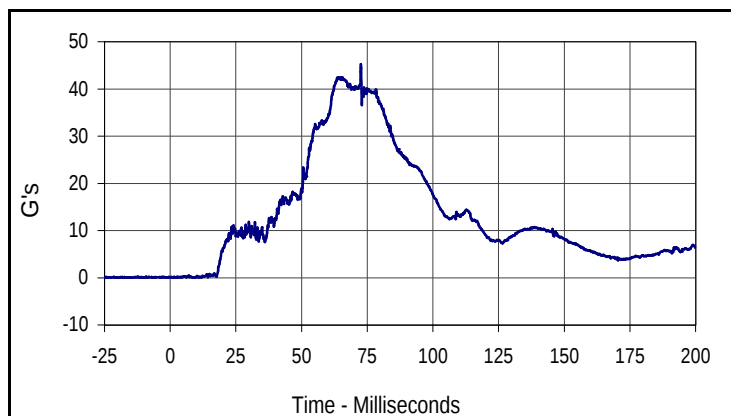
Curve Description			
Passenger Head Primary X			
CURNO	Type	SAE Class	Units
045	FIL	1000	G's
Max	Time	Min	Time
0.8	200.0	-44.9	72.6



Curve Description			
Passenger Head Primary Y			
CURNO	Type	SAE Class	Units
046	FIL	1000	G's
Max	Time	Min	Time
8.7	72.9	-2.2	146.0



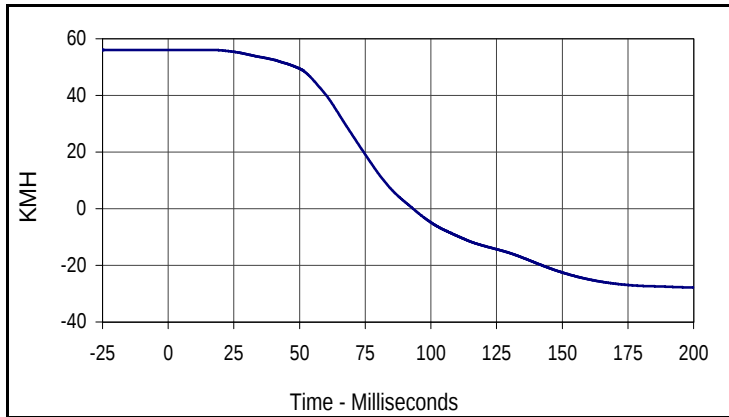
Curve Description			
Passenger Head Primary Z			
CURNO	Type	SAE Class	Units
047	FIL	1000	G's
Max	Time	Min	Time
15.2	43.9	-11.7	89.4



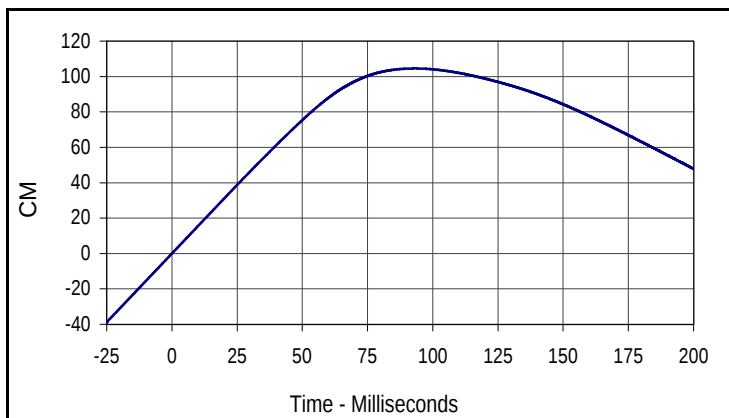
Curve Description			
Passenger Head Resultant Primary			
CURNO	Type	SAE Class	Units
045	RES	1000	G's
Max	Time	Min	Time
45.2	72.6	0.0	9.3

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03
 NHTSA No.: M45300



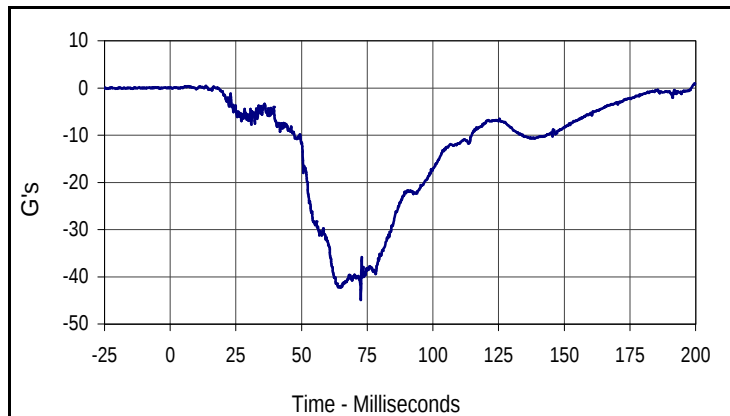
Curve Description			
Passenger Head Primary X Velocity			
CURNO	Type	SAE Class	Units
045	IN1	180	KMH
Max	Time	Min	Time
56.0	16.6	-27.8	198.5



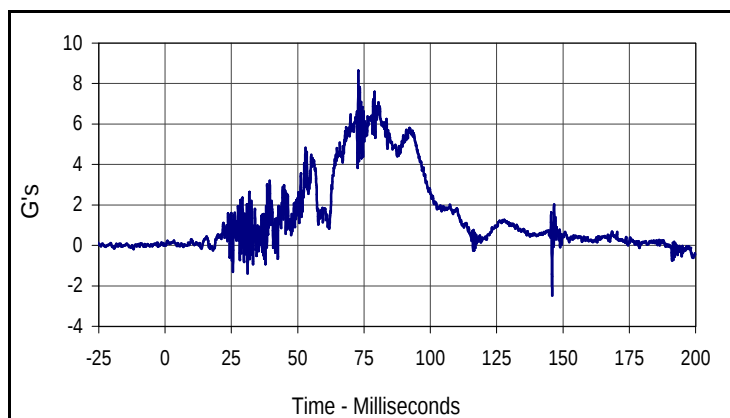
Curve Description			
Passenger Head Primary X Displacement			
CURNO	Type	SAE Class	Units
045	IN2	180	CM
Max	Time	Min	Time
104.5	93.2	0.0	0.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

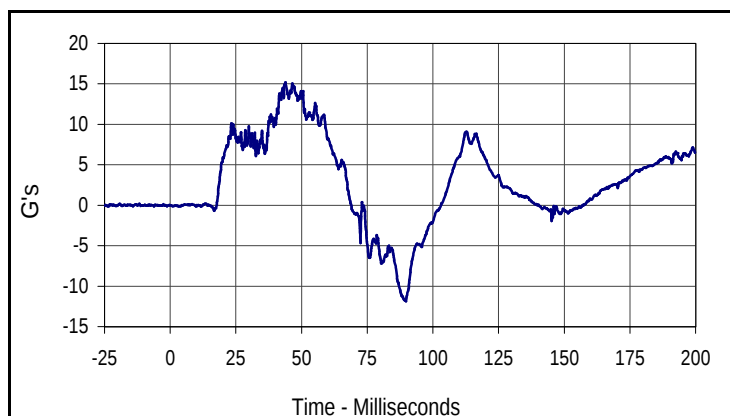
Test Date: 12/19/03
 NHTSA No.: M45300



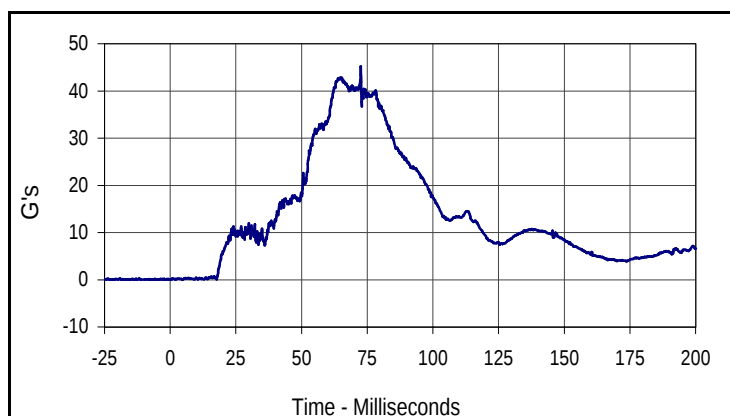
Curve Description			
Passenger Head Redundant X			
CURNO	Type	SAE Class	Units
048	FIL	1000	G's
Max	Time	Min	Time
0.9	199.6	-44.9	72.6



Curve Description			
Passenger Head Redundant Y			
CURNO	Type	SAE Class	Units
049	FIL	1000	G's
Max	Time	Min	Time
8.6	72.8	-2.5	145.9



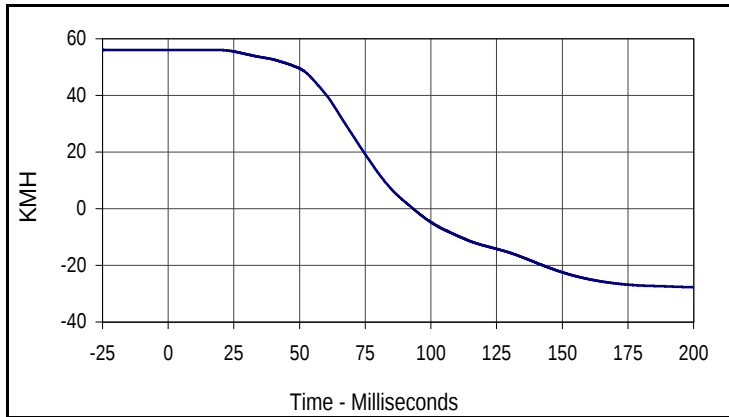
Curve Description			
Passenger Head Redundant Z			
CURNO	Type	SAE Class	Units
050	FIL	1000	G's
Max	Time	Min	Time
15.2	43.8	-11.9	89.7



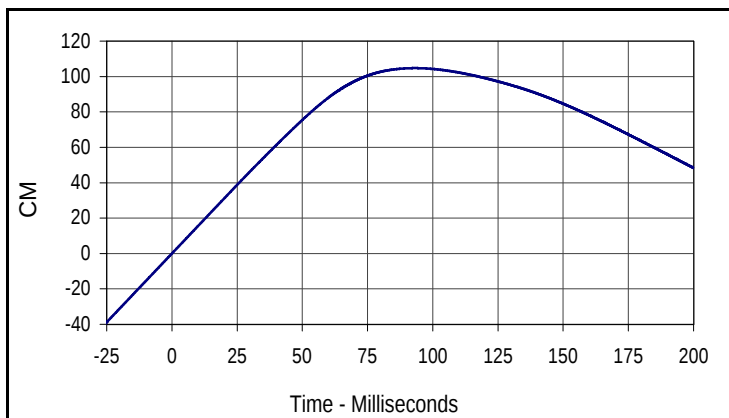
Curve Description			
Passenger Head Resultant Redundant			
CURNO	Type	SAE Class	Units
048	RES	1000	G's
Max	Time	Min	Time
45.2	72.6	0.0	0.3

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03
 NHTSA No.: M45300



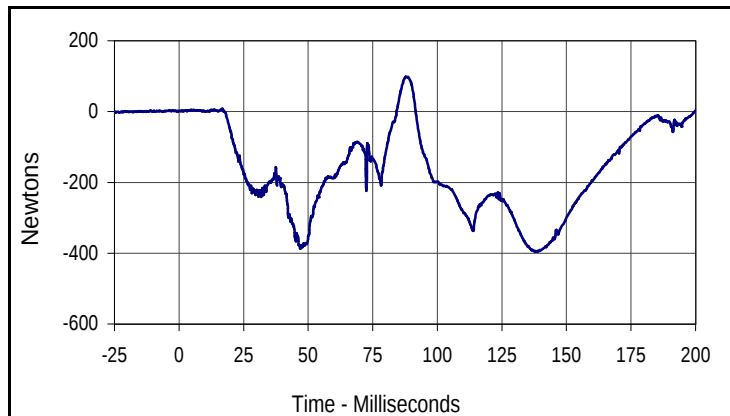
Curve Description			
Passenger Head Redundant X Velocity			
CURNO	Type	SAE Class	Units
048	IN1	180	KMH
Max	Time	Min	Time
56.1	14.2	-27.7	198.3



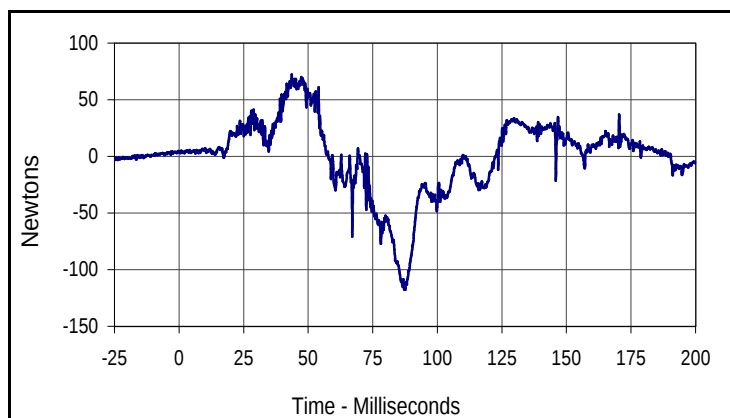
Curve Description			
Passenger Head Redundant X Displacement			
CURNO	Type	SAE Class	Units
048	IN2	180	CM
Max	Time	Min	Time
104.7	93.2	0.0	0.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

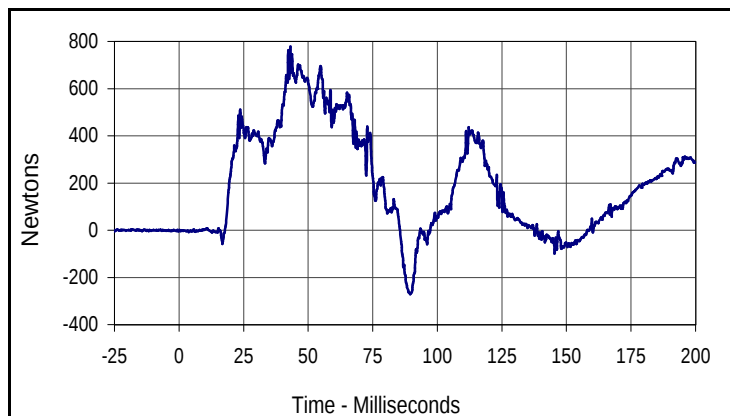
Test Date: 12/19/03
 NHTSA No.: M45300



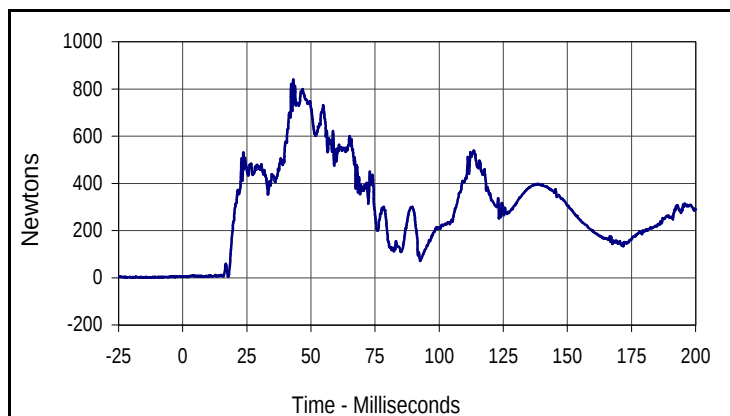
Curve Description			
Passenger Upper Neck Force X			
CURNO	Type	SAE Class	Units
051	FIL	1000	Newtons
Max	Time	Min	Time
98.7	87.8	-396.0	138.5



Curve Description			
Passenger Upper Neck Force Y			
CURNO	Type	SAE Class	Units
052	FIL	1000	Newtons
Max	Time	Min	Time
72.4	43.7	-117.9	87.6



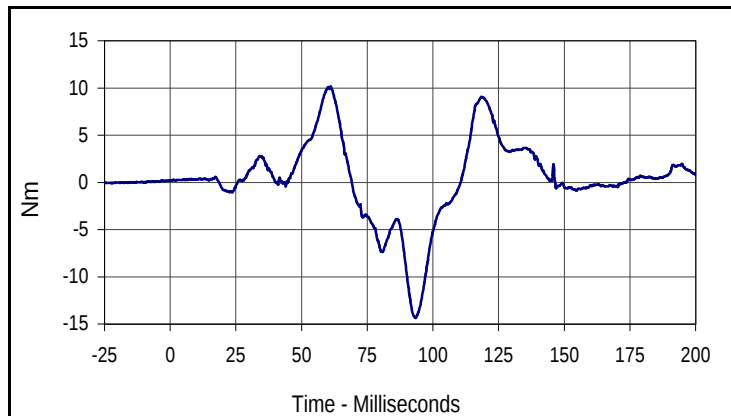
Curve Description			
Passenger Upper Neck Force Z			
CURNO	Type	SAE Class	Units
053	FIL	1000	Newtons
Max	Time	Min	Time
778.4	43.1	-270.8	89.5



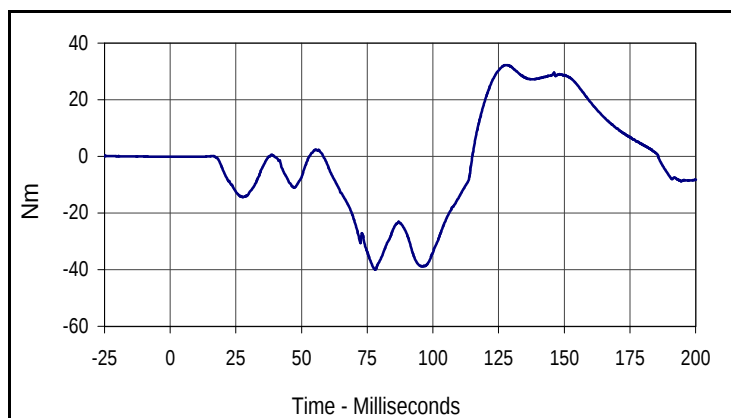
Curve Description			
Passenger Upper Neck Force Res.			
CURNO	Type	SAE Class	Units
051	RES	1000	Newtons
Max	Time	Min	Time
840.4	43.1	3.7	1.5

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

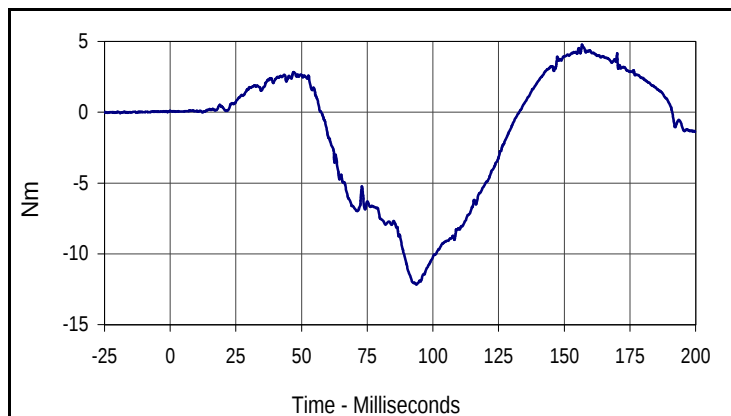
Test Date: 12/19/03
 NHTSA No.: M45300



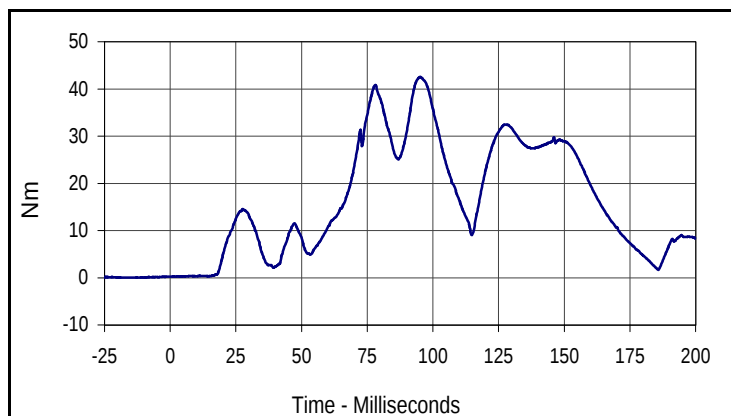
Curve Description			
Passenger Upper Neck Moment X			
CURNO	Type	SAE Class	Units
054	FIL	600	Nm
Max	Time	Min	Time
10.1	61.1	-14.3	93.4



Curve Description			
Passenger Upper Neck Moment Y			
CURNO	Type	SAE Class	Units
055	FIL	600	Nm
Max	Time	Min	Time
32.2	127.9	-40.0	78.1



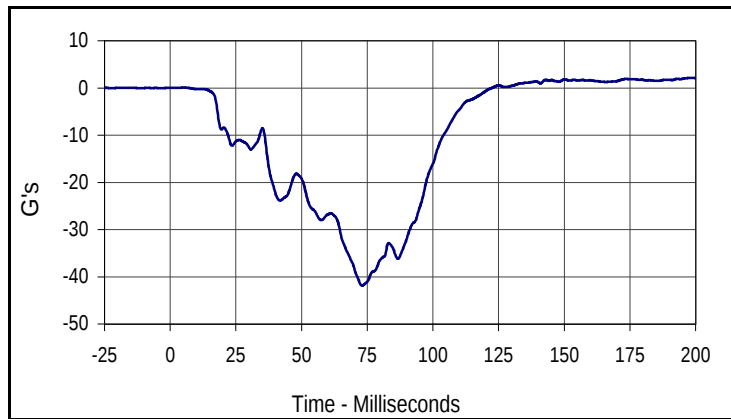
Curve Description			
Passenger Upper Neck Moment Z			
CURNO	Type	SAE Class	Units
056	FIL	600	Nm
Max	Time	Min	Time
4.8	156.8	-12.1	93.8



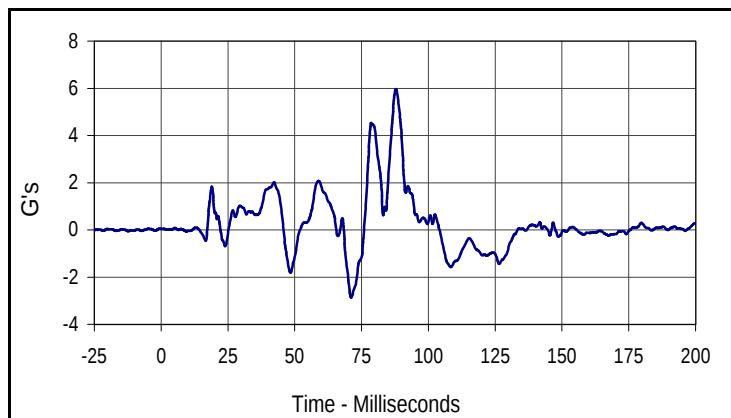
Curve Description			
Passenger Upper Neck Moment Res.			
CURNO	Type	SAE Class	Units
054	RES	600	Nm
Max	Time	Min	Time
42.5	95.2	0.2	2.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

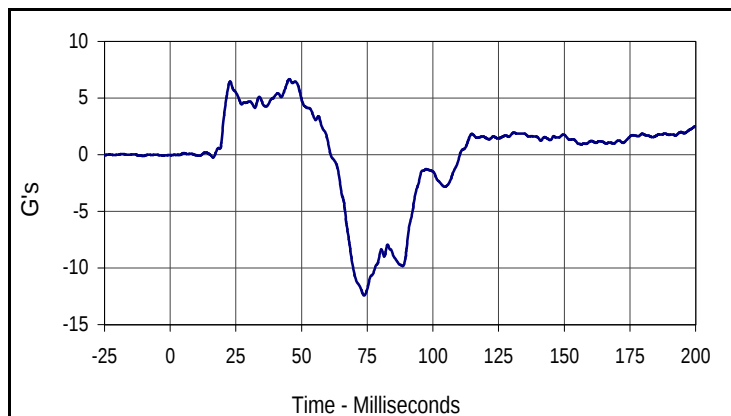
Test Date: 12/19/03
 NHTSA No.: M45300



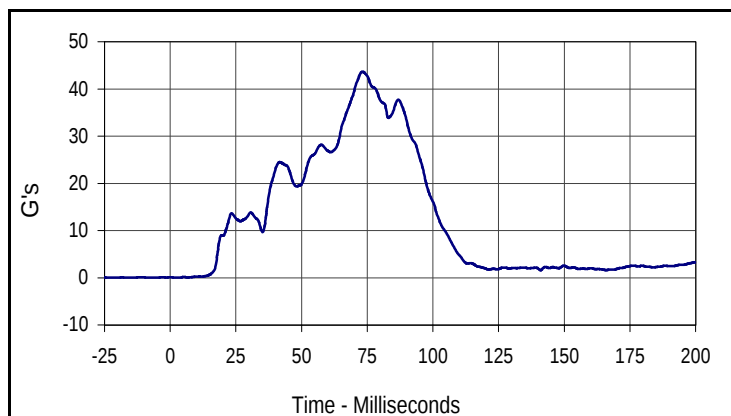
Curve Description			
Passenger Chest Primary X			
CURNO	Type	SAE Class	Units
057	FIL	180	G's
Max	Time	Min	Time
2.1	199.1	-41.9	73.0



Curve Description			
Passenger Chest Primary Y			
CURNO	Type	SAE Class	Units
058	FIL	180	G's
Max	Time	Min	Time
6.0	87.8	-2.9	71.1



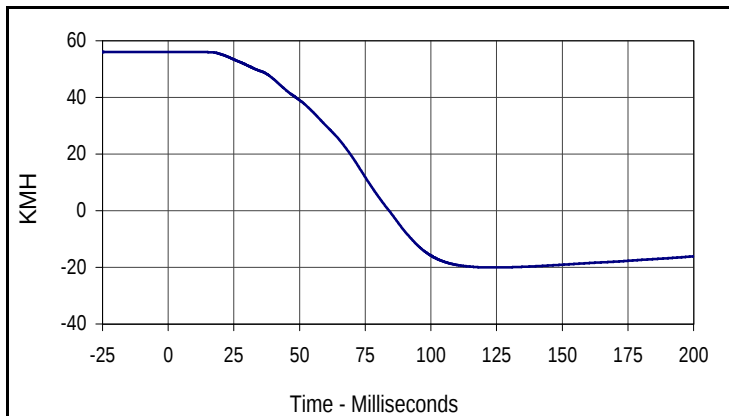
Curve Description			
Passenger Chest Primary Z			
CURNO	Type	SAE Class	Units
059	FIL	180	G's
Max	Time	Min	Time
6.7	45.3	-12.4	73.8



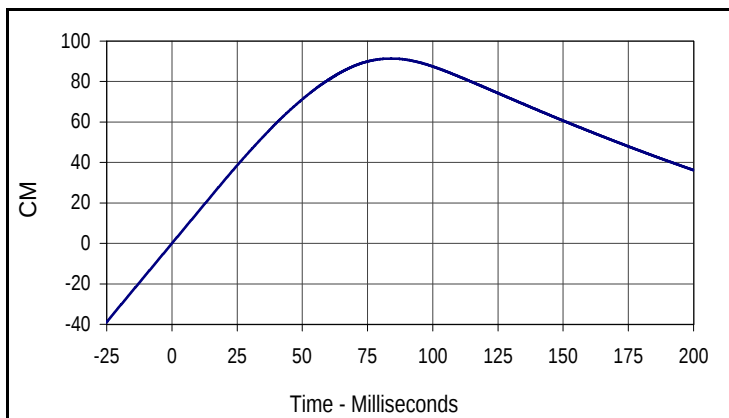
Curve Description			
Passenger Chest Resultant Primary			
CURNO	Type	SAE Class	Units
057	RES	180	G's
Max	Time	Min	Time
43.6	73.1	0.0	3.9

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03
 NHTSA No.: M45300



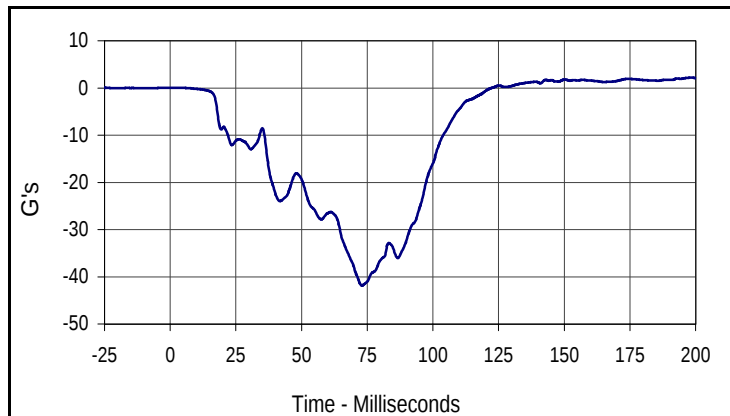
Curve Description			
Passenger Chest Primary X Velocity			
CURNO	Type	SAE Class	Units
057	IN1	180	KMH
Max	Time	Min	Time
56.1	7.1	-20.0	122.4



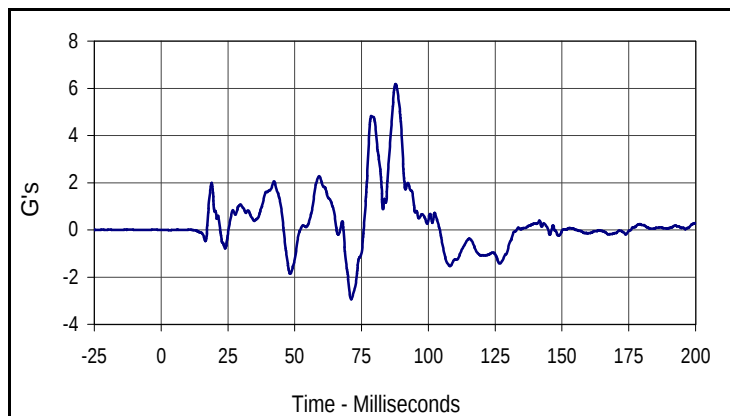
Curve Description			
Passenger Chest Primary X Displacement			
CURNO	Type	SAE Class	Units
057	IN2	180	CM
Max	Time	Min	Time
91.4	84.1	0.0	0.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

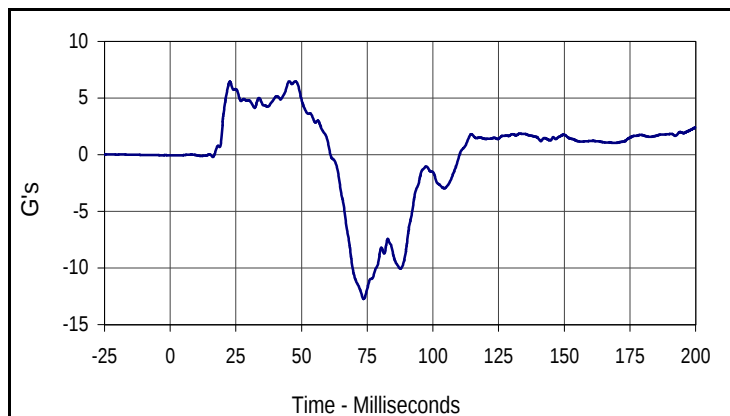
Test Date: 12/19/03
 NHTSA No.: M45300



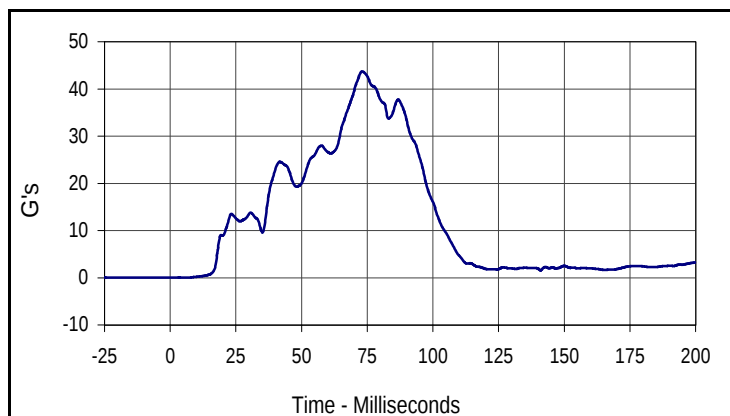
Curve Description			
Passenger Chest Redundant X			
CURNO	Type	SAE Class	Units
060	FIL	180	G's
Max	Time	Min	Time
2.2	198.5	-41.8	73.0



Curve Description			
Passenger Chest Redundant Y			
CURNO	Type	SAE Class	Units
061	FIL	180	G's
Max	Time	Min	Time
6.2	87.7	-2.9	71.1



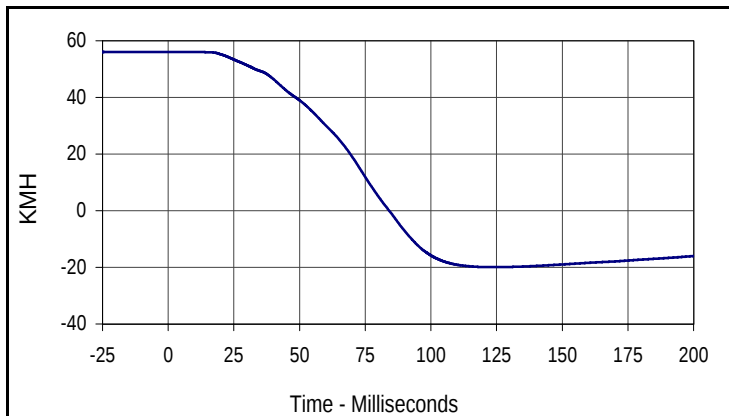
Curve Description			
Passenger Chest Redundant Z			
CURNO	Type	SAE Class	Units
062	FIL	180	G's
Max	Time	Min	Time
6.5	45.3	-12.7	73.6



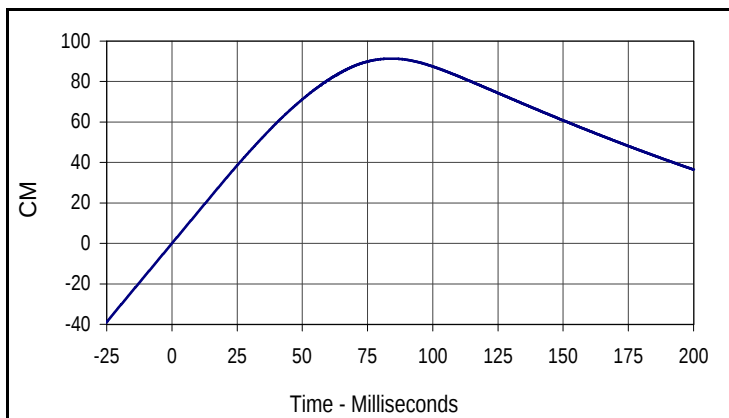
Curve Description			
Passenger Chest Resultant Redundant			
CURNO	Type	SAE Class	Units
060	RES	180	G's
Max	Time	Min	Time
43.7	73.1	0.0	6.6

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03
 NHTSA No.: M45300



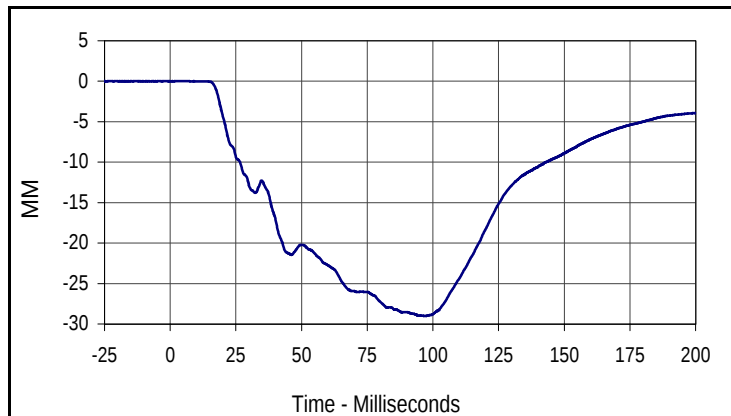
Curve Description			
Passenger Chest Redundant X Velocity			
CURNO	Type	SAE Class	Units
060	IN1	180	KMH
Max	Time	Min	Time
56.0	5.8	-19.9	122.4



Curve Description			
Passenger Chest Redundant X Displacement			
CURNO	Type	SAE Class	Units
060	IN2	180	CM
Max	Time	Min	Time
91.4	84.1	0.0	0.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

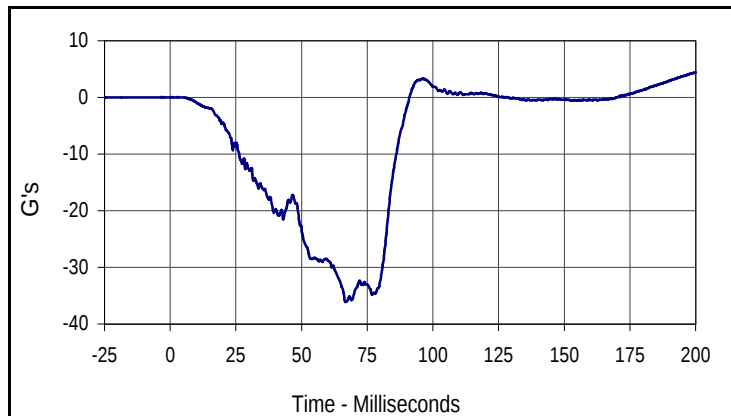
Test Date: 12/19/03
 NHTSA No.: M45300



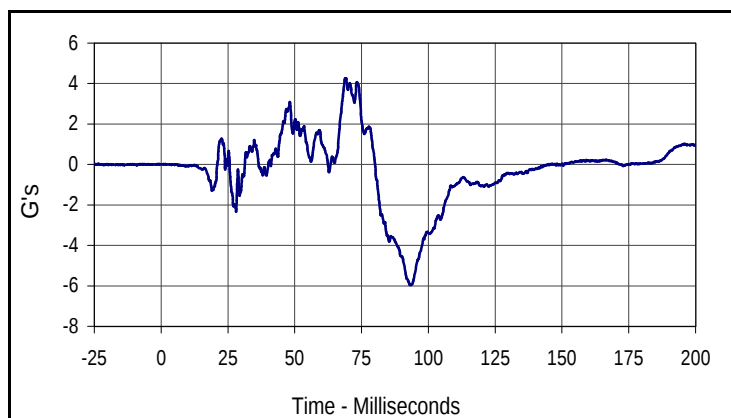
Curve Description			
Passenger Chest Displacement			
CURNO	Type	SAE Class	Units
063	FIL	600	MM
Max	Time	Min	Time
0.0	6.2	-29.0	96.8

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

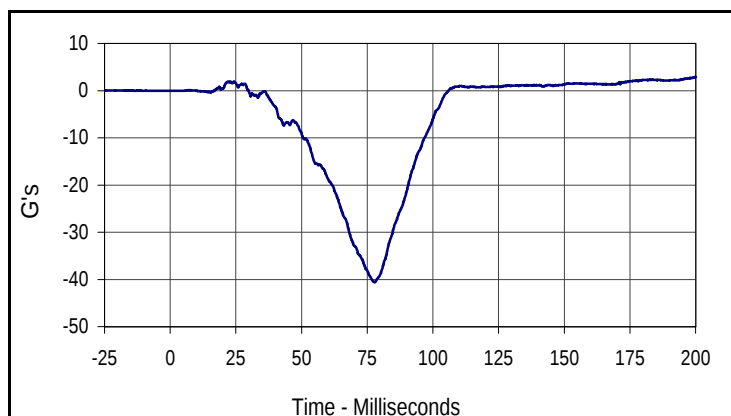
Test Date: 12/19/03
 NHTSA No.: M45300



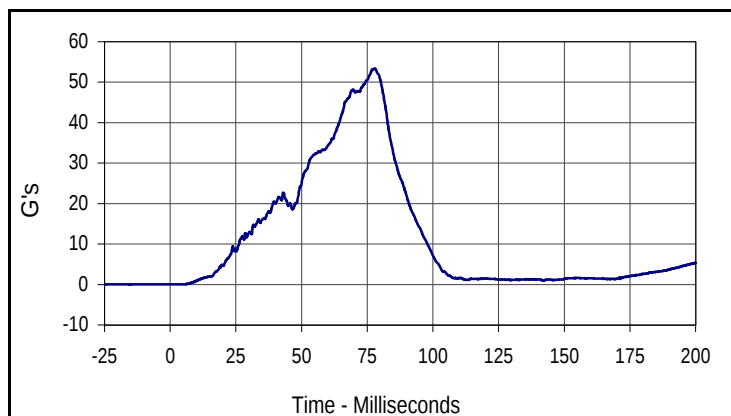
Curve Description			
Passenger Pelvis X			
CURNO	Type	SAE Class	Units
064	FIL	1000	G's
Max	Time	Min	Time
4.5	200.0	-36.1	66.7



Curve Description			
Passenger Pelvis Y			
CURNO	Type	SAE Class	Units
065	FIL	1000	G's
Max	Time	Min	Time
4.3	69.1	-6.0	93.5



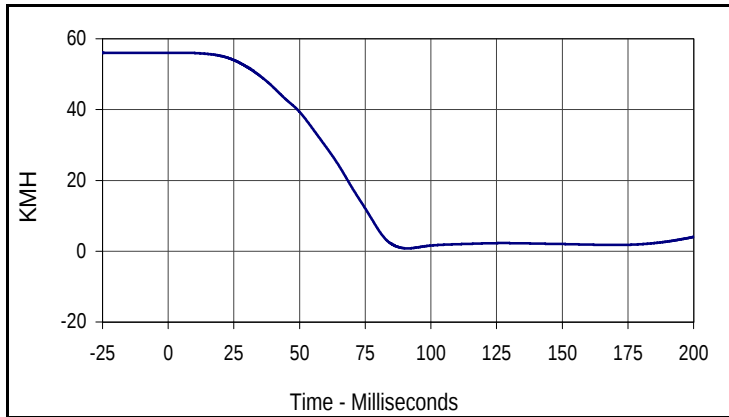
Curve Description			
Passenger Pelvis Z			
CURNO	Type	SAE Class	Units
066	FIL	1000	G's
Max	Time	Min	Time
2.9	199.8	-40.6	77.8



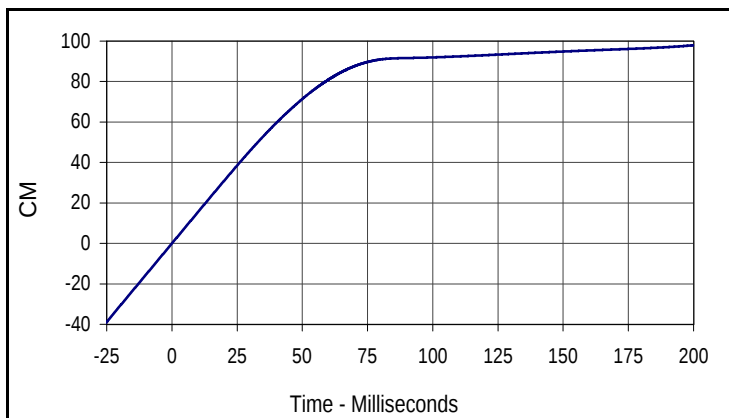
Curve Description			
Passenger Pelvis Resultant			
CURNO	Type	SAE Class	Units
064	RES	1000	G's
Max	Time	Min	Time
53.4	78.0	0.0	0.6

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03
 NHTSA No.: M45300



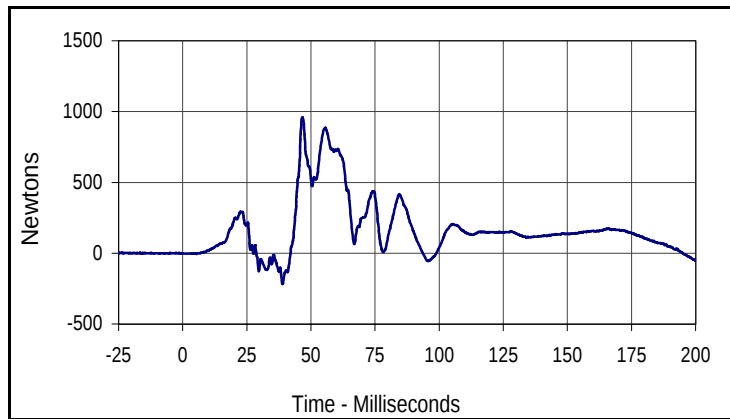
Curve Description			
Passenger Pelvis X Velocity			
CURNO	Type	SAE Class	Units
064	IN1	180	KMH
Max	Time	Min	Time
56.0	4.8	0.8	91.1



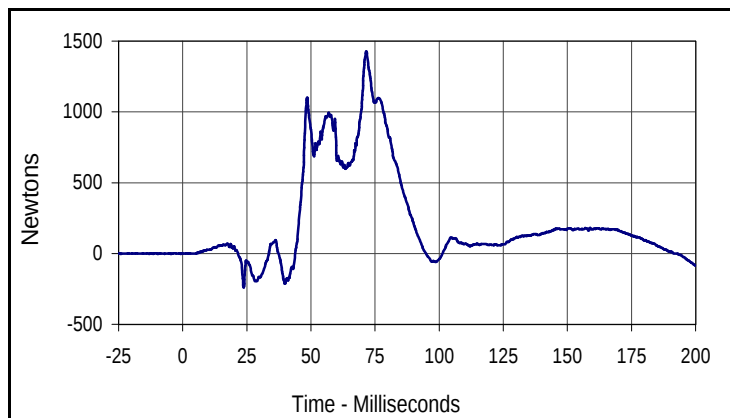
Curve Description			
Passenger Pelvis X Displacement			
CURNO	Type	SAE Class	Units
064	IN2	180	CM
Max	Time	Min	Time
98.0	200.0	0.0	0.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03
 NHTSA No.: M45300



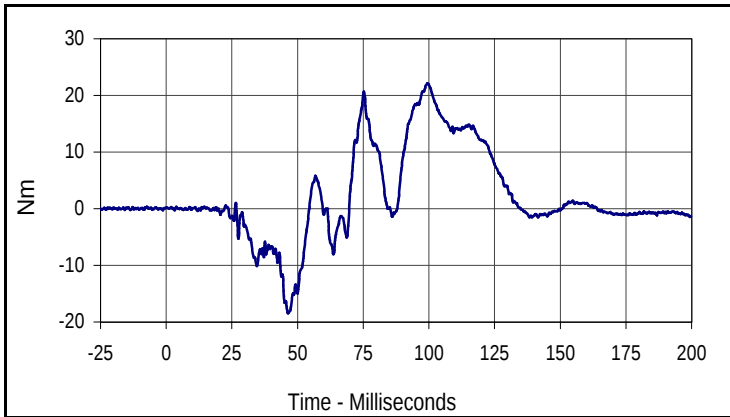
Curve Description			
Passenger Left Femur Force			
CURNO	Type	SAE Class	Units
067	FIL	600	Newtons
Max	Time	Min	Time
959.9	46.7	-217.4	38.9



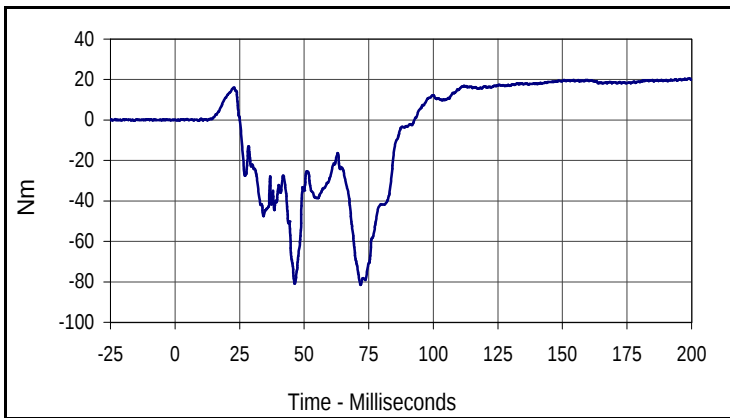
Curve Description			
Passenger Right Femur Force			
CURNO	Type	SAE Class	Units
068	FIL	600	Newtons
Max	Time	Min	Time
1427.0	71.6	-239.8	23.8

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

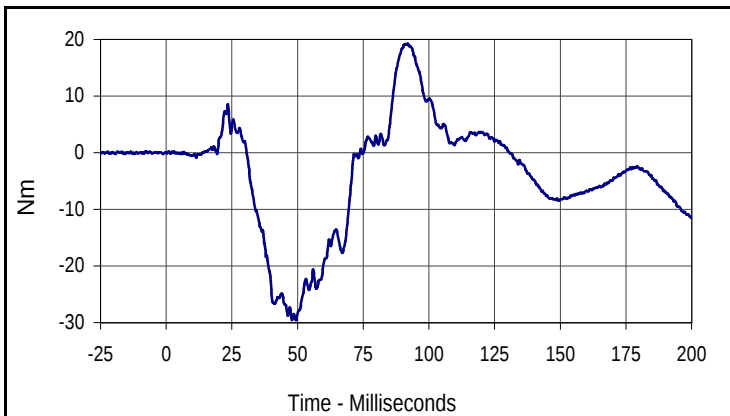
Test Date: 12/19/03
 NHTSA No.: M45300



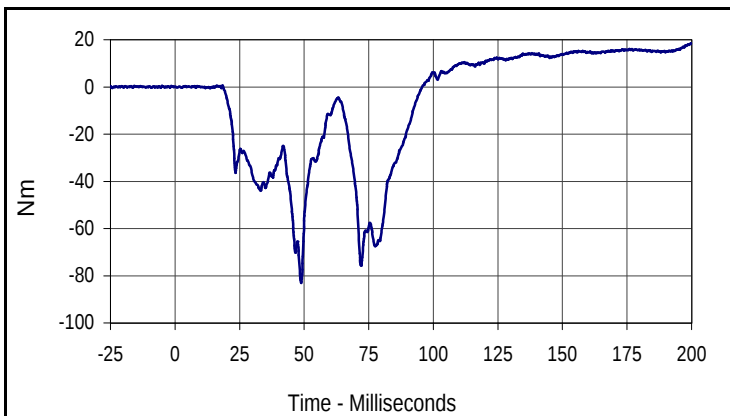
Curve Description			
Passenger Left Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
069	FIL	600	Nm
Max	Time	Min	Time
22.1	99.4	-18.5	46.4



Curve Description			
Passenger Left Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
070	FIL	600	Nm
Max	Time	Min	Time
20.5	199.1	-81.4	71.9



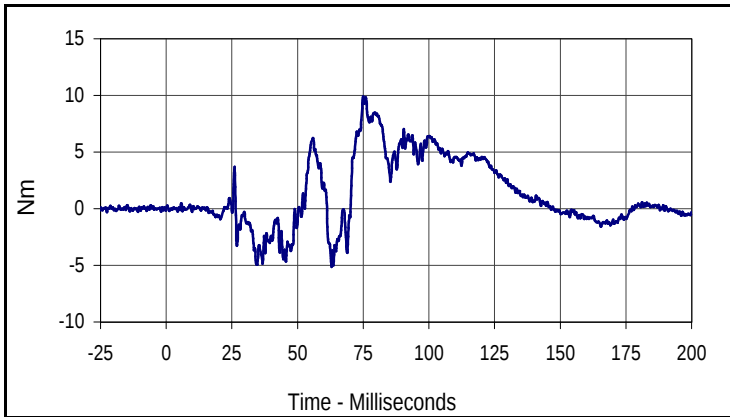
Curve Description			
Passenger Right Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
071	FIL	600	Nm
Max	Time	Min	Time
19.3	92.0	-29.6	49.4



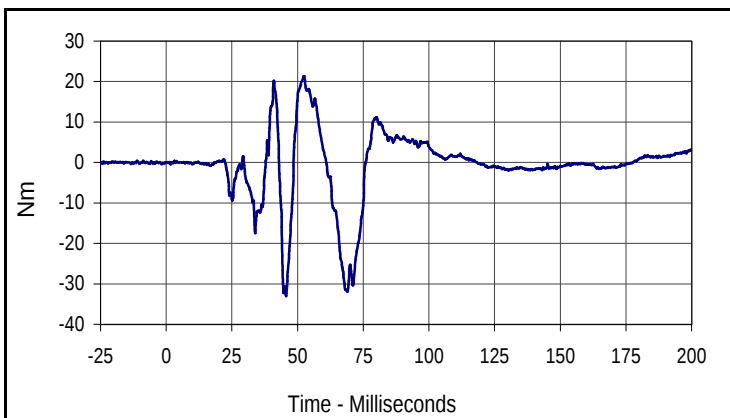
Curve Description			
Passenger Right Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
072	FIL	600	Nm
Max	Time	Min	Time
18.5	200.0	-83.1	48.8

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

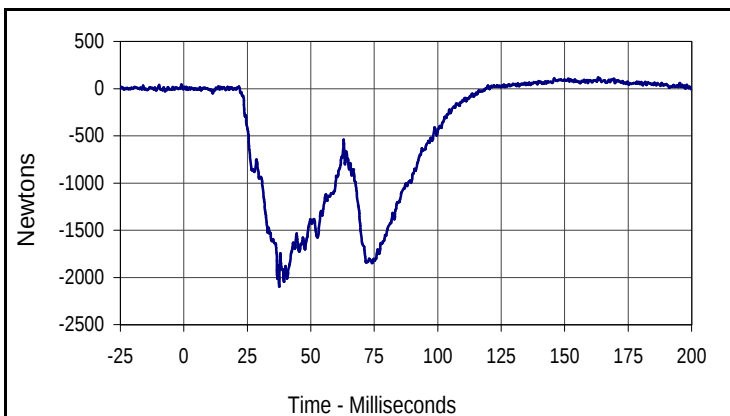
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Passenger Left Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
073	FIL	600	Nm
Max	Time	Min	Time
9.9	75.0	-5.2	62.9



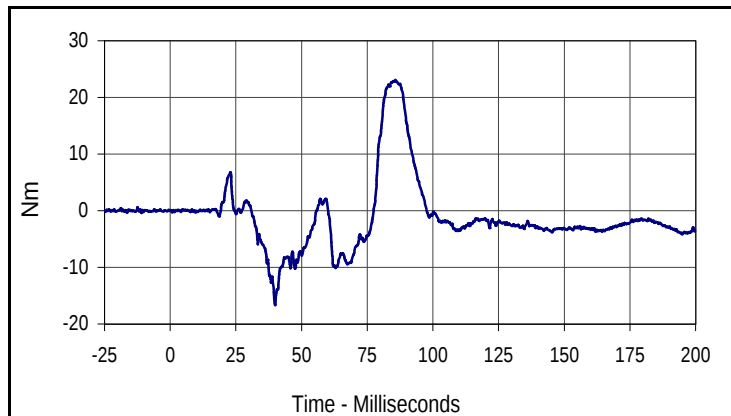
Curve Description			
Passenger Left Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
074	FIL	600	Nm
Max	Time	Min	Time
21.3	52.3	-33.0	45.6



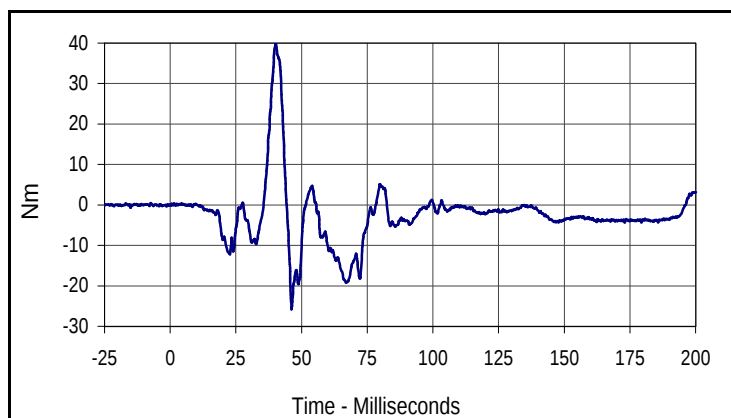
Curve Description			
Passenger Left Lower Tibia Force Z			
CURNO	Type	SAE Class	Units
075	FIL	600	Newtons
Max	Time	Min	Time
117.0	163.3	-2096.4	37.6

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

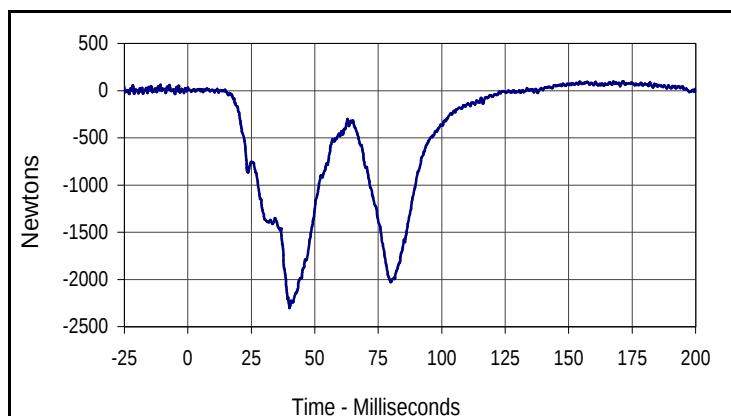
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Passenger Right Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
076	FIL	600	Nm
Max	Time	Min	Time
23.1	85.7	-16.6	39.9



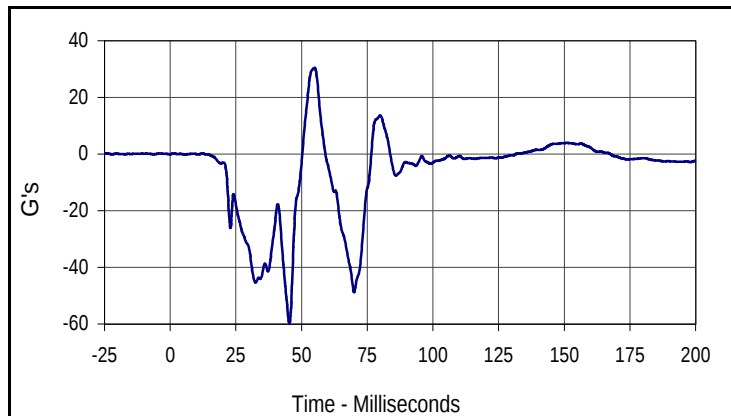
Curve Description			
Passenger Right Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
077	FIL	600	Nm
Max	Time	Min	Time
39.9	40.2	-25.8	46.2



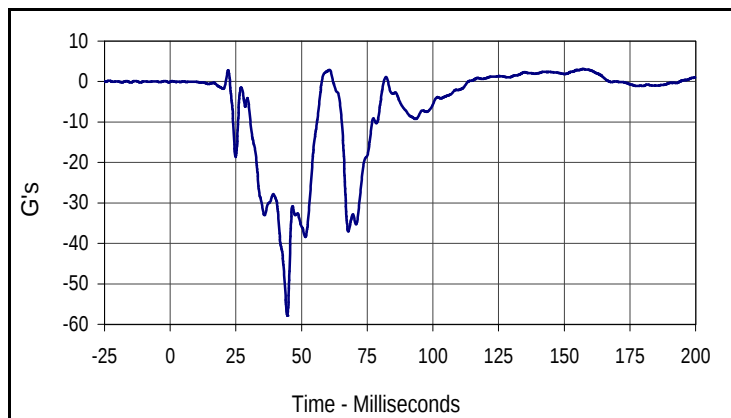
Curve Description			
Passenger Right Lower Tibia Force Z			
CURNO	Type	SAE Class	Units
078	FIL	600	Newtons
Max	Time	Min	Time
99.3	171.3	-2304.6	40.1

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

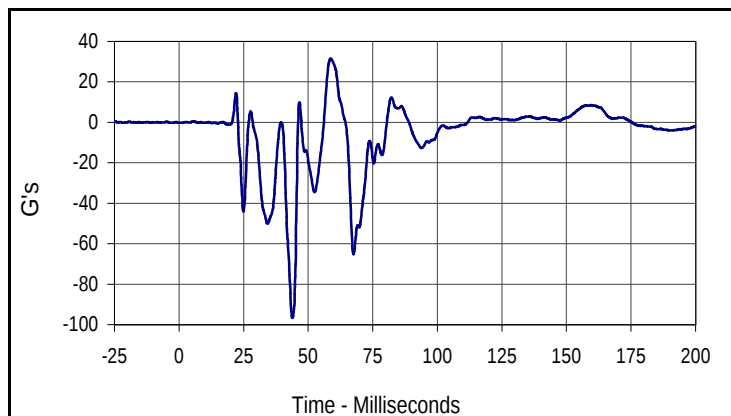
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Passenger Left Foot Aft X			
CURNO	Type	SAE Class	Units
079	FIL	180	G's
Max	Time	Min	Time
30.4	54.9	-59.7	45.4



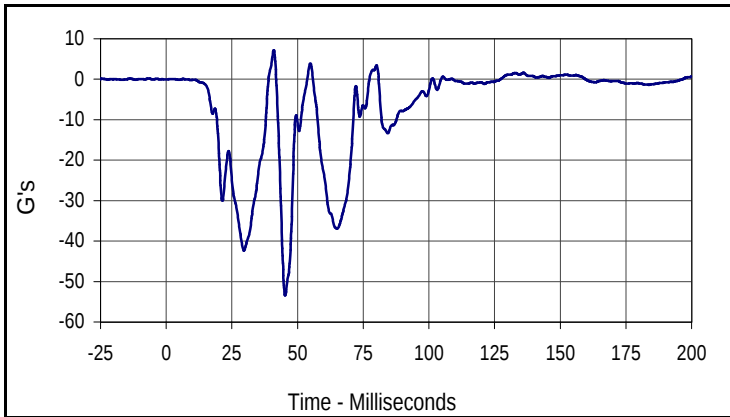
Curve Description			
Passenger Left Foot Aft Z			
CURNO	Type	SAE Class	Units
080	FIL	180	G's
Max	Time	Min	Time
3.1	157.2	-57.9	44.6



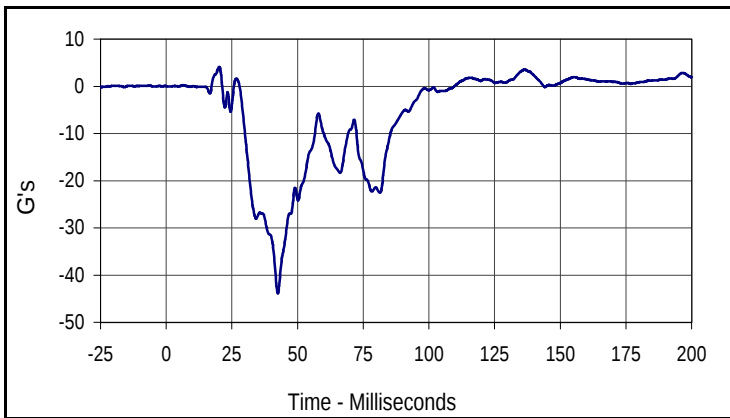
Curve Description			
Passenger Left Foot Fore Z			
CURNO	Type	SAE Class	Units
081	FIL	180	G's
Max	Time	Min	Time
31.6	58.7	-96.7	43.9

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

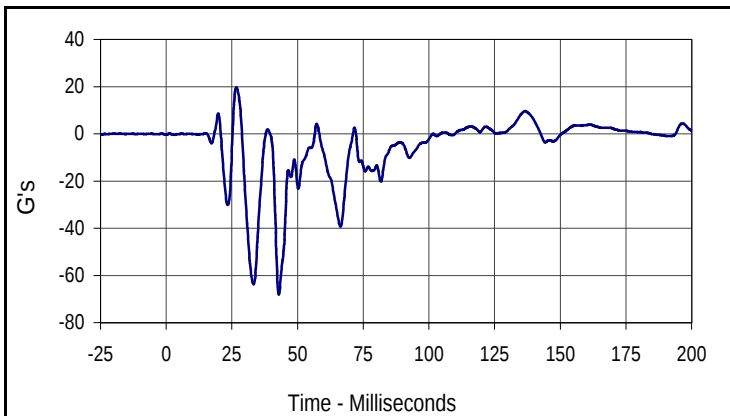
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Passenger Right Foot Aft X			
CURNO	Type	SAE Class	Units
082	FIL	180	G's
Max	Time	Min	Time
7.1	40.9	-53.4	45.3



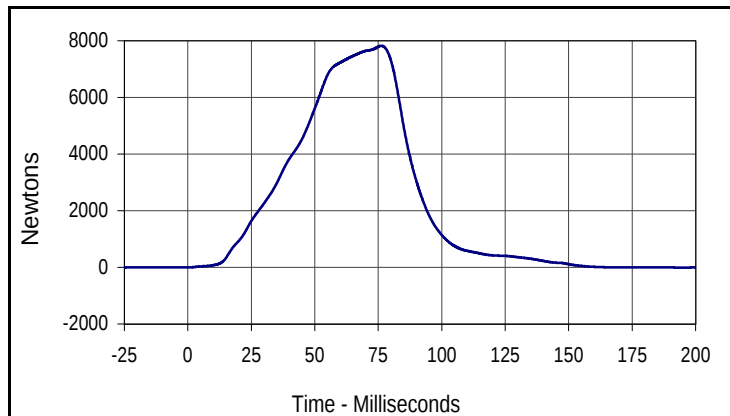
Curve Description			
Passenger Right Foot Aft Z			
CURNO	Type	SAE Class	Units
083	FIL	180	G's
Max	Time	Min	Time
4.1	20.2	-43.9	42.5



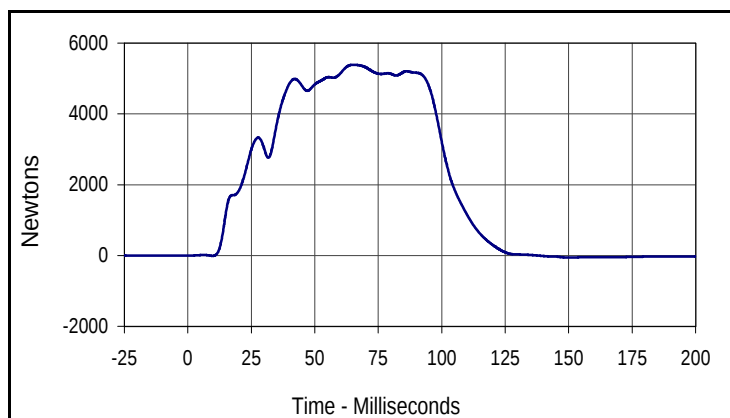
Curve Description			
Passenger Right Foot Fore Z			
CURNO	Type	SAE Class	Units
084	FIL	180	G's
Max	Time	Min	Time
19.7	26.7	-68.1	42.9

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

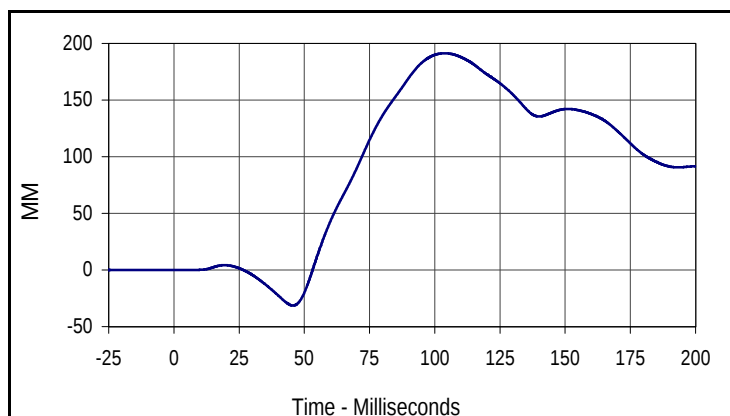
Test Date: 12/19/03
 NHTSA No.: M45300



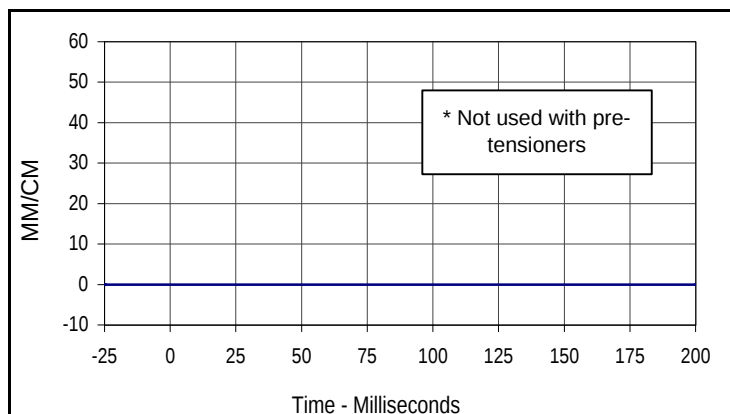
Curve Description			
Passenger Lap Belt Force			
CURNO	Type	SAE Class	Units
085	FIL	60	Newtons
Max	Time	Min	Time
7823.7	76.2	-8.5	195.5



Curve Description			
Passenger Shoulder Belt Force			
CURNO	Type	SAE Class	Units
086	FIL	60	Newtons
Max	Time	Min	Time
5387.6	65.3	-56.2	150.2



Curve Description			
Passenger Shoulder Belt Pullout			
CURNO	Type	SAE Class	Units
087	FIL	60	MM
Max	Time	Min	Time
191.3	103.9	-31.4	45.6

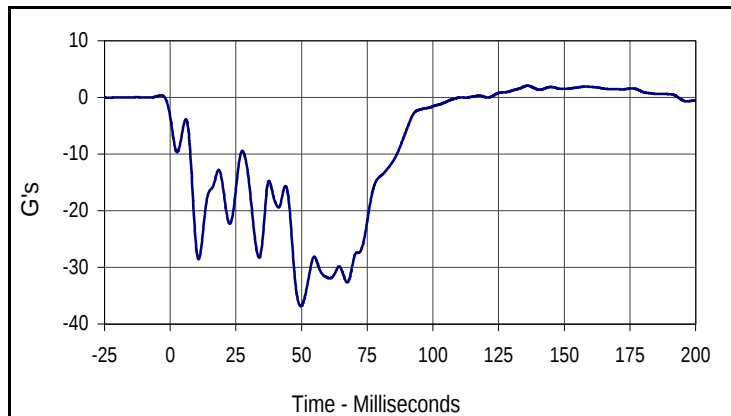


Curve Description			
Passenger Shoulder Belt Elongation			
CURNO	Type	SAE Class	Units
088	FIL	60	MM/CM
Max	Time	Min	Time
0.0	0.0	0.0	0.0

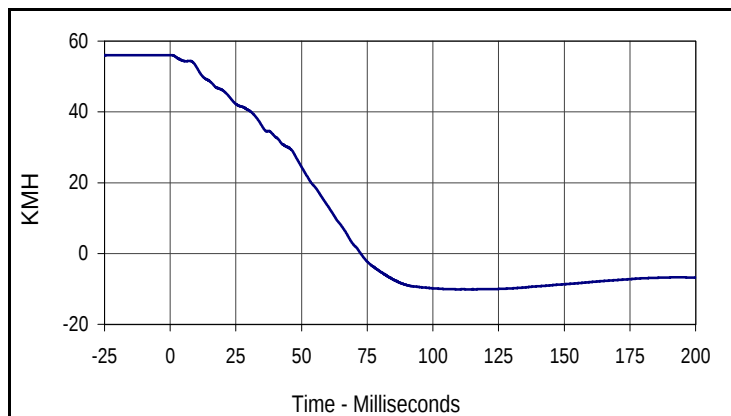
* Not used with pre-tensioners

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

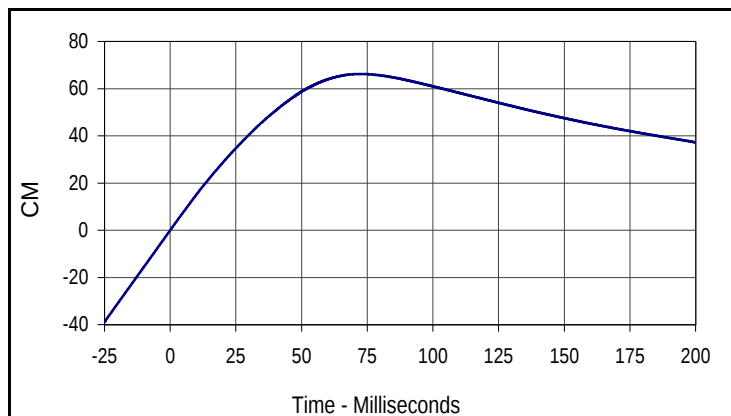
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Vehicle Left Rear X			
CURNO	Type	SAE Class	Units
089	FIL	60	G's
Max	Time	Min	Time
2.1	136.1	-36.8	49.7



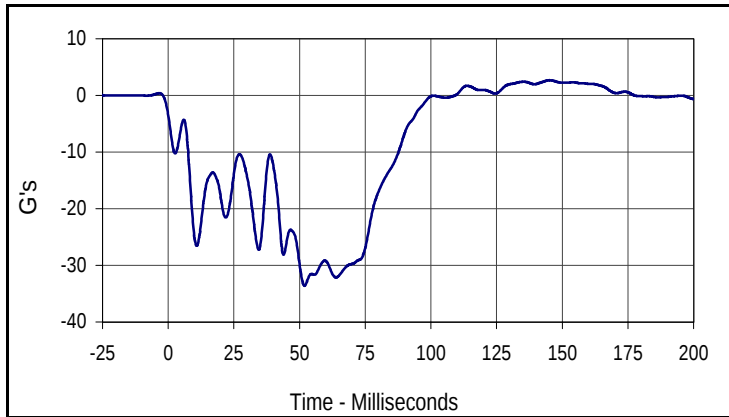
Curve Description			
Vehicle Left Rear X Velocity			
CURNO	Type	SAE Class	Units
089	IN1	180	KMH
Max	Time	Min	Time
56.0	0.1	-10.1	113.6



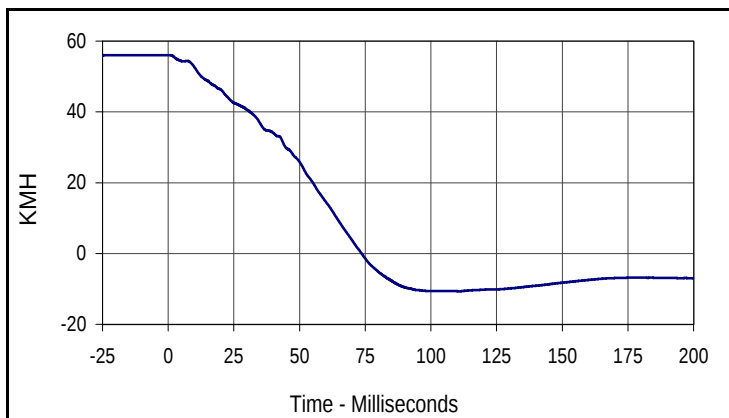
Curve Description			
Vehicle Left Rear X Displacement			
CURNO	Type	SAE Class	Units
089	IN2	180	CM
Max	Time	Min	Time
66.2	72.5	0.0	0.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

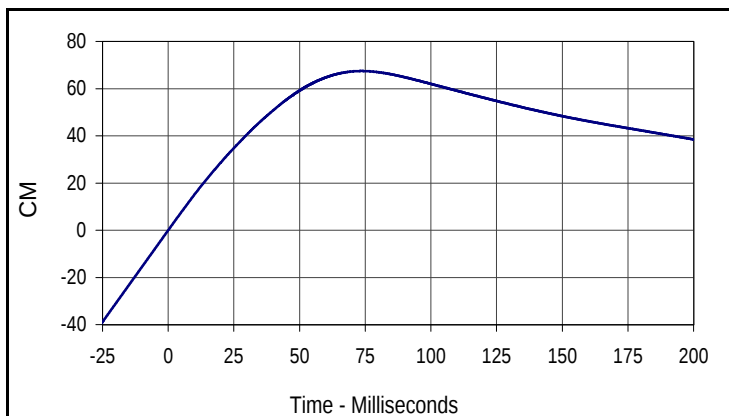
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Vehicle Right Rear X			
CURNO	Type	SAE Class	Units
090	FIL	60	G's
Max	Time	Min	Time
2.7	145.1	-33.6	51.9



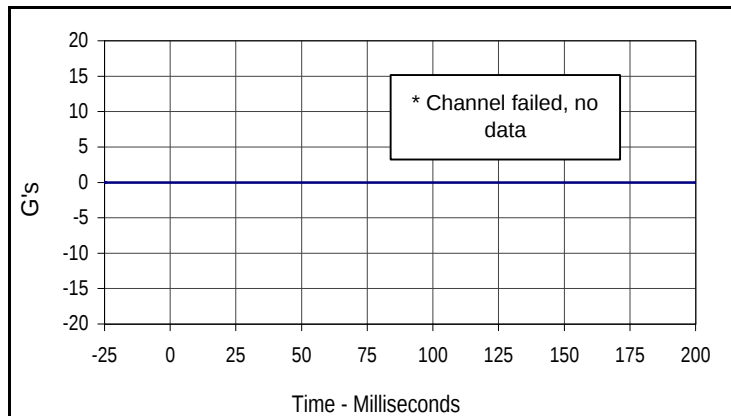
Curve Description			
Vehicle Right Rear X Velocity			
CURNO	Type	SAE Class	Units
090	IN1	180	KMH
Max	Time	Min	Time
56.1	0.0	-10.7	110.8



Curve Description			
Vehicle Right Rear X Displacement			
CURNO	Type	SAE Class	Units
090	IN2	180	CM
Max	Time	Min	Time
67.5	73.6	0.0	0.0

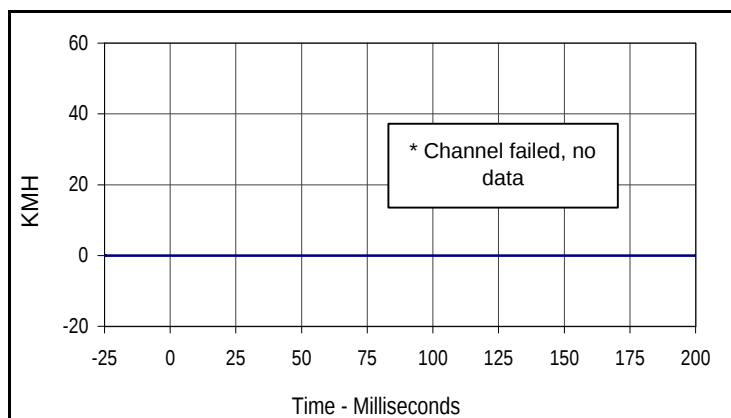
Test Vehicle: 2004 Acura TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03
 NHTSA No.: M45300



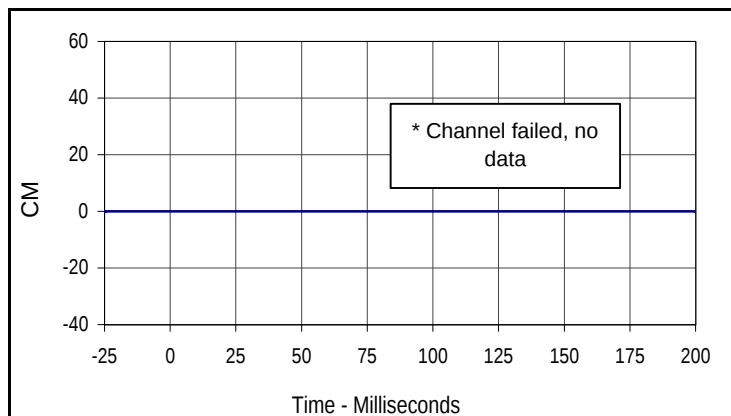
Curve Description			
Vehicle Engine Top			
CURNO	Type	SAE Class	Units
091	FIL	60	G's
Max	Time	Min	Time
0.0	0.0	0.0	0.0

* Channel failed, no data



Curve Description			
Vehicle Engine Top Velocity			
CURNO	Type	SAE Class	Units
091	IN1	180	KMH
Max	Time	Min	Time
0.0	0.0	0.0	0.0

* Channel failed, no data

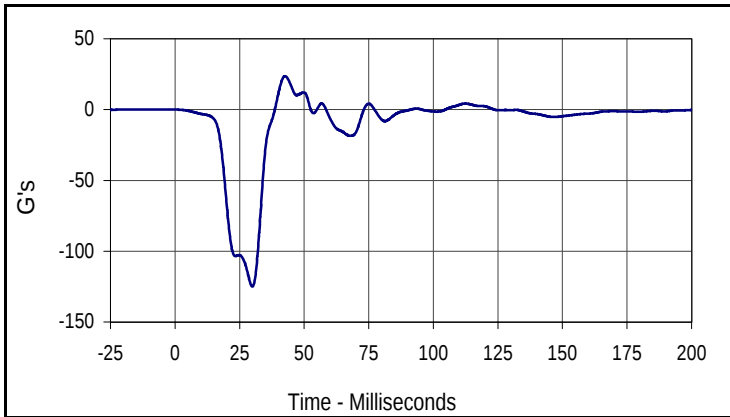


Curve Description			
Vehicle Engine Top Displacement			
CURNO	Type	SAE Class	Units
091	IN2	180	CM
Max	Time	Min	Time
0.0	0.0	0.0	0.0

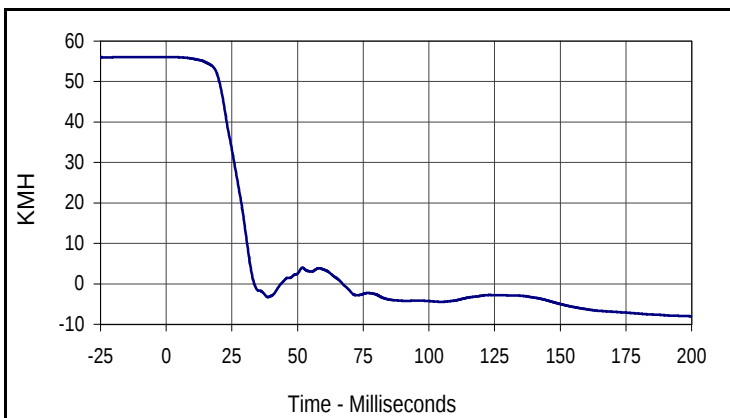
* Channel failed, no data

Test Vehicle: 2004 Acura TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

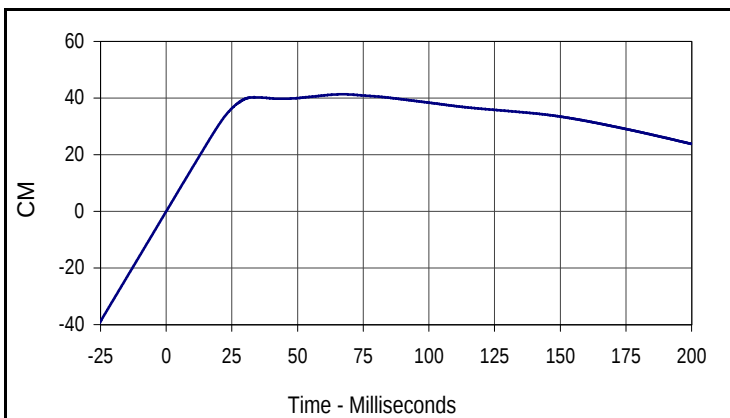
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Vehicle Engine Bottom			
CURNO	Type	SAE Class	Units
092	FIL	60	G's
Max	Time	Min	Time
23.7	42.6	-125.0	29.9



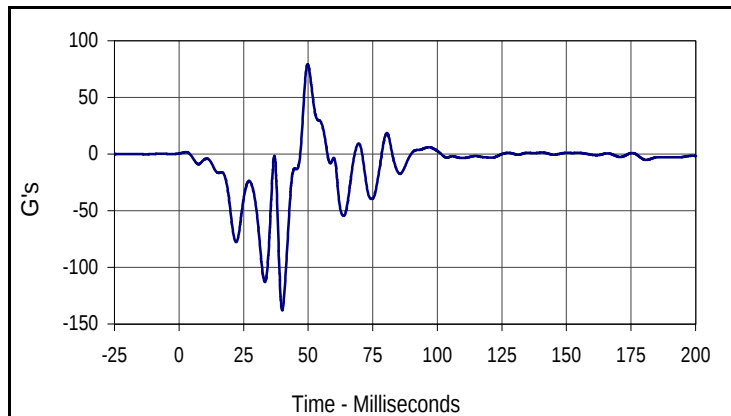
Curve Description			
Vehicle Engine Bottom Velocity			
CURNO	Type	SAE Class	Units
092	IN1	180	KMH
Max	Time	Min	Time
56.0	1.3	-8.0	200.0



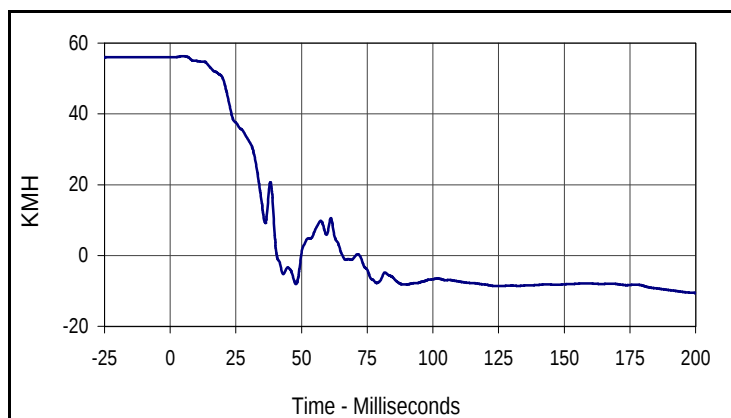
Curve Description			
Vehicle Engine Bottom Displacement			
CURNO	Type	SAE Class	Units
092	IN2	180	CM
Max	Time	Min	Time
41.3	67.1	0.0	0.0

Test Vehicle: 2004 Acura TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

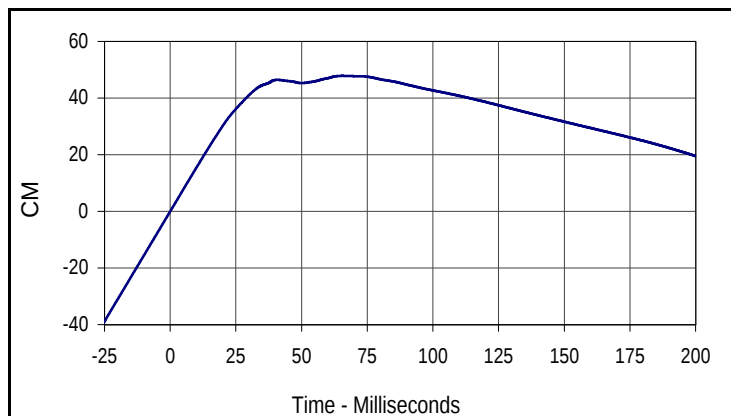
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Vehicle Left Brake Caliper			
CURNO	Type	SAE Class	Units
093	FIL	60	G's
Max	Time	Min	Time
79.2	49.8	-137.9	39.9



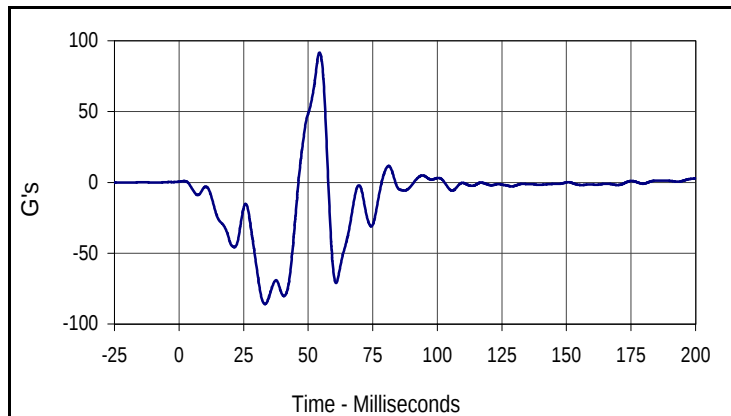
Curve Description			
Vehicle Left Brake Caliper Velocity			
CURNO	Type	SAE Class	Units
093	IN1	180	KMH
Max	Time	Min	Time
56.3	4.6	-10.6	200.0



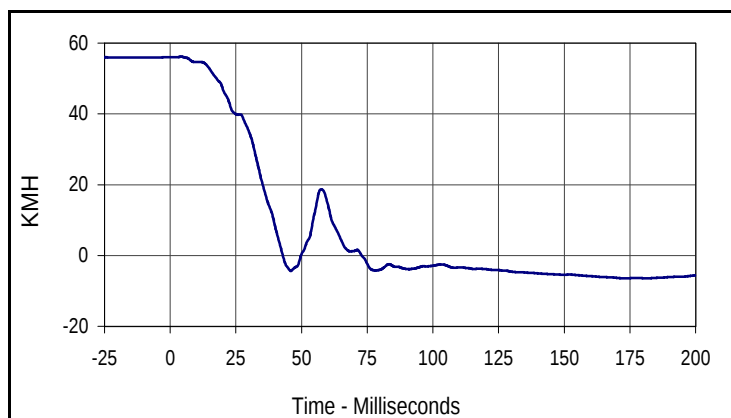
Curve Description			
Vehicle Left Brake Caliper Displacement			
CURNO	Type	SAE Class	Units
093	IN2	180	CM
Max	Time	Min	Time
47.9	65.6	0.0	0.0

Test Vehicle: 2004 Acura TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

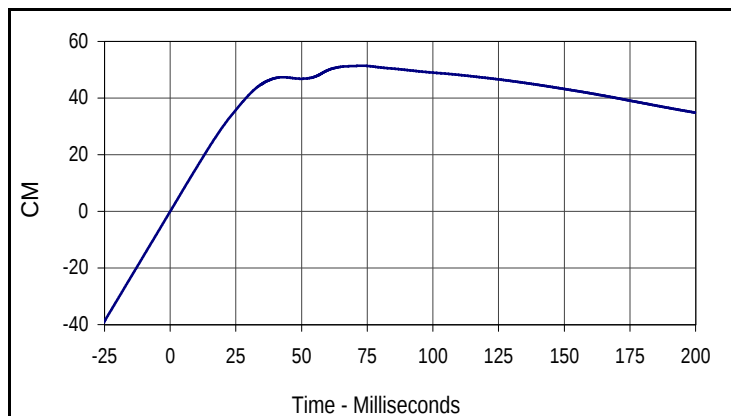
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Vehicle Right Brake Caliper			
CURNO	Type	SAE Class	Units
094	FIL	60	G's
Max	Time	Min	Time
91.7	54.4	-86.0	33.3



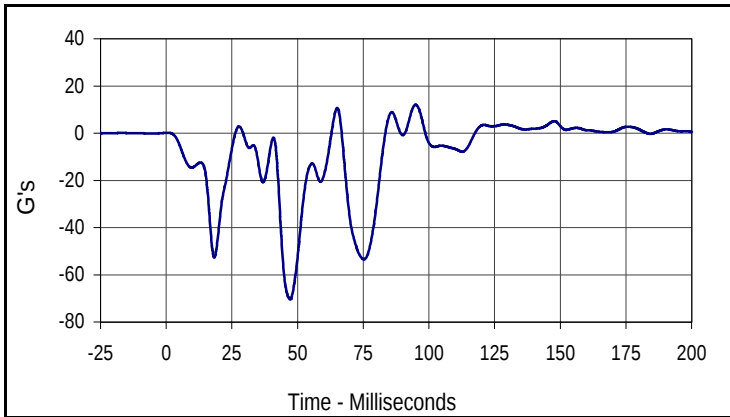
Curve Description			
Vehicle Right Brake Caliper Velocity			
CURNO	Type	SAE Class	Units
094	IN1	180	KMH
Max	Time	Min	Time
56.2	4.2	-6.5	172.9



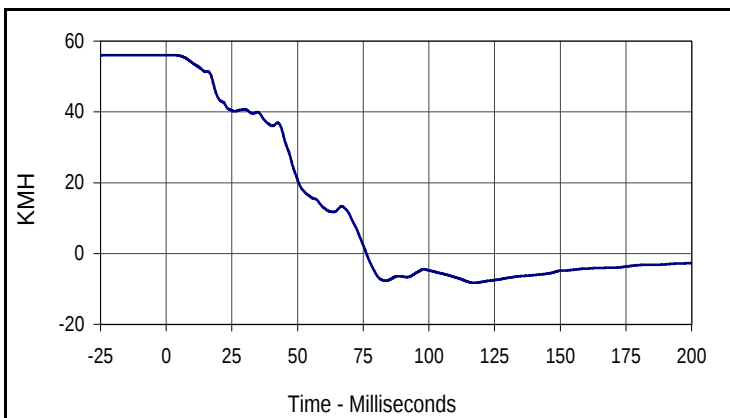
Curve Description			
Vehicle Right Brake Caliper Displacement			
CURNO	Type	SAE Class	Units
094	IN2	180	CM
Max	Time	Min	Time
51.4	72.9	0.0	0.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

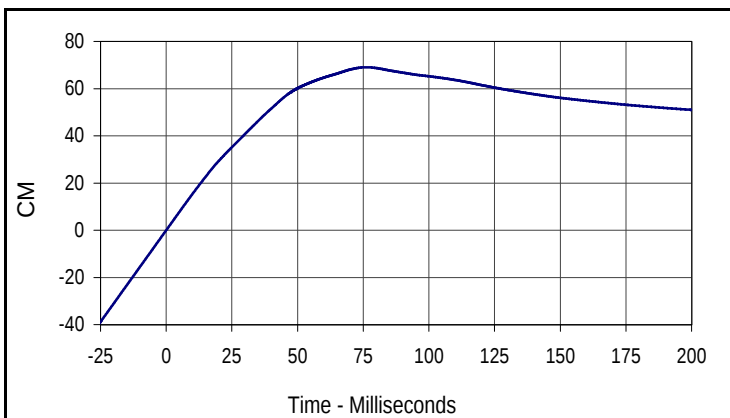
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Vehicle Instrument Panel			
CURNO	Type	SAE Class	Units
095	FIL	60	G's
Max	Time	Min	Time
12.0	94.9	-70.4	47.1



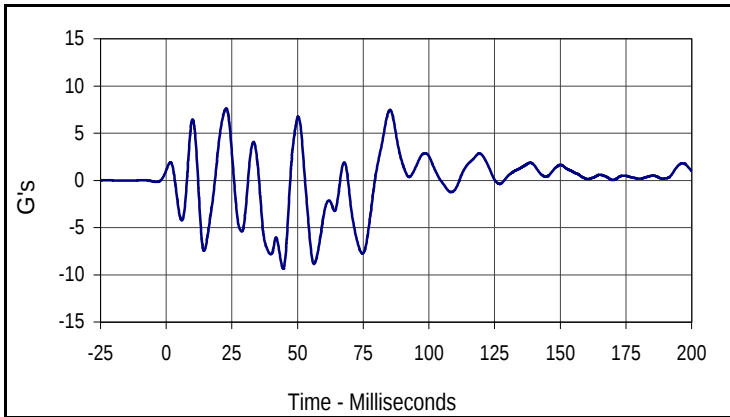
Curve Description			
Vehicle Instrument Panel Velocity			
CURNO	Type	SAE Class	Units
095	IN1	180	KMH
Max	Time	Min	Time
56.0	0.0	-8.3	117.3



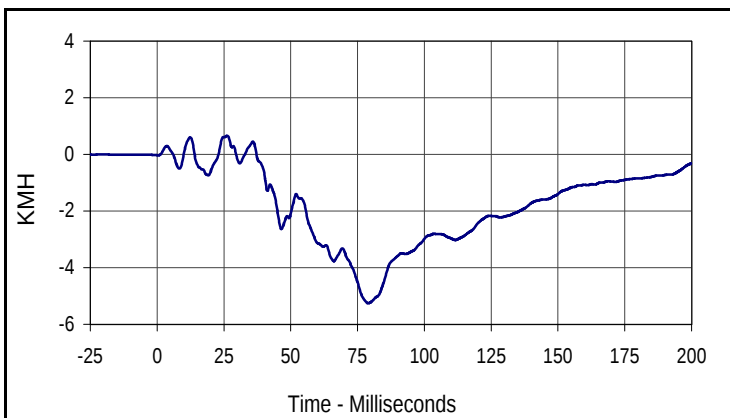
Curve Description			
Vehicle Instrument Panel Displacement			
CURNO	Type	SAE Class	Units
095	IN2	180	CM
Max	Time	Min	Time
69.1	76.2	0.0	0.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

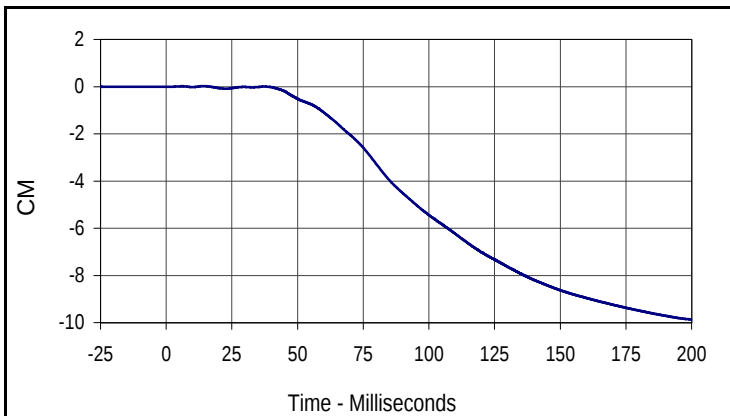
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Vehicle Left Rear Z			
CURNO	Type	SAE Class	Units
096	FIL	60	G's
Max	Time	Min	Time
7.6	22.8	-9.3	44.5



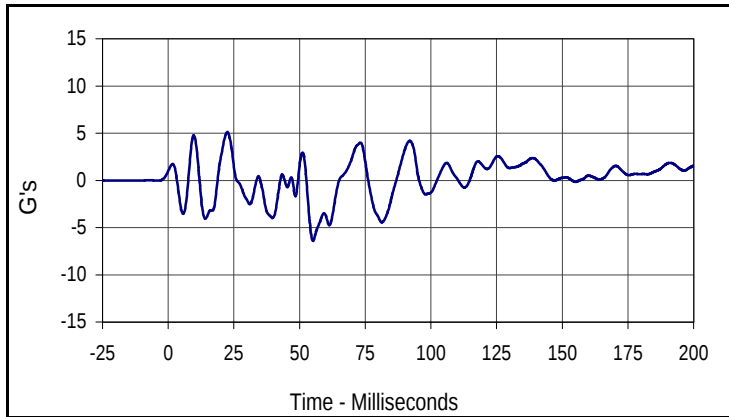
Curve Description			
Vehicle Left Rear Z Velocity			
CURNO	Type	SAE Class	Units
096	IN1	180	KMH
Max	Time	Min	Time
0.7	26.2	-5.3	79.0



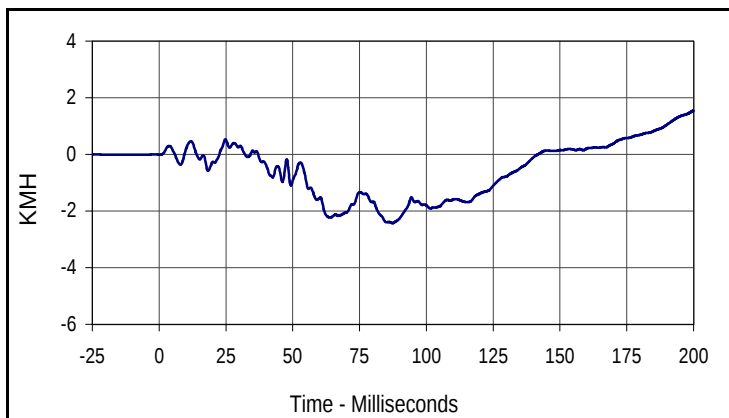
Curve Description			
Vehicle Left Rear Z Displacement			
CURNO	Type	SAE Class	Units
096	IN2	180	CM
Max	Time	Min	Time
0.0	14.0	-9.9	200.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

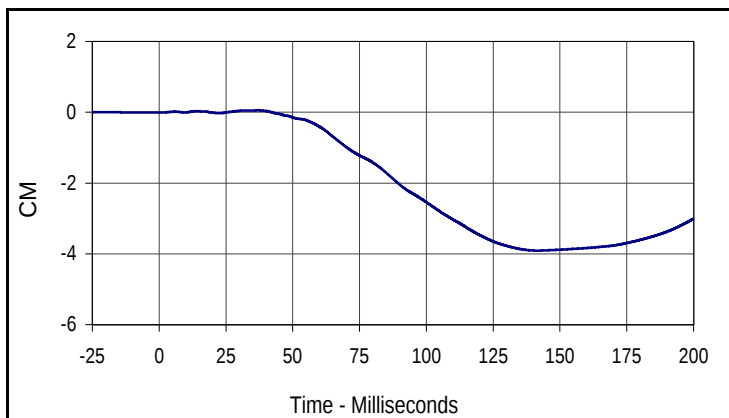
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Vehicle Right Rear Z			
CURNO	Type	SAE Class	Units
097	FIL	60	G's
Max	Time	Min	Time
5.1	22.5	-6.4	55.1



Curve Description			
Vehicle Right Rear Z Velocity			
CURNO	Type	SAE Class	Units
097	IN1	180	KMH
Max	Time	Min	Time
1.6	200.0	-2.4	87.4



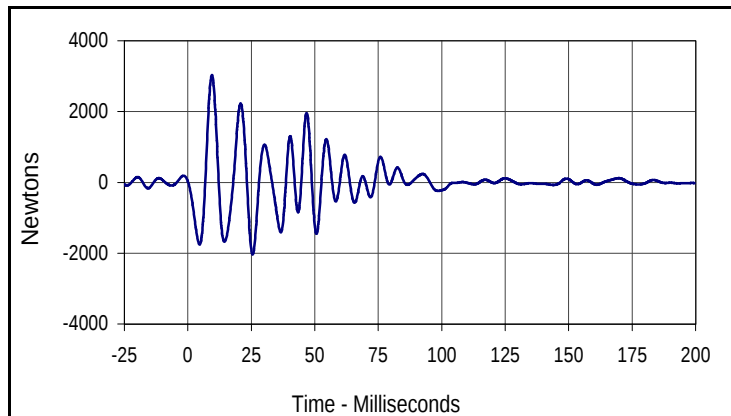
Curve Description			
Vehicle Right Rear Z Displacement			
CURNO	Type	SAE Class	Units
097	IN2	180	CM
Max	Time	Min	Time
0.1	37.1	-3.9	141.8

APPENDIX C

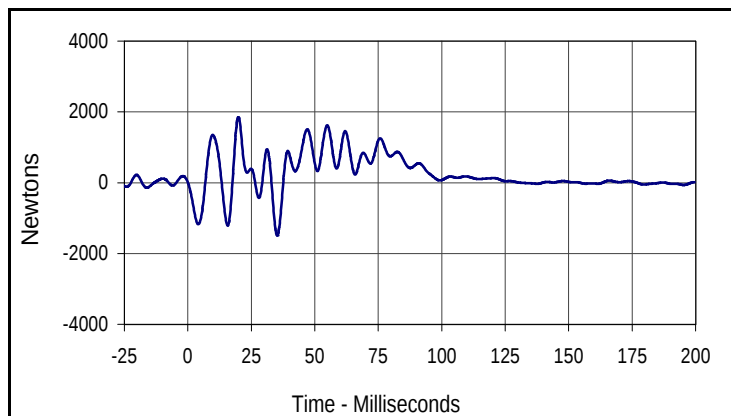
LOAD CELL BARRIER DATA PLOTS

Test Vehicle: 2004 Acura 3.2 TL
 Test Program: 2004 NHTSA 35mph NCAP

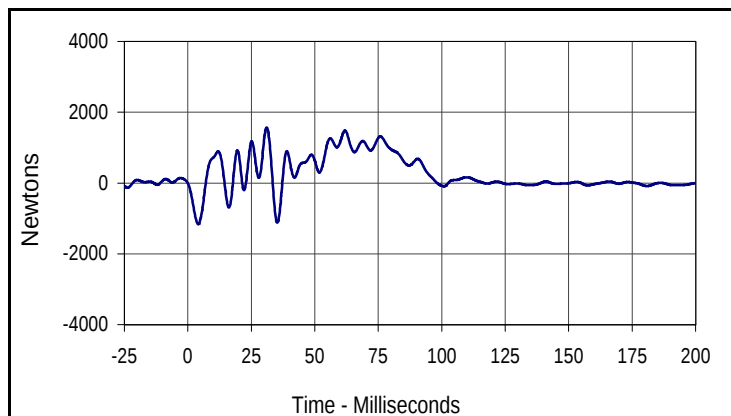
Test Date: 12/19/03
 NHTSA No.: M45300



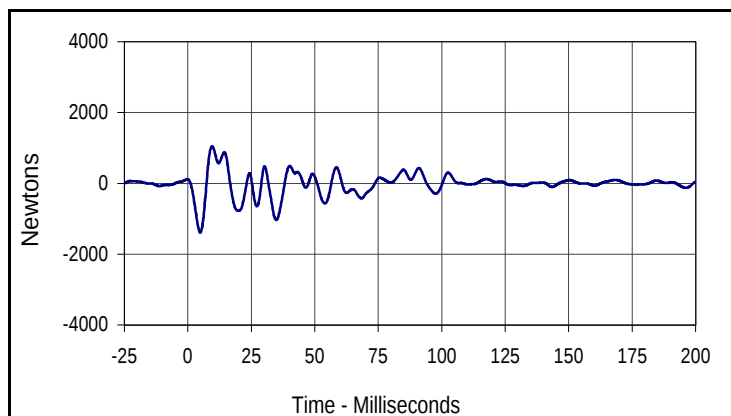
Curve Description			
Barrier Force A1			
CURNO	Type	SAE Class	Units
098	FIL	60	Newtons
Max	Time	Min	Time
3030.6	9.5	-2033.8	25.5



Curve Description			
Barrier Force B1			
CURNO	Type	SAE Class	Units
107	FIL	60	Newtons
Max	Time	Min	Time
1852.6	19.9	-1488.2	35.2



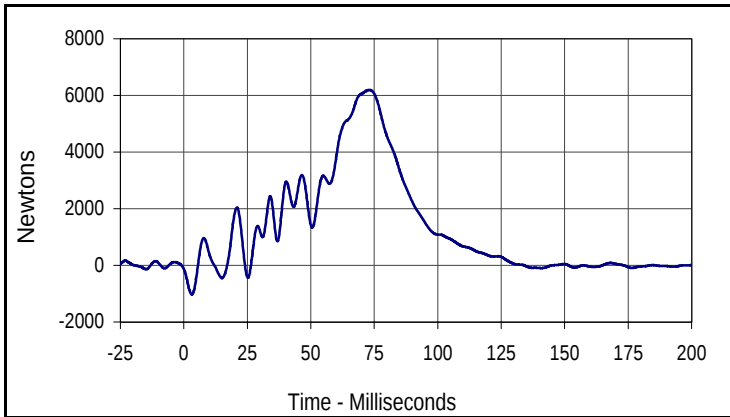
Curve Description			
Barrier Force C1			
CURNO	Type	SAE Class	Units
116	FIL	60	Newtons
Max	Time	Min	Time
1567.8	31.1	-1159.0	4.1



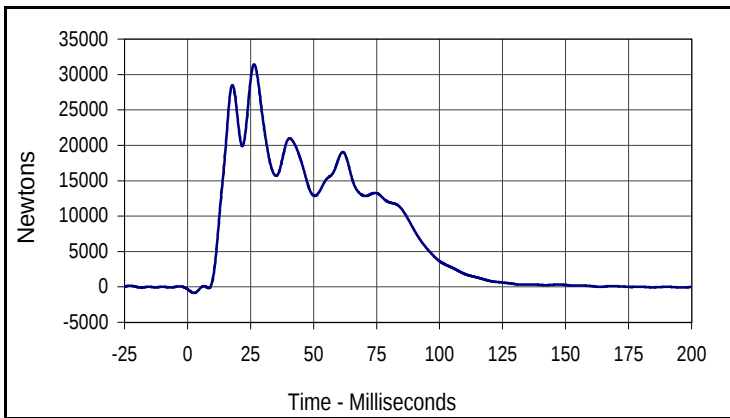
Curve Description			
Barrier Force D1			
CURNO	Type	SAE Class	Units
125	FIL	60	Newtons
Max	Time	Min	Time
1044.8	9.5	-1384.3	4.9

Test Vehicle: 2004 Acura 3.2 TL
 Test Program: 2004 NHTSA 35mph NCAP

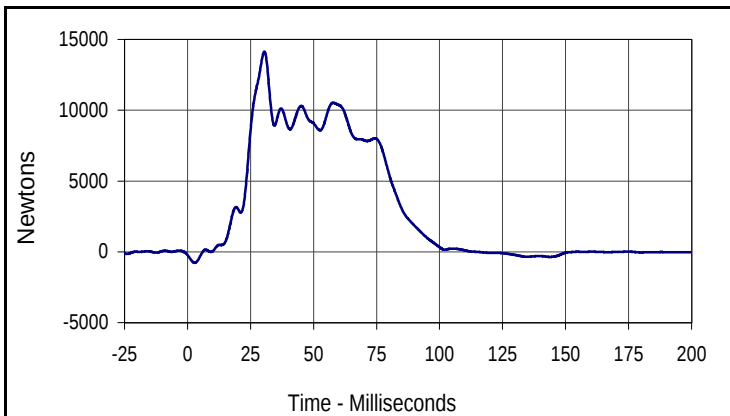
Test Date: 12/19/03
 NHTSA No.: M45300



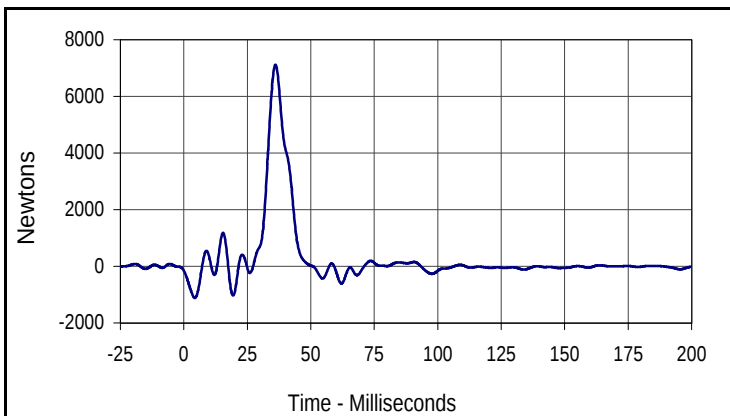
Curve Description			
Barrier Force A2			
CURNO	Type	SAE Class	Units
099	FIL	60	Newtons
Max	Time	Min	Time
6191.7	73.0	-1024.2	3.2



Curve Description			
Barrier Force B2			
CURNO	Type	SAE Class	Units
108	FIL	60	Newtons
Max	Time	Min	Time
31424.9	26.4	-848.3	2.6



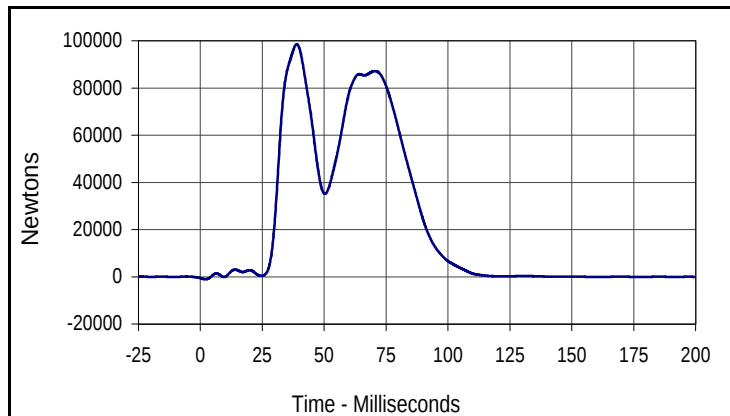
Curve Description			
Barrier Force C2			
CURNO	Type	SAE Class	Units
117	FIL	60	Newtons
Max	Time	Min	Time
14139.3	30.5	-770.2	2.9



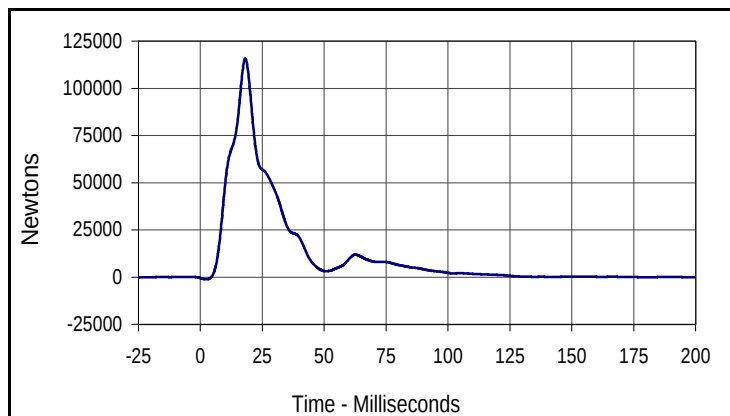
Curve Description			
Barrier Force D2			
CURNO	Type	SAE Class	Units
126	FIL	60	Newtons
Max	Time	Min	Time
7116.0	36.1	-1123.1	4.3

Test Vehicle: 2004 Acura 3.2 TL
 Test Program: 2004 NHTSA 35mph NCAP

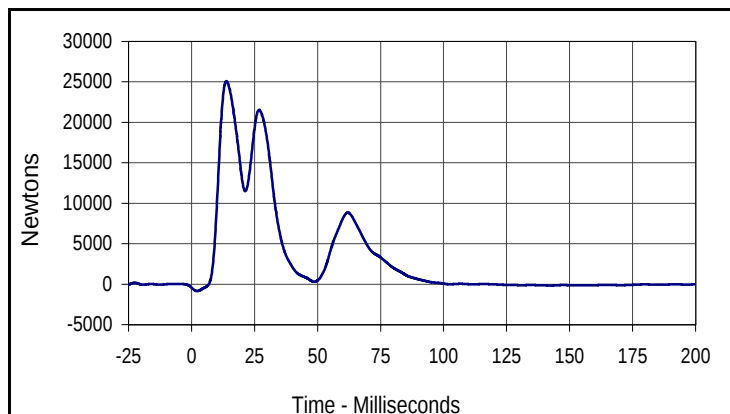
Test Date: 12/19/03
 NHTSA No.: M45300



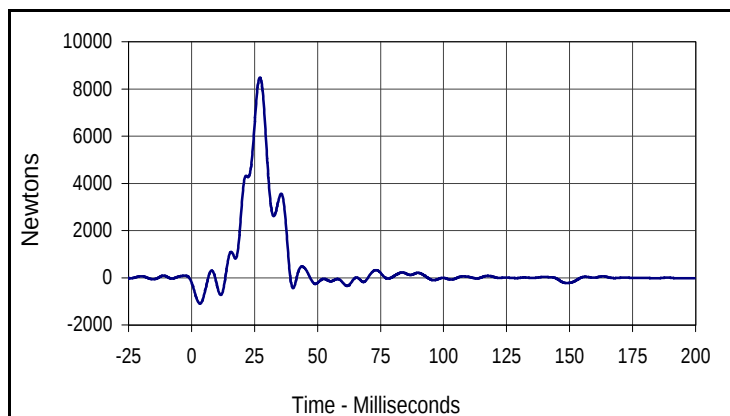
Curve Description			
Barrier Force A3			
CURNO	Type	SAE Class	Units
100	FIL	60	Newtons
Max	Time	Min	Time
98512.8	38.9	-1072.6	2.0



Curve Description			
Barrier Force B3			
CURNO	Type	SAE Class	Units
109	FIL	60	Newtons
Max	Time	Min	Time
115804.5	18.1	-1179.3	2.5



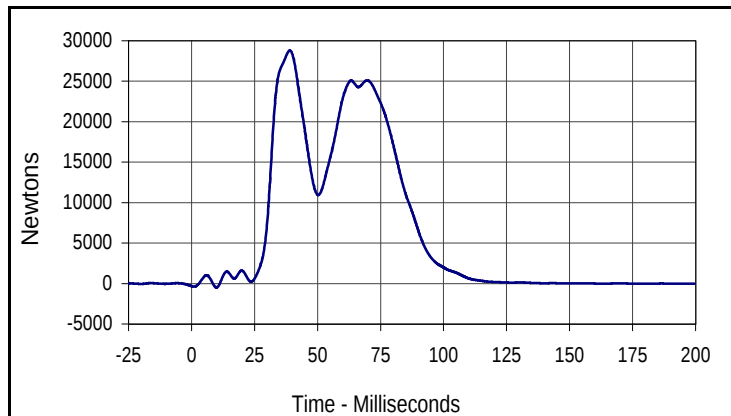
Curve Description			
Barrier Force C3			
CURNO	Type	SAE Class	Units
118	FIL	60	Newtons
Max	Time	Min	Time
25085.4	13.8	-848.2	2.2



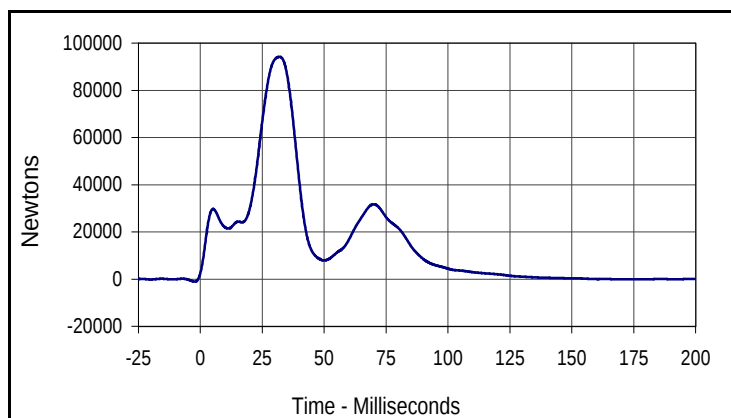
Curve Description			
Barrier Force D3			
CURNO	Type	SAE Class	Units
127	FIL	60	Newtons
Max	Time	Min	Time
8486.6	27.1	-1090.4	3.4

Test Vehicle: 2004 Acura 3.2 TL
 Test Program: 2004 NHTSA 35mph NCAP

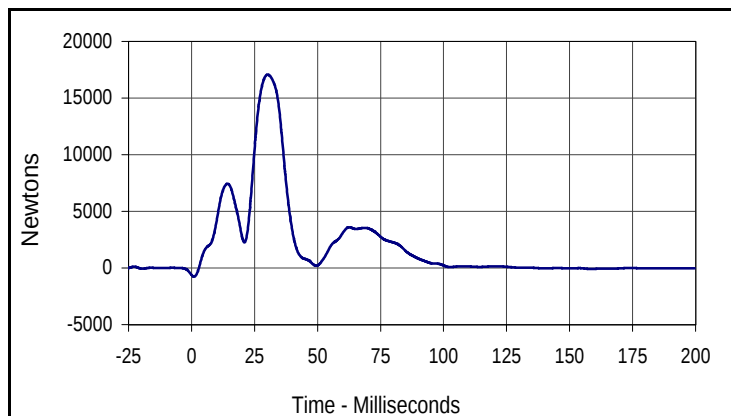
Test Date: 12/19/03
 NHTSA No.: M45300



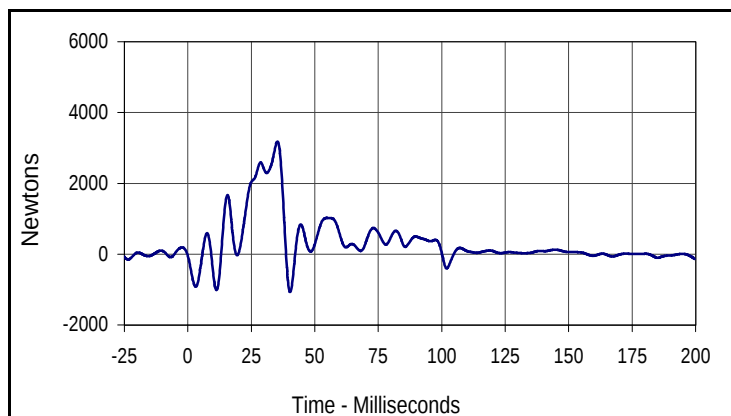
Curve Description			
Barrier Force A4			
CURNO	Type	SAE Class	Units
101	FIL	60	Newtons
Max	Time	Min	Time
28794.7	39.0	-492.0	9.9



Curve Description			
Barrier Force B4			
CURNO	Type	SAE Class	Units
110	FIL	60	Newtons
Max	Time	Min	Time
94198.8	32.0	-73.4	179.6



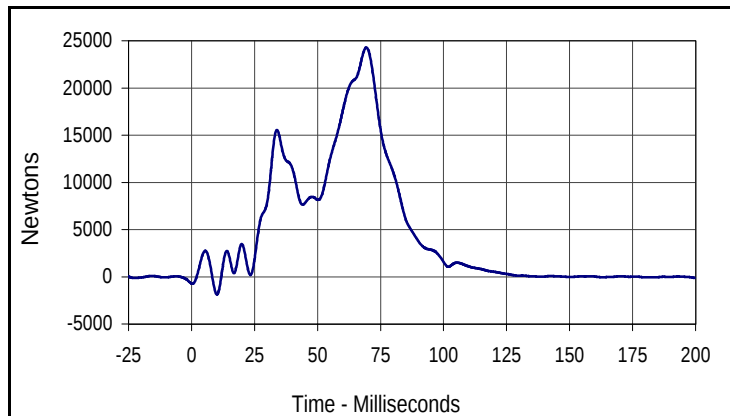
Curve Description			
Barrier Force C4			
CURNO	Type	SAE Class	Units
119	FIL	60	Newtons
Max	Time	Min	Time
17065.3	30.2	-772.5	1.0



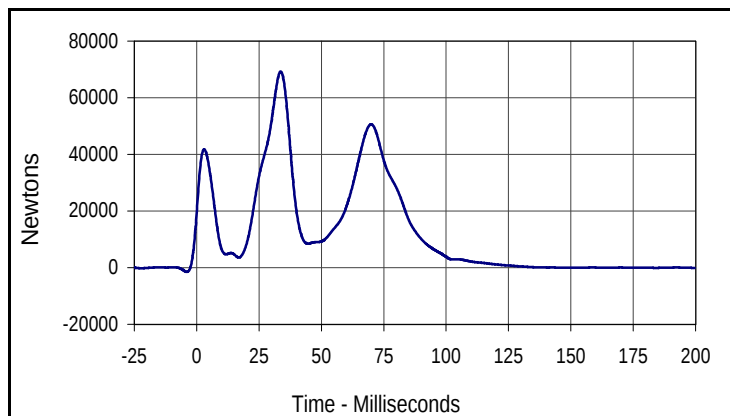
Curve Description			
Barrier Force D4			
CURNO	Type	SAE Class	Units
128	FIL	60	Newtons
Max	Time	Min	Time
3181.7	35.3	-1069.7	40.3

Test Vehicle: 2004 Acura 3.2 TL
 Test Program: 2004 NHTSA 35mph NCAP

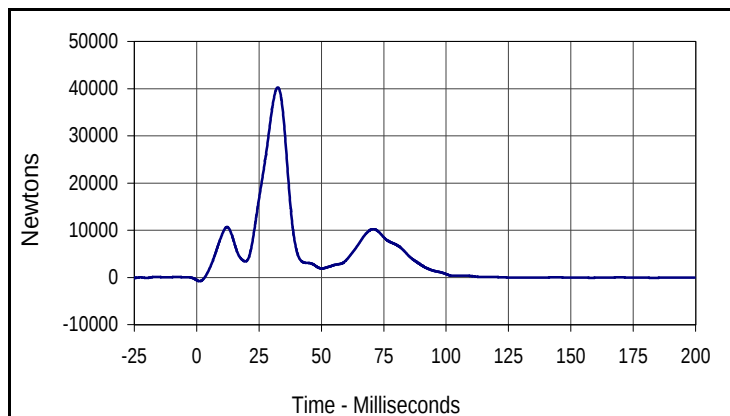
Test Date: 12/19/03
 NHTSA No.: M45300



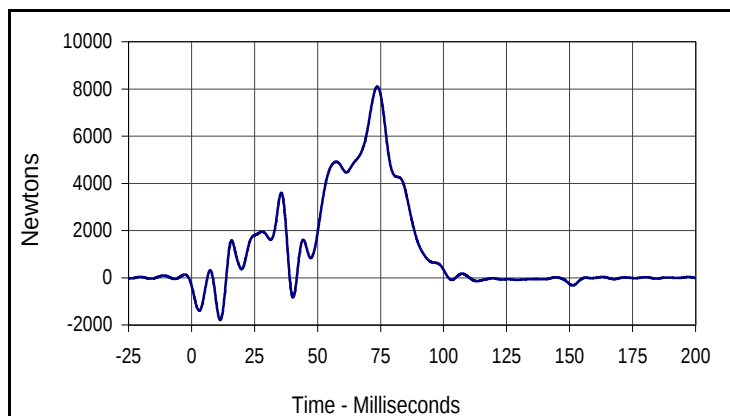
Curve Description			
Barrier Force A5			
CURNO	Type	SAE Class	Units
102	FIL	60	Newtons
Max	Time	Min	Time
24286.6	69.3	-1871.4	10.1



Curve Description			
Barrier Force B5			
CURNO	Type	SAE Class	Units
111	FIL	60	Newtons
Max	Time	Min	Time
69284.3	33.7	-97.0	200.0



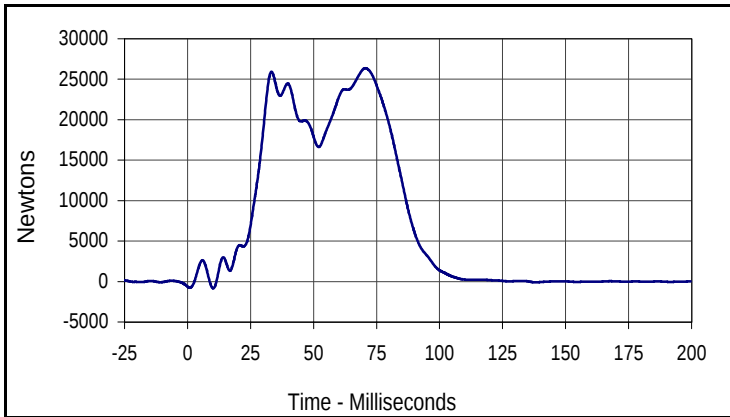
Curve Description			
Barrier Force C5			
CURNO	Type	SAE Class	Units
120	FIL	60	Newtons
Max	Time	Min	Time
40267.0	32.5	-807.4	1.2



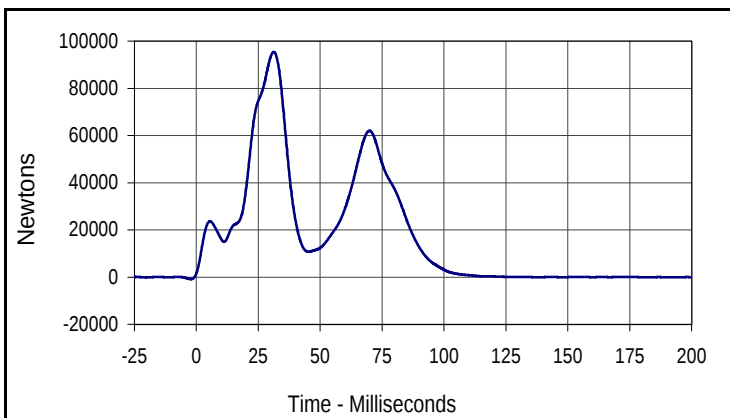
Curve Description			
Barrier Force D5			
CURNO	Type	SAE Class	Units
129	FIL	60	Newtons
Max	Time	Min	Time
8099.5	73.7	-1792.7	11.4

Test Vehicle: 2004 Acura 3.2 TL
 Test Program: 2004 NHTSA 35mph NCAP

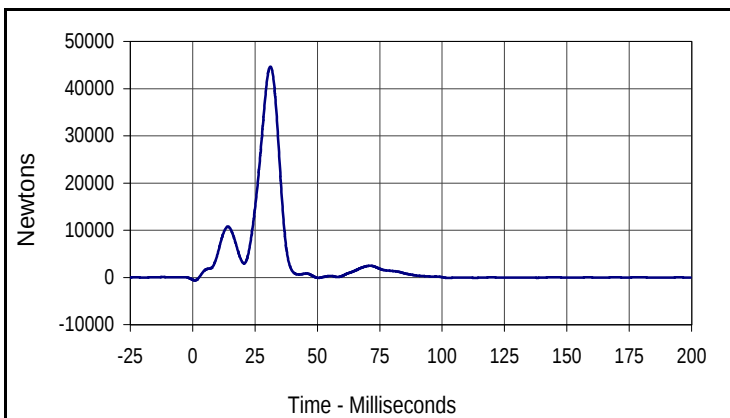
Test Date: 12/19/03
 NHTSA No.: M45300



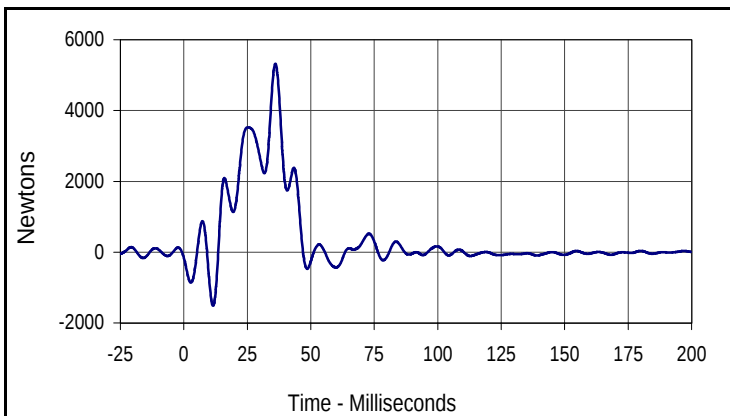
Curve Description			
Barrier Force A6			
CURNO	Type	SAE Class	Units
103	FIL	60	Newtons
Max	Time	Min	Time
26358.6	70.6	-839.1	10.2



Curve Description			
Barrier Force B6			
CURNO	Type	SAE Class	Units
112	FIL	60	Newtons
Max	Time	Min	Time
95373.0	31.2	-67.1	137.9



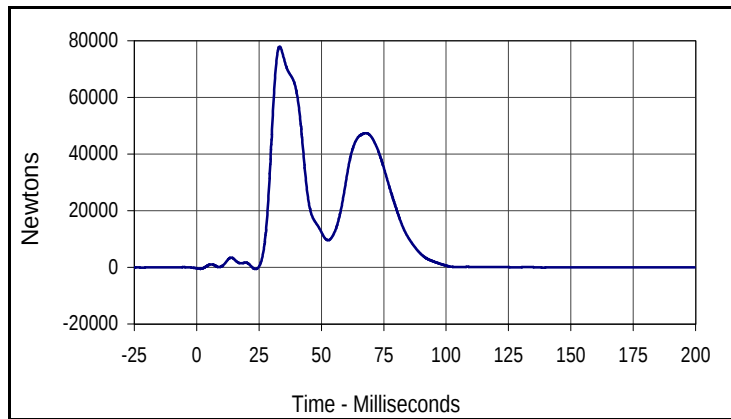
Curve Description			
Barrier Force C6			
CURNO	Type	SAE Class	Units
121	FIL	60	Newtons
Max	Time	Min	Time
44662.9	31.2	-625.1	0.9



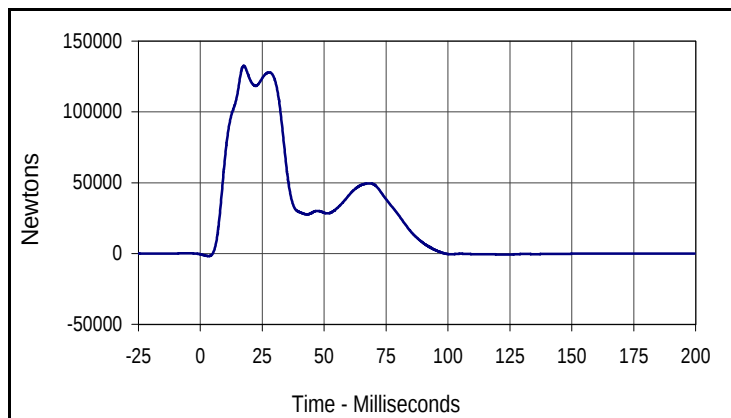
Curve Description			
Barrier Force D6			
CURNO	Type	SAE Class	Units
130	FIL	60	Newtons
Max	Time	Min	Time
5319.5	36.0	-1514.6	11.5

Test Vehicle: 2004 Acura 3.2 TL
 Test Program: 2004 NHTSA 35mph NCAP

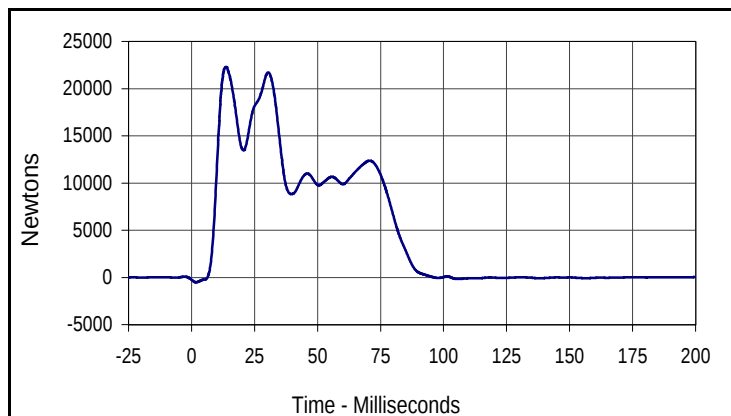
Test Date: 12/19/03
 NHTSA No.: M45300



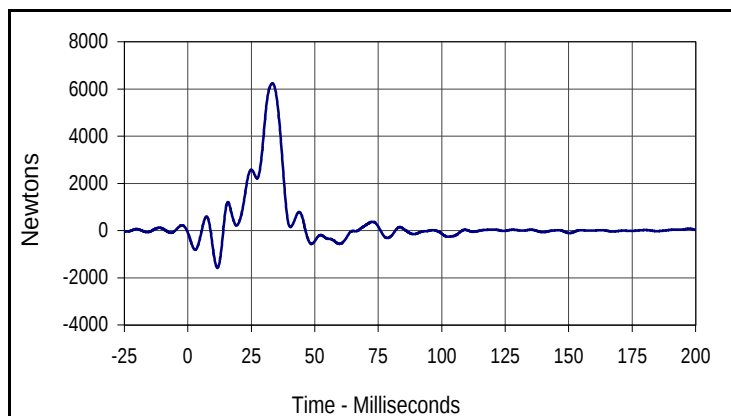
Curve Description			
Barrier Force A7			
CURNO	Type	SAE Class	Units
104	FIL	60	Newtons
Max	Time	Min	Time
77953.2	33.3	-588.5	23.6



Curve Description			
Barrier Force B7			
CURNO	Type	SAE Class	Units
113	FIL	60	Newtons
Max	Time	Min	Time
132520.9	17.5	-1818.5	3.4



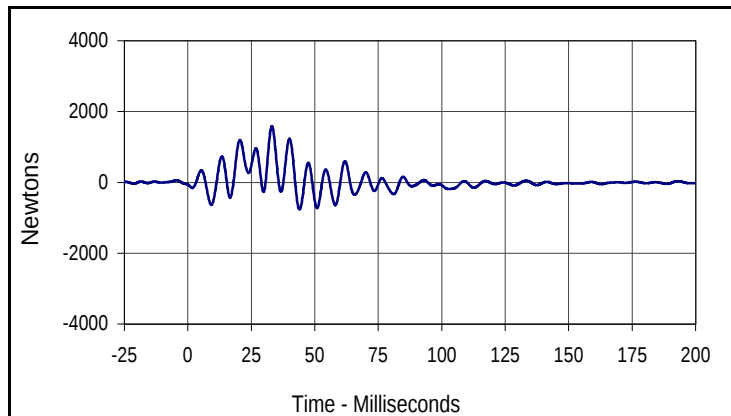
Curve Description			
Barrier Force C7			
CURNO	Type	SAE Class	Units
122	FIL	60	Newtons
Max	Time	Min	Time
22299.8	13.6	-511.0	1.7



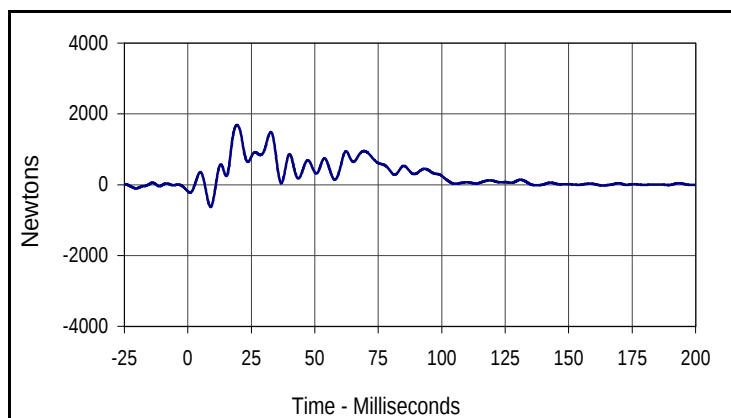
Curve Description			
Barrier Force D7			
CURNO	Type	SAE Class	Units
131	FIL	60	Newtons
Max	Time	Min	Time
6236.5	33.3	-1580.8	11.6

Test Vehicle: 2004 Acura 3.2 TL
 Test Program: 2004 NHTSA 35mph NCAP

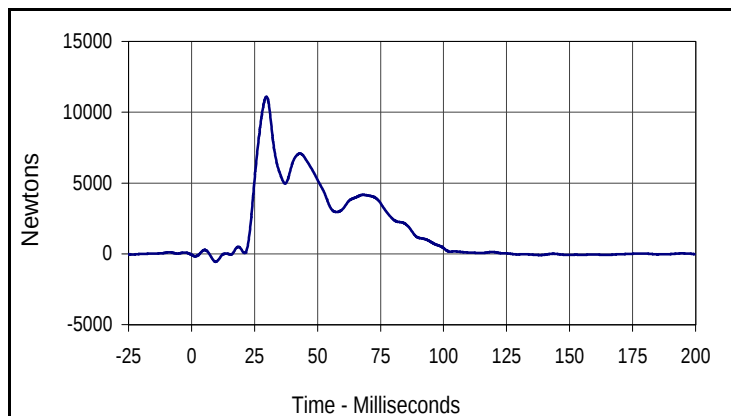
Test Date: 12/19/03
 NHTSA No.: M45300



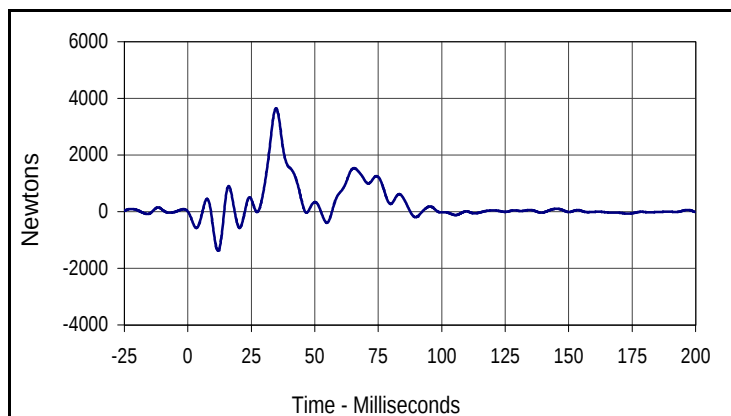
Curve Description			
Barrier Force A8			
CURNO	Type	SAE Class	Units
105	FIL	60	Newtons
Max	Time	Min	Time
1590.5	33.1	-763.7	44.0



Curve Description			
Barrier Force B8			
CURNO	Type	SAE Class	Units
114	FIL	60	Newtons
Max	Time	Min	Time
1688.4	19.3	-624.4	9.0



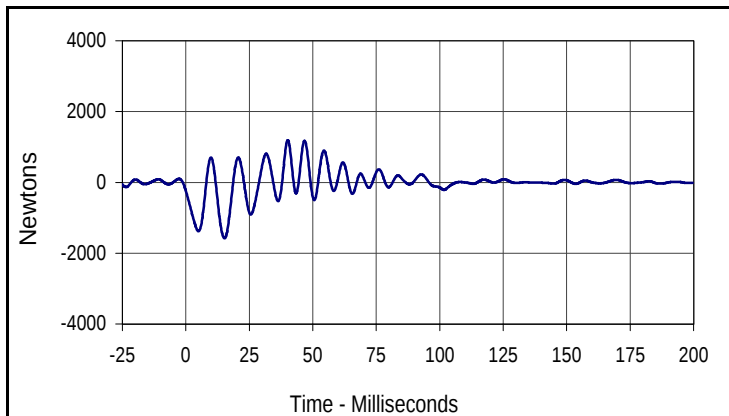
Curve Description			
Barrier Force C8			
CURNO	Type	SAE Class	Units
123	FIL	60	Newtons
Max	Time	Min	Time
11083.8	29.7	-559.4	9.5



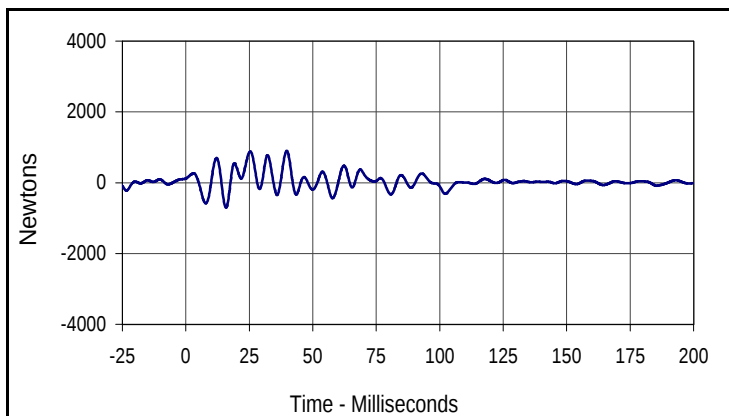
Curve Description			
Barrier Force D8			
CURNO	Type	SAE Class	Units
132	FIL	60	Newtons
Max	Time	Min	Time
3651.8	34.7	-1376.7	11.9

Test Vehicle: 2004 Acura 3.2 TL
 Test Program: 2004 NHTSA 35mph NCAP

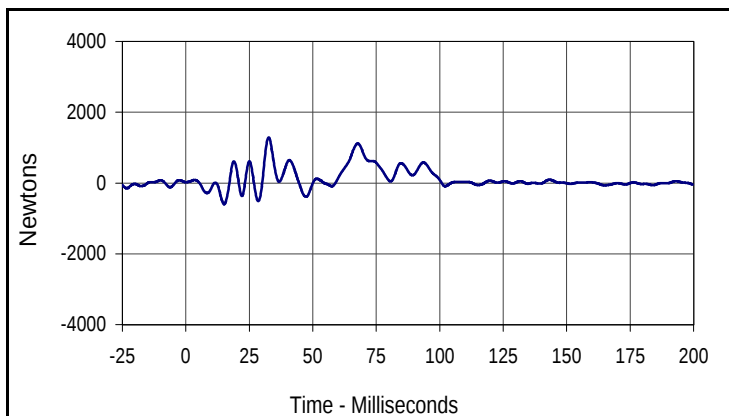
Test Date: 12/19/03
 NHTSA No.: M45300



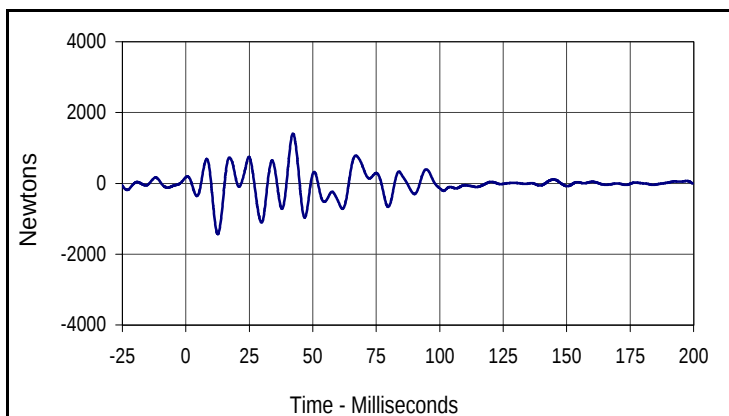
Curve Description			
Barrier Force A9			
CURNO	Type	SAE Class	Units
106	FIL	60	Newtons
Max	Time	Min	Time
1191.7	40.1	-1579.3	15.2



Curve Description			
Barrier Force B9			
CURNO	Type	SAE Class	Units
115	FIL	60	Newtons
Max	Time	Min	Time
901.8	39.7	-705.1	15.8



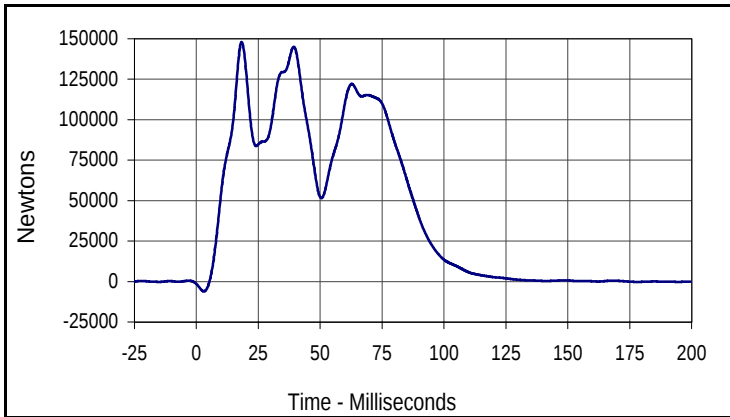
Curve Description			
Barrier Force C9			
CURNO	Type	SAE Class	Units
124	FIL	60	Newtons
Max	Time	Min	Time
1285.5	32.6	-597.3	15.1



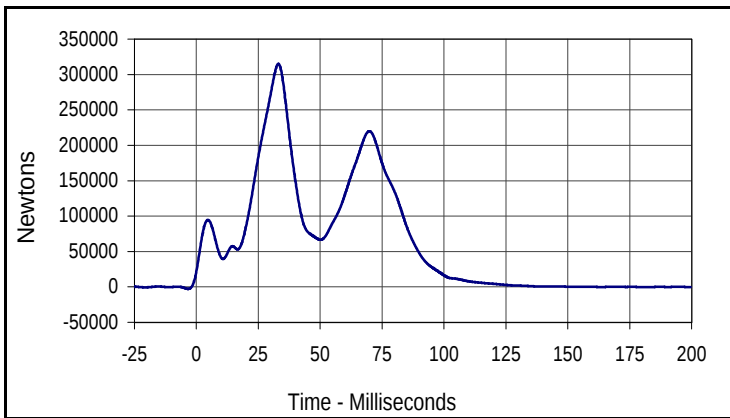
Curve Description			
Barrier Force D9			
CURNO	Type	SAE Class	Units
133	FIL	60	Newtons
Max	Time	Min	Time
1403.8	42.2	-1433.1	12.6

Test Vehicle: 2004 Acura 3.2 TL
 Test Program: 2004 NHTSA 35mph NCAP

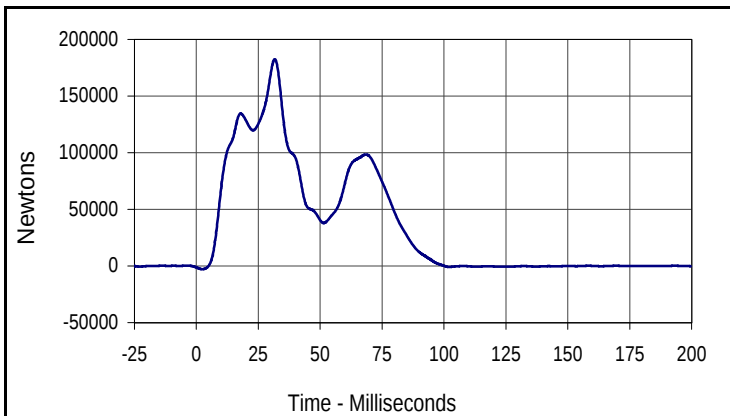
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Barrier Force Sum Group 1			
CURNO	Type	SAE Class	Units
001	SUM	60	Newtons
Max	Time	Min	Time
147982.0	18.3	-6033.0	3.1



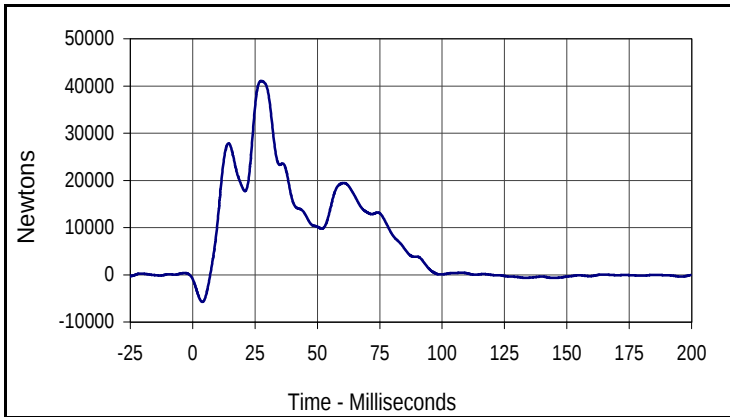
Curve Description			
Barrier Force Sum Group 2			
CURNO	Type	SAE Class	Units
002	SUM	60	Newtons
Max	Time	Min	Time
315020.5	33.1	-245.7	200.0



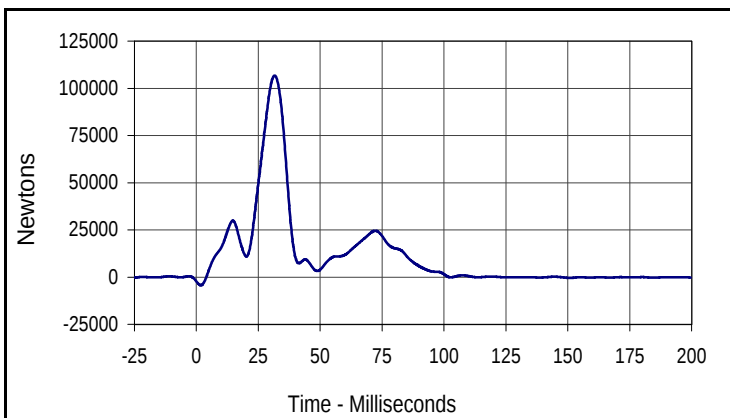
Curve Description			
Barrier Force Sum Group 3			
CURNO	Type	SAE Class	Units
003	SUM	60	Newtons
Max	Time	Min	Time
182549.7	31.7	-2775.3	2.4

Test Vehicle: 2004 Acura 3.2 TL
 Test Program: 2004 NHTSA 35mph NCAP

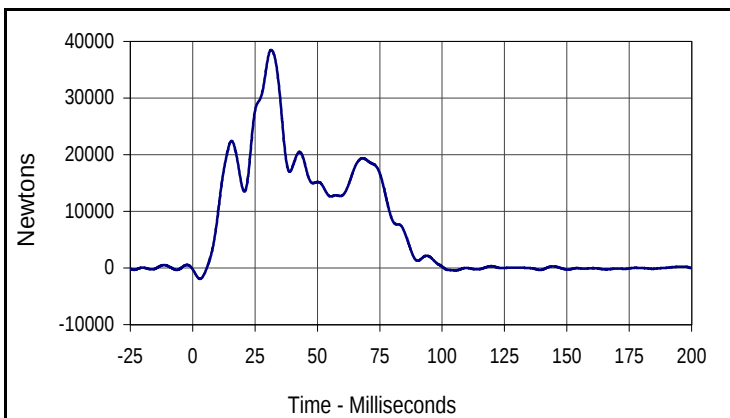
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Barrier Force Sum Group 4			
CURNO	Type	SAE Class	Units
004	SUM	60	Newtons
Max	Time	Min	Time
41047.4	27.5	-5755.7	3.9



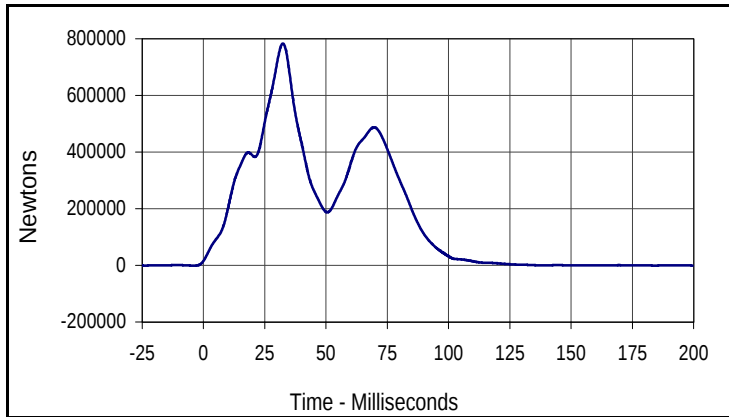
Curve Description			
Barrier Force Sum Group 5			
CURNO	Type	SAE Class	Units
005	SUM	60	Newtons
Max	Time	Min	Time
106760.5	31.6	-4308.1	1.8



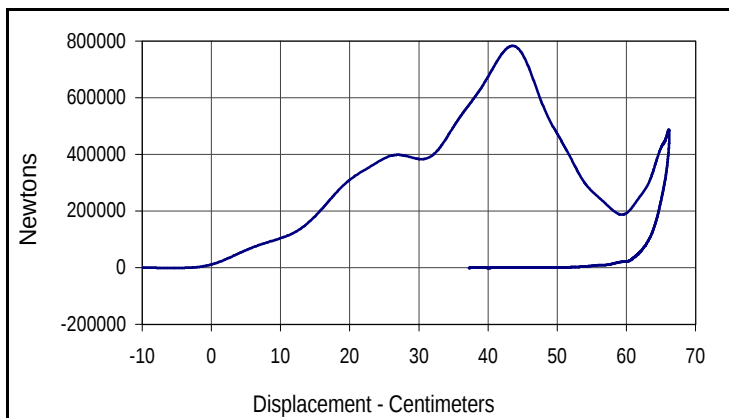
Curve Description			
Barrier Force Sum Group 6			
CURNO	Type	SAE Class	Units
006	SUM	60	Newtons
Max	Time	Min	Time
38496.2	31.5	-1910.6	2.9

Test Vehicle: 2004 Acura 3.2 TL
 Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Barrier Force Total Sum			
CURNO	Type	SAE Class	Units
007	SUM	60	Newtons
Max	Time	Min	Time
783371.2	32.4	-803.0	200.0



Curve Description			
Barrier Force Total Sum vs. Displ.			
CURNO	Type	SAE Class	Units
001	XVY	60	Newtons
Max	CM	Min	CM
783371.2	43.6	-689.9	37.2

BARRIER LOAD CELL SUMMARY DATA

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan

NHTSA No.: M45300

Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03

Location	Units	Max	Time	Min	Time
Barrier Force A1	Newtons	3030.6	9.5	-2033.8	25.5
Barrier Force A2	Newtons	6191.7	73.0	-1024.2	3.2
Barrier Force A3	Newtons	98512.8	38.9	-1072.6	2.0
Barrier Force A4	Newtons	28794.7	39.0	-492.0	9.9
Barrier Force A5	Newtons	24286.6	69.3	-1871.4	10.1
Barrier Force A6	Newtons	26358.6	70.6	-839.1	10.2
Barrier Force A7	Newtons	77953.2	33.3	-588.5	23.6
Barrier Force A8	Newtons	1590.5	33.1	-763.7	44.0
Barrier Force A9	Newtons	1191.7	40.1	-1579.3	15.2
Barrier Force B1	Newtons	1852.6	19.9	-1488.2	35.2
Barrier Force B2	Newtons	31424.9	26.4	-848.3	2.6
Barrier Force B3	Newtons	115804.5	18.1	-1179.3	2.5
Barrier Force B4	Newtons	94198.8	32.0	-73.4	179.6
Barrier Force B5	Newtons	69284.3	33.7	-97.0	200.0
Barrier Force B6	Newtons	95373.0	31.2	-67.1	137.9
Barrier Force B7	Newtons	132520.9	17.5	-1818.5	3.4
Barrier Force B8	Newtons	1688.4	19.3	-624.4	9.0
Barrier Force B9	Newtons	901.8	39.7	-705.1	15.8
Barrier Force C1	Newtons	1567.8	31.1	-1159.0	4.1
Barrier Force C2	Newtons	14139.3	30.5	-770.2	2.9
Barrier Force C3	Newtons	25085.4	13.8	-848.2	2.2
Barrier Force C4	Newtons	17065.3	30.2	-772.5	1.0
Barrier Force C5	Newtons	40267.0	32.5	-807.4	1.2
Barrier Force C6	Newtons	44662.9	31.2	-625.1	0.9
Barrier Force C7	Newtons	22299.8	13.6	-511.0	1.7
Barrier Force C8	Newtons	11083.8	29.7	-559.4	9.5
Barrier Force C9	Newtons	1285.5	32.6	-597.3	15.1
Barrier Force D1	Newtons	1044.8	9.5	-1384.3	4.9
Barrier Force D2	Newtons	7116.0	36.1	-1123.1	4.3
Barrier Force D3	Newtons	8486.6	27.1	-1090.4	3.4
Barrier Force D4	Newtons	3181.7	35.3	-1069.7	40.3
Barrier Force D5	Newtons	8099.5	73.7	-1792.7	11.4
Barrier Force D6	Newtons	5319.5	36.0	-1514.6	11.5
Barrier Force D7	Newtons	6236.5	33.3	-1580.8	11.6
Barrier Force D8	Newtons	3651.8	34.7	-1376.7	11.9
Barrier Force D9	Newtons	1403.8	42.2	-1433.1	12.6
Barrier Force Sum Group 1	Newtons	147982.0	18.3	-6033.0	3.1
Barrier Force Sum Group 2	Newtons	315020.5	33.1	-245.7	200.0
Barrier Force Sum Group 3	Newtons	182549.7	31.7	-2775.3	2.4
Barrier Force Sum Group 4	Newtons	41047.4	27.5	-5755.7	3.9
Barrier Force Sum Group 5	Newtons	106760.5	31.6	-4308.1	1.8
Barrier Force Sum Group 6	Newtons	38496.2	31.5	-1910.6	2.9
Barrier Force Total Sum	Newtons	783371.2	32.4	-803.0	200.0

APPENDIX D

INSTRUMENTATION DATA CHANNEL ASSIGNMENTS

2004 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 35
12/19/03
2004 Acura 3.2 TL 4 Door Sedan

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

2004 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 35
12/19/03
2004 Acura 3.2 TL 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	KEIC002X	Accel., Foot Triax	I.C. Sensor	3031-500	G
36	FOOT LEFT, AFT	Z	KEIC002Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
37	FOOT LEFT, FORE	Z	KEIC002Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
38	FOOT RIGHT, AFT	X	KEIC001X	Accel., Foot Triax	I.C. Sensor	3031-500	G
39	FOOT RIGHT, AFT	Z	KEIC001Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
40	FOOT RIGHT, FORE	Z	KEIC001Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
41	LAP BELT FORCE	X	BL134	Load cell, Seat belt	FGP	FN4060	N
42	SHOULDER BELT FORCE	X	BL135	Load cell, Seat belt	FGP	FN4060	N
43	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	MM
44	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

2004 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Passenger A.T.D. Serial Number 34
12/19/03
2004 Acura 3.2 TL 4 Door Sedan

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

2004 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Passenger A.T.D. Serial Number 34
12/19/03
2004 Acura 3.2 TL 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
69	UP. TIBIA LEFT MOM.	X	GPOT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
70	UP. TIBIA LEFT MOM.	Y	GPOT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
71	UP. TIBIA RIGHT MOM.	X	GPOT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
72	UP. TIBIA RIGHT MOM.	Y	GPOT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
73	LWR. TIBIA LEFT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
74	LWR. TIBIA LEFT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
75	LWR. TIBIA LEFT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
76	LWR. TIBIA RIGHT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
77	LWR. TIBIA RIGHT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
78	LWR. TIBIA RIGHT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
79	FOOT LEFT, AFT	X	KEIC003X	Accel., Foot Triax	I.C. Sensor	3031-500	G
80	FOOT LEFT, AFT	Z	KEIC003Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
81	FOOT LEFT, FORE	Z	KEIC003Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
82	FOOT RIGHT, AFT	X	KEIC004X	Accel., Foot Triax	I.C. Sensor	3031-500	G
83	FOOT RIGHT, AFT	Z	KEIC004Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
84	FOOT RIGHT, FORE	Z	KEIC004Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
85	LAP BELT FORCE	X	BL168	Load cell, Seat belt	First Tech	IF-964	N
86	SHOULDER BELT FORCE	X	BL169	Load cell, Seat belt	First Tech	IF-964	N
87	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	MM
88	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

**2004 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Vehicle Accelerometers
12/19/03
2004 Acura 3.2 TL 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
12/19/03
2004 Acura 3.2 TL 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
12/19/03
2004 Acura 3.2 TL 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
12/19/03
2004 Acura 3.2 TL 4 Door Sedan**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
186	DRIVER X-ARM	Y	GPAC012	Accel., 1/2 bridge	Endevco	7264-2000	G
187	DRIVER X-ARM	Z	GPAC001	Accel., 1/2 bridge	Endevco	7264-2000	G
188	DRIVER Y-ARM	X	GPAC036	Accel., 1/2 bridge	Endevco	7264-2000	G
189	DRIVER Y-ARM	Z	GPAC014	Accel., 1/2 bridge	Endevco	7264-2000	G
190	DRIVER Z-ARM	X	GPAC030	Accel., 1/2 bridge	Endevco	7264-2000	G
191	DRIVER Z-ARM	Y	GPAC037	Accel., 1/2 bridge	Endevco	7264-2000	G
192	PASS. X-ARM	Y	GPAC016	Accel., 1/2 bridge	Endevco	7264-2000	G
193	PASS. X-ARM	Z	GPAC015	Accel., 1/2 bridge	Endevco	7264-2000	G
194	PASS. Y-ARM	X	GPAC004	Accel., 1/2 bridge	Endevco	7264-2000	G
195	PASS. Y-ARM	Z	GPAC018	Accel., 1/2 bridge	Endevco	7264-2000	G
196	PASS. Z-ARM	X	GPAC006	Accel., 1/2 bridge	Endevco	7264-2000	G
197	PASS. Z-ARM	Y	GPAC007	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.: LK11A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.10	Pass
Peak Probe Force	N	4715 to 5782	5634	Pass
Overall Test Results				Pass

ATD Serial No.: 034

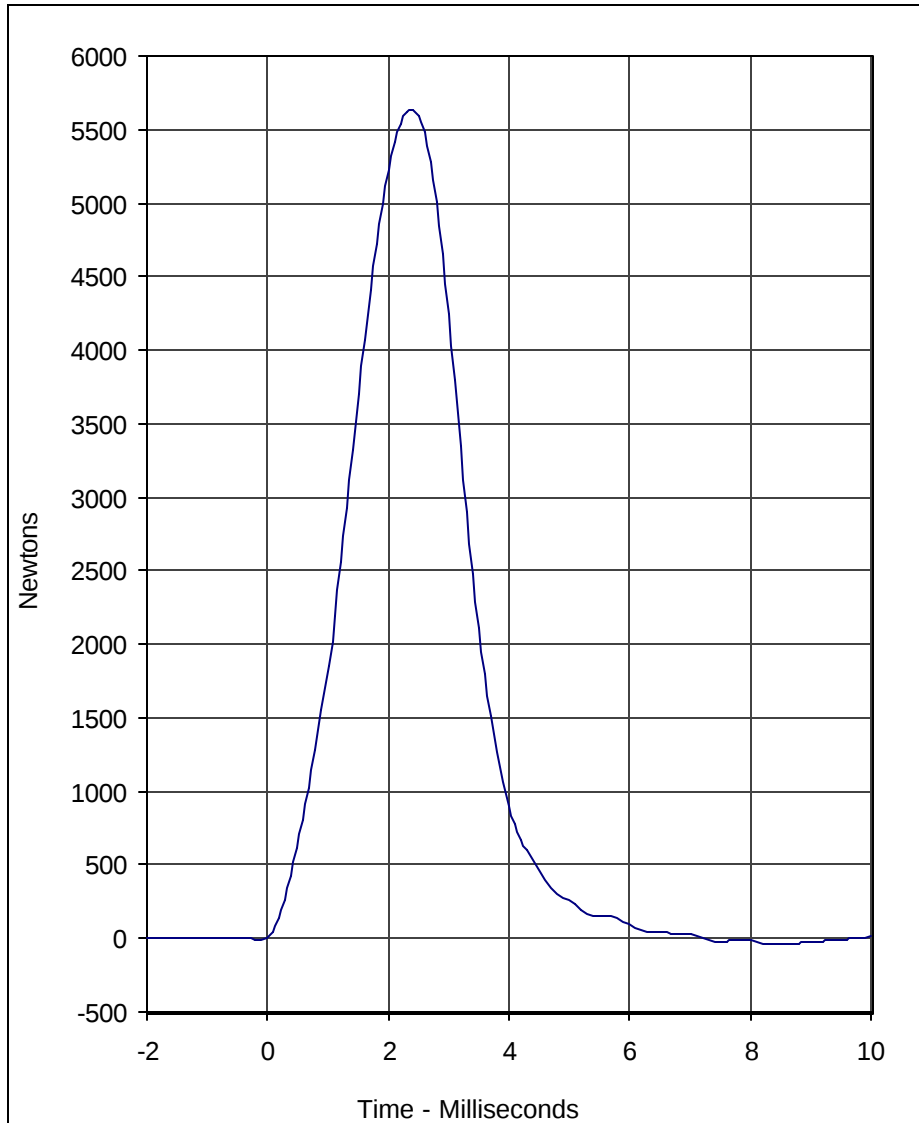
Location: Right Knee

Test I.D.: RK11A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.12	Pass
Peak Probe Force	N	4715 to 5782	4827	Pass
Overall Test Results				Pass

Laboratory Technician

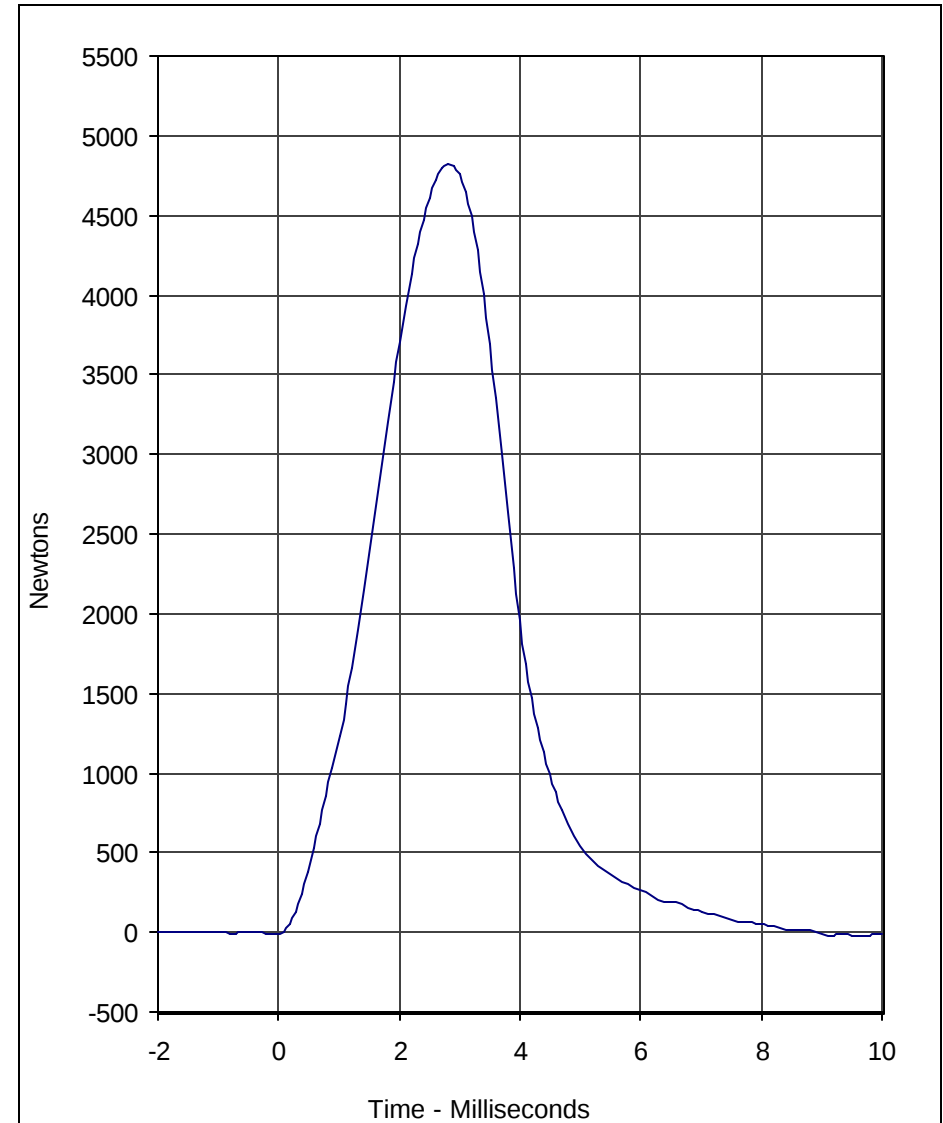
December 10, 2003
Test Date



Curve Description	Location	Test I.D.	CURNO	Type
Probe Force	Left Knee	LK11A	001	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	5633.9	2.4	-39.0	8.6	600

Test Program: Hybrid III 50th Percentile Male Knee Impact Test
 Test Date: 12/10/03



Curve Description	Location	Test I.D.	CURNO	Type
Probe Force	Right Knee	RK11A	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	4827.2	2.8	-27.7	9.6	600

A.T.D. Serial No.: 034





Calibration Data Sheet

Hybrid III 50th Percentile Male

Head Drop Test

ATD Serial No.: 034

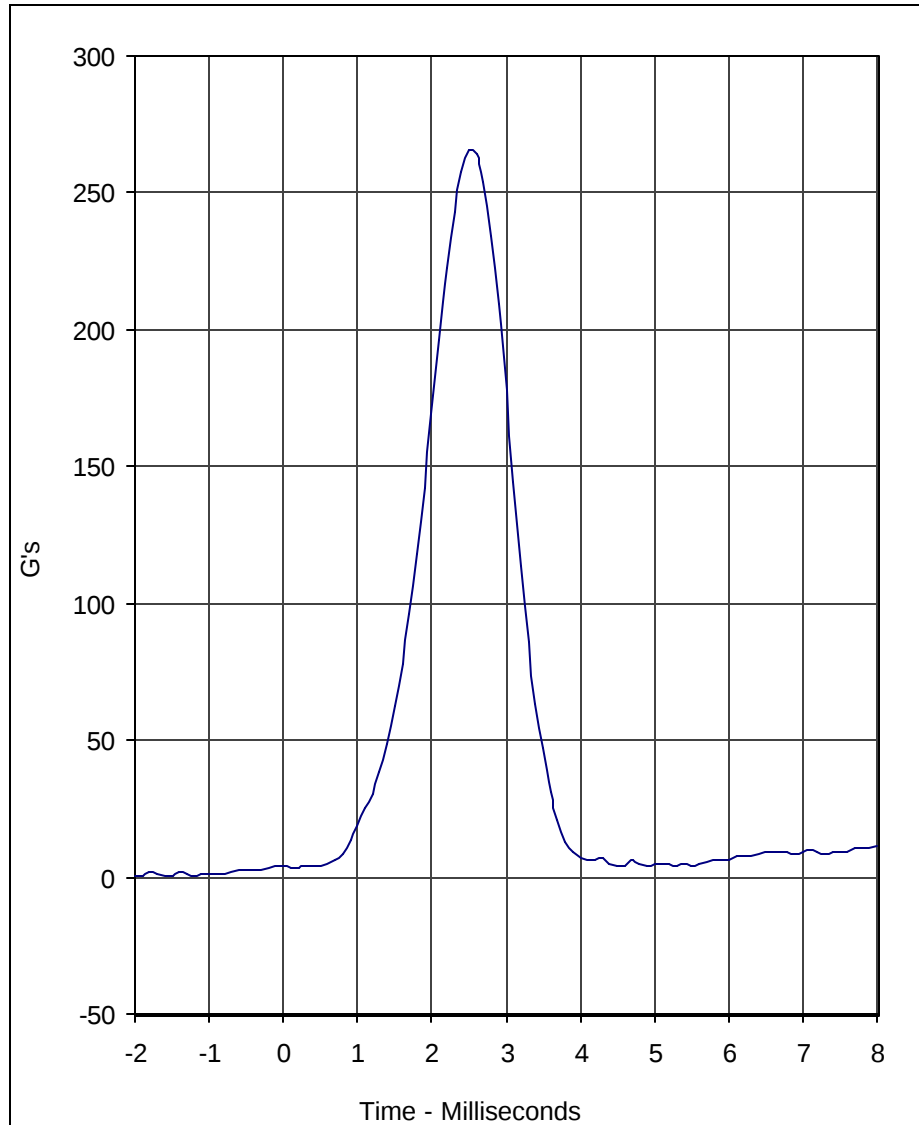
Test I.D.: HD12A

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	266.0	Pass
Peak Lateral Acceleration	G's	≤15.0	3.5	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

Laboratory Technician

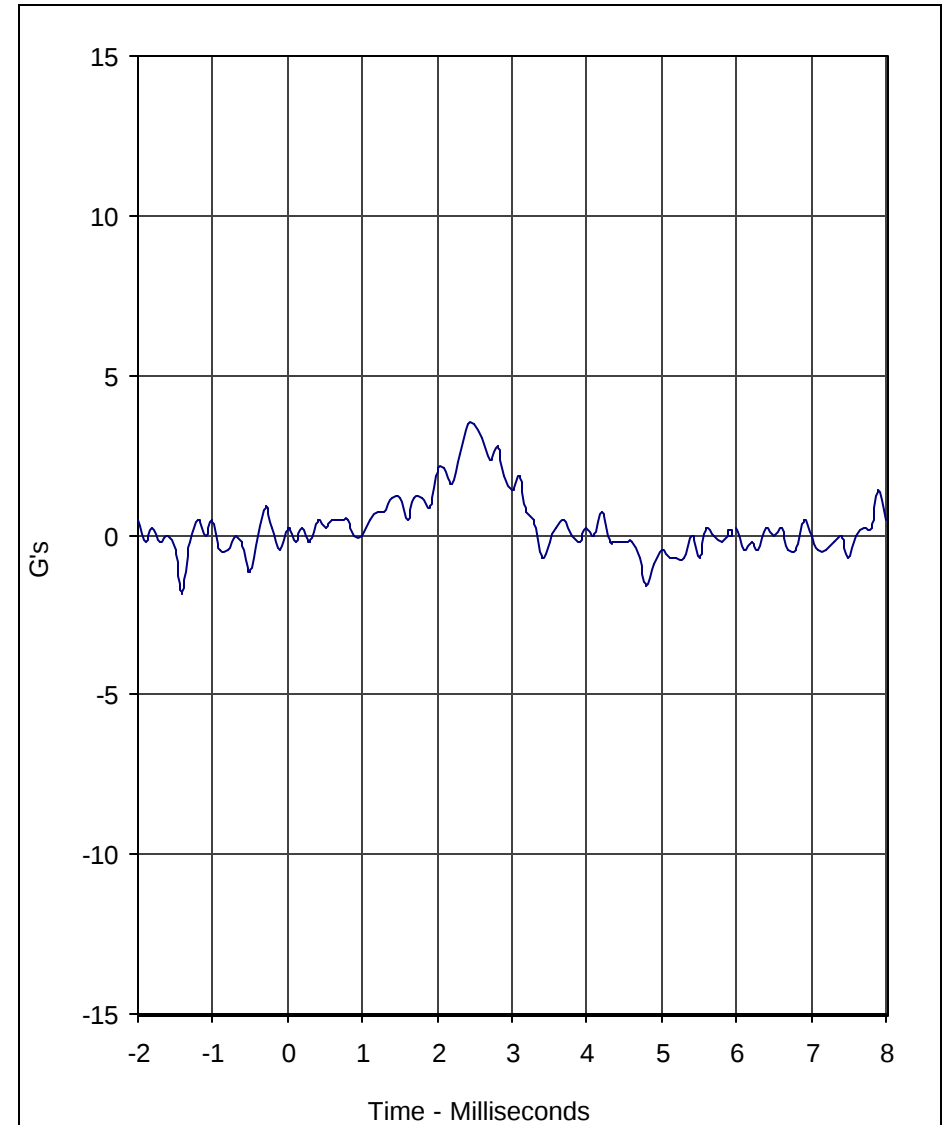
December 10, 2003

Test Date



Curve Description				CURNO	Type
Head Resultant				001	RES
Units	Max	Time	Min	Time	SAE Class
G's	266.0	2.5	0.4	-1.9	1000

Test Program: Hybrid III 50th Percentile Male Head Drop Test
 Test Date: 12/10/03



Curve Description				CURNO	Type
Head Y				002	FIL
Units	Max	Time	Min	Time	SAE Class
G's	3.5	2.4	-1.9	-1.4	1000

A.T.D. Serial No.: 034
 Test I.D.: HD12A





Calibration Data Sheet

Hybrid III 50th Percentile Male

Thorax Impact Test

ATD Serial No.: 034

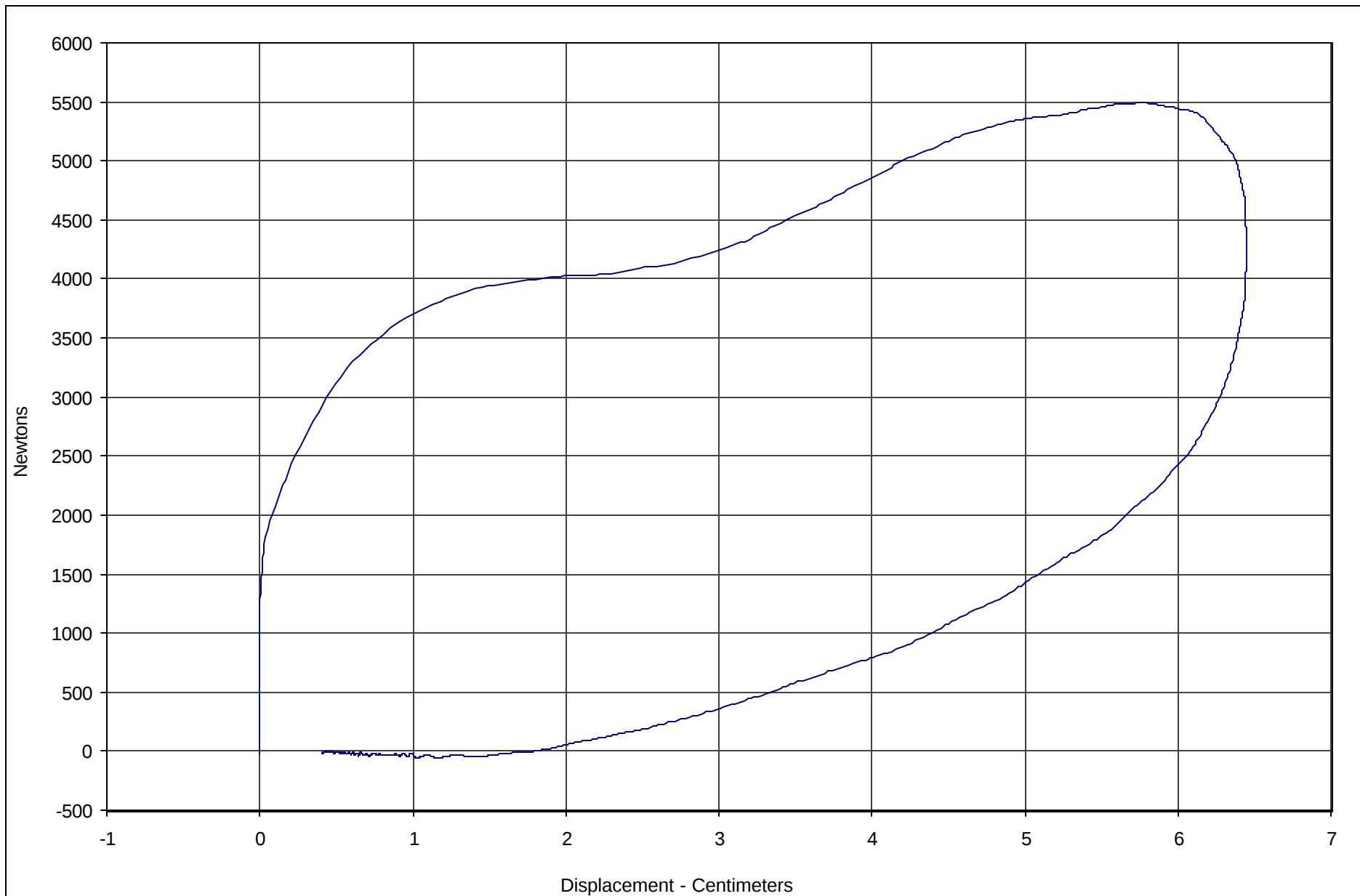
Test I.D.: CH12C

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	6.58 to 6.82	6.74	Pass
Peak Probe Force	Newtons	5159 to 5893	5491	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.44	Pass
Internal Hysteresis	%	69 to 85	82.3	Pass
Overall Test Results				Pass

Laboratory Technician

December 11, 2003

Test Date



Curve Description	CURNO	Type	Hysteresis	Peak Chest Displ.	Peak Probe Force	SAE Class
Probe Force vs. Chest Displacement	001	FIL	82.3	6.44	5490.9	600



Test Program: Hybrid III 50th Percentile Male Thorax Impact

A.T.D. Serial No.: 034

Test Date: 12/11/03

Test I.D.: CH12C



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

ATD Serial No.: 034

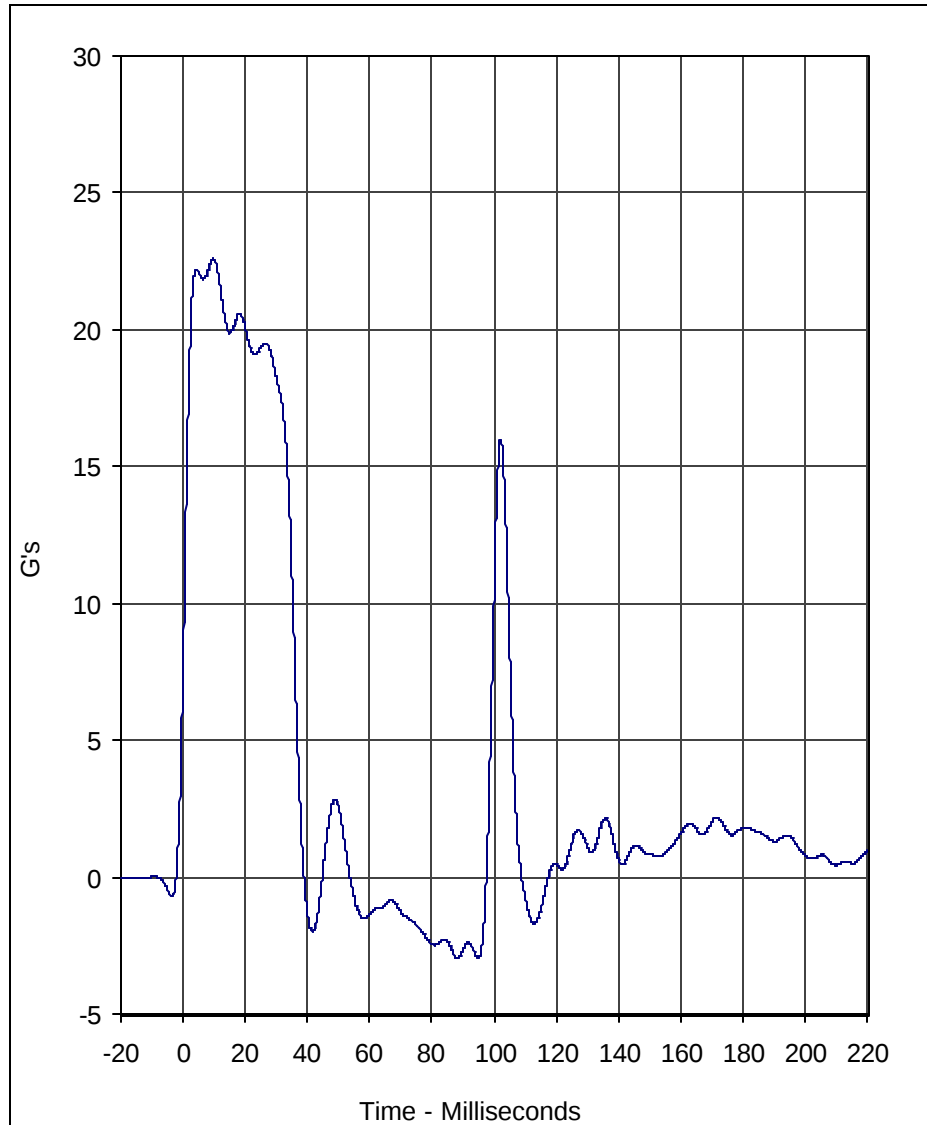
Test I.D.: NF12C

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	7.07	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	22.6	Pass
	20 Msec.	G's	17.6 to 22.6	20.1	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	36.8	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	75.0	Pass
	Time	Msec.	57.0 to 64.0	61.5	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	121.8	Pass
Moment About Occipital Condyle	Maximum	Nm	84.1 to 108.5	89.7	Pass
	Time	Msec.	47.0 to 58.0	50.4	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	103.0	Pass
Overall Test Results					Pass

Laboratory Technician

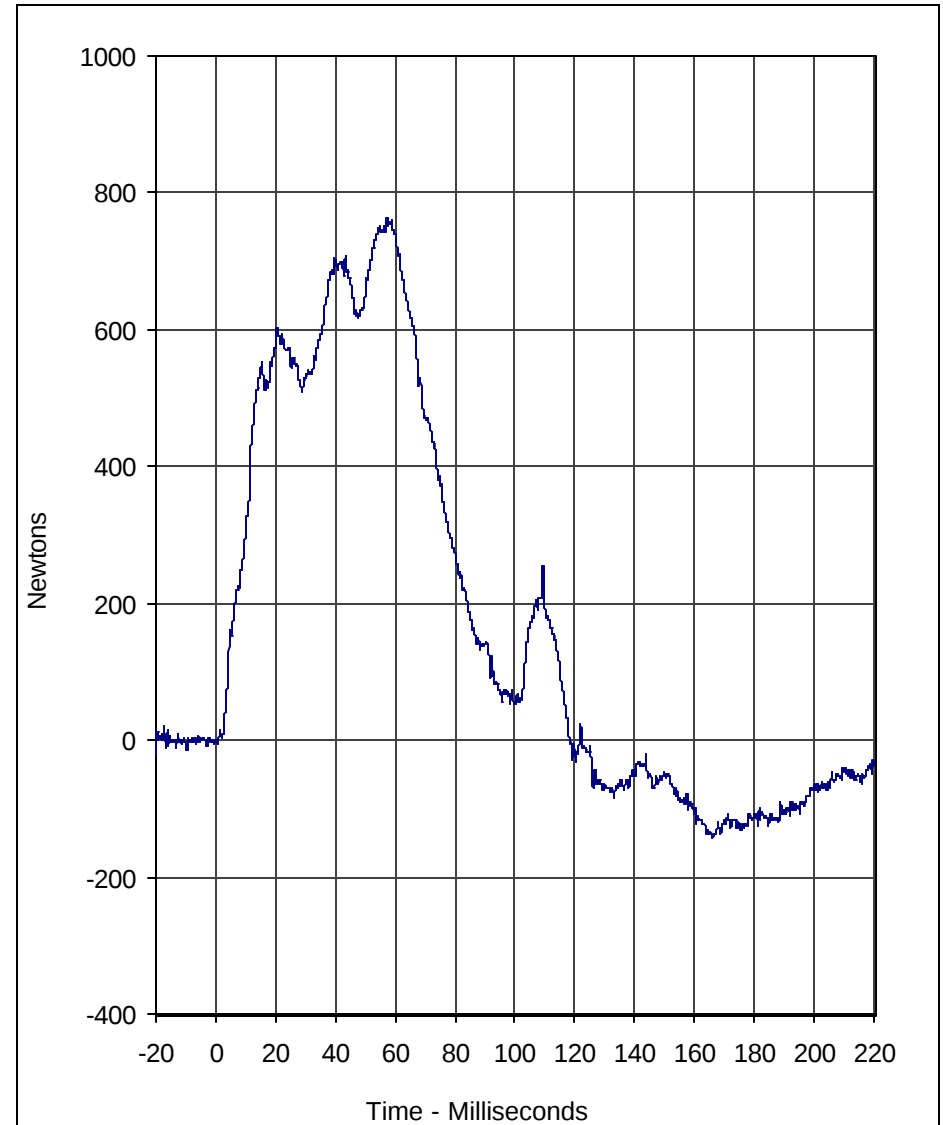
December 11, 2003

Test Date



Curve Description				CURNO	Type
Pendulum Deceleration				001	FIL
Units	Max	Time	Min	Time	SAE Class
G's	22.6	9.7	-3.0	88.2	60

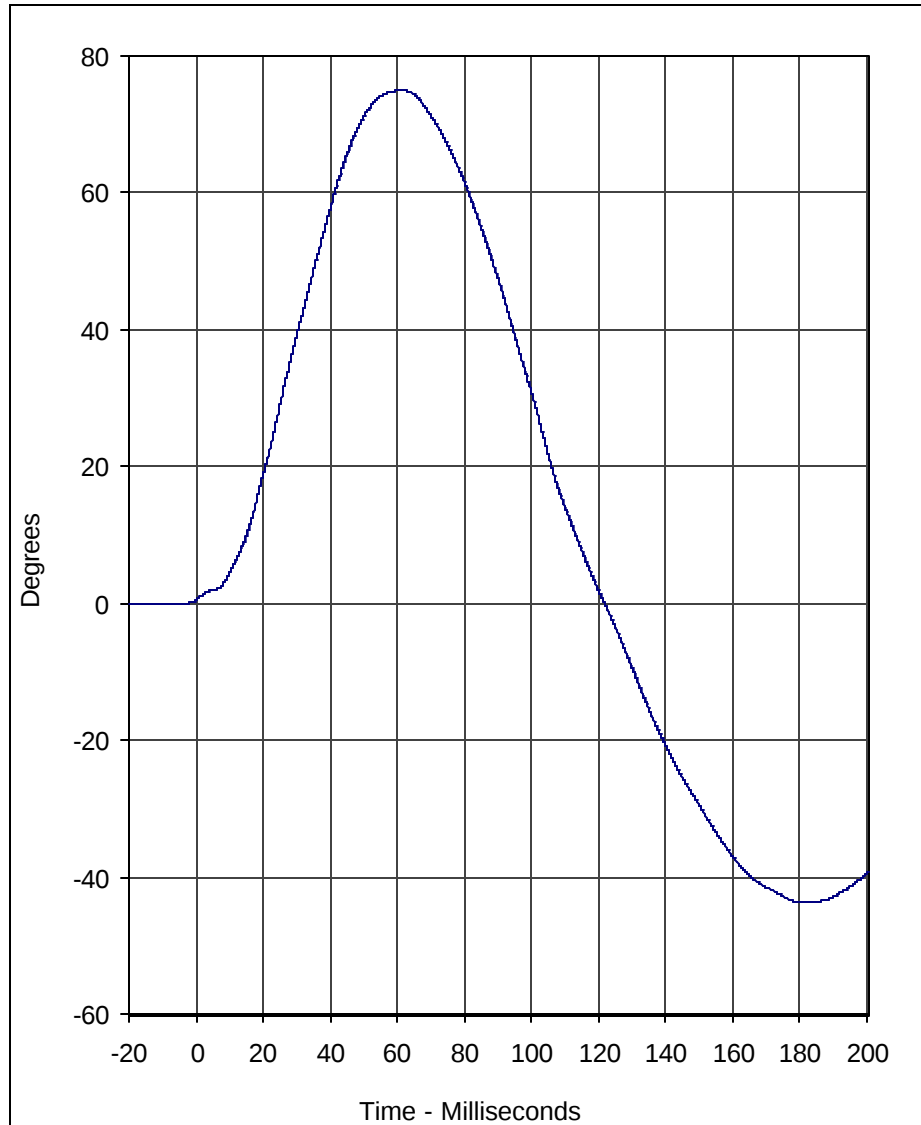
Test Program: Hybrid III 50th Percentile Male Neck Flexion Test
 Test Date: 12/11/03



Curve Description				CURNO	Type
Neck Force X				002	FIL
Units	Max	Time	Min	Time	SAE Class
Newtons	762.7	57.3	-142.8	166.0	600

A.T.D. Serial No.: 034
 Test I.D.: NF12C

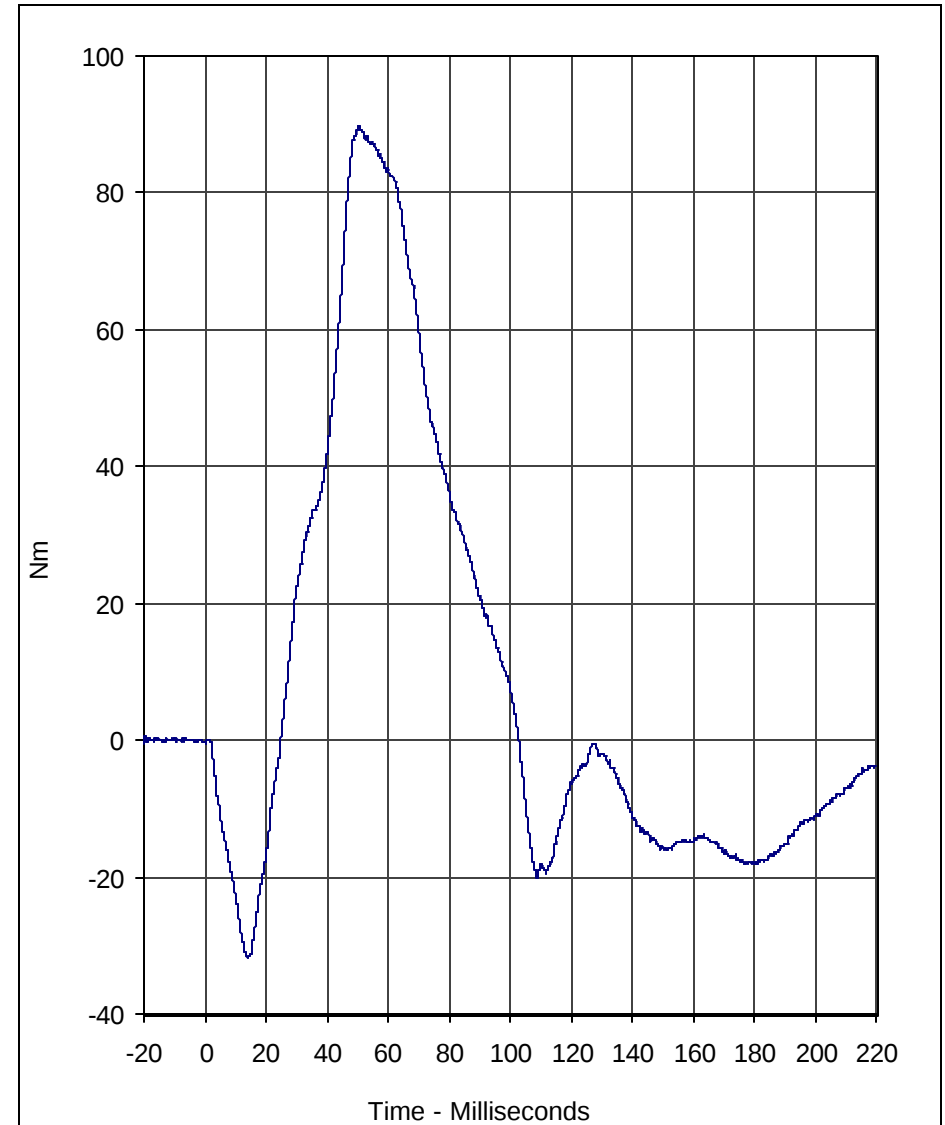




Curve Description				CURNO	Type
"D" Plane Rotation				003	FIL

Units	Max	Time	Min	Time	SAE Class
Degrees	75.0	61.5	-43.7	181.9	60

Test Program: Hybrid III 50th Percentile Male Neck Flexion Test
 Test Date: 12/11/03



Curve Description				CURNO	Type
Moment About Occipital Condyle				004	FIL

Units	Max	Time	Min	Time	SAE Class
Nm	89.7	50.4	-31.8	14.0	600

A.T.D. Serial No.: 034
 Test I.D.: NF12C





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

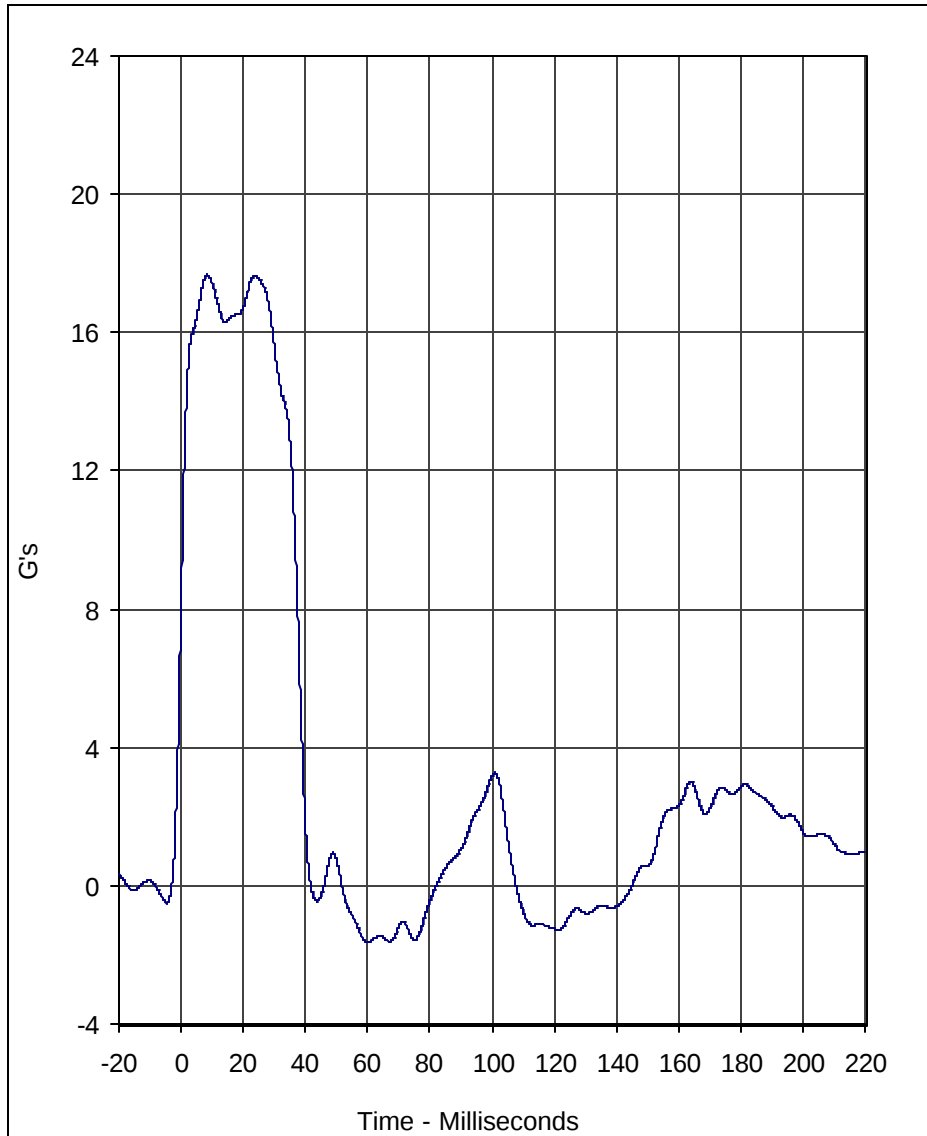
ATD Serial No.: 034

Test I.D.: NE12C

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	5.94 to 6.19	6.16	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	17.4	Pass
	20 Msec.	G's	14.0 to 19.0	16.7	Pass
	30 Msec.	G's	11.0 to 16.0	15.6	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	15.6	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	38.6	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	97.5	Pass
	Time	Msec.	72.0 to 82.0	76.4	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	156.1	Pass
Moment About Occipital Condyle	Maximum	Nm	-52.9 to- 79.9	-64.8	Pass
	Time	Msec.	65.0 to 79.0	67.4	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	139.1	Pass
Overall Test Results					Pass

Laboratory Technician

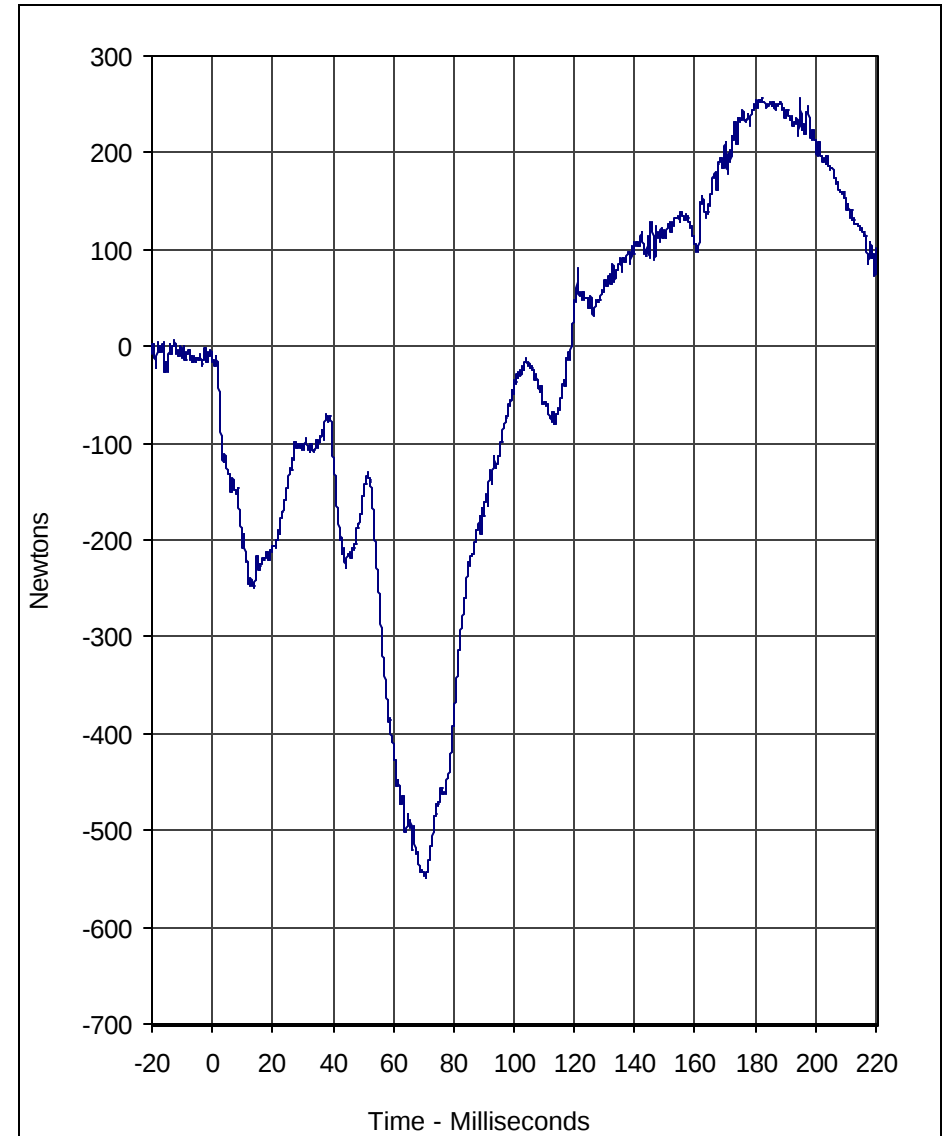
December 11, 2003
Test Date



Curve Description				CURNO	Type
Pendulum Deceleration				001	FIL

Units	Max	Time	Min	Time	SAE Class
G's	17.7	8.3	-1.7	60.1	60

Test Program: Hybrid III 50th Percentile Male Neck Extension Test
 Test Date: 12/11/03

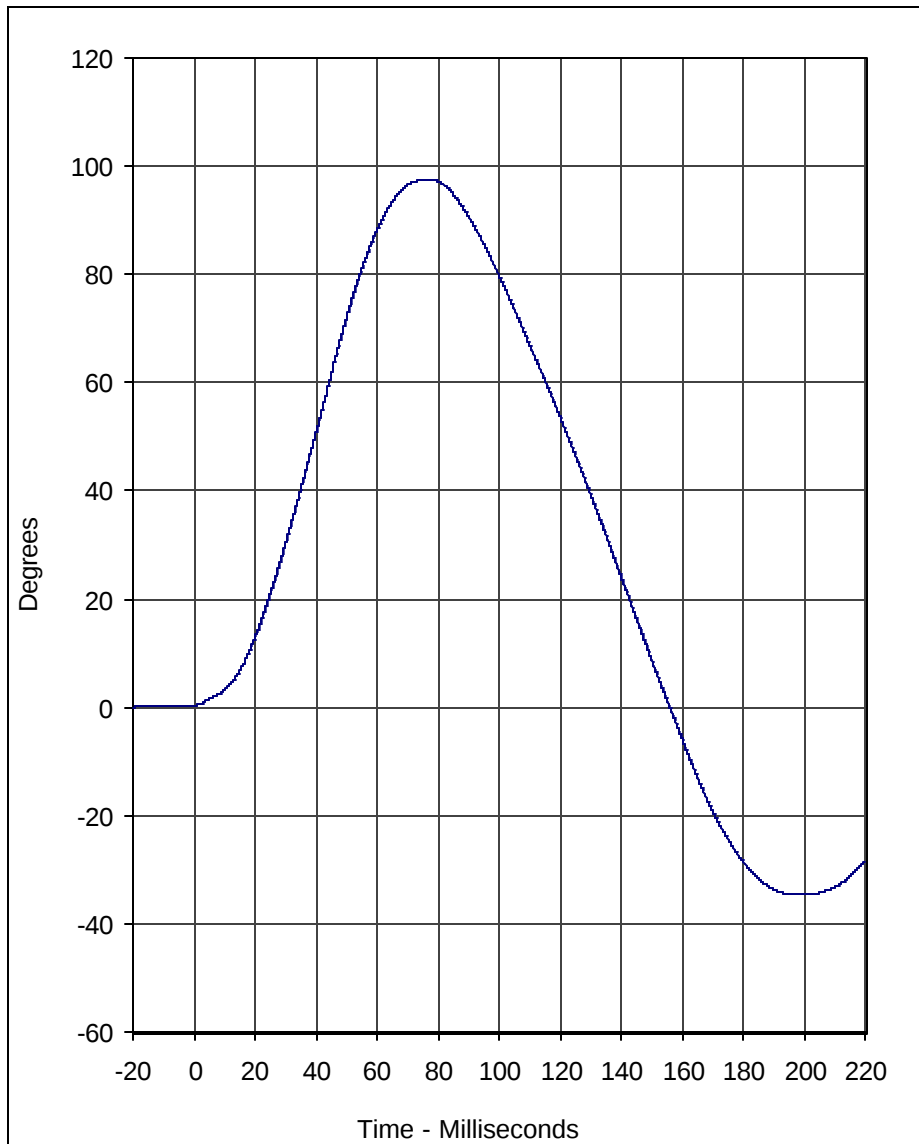


Curve Description				CURNO	Type
Neck Force X				002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	256.0	182.0	-549.8	70.9	600

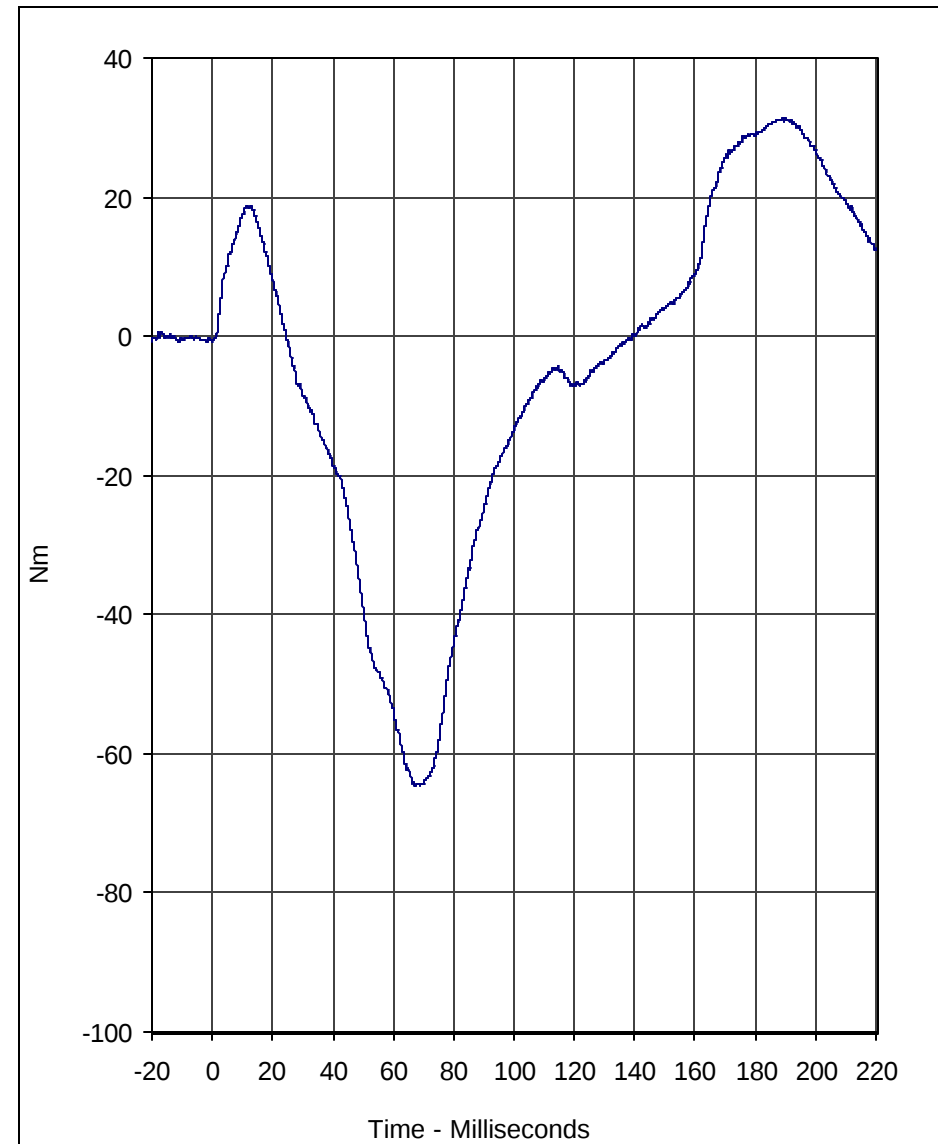
A.T.D. Serial No.: 034
 Test I.D.: NE12C





Curve Description				CURNO	Type
"D" Plane Rotation				003	FIL
Units	Max	Time	Min	Time	SAE Class
Degrees	97.5	76.4	-34.6	199.6	60

Test Program: Hybrid III 50th Percentile Male Neck Extension Test
 Test Date: 12/11/03



Curve Description				CURNO	Type
Moment About Occipital Condyle				004	FIL
Units	Max	Time	Min	Time	SAE Class
Nm	31.4	190.0	-64.8	67.4	600

A.T.D. Serial No.: 034
 Test I.D.: NE12C





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	880	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	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	585	Pass
L - Popliteal length	mm	429 to 455	435	Pass
M - Knee pivot height	mm	485 to 500	490	Pass
N - Buttock popliteal length	mm	452 to 477	475	Pass
O - Chest depth	mm	213 to 229	220	Pass
P - Foot length	mm	251 to 267	260	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	1000	Pass
Z - Waist circumference	mm	836 to 866	845	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 11, 2003

Test Date



Calibration Data Sheet

Hybrid III 50th Percentile Male

Knee Impact Test

ATD Serial No.: 035

Location: Left Knee

Test I.D.: LK11B

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.13	Pass
Peak Probe Force	N	4715 to 5782	5632	Pass
Overall Test Results			Pass	

ATD Serial No.: 035

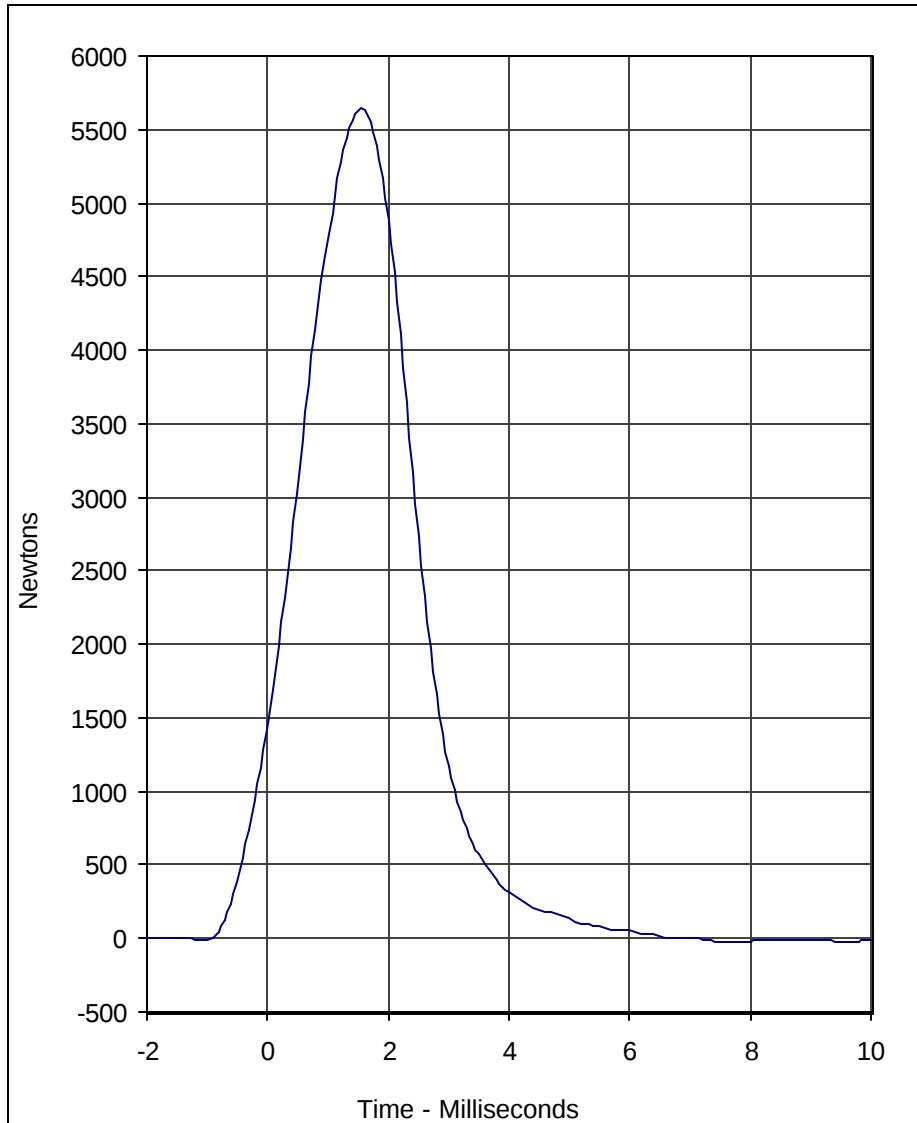
Location: Right Knee

Test I.D.: RK11B

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.09	Pass
Peak Probe Force	N	4715 to 5782	4895	Pass
Overall Test Results			Pass	

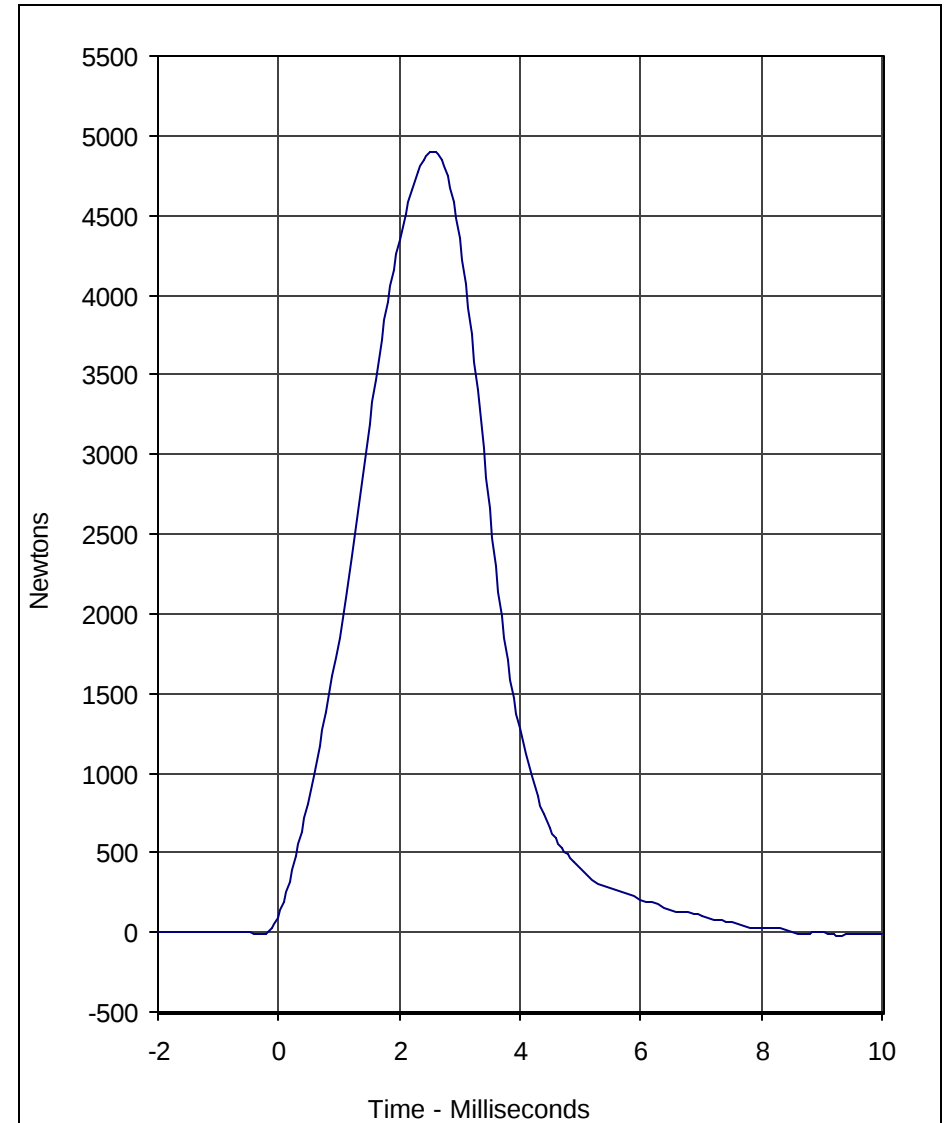
Laboratory Technician

December 10, 2003
Test Date



Curve Description		Location	Test I.D.	CURNO	Type
Probe Force		Left Knee	LK11B	001	FIL
Units	Max	Time	Min	Time	SAE Class
Newtons	5632.0	1.5	-30.3	7.6	600

Test Program: Hybrid III 50th Percentile Male Knee Impact Test
 Test Date: 12/10/03



Curve Description		Location	Test I.D.	CURNO	Type
Probe Force		Right Knee	RK11B	002	FIL
Units	Max	Time	Min	Time	SAE Class
Newtons	4894.9	2.6	-19.1	9.3	600

A.T.D. Serial No.: 035





Calibration Data Sheet

Hybrid III 50th Percentile Male

Head Drop Test

ATD Serial No.: 035

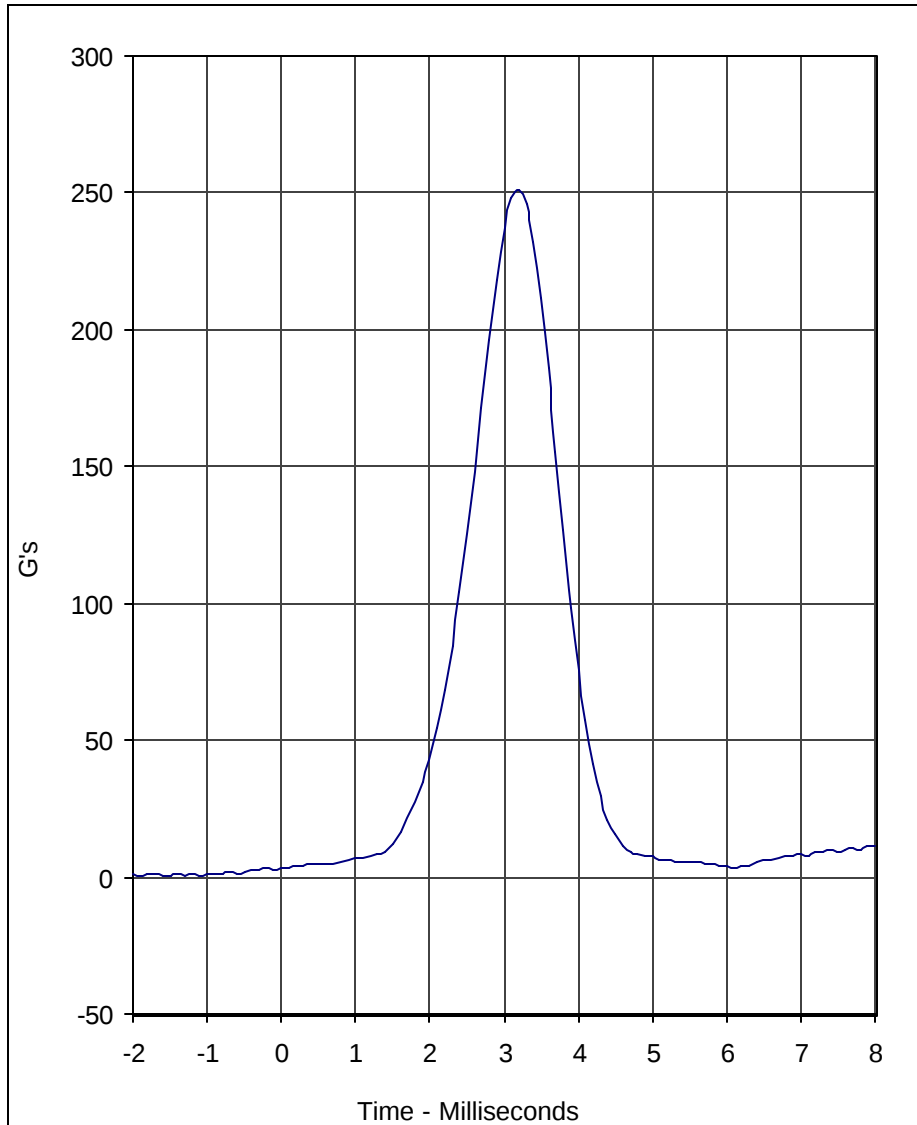
Test I.D.: HD12B

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	250.7	Pass
Peak Lateral Acceleration	G's	≤15.0	3.3	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

Laboratory Technician

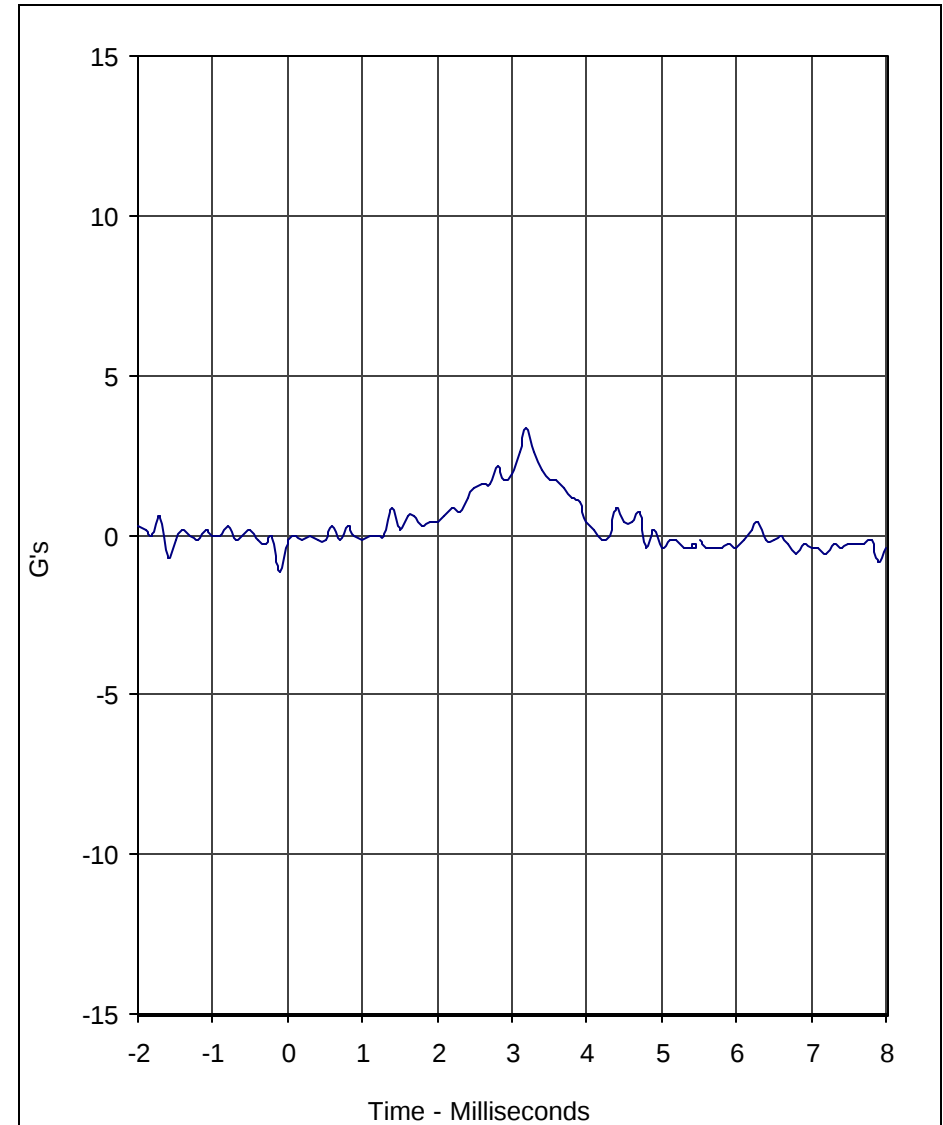
December 10, 2003

Test Date



Curve Description				CURNO	Type
Head Resultant				001	RES
Units	Max	Time	Min	Time	SAE Class
G's	250.7	3.2	0.2	-1.1	1000

Test Program: Hybrid III 50th Percentile Male Head Drop Test
 Test Date: 12/10/03



Curve Description				CURNO	Type
Head Y				002	FIL
Units	Max	Time	Min	Time	SAE Class
G's	3.3	3.2	-1.2	-0.1	1000

A.T.D. Serial No.: 035
 Test I.D.: HD12B





Calibration Data Sheet

Hybrid III 50th Percentile Male

Thorax Impact Test

ATD Serial No.: 035

Test I.D.: CH12D

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	6.58 to 6.82	6.74	Pass
Peak Probe Force	Newtons	5159 to 5893	5685	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.44	Pass
Internal Hysteresis	%	69 to 85	77.4	Pass
Overall Test Results				Pass

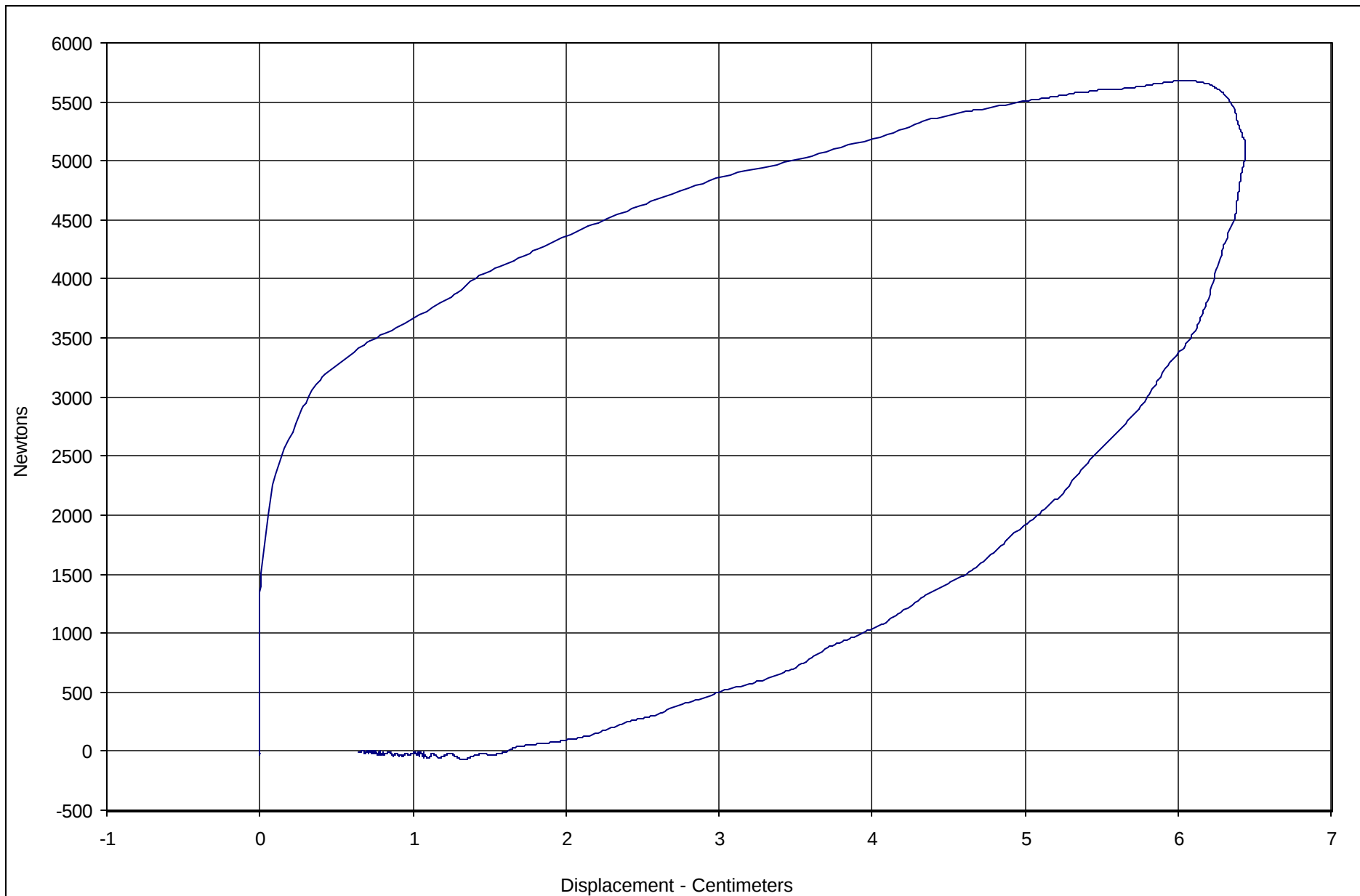
E-18

TR-P24001-06-NC

Laboratory Technician

December 11, 2003

Test Date



Curve Description	CURNO	Type	Hysteresis	Peak Chest Displ.	Peak Probe Force	SAE Class
Probe Force vs. Chest Displacement	001	FIL	77.4	6.44	5685.3	600



Test Program: Hybrid III 50th Percentile Male Thorax Impact

A.T.D. Serial No.: 035

Test Date: 12/11/03

Test I.D.: CH12D



Calibration Data Sheet

Hybrid III 50th Percentile Male

Neck Flexion Test

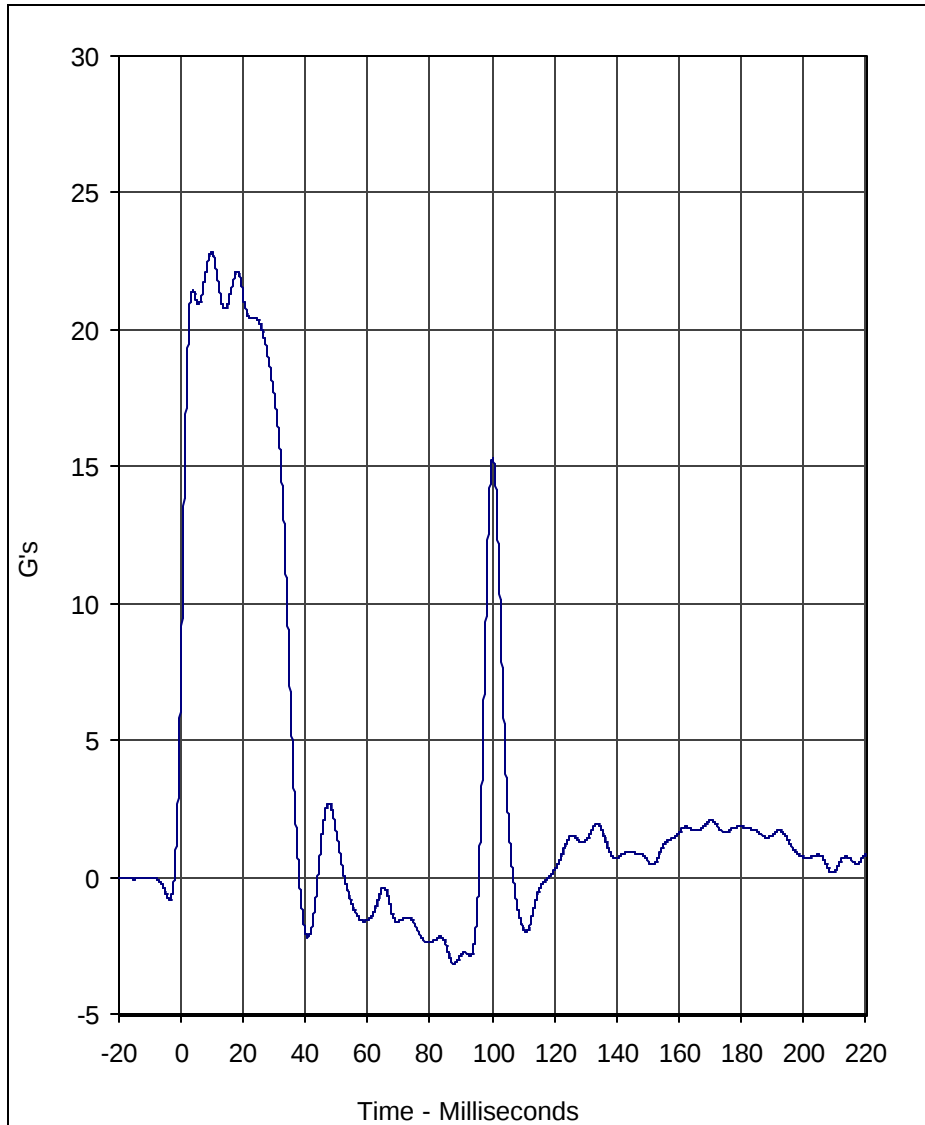
ATD Serial No.: 035

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	6.89 to 7.13	7.01	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	22.8	Pass
	20 Msec.	G's	17.6 to 22.6	21.2	Pass
	30 Msec.	G's	12.5 to 18.5	17.6	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	17.6	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	35.7	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	76.0	Pass
	Time	Msec.	57.0 to 64.0	63.1	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	124.0	Pass
Moment About Occipital Condyle	Maximum	Nm	84.1 to 108.5	87.5	Pass
	Time	Msec.	47.0 to 58.0	48.7	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	102.0	Pass
Overall Test Results					Pass

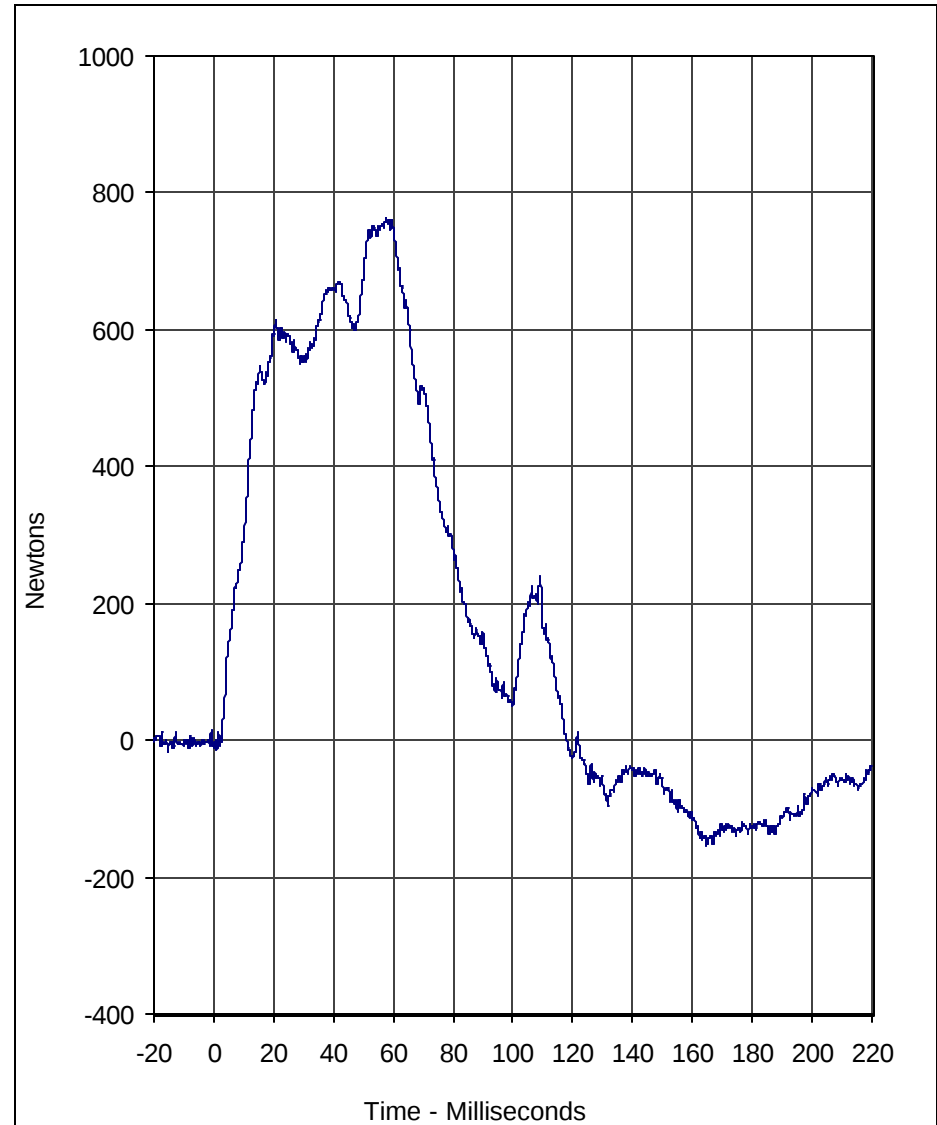
Laboratory Technician

December 11, 2003
Test Date



Curve Description				CURNO	Type
Pendulum Deceleration				001	FIL
Units	Max	Time	Min	Time	SAE Class
G's	22.8	9.7	-3.2	87.8	60

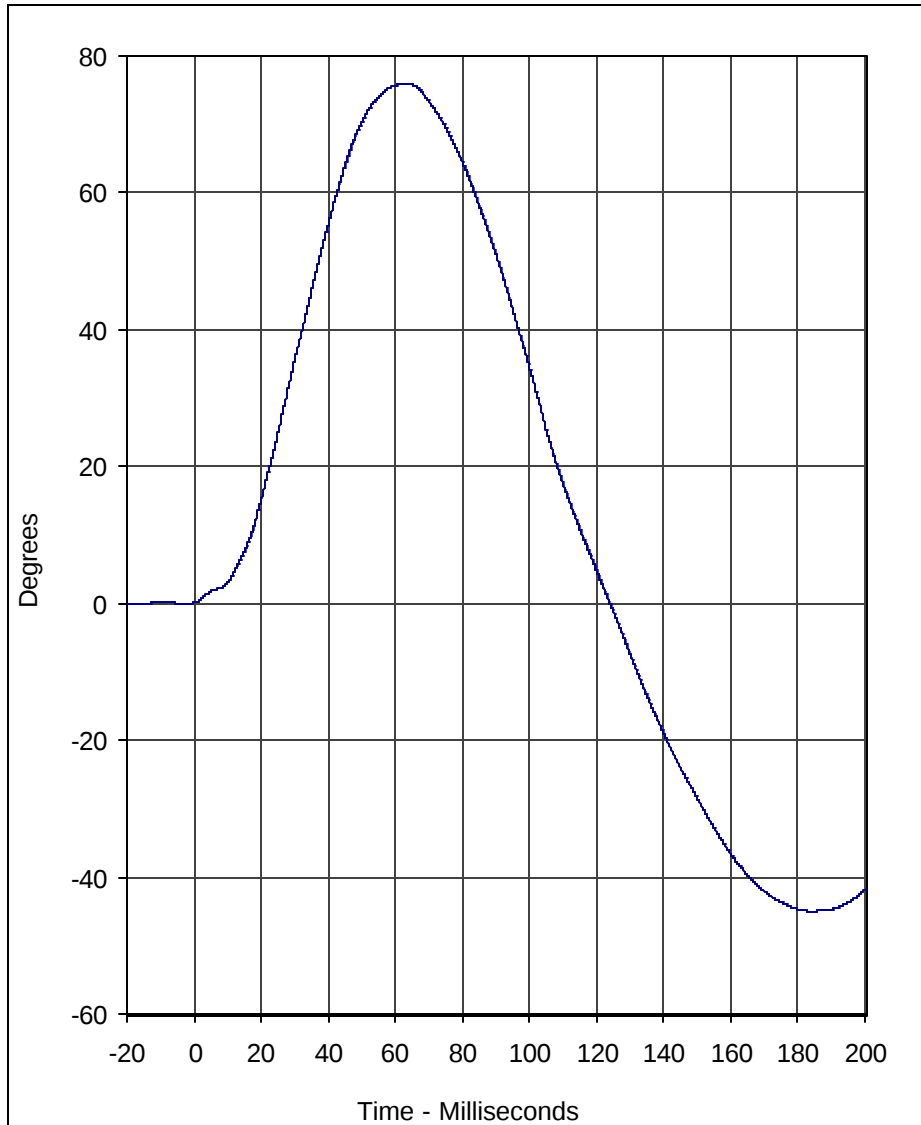
Test Program: Hybrid III 50th Percentile Male Neck Flexion Test
 Test Date: 12/11/03



Curve Description				CURNO	Type
Neck Force X				002	FIL
Units	Max	Time	Min	Time	SAE Class
Newtons	763.0	57.6	-154.0	164.7	600

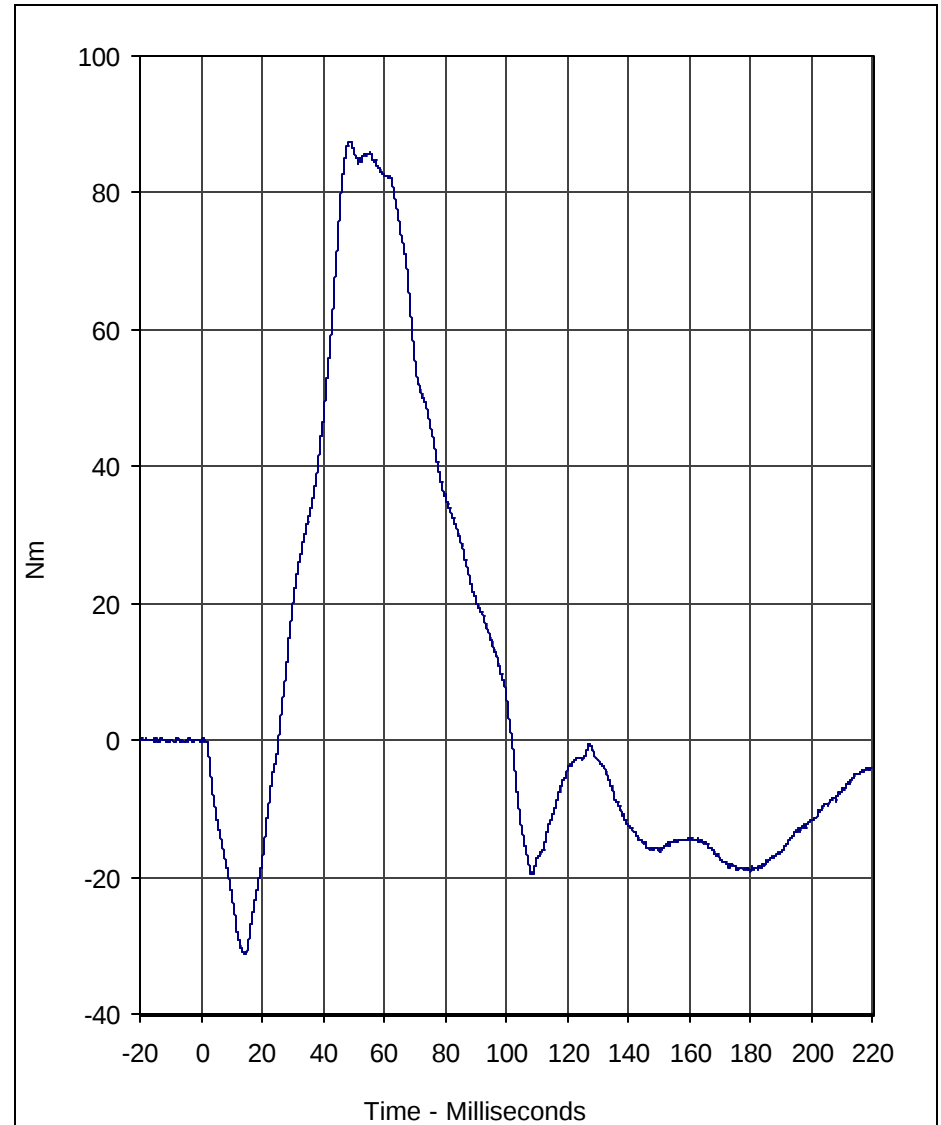
A.T.D. Serial No.: 035
 Test I.D.: NF12D





Curve Description				CURNO	Type
"D" Plane Rotation				003	FIL
Units	Max	Time	Min	Time	SAE Class
Degrees	76.0	63.1	-45.0	184.1	60

Test Program: Hybrid III 50th Percentile Male Neck Flexion Test
 Test Date: 12/11/03



Curve Description				CURNO	Type
Moment About Occipital Condyle				004	FIL
Units	Max	Time	Min	Time	SAE Class
Nm	87.5	48.7	-31.3	14.5	600

A.T.D. Serial No.: 035
 Test I.D.: NF12D





Calibration Data Sheet

Hybrid III 50th Percentile Male

Neck Extension Test

ATD Serial No.: 035

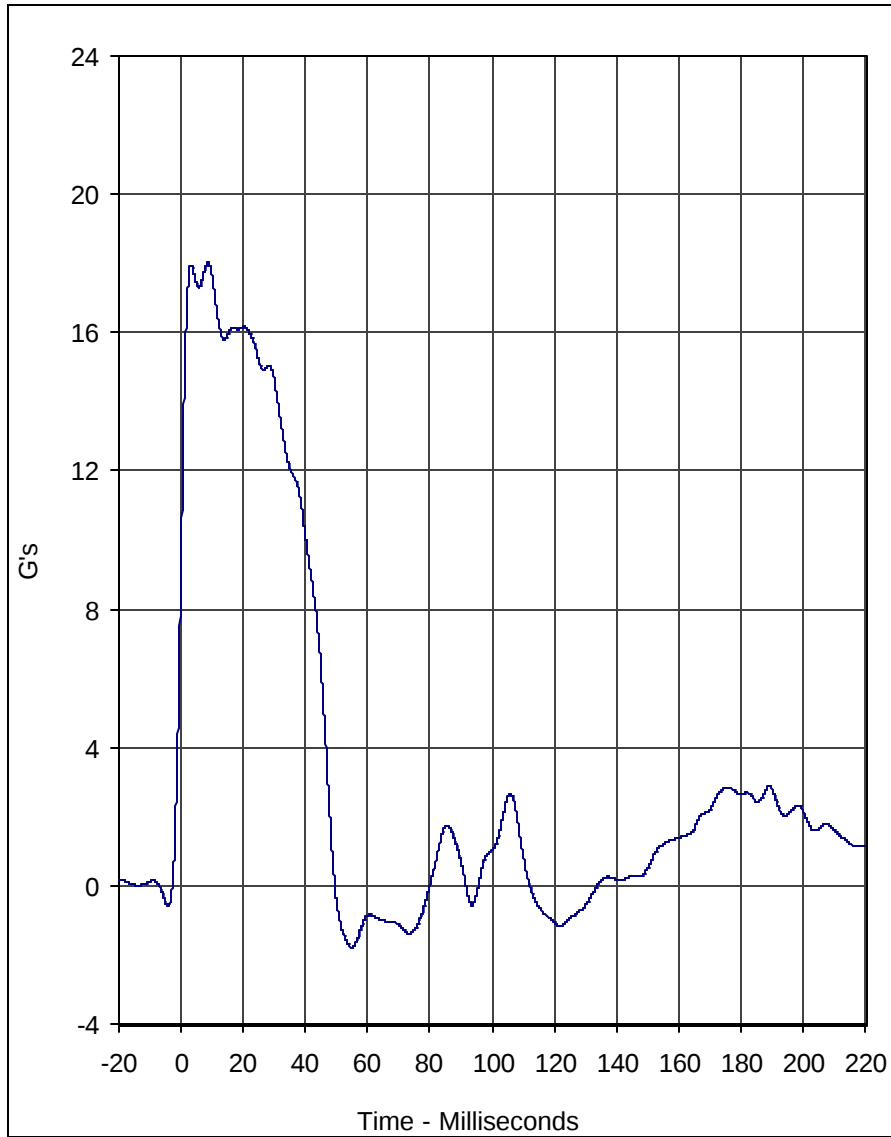
Test I.D.: NB12D

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	6.00	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	17.6	Pass
	20 Msec.	G's	14.0 to 19.0	16.2	Pass
	30 Msec.	G's	11.0 to 16.0	14.6	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	14.6	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	98.4	Pass
	Time	Msec.	72.0 to 82.0	79.6	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	159.2	Pass
Moment About Occipital Condyle	Maximum	Nm	-52.9 to- 79.9	-64.2	Pass
	Time	Msec.	65.0 to 79.0	69.3	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	142.5	Pass
Overall Test Results					Pass

Laboratory Technician

December 11, 2003

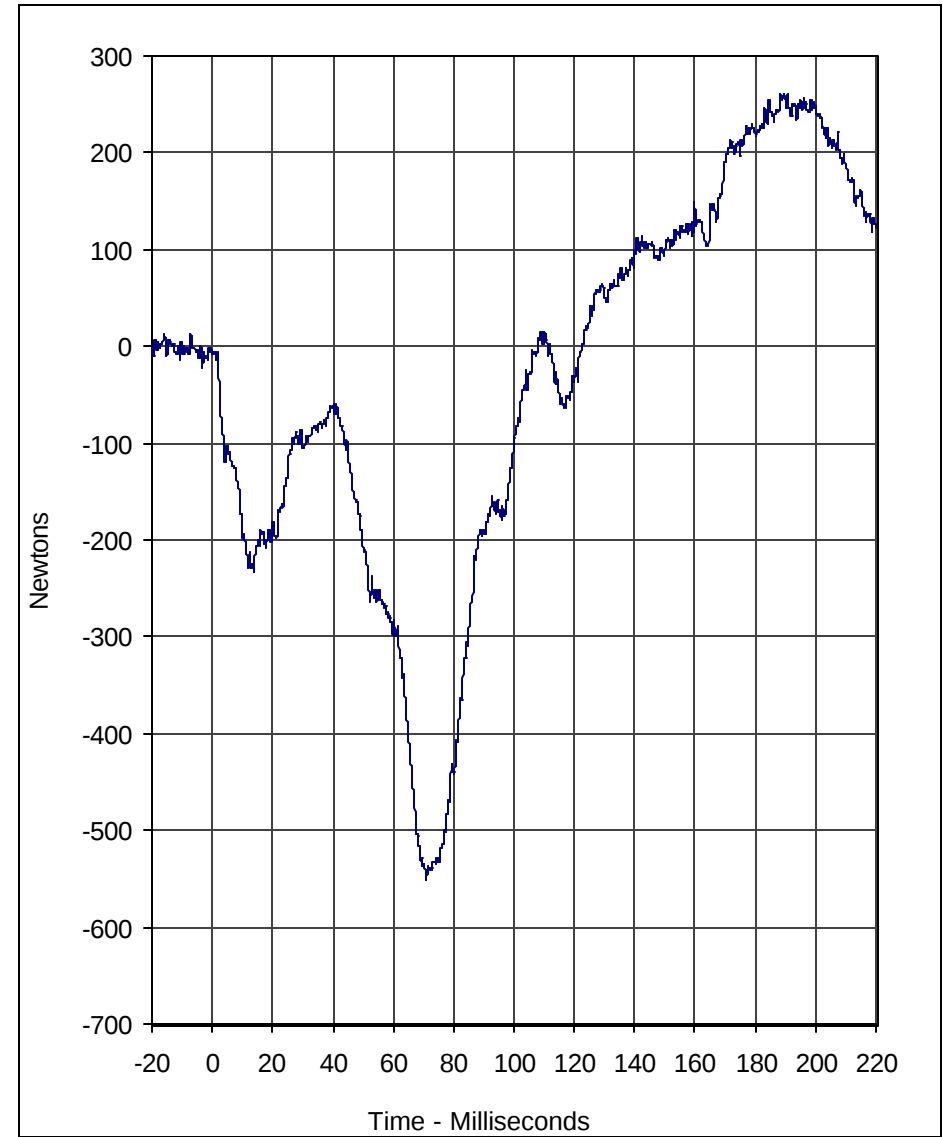
Test Date



Curve Description				CURNO	Type
Pendulum Deceleration				001	FIL

Units	Max	Time	Min	Time	SAE Class
G's	18.0	8.6	-1.8	54.9	60

Test Program: Hybrid III 50th Percentile Male Neck Extension Test
 Test Date: 12/11/03

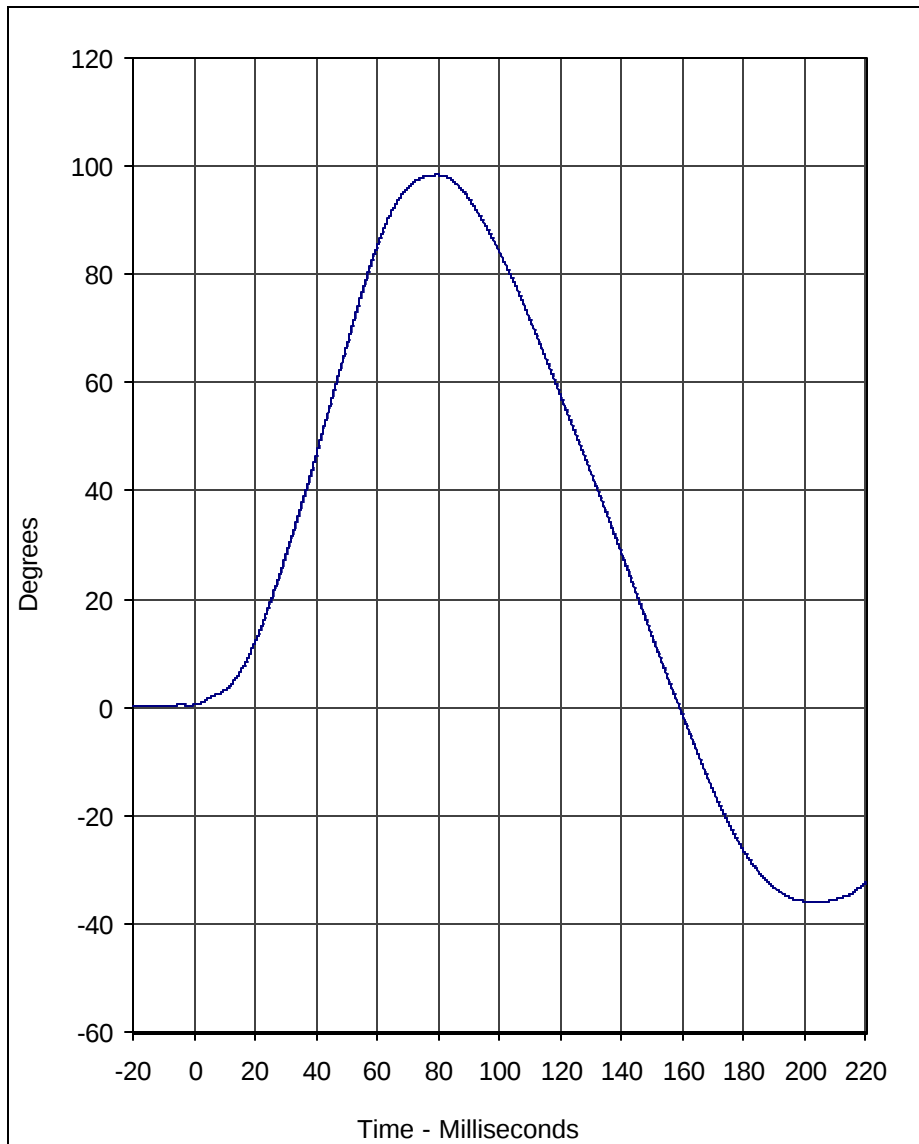


Curve Description				CURNO	Type
Neck Force X				002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	261.6	190.6	-550.7	70.9	600

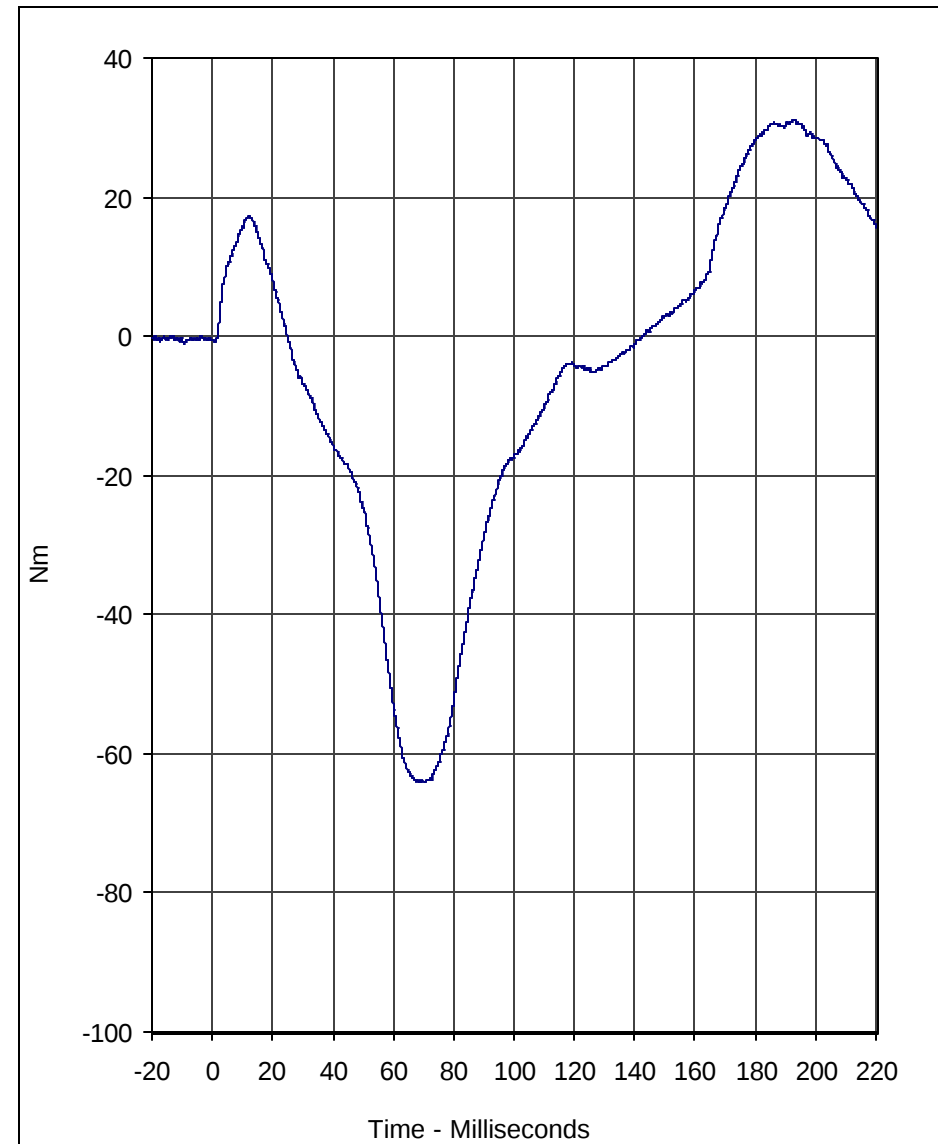
A.T.D. Serial No.: 035
 Test I.D.: NB12D





Curve Description				CURNO	Type
"D" Plane Rotation				003	FIL
Units	Max	Time	Min	Time	SAE Class
Degrees	98.4	79.6	-35.9	205.0	60

Test Program: Hybrid III 50th Percentile Male Neck Extension Test
 Test Date: 12/11/03



Curve Description				CURNO	Type
Moment About Occipital Condyle				004	FIL
Units	Max	Time	Min	Time	SAE Class
Nm	31.1	193.0	-64.2	69.3	600

A.T.D. Serial No.: 035
 Test I.D.: NB12D





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	520	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	600	Pass
L - Popliteal length	mm	429 to 455	445	Pass
M - Knee pivot height	mm	485 to 500	485	Pass
N - Buttock popliteal length	mm	452 to 477	470	Pass
O - Chest depth	mm	213 to 229	215	Pass
P - Foot length	mm	251 to 267	260	Pass
V - Shoulder breadth	mm	422 to 437	425	Pass
W - Foot breadth	mm	91 to 107	100	Pass
Y - Chest circumference	mm	970 to 1001	990	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 11, 2003

Test Date

APPENDIX F

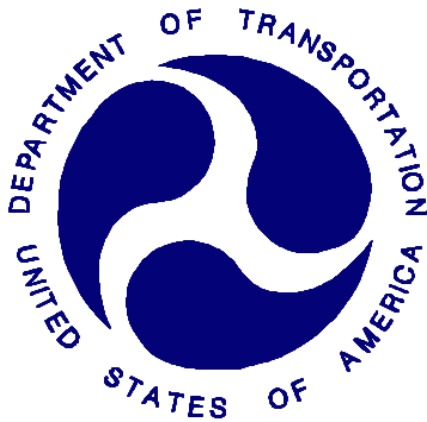
CHILD RESTRAINT SYSTEM

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

**HONDA OF AMERICA
2004 ACURA 3.2 TL
4 DOOR SEDAN**

NHTSA NUMBER: M45300

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



12/19/03

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: _____
Mr. James E. Gorth, Project Engineer
KARCO Engineering, LLC

Date: December 22, 2003

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

Date: December 22, 2003

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

Date: December 22, 2003

FINAL REPORT ACCEPTED BY:

Manager, New Car Assessment Program

Date of Acceptance

COTR, NCAP Frontal Impact Program

Date of Acceptance

Technical Report Documentation Page

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				6. Performing Organization Code	
7. Authors Mr. James E. Gorth, Project Engineer, Karco Mr. Frank Richardson, Program Manager, Karco				8. Performing Organization Report No. TR-P24001-06-NC	
9. Performing Organization Name and Address Karco Engineering, LLC 9270 Holly Rd. Adelanto, CA, 92301				10. Work Unit No.	
				11. Contract or Grant No. DTNH22-01-D-02005	
12. Sponsoring Agency Name and Address U. S. Department of Transportation National Highway Traffic Safety Administration Rulemaking Office of Crashworthiness Standards Mail Code NPS-111 400 Seventh Street, SW, Room 5311 Washington, D.C 20590				13. Type of Report and Period Covered Final Test Report Option Year 3	
				14. Sponsoring Agency Code DOT/NHTSA/NRM/OCS	
15. Supplementary Notes					
16. Abstract A frontal test was conducted on the subject CRS's Evenflo Vanguard 5 Convertible and a Britax Roundabout Convertible in conjunction with frontal NCAP testing on a 2004 Acura 3.2 TL 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 19, 2003.					
Measurement Description		Units		Left Rear	Right Rear
Head Injury Criteria (HIC) 36		N/A		710.1	646.1
Head Injury Criteria (HIC) 15		N/A		439.0	423.1
3 msec. Chest Clip		G's		48.5	47.5
Peak Chest Displacement		mm		-22.7	-11.4
17. Key Words 56.3 km/h NCAP Frontal Barrier Impact Test New Car Assessment Program (NCAP) Final Report of a Evenflo Vanguard 5 Convertible Final Report of a Britax Roundabout Convertible NHTSA No. M45300				18. Distribution of Statement Copies of this report available from: NHTSA Technical Reference Division National Highway Traffic Safety Admin. 400 Seventh St., SW, Room 5108 Washington, D.C. 20590	
19. Security Classification (this report) Unclassified		20. Security Classification (this page) Unclassified		21. No. of Pages 148	22. Price

Form DOT F1700.7 (8-72)

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SECTION F-1

PURPOSE AND SUMMARY OF TEST M45300

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

The 56.04 km/h NCAP frontal impact test was conducted in accordance with the Office of Crashworthiness Standards (OCS) NCAP Laboratory Test Procedure.

SUMMARY

Two three year old child dummies were 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. 139) and the left rear (Position 4) child dummy (Serial No. 082) were calibrated two tests 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	646.1	423.1	47.5	-11.4
Left Rear Child	710.1	439.0	48.5	-22.7

SECTION F-1**DATA SHEET NO.1.....CRASH TEST SUMMARY**Test Vehicle: 2004 Acura 3.2 TL 4 Door SedanNHTSA No.: M45300Test Program 2004 NHTSA 35mph NCAPTest Date: 12/19/03**CHILD RESTRAINT SYSTEM INFORMATION**

Description	Position # 3 CRS	Position #4 CRS
Manufacturer	Evenflo	Britax
Model Name	Vanguard	Roundabout
Serial No.	3691261 P1	E9L02402662
Type	Convertible	Convertible
Forward/Rearward	Forward	Forward

VISIBLE DUMMY CONTACT POINTS

Description	Position #3 CRS	Position #4 CRS
Head Contact	Chin to Retaining Clip	Chin to Retaining Clip
Chest Contact	None	None
Abdomen Contact	None	None
Left Knee Contact	None	None
Right Knee Contact	None	None
Left Toe Contact	Seatback	Seatback
Right Toe Contact	Seatback	Seatback
Ret. Clip Movement	75mm	100mm

POST TEST DOOR OPENINGS

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

POST TEST SEAT DATA

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

CAMERA COVERAGE

High Speed	1
Real Time	2
Total	3

SECTION F-1

DATA SHEET NO.2.....CRS PARAMETER DATA

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan

NHTSA No.: M45300

Test Program 2004 NHTSA 35mph NCAP

Test Date: 12/19/03

TEST VEHICLE WEIGHTS

	Units	As Delivered Weights (UVW)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	493	315		536	387	
Right	kg	501	305		525	357	
Ratio	%	61.6	38.4		58.8	41.2	
Totals	kg	994	620	1614	1061	744	1805

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1614
Weight of 2 P572 ATD's	kg	152
Rated Cargo/Luggage Wt. (RCLW)	kg	45
Calculated Vehicle Target Wt. (TVTW)	kg	1811

SECTION F-1

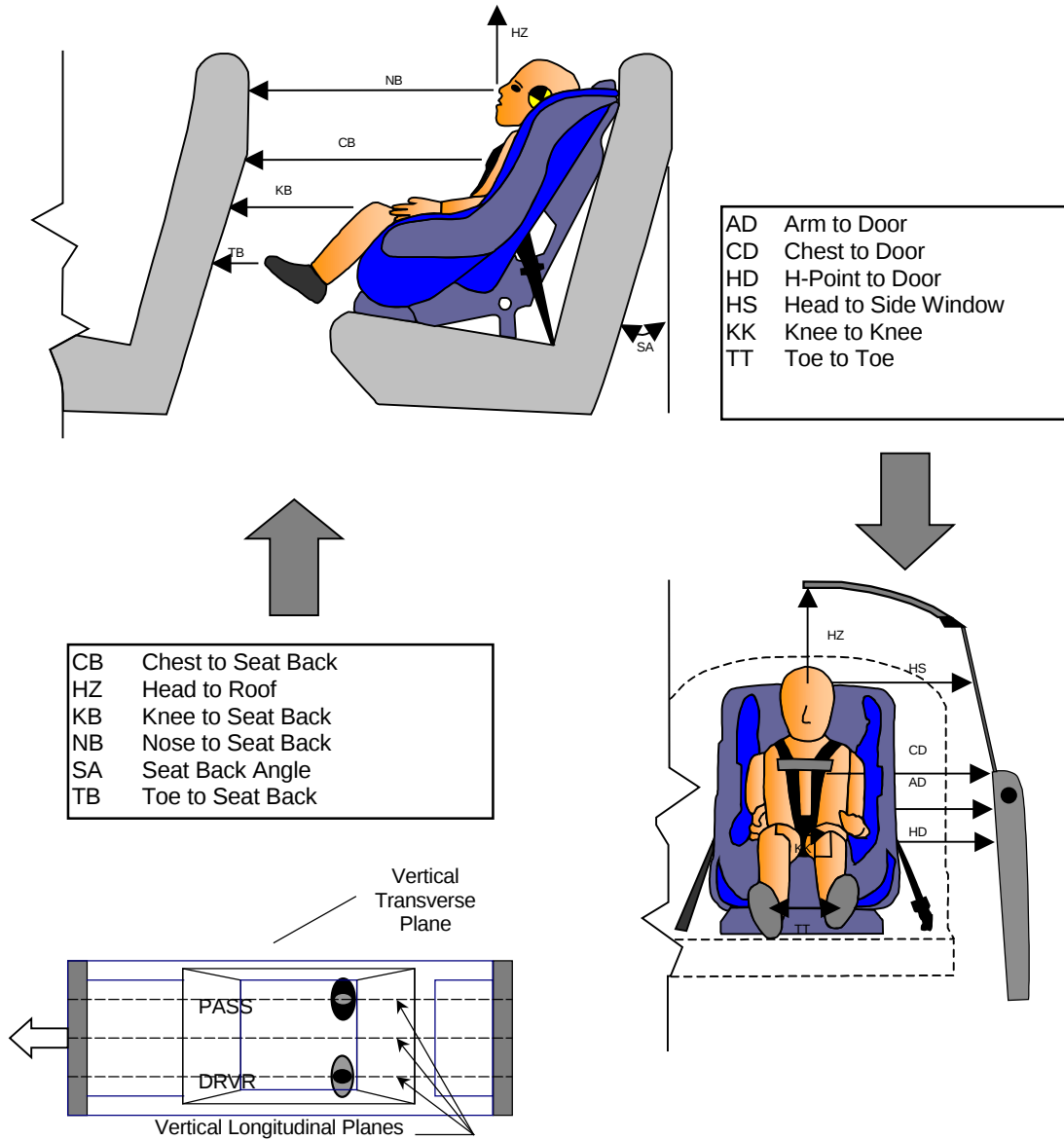
DATA SHEET NO.3.....CHILD DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan

NHTSA No.: M45300

Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03



DUMMY MEASUREMENTS FOR REAR SEAT OCCUPANTS

SECTION F-1

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

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan

NHTSA No.: M45300

Test Program 2004 NHTSA 35mph NCAP

Test Date: 12/19/03

CHILD DUMMY POSITION MEASUREMENTS

Code	Measurement	Units	P3 CRS Serial No. 139			P4 CRS Serial No. 082		
			Pre-Test	Post-Test	Diff.	Pre-Test	Post-Test	Diff.
SA	Seat Back Angle	deg.	30	30	0	30	30	0
HZ	Head to Roof (Z)	mm	235	325	90	285	265	-20
CD	Chest to Dash	mm	425	420	-5	405	410	5
KK	Knee to Knee (Y)	mm	190	192	2	220	230	10
HS	Head to Side Window	mm	400	405	5	390	420	30
HD	H-Point to Door (Y)	mm	330	350	20	315	355	40
AD	Arm to Door	mm	280	290	10	270	290	20
NB	Nose to Seat Back	mm	580	600	20	565	590	25
CB	Chest to Seat Back	mm	572	610	38	545	565	20
FF	Foot to Foot	mm	205	215	10	240	330	90
KB-Left	Knee to Seat Back	mm	355	415	60	315	350	35
KB-Right	Knee to Seat Back	mm	378	420	42	295	835	540
TB-Left	Toe to Seat Back	mm	80	100	20	90	65	-25
TB-Right	Toe to Seat Back	mm	80	90	10	85	78	-7

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

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan

NHTSA No.: M45300

Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Left Rear (3 Yr.)				Right Rear (3 Yr.)			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	45.1	193.3	-31.7	99.7	48.4	199.5	-28.7	82.2
Head CG	Y	G's	11.9	99.7	-11.4	104.3	4.7	193.5	-3.4	77.3
Head CG	Z	G's	63.1	79.8	-11.3	45.0	56.6	83.0	-10.1	44.1
Head CG Resultant	N/A	G's	65.5	79.8			63.1	82.8		

PRIMARY HEAD INJURY CRITERIAS (HIC)

Location	Left Rear (3 Yr.)				Right Rear (3 Yr.)			
	HIC	T ¹	T ²	Avg G	HIC	T ¹	T ²	Avg G
Head CG Primary (HIC36)	710.1	64.8	100.8	52.2	646.1	65.3	101.3	50.3
Head CG Primary (HIC15)	439.0	71.7	86.7	61.1	423.1	73.8	88.8	60.2

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Left Rear (3 Yr.)				Right Rear (3 Yr.)			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	5.6	182.1	-34.9	78.8	8.0	187.7	-38.1	87.0
Chest CG	Y	G's	2.3	179.4	-4.5	59.5	4.2	77.0	-3.6	66.6
Chest CG	Z	G's	17.0	83.7	-40.1	55.8	14.6	200.0	-34.6	61.8
Chest CG Resultant	N/A	G's	49.8	55.1			48.4	63.1		

PRIMARY CHEST CLIP (3MSEC)

Location	Left Rear (3 Yr.)			Right Rear (3 Yr.)		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Primary	48.5	53.8	56.8	47.5	61.3	64.3

CHEST PEAK DISPLACEMENTS

Location	Axis	Units	Left Rear (3 Yr.)				Right Rear (3 Yr.)			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	MM	0.0	17.1	-22.7	94.9	0.0	0.0	-11.4	104.0

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Left Rear (3 Yr.)				Right Rear (3 Yr.)			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	7.0	114.8	-37.0	45.0	6.1	143.2	-48.3	58.9
Pelvis	Y	G's	4.1	199.5	-9.9	48.3	11.6	88.3	-4.6	78.3
Pelvis	Z	G's	10.3	200.0	-40.1	56.3	14.0	200.0	-31.3	60.9
Pelvis Resultant	N/A	G's	54.1	56.3			56.7	59.7		

DATA SHEET NO. 4...(continued)Test Vehicle: 2004 Acura 3.2 TL 4 Door SedanNHTSA No.: M45300Test Program: 2004 NHTSA 35mph NCAPTest Date: 12/19/03**UPPER NECK PEAK FORCES AND MOMENTS**

Location	Axis	Units	Left Rear (3 Yr.)				Right Rear (3 Yr.)			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	11.4	182.0	-657.1	94.6	3.7	164.5	-811.6	84.7
Neck Force	Y	Newtons	20.9	107.3	-115.7	75.7	42.4	190.2	-77.4	74.8
Neck Force	Z	Newtons	1815.1	80.3	-311.8	45.5	1909.8	86.4	-376.8	200.0
Neck Force Resultant	N/A	Newtons	1880.7	80.3			2069.8	86.4		
Neck Moment	X	Nm	3.5	197.4	-6.2	72.7	3.7	198.8	-7.0	81.5
Neck Moment	Y	Nm	4.9	79.3	-9.7	46.9	2.8	158.8	-15.0	200.0
Neck Moment	Z	Nm	1.5	153.3	-1.1	184.9	2.6	106.3	-1.5	148.4
Neck Moment Resultant	N/A	Nm	9.9	47.3			15.5	200.0		

LOWER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Left Rear (3 Yr.)				Right Rear (3 Yr.)			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	203.7	194.7	-1390.8	84.7	202.0	190.4	-641.7	84.8
Neck Force	Y	Newtons	43.6	47.7	-211.4	77.1	72.6	191.0	-90.1	72.7
Neck Force	Z	Newtons	1089.8	79.6	-443.3	46.4	740.2	83.3	-381.8	45.1
Neck Force Resultant	N/A	Newtons	1733.5	80.0			963.9	83.3		
Neck Moment	X	Nm	2.8	43.6	-23.7	77.5	4.0	189.1	-17.2	78.7
Neck Moment	Y	Nm	111.5	85.4	-12.9	193.2	121.7	84.4	-13.4	190.4
Neck Moment	Z	Nm	3.1	108.9	-10.0	77.0	2.3	187.2	-12.8	78.8
Neck Moment Resultant	N/A	Nm	113.9	85.4			122.9	84.3		

CHILD SEAT TETHER BELT SENSOR PEAK VALUES

Location	Axis	Units	Left Rear (3 Yr.)				Right Rear (3 Yr.)			
			Max	Time	Min	Time	Max	Time	Min	Time
Car Seat Upper Tether Force	N/A	Newtons	2817.5	63.6	-58.9	140.6	2957.9	80.1	-152.7	133.6

CHILD SEAT ACCELEROMETER PEAK VALUES

Location	Axis	Units	Left Rear (3 Yr.)				Right Rear (3 Yr.)			
			Max	Time	Min	Time	Max	Time	Min	Time
Child Seat	X	G's	10.8	194.2	-44.5	60.9	12.6	190.8	-56.5	56.4
Child Seat	Y	G's	3.8	200.0	-5.2	42.2	12.5	59.0	-4.6	30.3
Child Seat	Z	G's	9.7	91.6	-14.5	66.8	9.7	31.5	-18.4	58.2
Child Seat Resultant	N/A	G's	45.8	61.2			58.2	57.0		

SECTION F-1

DATA SHEET NO.5CRS PERFORMANCE DATA

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan

NHTSA No.: M45300

Test Program: 2004 NHTSA 35mph NCAP

Test Date: 12/19/03

Location	P3 CRS Serial No. 139		P4 CRS Serial No. 082	
	Damage	Post-Test	Damage	Post-Test
Upper Tether Strap	No	None	No	None
Upper Tether Buckle	No	None	No	None
Upper Tether Hook	No	None	No	None
Veh. Upper Tether Anchor	No	None	No	None
Lower Anchor Strap	No	None	No	None
Lower Anchor Buckle	No	None	No	None
Lower Anchor Hooks	No	None	No	None
Veh. Lower CRS Anchors	No	None	No	None
5 Point Harness Connections	No	None	No	None
Cracks on CRS	No	None	No	None
Fabric Tears on CRS	No	None	No	None
Vehicle Seat Structure	No	None	No	None
Vehicle Seat Fabric Tears	No	None	No	None

SECTION F-1**DATA SHEET NO.6CRS CAMERA DATA**Test Vehicle: 2004 Acura 3.2 TL 4 Door SedanNHTSA No.: M45300Test Program 2004 NHTSA 35mph NCAPTest Date: 12/19/03**CAMERA LOCATIONS**

No.	Camera View	Location(mm)			Angle (Deg.)	Film Plane to Head	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Driver Side Child Dummy	3353	1930	2286	25	1897	6	1020
2	Passenger Side Child Dummy	3353	-1930	2286	25	1897	6	1000

X = Barrier Face Y = Monorail Centerline Z = Ground DNR = Did Not Run

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PHOTOGRAPHS

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Manufactured in 22NOV03
Model # 3691261 P1

The image shows a close-up of a white, rectangular label with rounded corners, placed on a dark, textured surface. The label contains two lines of bold, black, sans-serif text. The first line reads 'Manufactured in 22NOV03' and the second line reads 'Model # 3691261 P1'. To the left of the label, a portion of a purple and white checkered fabric is visible. Above the label, there are some circular indentations on the dark surface, possibly from a coin or a similar object.

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



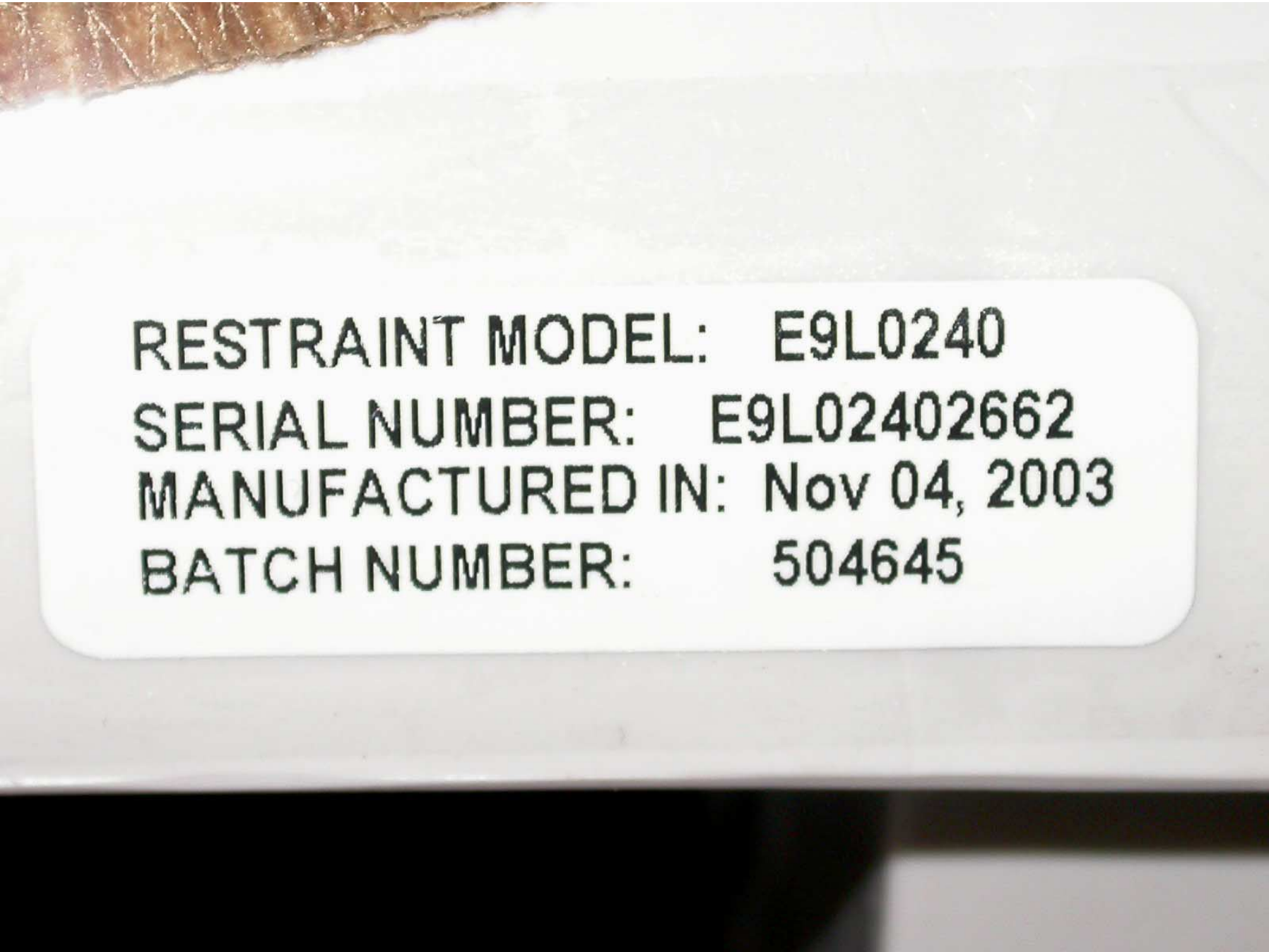
Figure F2-14: Pre-Test Position 3 Right Side View



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



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



A close-up photograph of a white, rectangular label with rounded corners, affixed to a light-colored surface. The label contains four lines of black, sans-serif text. The top line reads 'RESTRAINT MODEL: E9L0240'. The second line reads 'SERIAL NUMBER: E9L02402662'. The third line reads 'MANUFACTURED IN: Nov 04, 2003'. The bottom line reads 'BATCH NUMBER: 504645'. The background shows a textured, brownish surface at the top and a dark, out-of-focus area at the bottom.

RESTRAINT MODEL: E9L0240
SERIAL NUMBER: E9L02402662
MANUFACTURED IN: Nov 04, 2003
BATCH NUMBER: 504645

Figure F2-17: Close-up View Position 4 CRS Label



Figure F2-18: Pre-Test Frontal View of Position 4 CRS



Figure F2-19: Post-Test Front View of Position 4 CRS



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



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



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



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



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



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



Figure F2-26: Pre-Test Position 4 Front View



Figure F2-27: Post-Test Position 4 Front View



Figure F2-28: Pre-Test Position 4 Left Side View



Figure F2-29: Post-Test Position 4 Left Side View



Figure F2-30: Pre-Test Position 4 Right Side View



Figure F2-31: Post-Test Position 4 Right Side View



Figure F2-32: Post-Test Position 4 Contact Point (Back of Left Front Seat)

SECTION F-3

CHILD DUMMY RESPONSE AND CRS DATA TRACES

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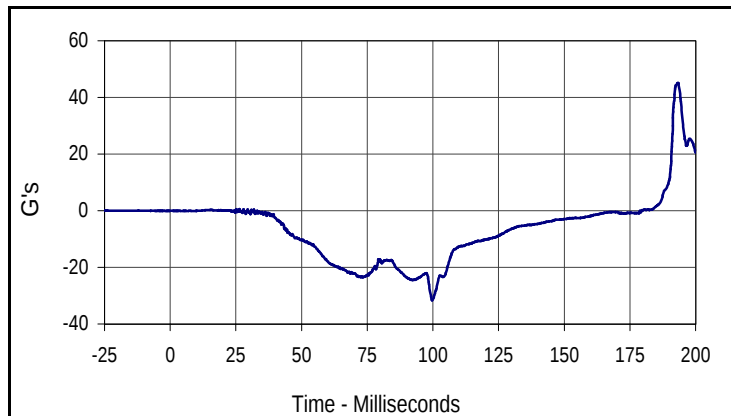
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LIST OF DATA PLOTS #3

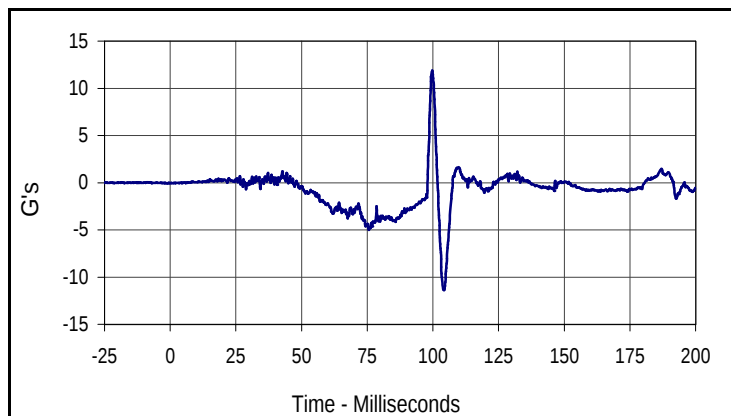
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	Right Rear Child (3 yr. old) Upper Neck Force Y	F3-12
	Right Rear Child (3 yr. old) Upper Neck Force Z	F3-12
	Right Rear Child (3 yr. old) Upper Neck Force Resultant	F3-12
F3-13	Right Rear Child (3 yr. old) Upper Neck Moment X	F3-13
	Right Rear Child (3 yr. old) Upper Neck Moment Y	F3-13
	Right Rear Child (3 yr. old) Upper Neck Moment Z	F3-13
	Right Rear Child (3 yr. old) Upper Neck Moment Resultant	F3-13
F3-14	Right Rear Child (3 yr. old) Lower Neck Force X	F3-14
	Right Rear Child (3 yr. old) Lower Neck Force Y	F3-14
	Right Rear Child (3 yr. old) Lower Neck Force Z	F3-14
	Right Rear Child (3 yr. old) Lower Neck Force Resultant	F3-14
F3-15	Right Rear Child (3 yr. old) Lower Neck Moment X	F3-15
	Right Rear Child (3 yr. old) Lower Neck Moment Y	F3-15
	Right Rear Child (3 yr. old) Lower Neck Moment Z	F3-15
	Right Rear Child (3 yr. old) Lower Neck Moment Resultant	F3-15
F3-16	Right Rear Child (3 yr. old) Chest X	F3-16
	Right Rear Child (3 yr. old) Chest Y	F3-16
	Right Rear Child (3 yr. old) Chest Z	F3-16
	Right Rear Child (3 yr. old) Chest Resultant	F3-16
F3-17	Right Rear Child (3 yr. old) Chest Displacement	F3-17
F3-18	Right Rear Child (3 yr. old) Pelvis X	F3-18
	Right Rear Child (3 yr. old) Pelvis Y	F3-18
	Right Rear Child (3 yr. old) Pelvis Z	F3-18
	Right Rear Child (3 yr. old) Pelvis Resultant	F3-18
F3-19	Right Rear Child (3 yr. old) Car Seat Upper Tether Force	F3-19
F3-20	Right Rear Child (3 yr. old) Car Seat X	F3-20
	Right Rear Child (3 yr. old) Car Seat Y	F3-20
	Right Rear Child (3 yr. old) Car Seat Z	F3-20
	Right Rear Child (3 yr. old) Car Seat Resultant	F3-20

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

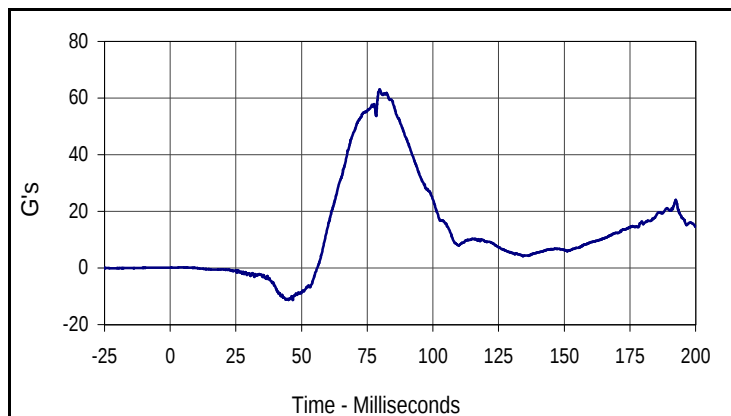
Test Date: 12/19/03
 NHTSA No.: M45300



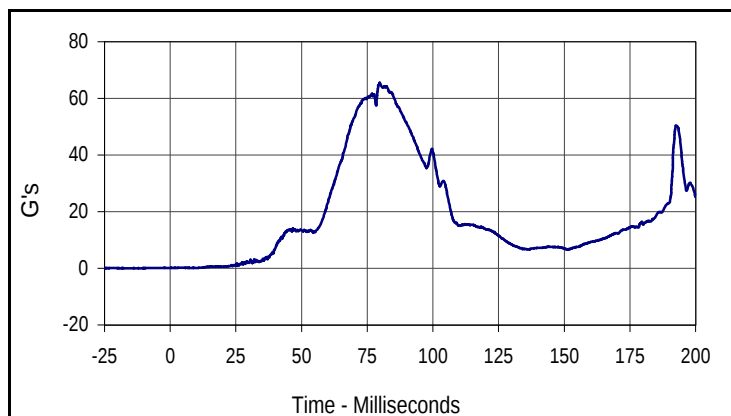
Curve Description			
Left Rear (3 Yr.) Head X			
CURNO	Type	SAE Class	Units
134	FIL	1000	G's
Max	Time	Min	Time
45.1	193.3	-31.7	99.7



Curve Description			
Left Rear (3 Yr.) Head Y			
CURNO	Type	SAE Class	Units
135	FIL	1000	G's
Max	Time	Min	Time
11.9	99.7	-11.4	104.3



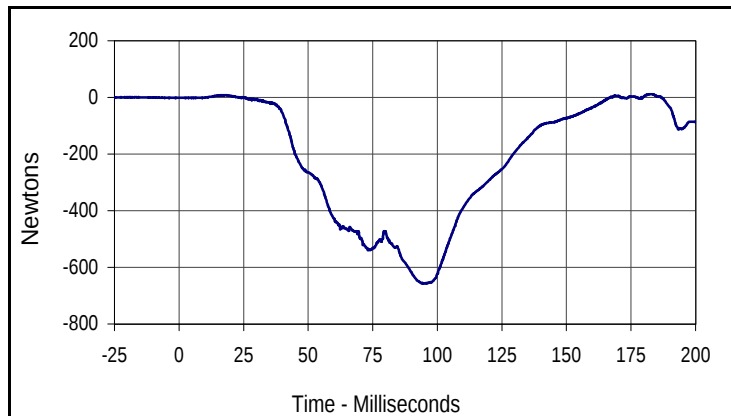
Curve Description			
Left Rear (3 Yr.) Head Z			
CURNO	Type	SAE Class	Units
136	FIL	1000	G's
Max	Time	Min	Time
63.1	79.8	-11.3	45.0



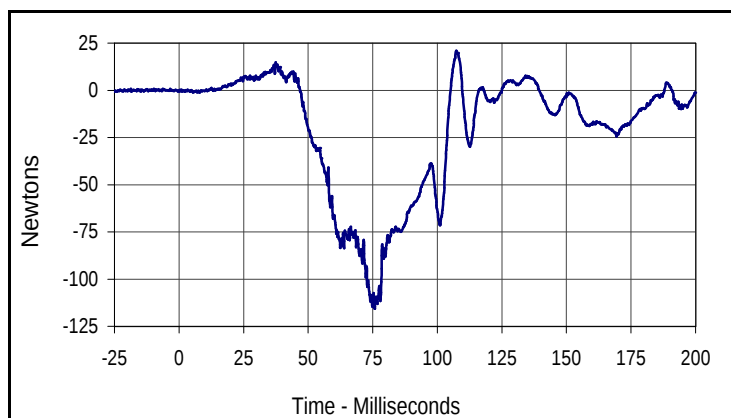
Curve Description			
Left Rear (3 Yr.) Head Resultant			
CURNO	Type	SAE Class	Units
134	RES	1000	G's
Max	Time	Min	Time
65.5	79.8	0.1	10.2

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

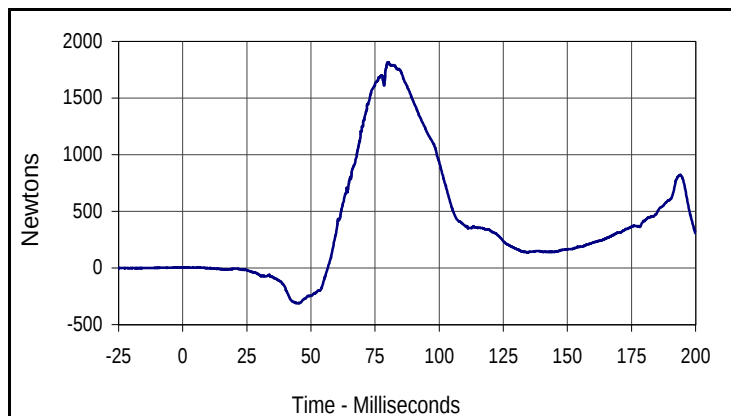
Test Date: 12/19/03
 NHTSA No.: M45300



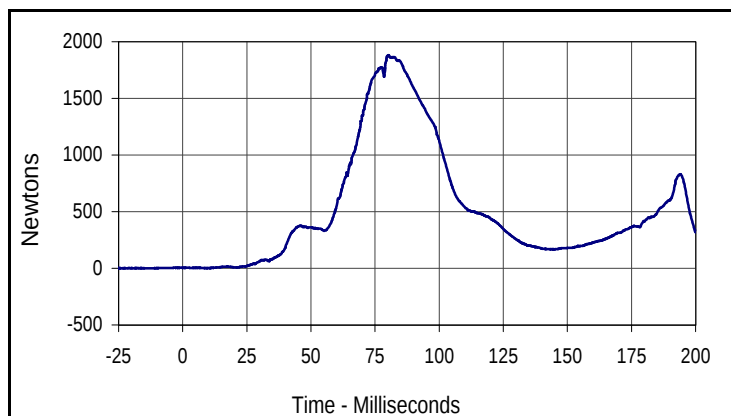
Curve Description			
Left Rear (3 Yr.) Upper Neck Force X			
CURNO	Type	SAE Class	Units
137	FIL	1000	Newtons
Max	Time	Min	Time
11.4	182.0	-657.1	94.6



Curve Description			
Left Rear (3 Yr.) Upper Neck Force Y			
CURNO	Type	SAE Class	Units
138	FIL	1000	Newtons
Max	Time	Min	Time
20.9	107.3	-115.7	75.7



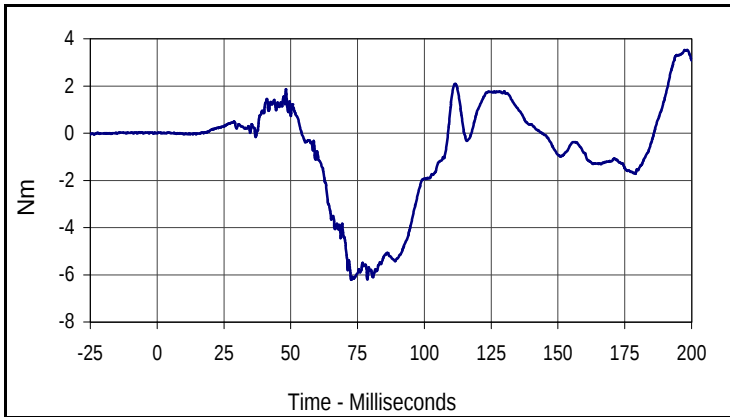
Curve Description			
Left Rear (3 Yr.) Upper Neck Force Z			
CURNO	Type	SAE Class	Units
139	FIL	1000	Newtons
Max	Time	Min	Time
1815.1	80.3	-311.8	45.5



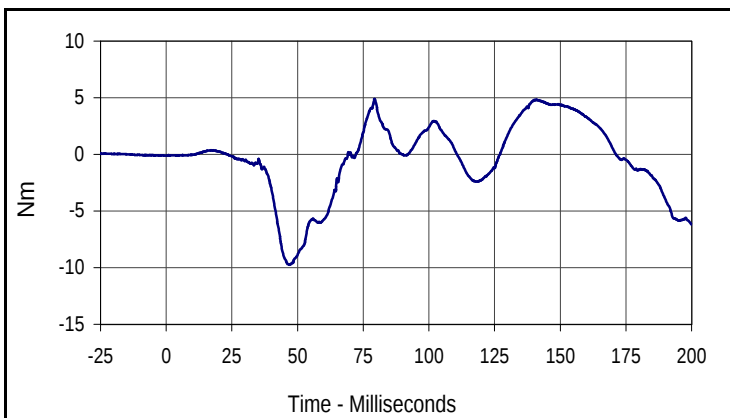
Curve Description			
Left Rear (3 Yr.) Upper Neck Force Res.			
CURNO	Type	SAE Class	Units
137	RES	1000	Newtons
Max	Time	Min	Time
1880.7	80.3	0.3	10.7

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

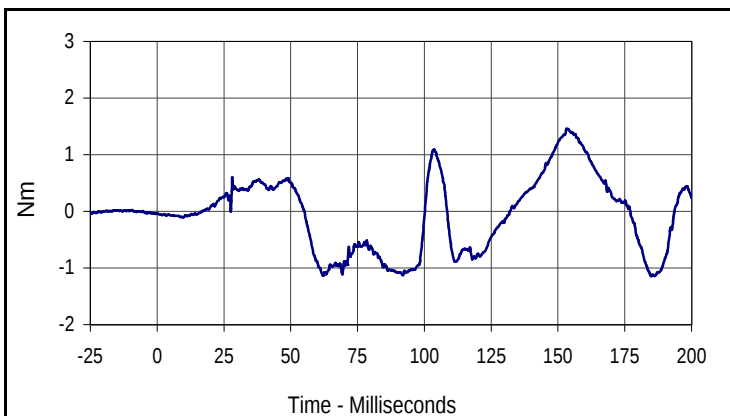
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 NHTSA No.: M45300



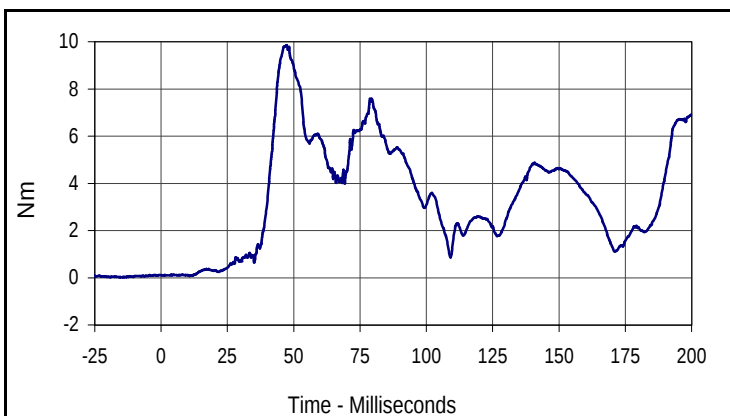
Curve Description			
Left Rear (3 Yr.) Upper Neck Moment X			
CURNO	Type	SAE Class	Units
140	FIL	600	Nm
Max	Time	Min	Time
3.5	197.4	-6.2	72.7



Curve Description			
Left Rear (3 Yr.) Upper Neck Moment Y			
CURNO	Type	SAE Class	Units
141	FIL	600	Nm
Max	Time	Min	Time
4.9	79.3	-9.7	46.9



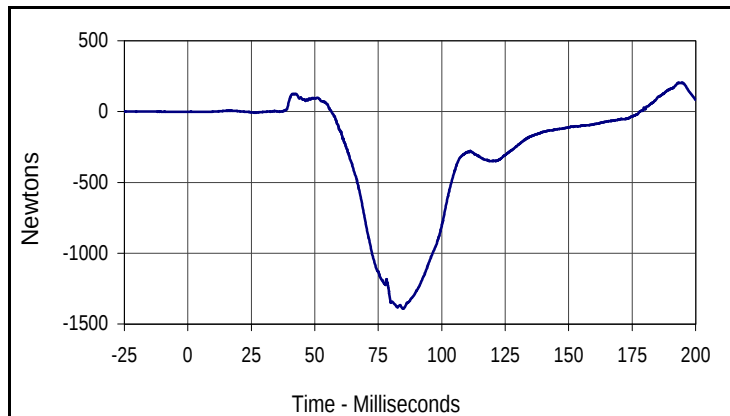
Curve Description			
Left Rear (3 Yr.) Upper Neck Moment Z			
CURNO	Type	SAE Class	Units
142	FIL	600	Nm
Max	Time	Min	Time
1.5	153.3	-1.1	184.9



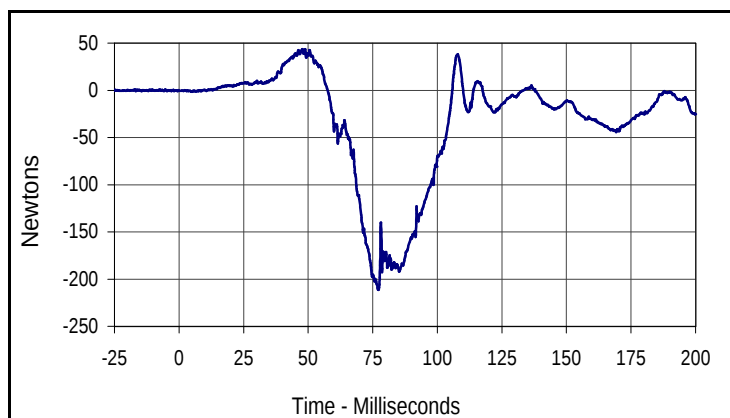
Curve Description			
Left Rear (3 Yr.) Upper Neck Moment Res.			
CURNO	Type	SAE Class	Units
140	RES	600	Nm
Max	Time	Min	Time
9.9	47.3	0.1	10.7

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

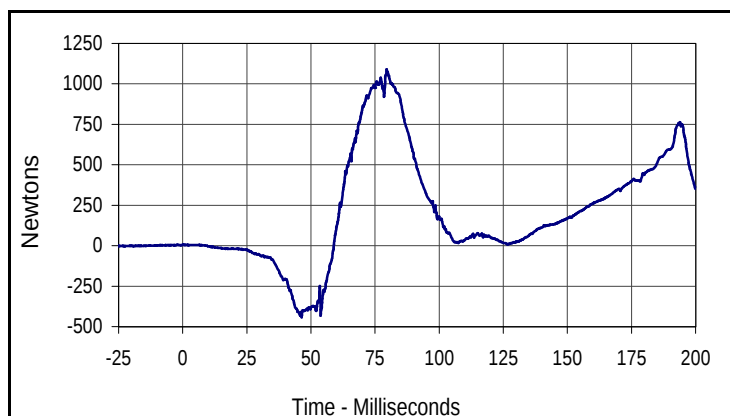
Test Date: 12/19/03
 NHTSA No.: M45300



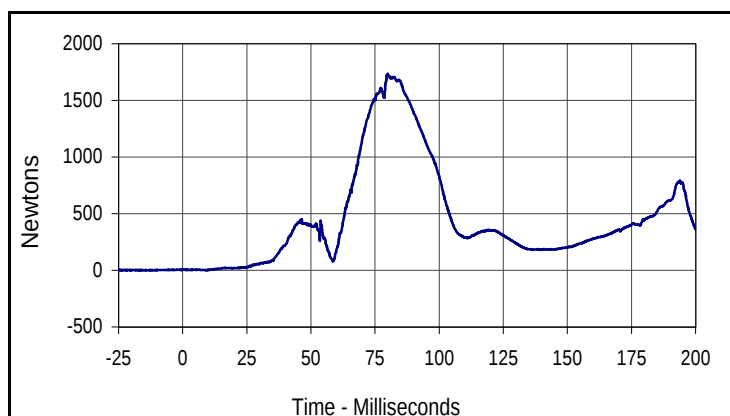
Curve Description			
Left Rear (3 Yr.) Lower Neck Force X			
CURNO	Type	SAE Class	Units
143	FIL	1000	Newtons
Max	Time	Min	Time
203.7	194.7	-1390.8	84.7



Curve Description			
Left Rear (3 Yr.) Lower Neck Force Y			
CURNO	Type	SAE Class	Units
144	FIL	1000	Newtons
Max	Time	Min	Time
43.6	47.7	-211.4	77.1



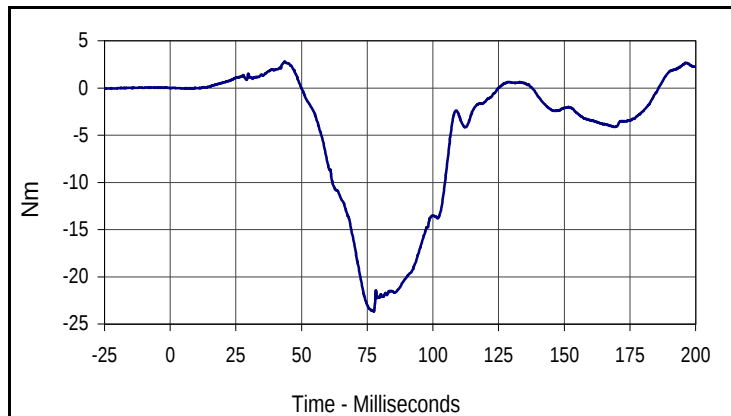
Curve Description			
Left Rear (3 Yr.) Lower Neck Force Z			
CURNO	Type	SAE Class	Units
145	FIL	1000	Newtons
Max	Time	Min	Time
1089.8	79.6	-443.3	46.4



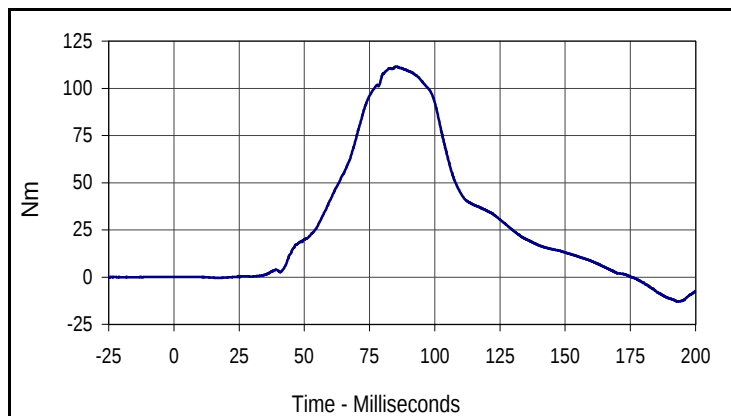
Curve Description			
Left Rear (3 Yr.) Lower Neck Force Res.			
CURNO	Type	SAE Class	Units
143	RES	1000	Newtons
Max	Time	Min	Time
1733.5	80.0	0.8	9.4

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

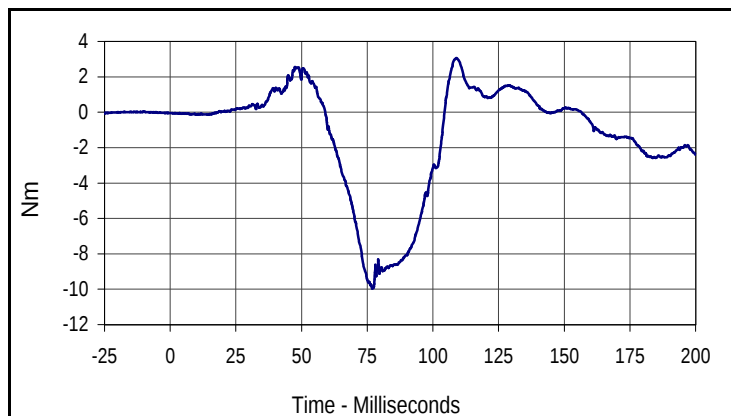
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 NHTSA No.: M45300



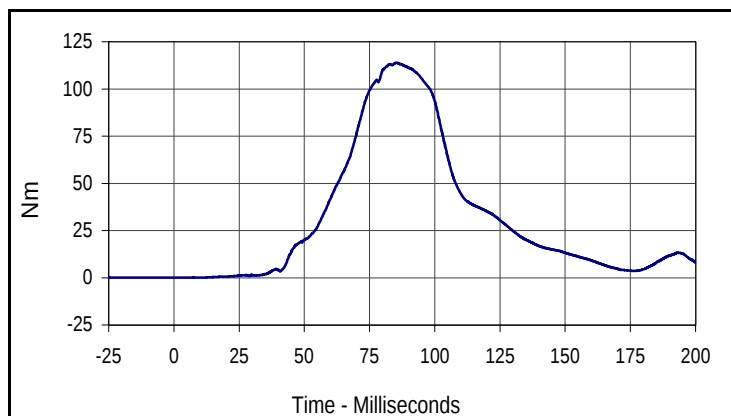
Curve Description			
Left Rear (3 Yr.) Lower Neck Moment X			
CURNO	Type	SAE Class	Units
146	FIL	600	Nm
Max	Time	Min	Time
2.8	43.6	-23.7	77.5



Curve Description			
Left Rear (3 Yr.) Lower Neck Moment Y			
CURNO	Type	SAE Class	Units
147	FIL	600	Nm
Max	Time	Min	Time
111.5	85.4	-12.9	193.2



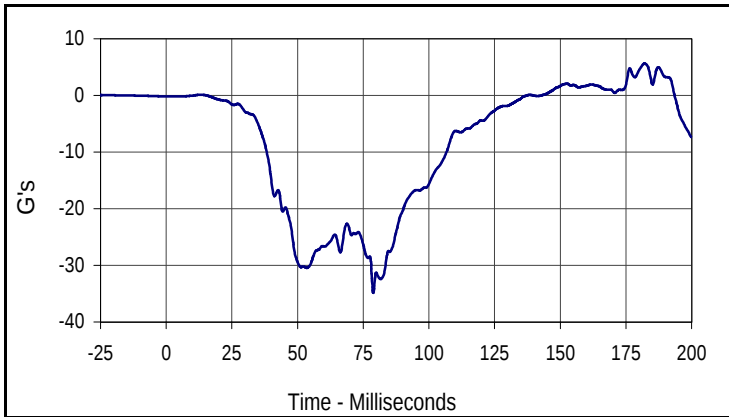
Curve Description			
Left Rear (3 Yr.) Lower Neck Moment Z			
CURNO	Type	SAE Class	Units
148	FIL	600	Nm
Max	Time	Min	Time
3.1	108.9	-10.0	77.0



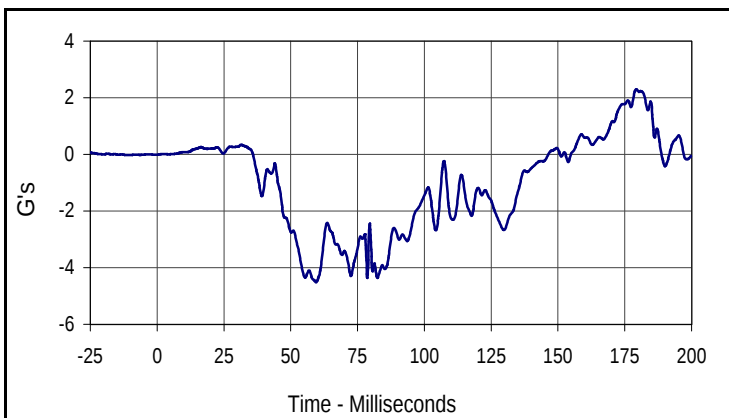
Curve Description			
Left Rear (3 Yr.) Lower Neck Moment Res.			
CURNO	Type	SAE Class	Units
146	RES	600	Nm
Max	Time	Min	Time
113.9	85.4	0.1	0.8

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

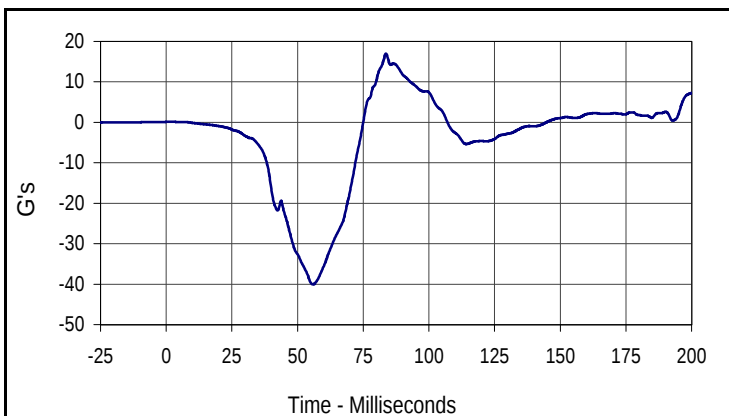
Test Date: 12/19/03
 NHTSA No.: M45300



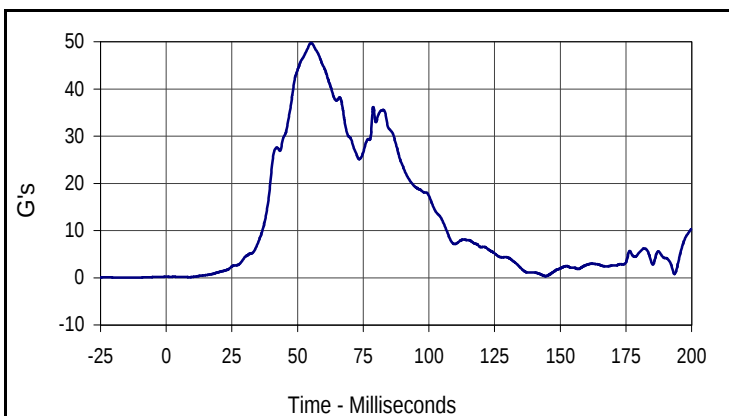
Curve Description			
Left Rear (3 Yr.) Chest X			
CURNO	Type	SAE Class	Units
149	FIL	180	G's
Max	Time	Min	Time
5.6	182.1	-34.9	78.8



Curve Description			
Left Rear (3 Yr.) Chest Y			
CURNO	Type	SAE Class	Units
150	FIL	180	G's
Max	Time	Min	Time
2.3	179.4	-4.5	59.5



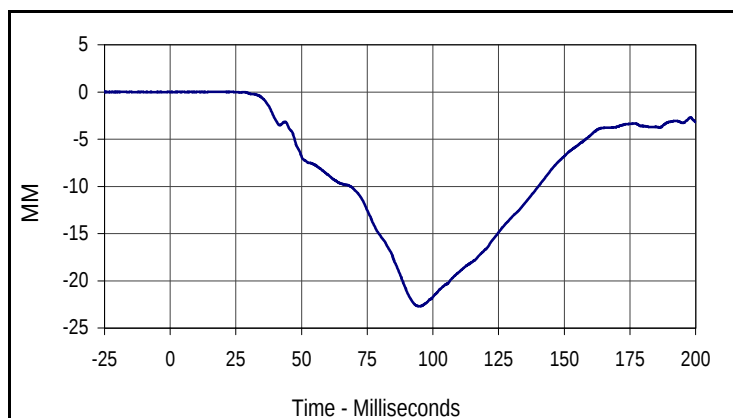
Curve Description			
Left Rear (3 Yr.) Chest Z			
CURNO	Type	SAE Class	Units
151	FIL	180	G's
Max	Time	Min	Time
17.0	83.7	-40.1	55.8



Curve Description			
Left Rear (3 Yr.) Chest Resultant			
CURNO	Type	SAE Class	Units
149	RES	180	G's
Max	Time	Min	Time
49.8	55.1	0.1	8.9

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
Test Program: 2004 NHTSA 35mph NCAP

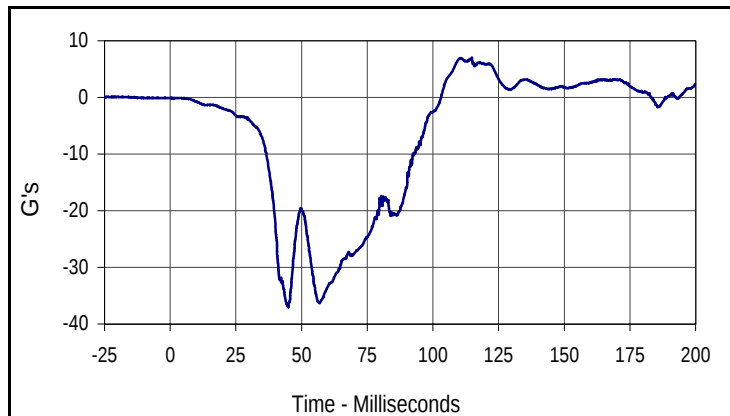
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NHTSA No.: M45300



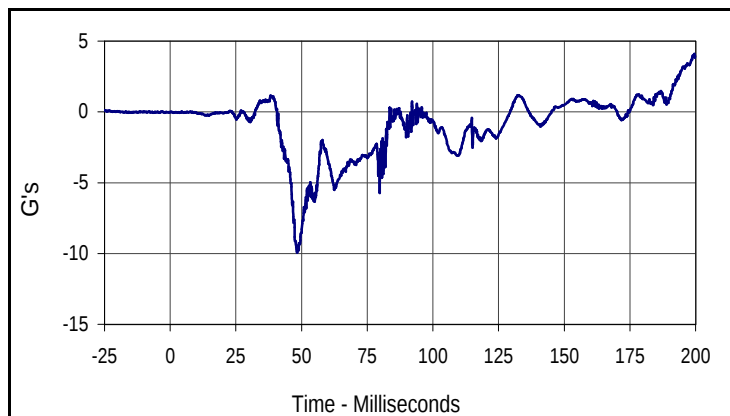
Curve Description			
Left Rear (3 Yr.) Chest Displacement			
CURNO	Type	SAE Class	Units
152	FIL	600	MM
Max	Time	Min	Time
0.0	17.1	-22.7	94.9

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

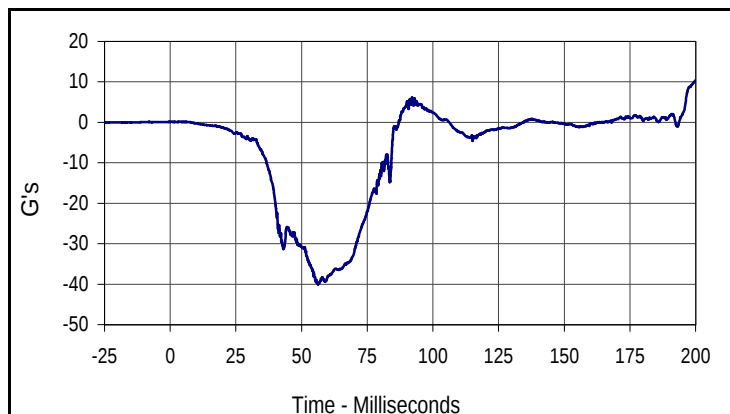
Test Date: 12/19/03
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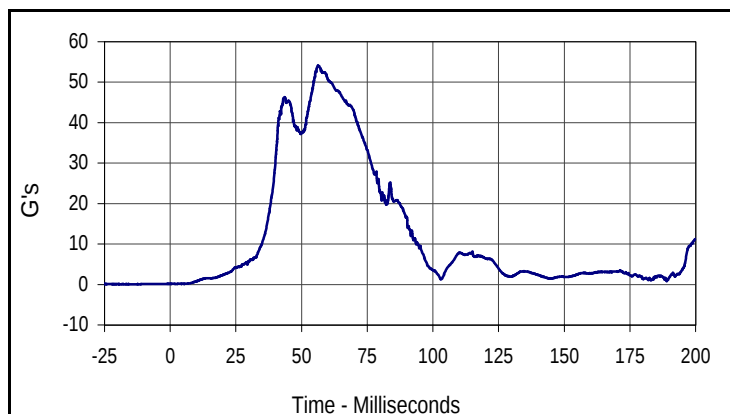
Curve Description			
Left Rear (3 Yr.) Pelvis X			
CURNO	Type	SAE Class	Units
153	FIL	1000	G's
Max	Time	Min	Time
7.0	114.8	-37.0	45.0



Curve Description			
Left Rear (3 Yr.) Pelvis Y			
CURNO	Type	SAE Class	Units
154	FIL	1000	G's
Max	Time	Min	Time
4.1	199.5	-9.9	48.3



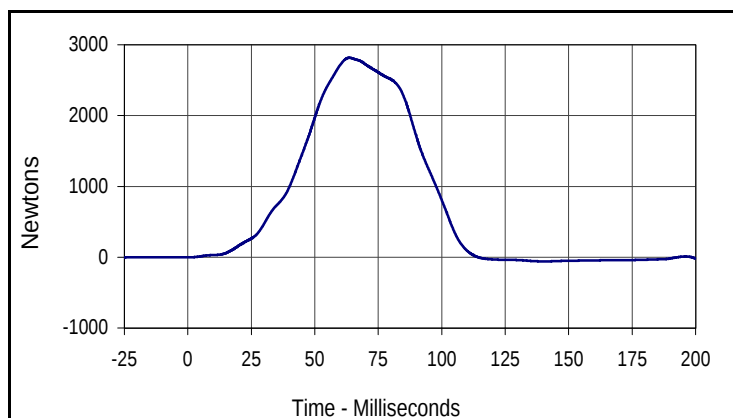
Curve Description			
Left Rear (3 Yr.) Pelvis Z			
CURNO	Type	SAE Class	Units
155	FIL	1000	G's
Max	Time	Min	Time
10.3	200.0	-40.1	56.3



Curve Description			
Left Rear (3 Yr.) Pelvis Resultant			
CURNO	Type	SAE Class	Units
153	RES	1000	G's
Max	Time	Min	Time
54.1	56.3	0.1	2.3

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

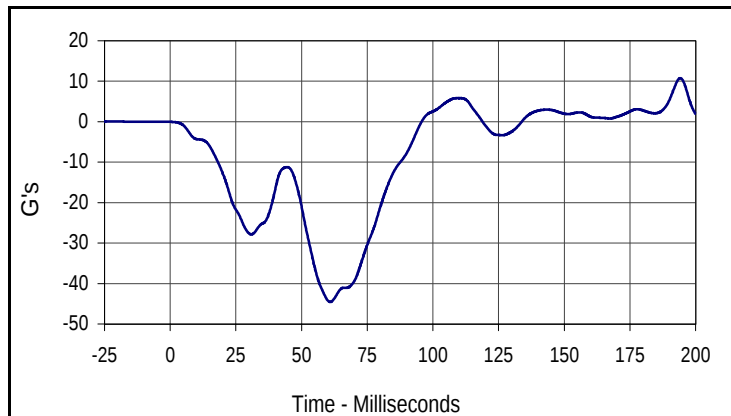
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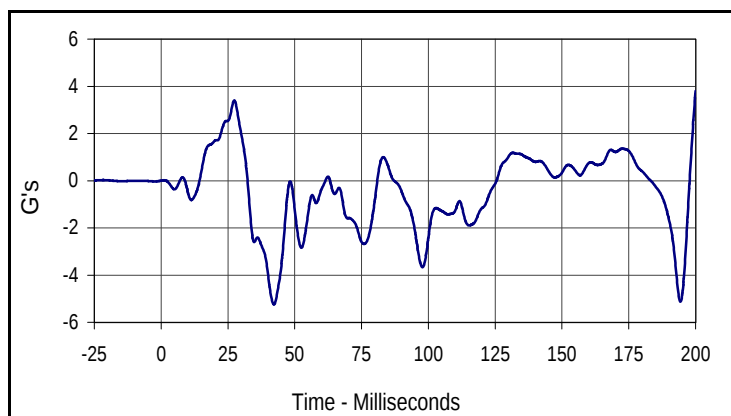
Curve Description			
Left Rear (3 Yr.) Car Seat Upper Tether Force			
CURNO	Type	SAE Class	Units
156	FIL	60	Newtons
Max	Time	Min	Time
2817.5	63.6	-58.9	140.6

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

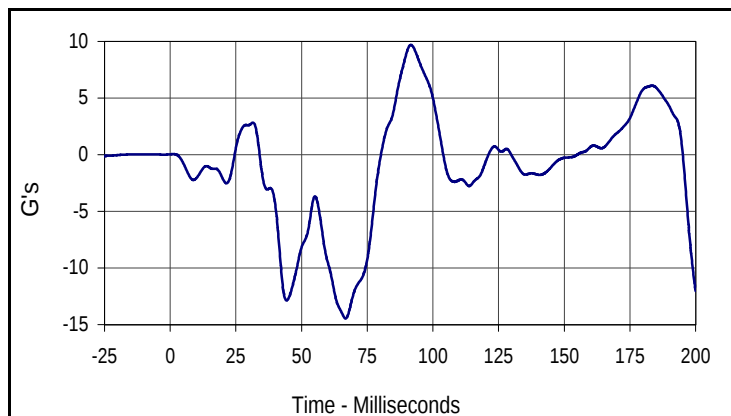
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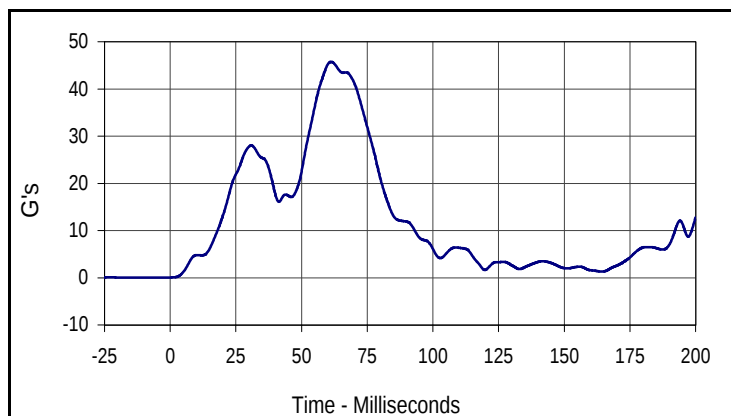
Curve Description			
Left Rear (3 Yr.) Car Seat X			
CURNO	Type	SAE Class	Units
157	FIL	60	G's
Max	Time	Min	Time
10.8	194.2	-44.5	60.9



Curve Description			
Left Rear (3 Yr.) Car Seat Y			
CURNO	Type	SAE Class	Units
158	FIL	60	G's
Max	Time	Min	Time
3.8	200.0	-5.2	42.2



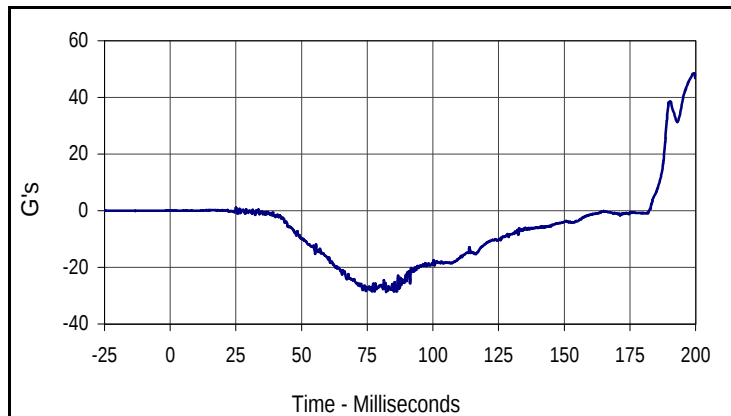
Curve Description			
Left Rear (3 Yr.) Car Seat Z			
CURNO	Type	SAE Class	Units
159	FIL	60	G's
Max	Time	Min	Time
9.7	91.6	-14.5	66.8



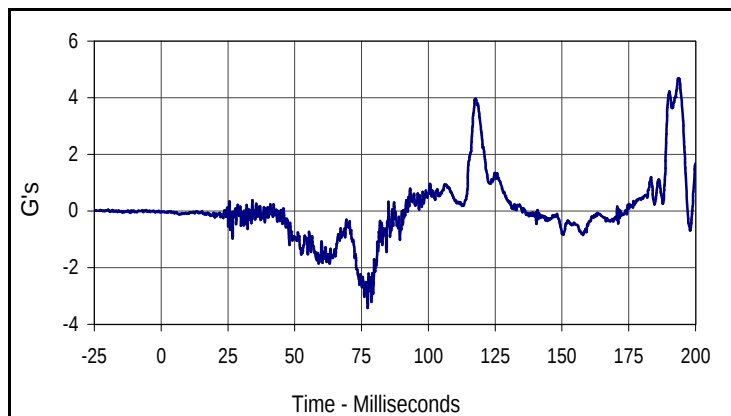
Curve Description			
Left Rear (3 Yr.) Car Seat Resultant			
CURNO	Type	SAE Class	Units
157	RES	60	G's
Max	Time	Min	Time
45.8	61.2	0.1	0.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

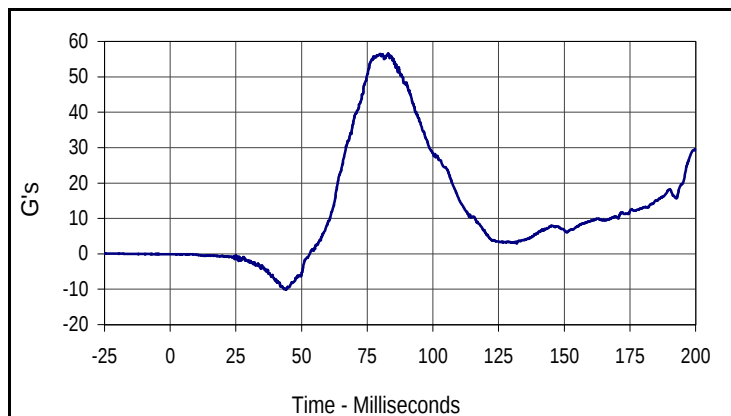
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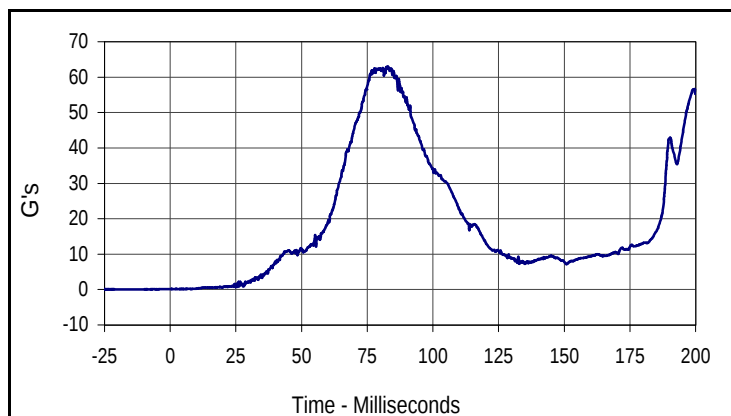
Curve Description			
Right Rear (3 Yr.) Head X			
CURNO	Type	SAE Class	Units
160	FIL	1000	G's
Max	Time	Min	Time
48.4	199.5	-28.7	82.2



Curve Description			
Right Rear (3 Yr.) Head Y			
CURNO	Type	SAE Class	Units
161	FIL	1000	G's
Max	Time	Min	Time
4.7	193.5	-3.4	77.3



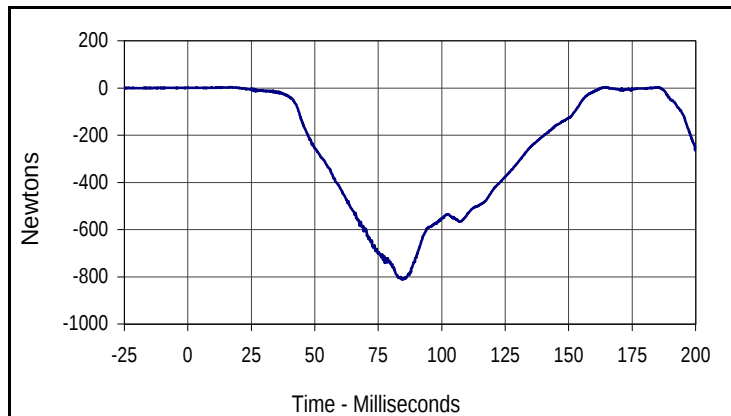
Curve Description			
Right Rear (3 Yr.) Head Z			
CURNO	Type	SAE Class	Units
162	FIL	1000	G's
Max	Time	Min	Time
56.6	83.0	-10.1	44.1



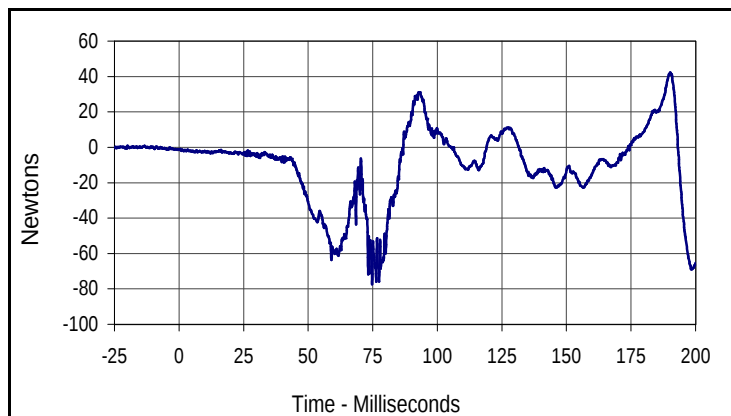
Curve Description			
Right Rear (3 Yr.) Head Resultant			
CURNO	Type	SAE Class	Units
160	RES	1000	G's
Max	Time	Min	Time
63.1	82.8	0.1	1.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

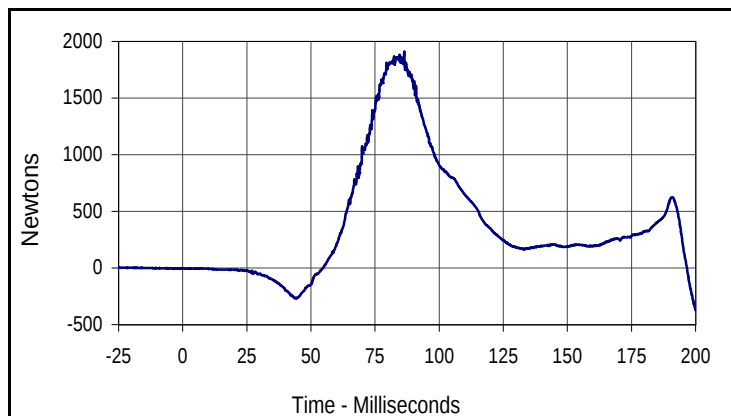
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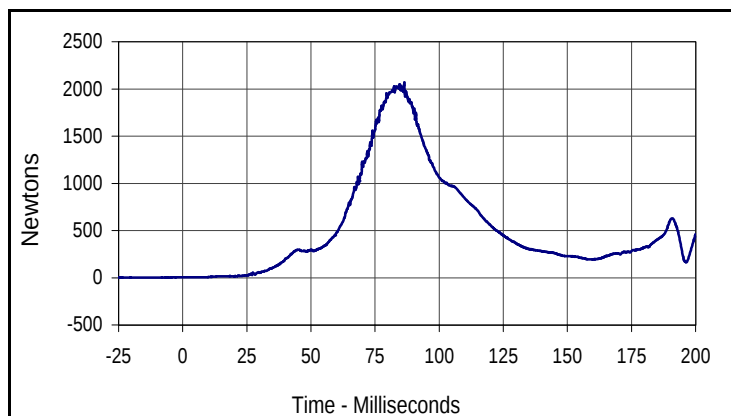
Curve Description			
Right Rear (3 Yr.) Upper Neck Force X			
CURNO	Type	SAE Class	Units
163	FIL	1000	Newtons
Max	Time	Min	Time
3.7	164.5	-811.6	84.7



Curve Description			
Right Rear (3 Yr.) Upper Neck Force Y			
CURNO	Type	SAE Class	Units
164	FIL	1000	Newtons
Max	Time	Min	Time
42.4	190.2	-77.4	74.8



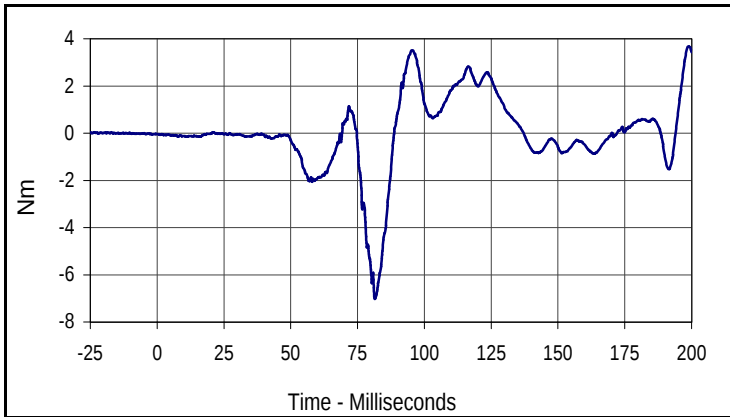
Curve Description			
Right Rear (3 Yr.) Upper Neck Force Z			
CURNO	Type	SAE Class	Units
165	FIL	1000	Newtons
Max	Time	Min	Time
1909.8	86.4	-376.8	200.0



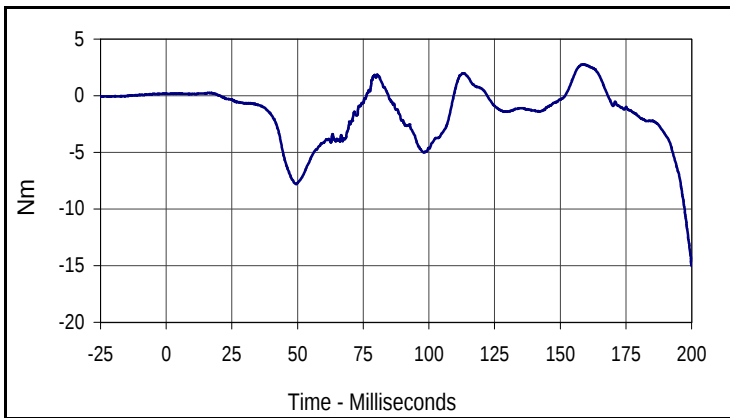
Curve Description			
Right Rear (3 Yr.) Upper Neck Force Res.			
CURNO	Type	SAE Class	Units
163	RES	1000	Newtons
Max	Time	Min	Time
2069.8	86.4	3.6	6.8

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

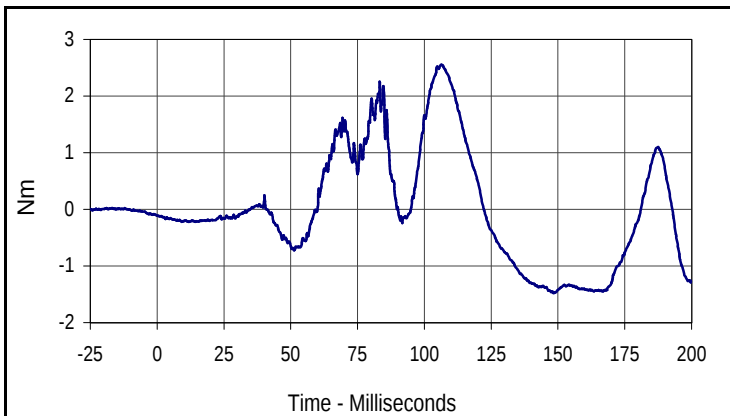
Test Date: 12/19/03
 NHTSA No.: M45300



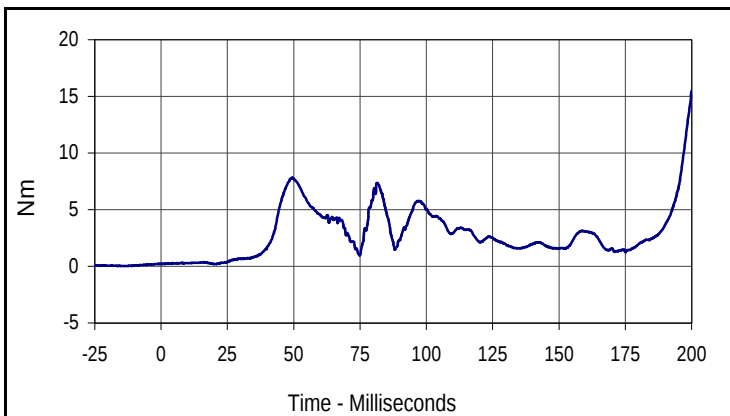
Curve Description			
Right Rear (3 Yr.) Upper Neck Moment X			
CURNO	Type	SAE Class	Units
166	FIL	600	Nm
Max	Time	Min	Time
3.7	198.8	-7.0	81.5



Curve Description			
Right Rear (3 Yr.) Upper Neck Moment Y			
CURNO	Type	SAE Class	Units
167	FIL	600	Nm
Max	Time	Min	Time
2.8	158.8	-15.0	200.0



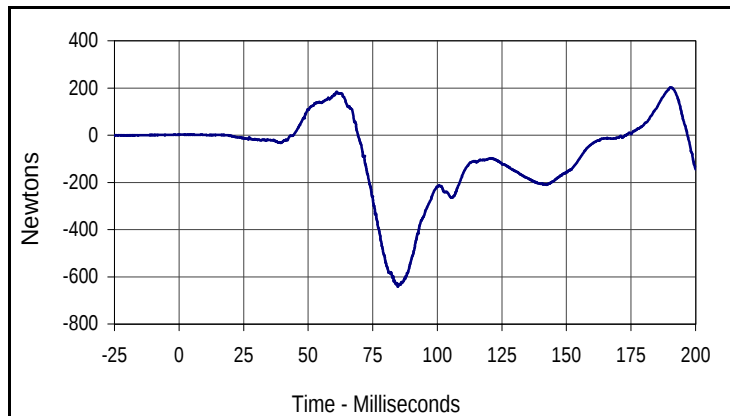
Curve Description			
Right Rear (3 Yr.) Upper Neck Moment Z			
CURNO	Type	SAE Class	Units
168	FIL	600	Nm
Max	Time	Min	Time
2.6	106.3	-1.5	148.4



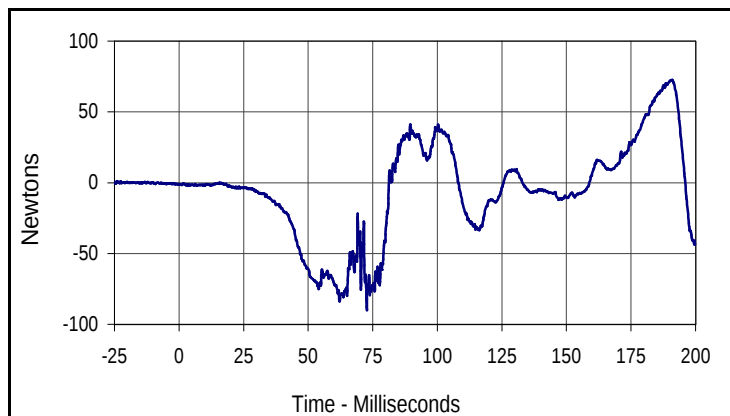
Curve Description			
Right Rear (3 Yr.) Upper Neck Moment Res.			
CURNO	Type	SAE Class	Units
166	RES	600	Nm
Max	Time	Min	Time
15.5	200.0	0.2	20.4

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

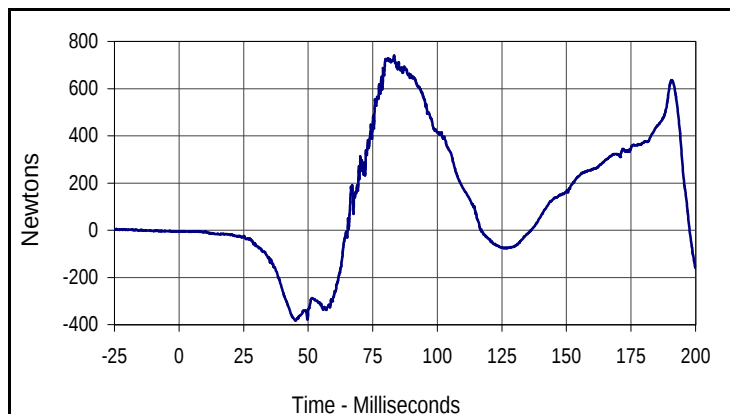
Test Date: 12/19/03
 NHTSA No.: M45300



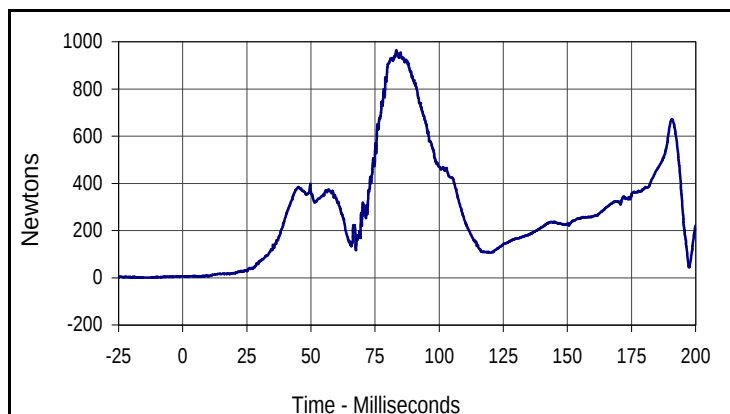
Curve Description			
Right Rear (3 Yr.) Lower Neck Force X			
CURNO	Type	SAE Class	Units
169	FIL	1000	Newtons
Max	Time	Min	Time
202.0	190.4	-641.7	84.8



Curve Description			
Right Rear (3 Yr.) Lower Neck Force Y			
CURNO	Type	SAE Class	Units
170	FIL	1000	Newtons
Max	Time	Min	Time
72.6	191.0	-90.1	72.7



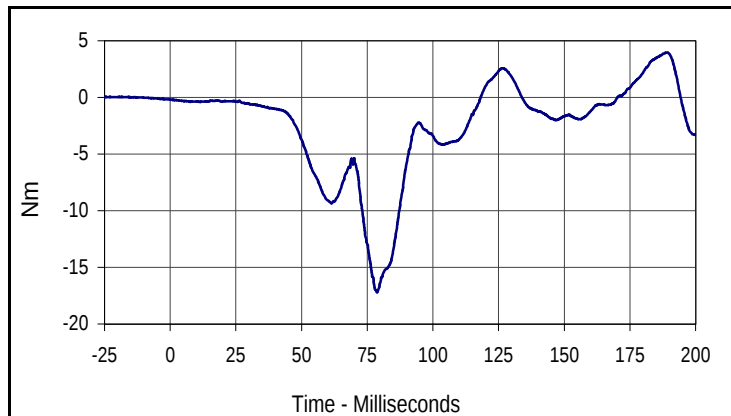
Curve Description			
Right Rear (3 Yr.) Lower Neck Force Z			
CURNO	Type	SAE Class	Units
171	FIL	1000	Newtons
Max	Time	Min	Time
740.2	83.3	-381.8	45.1



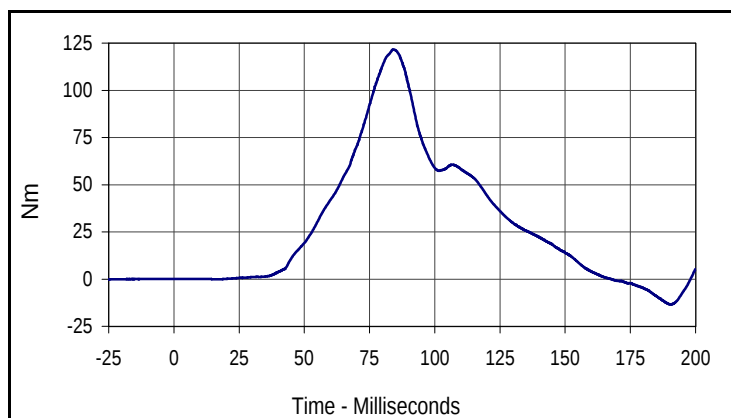
Curve Description			
Right Rear (3 Yr.) Lower Neck Force Res.			
CURNO	Type	SAE Class	Units
169	RES	1000	Newtons
Max	Time	Min	Time
963.9	83.3	4.6	7.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

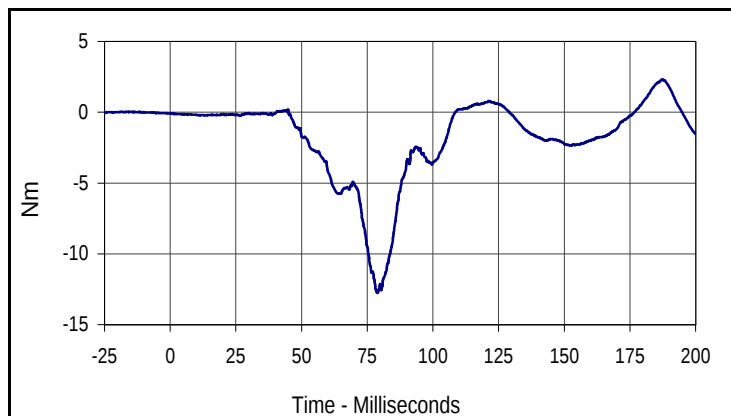
Test Date: 12/19/03
 NHTSA No.: M45300



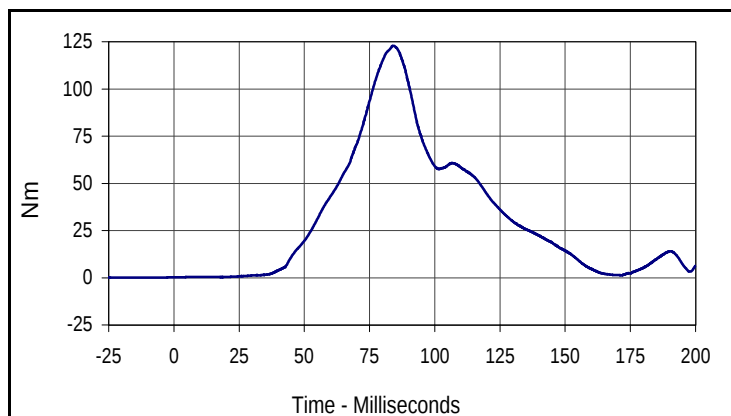
Curve Description			
Right Rear (3 Yr.) Lower Neck Moment X			
CURNO	Type	SAE Class	Units
172	FIL	600	Nm
Max	Time	Min	Time
4.0	189.1	-17.2	78.7



Curve Description			
Right Rear (3 Yr.) Lower Neck Moment Y			
CURNO	Type	SAE Class	Units
173	FIL	600	Nm
Max	Time	Min	Time
121.7	84.4	-13.4	190.4



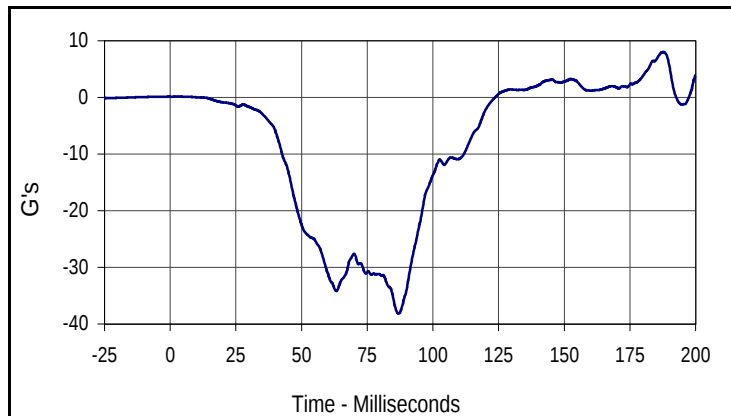
Curve Description			
Right Rear (3 Yr.) Lower Neck Moment Z			
CURNO	Type	SAE Class	Units
174	FIL	600	Nm
Max	Time	Min	Time
2.3	187.2	-12.8	78.8



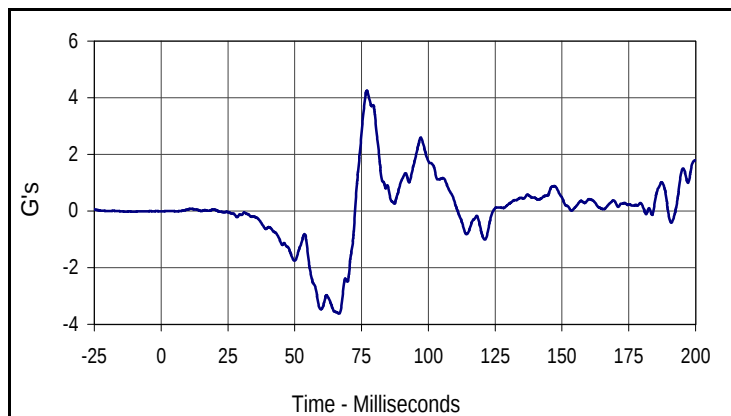
Curve Description			
Right Rear (3 Yr.) Lower Neck Moment Res.			
CURNO	Type	SAE Class	Units
172	RES	600	Nm
Max	Time	Min	Time
122.9	84.3	0.2	0.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

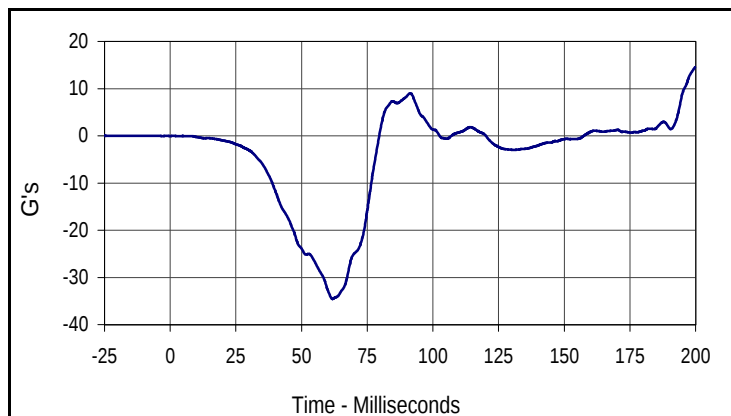
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 NHTSA No.: M45300



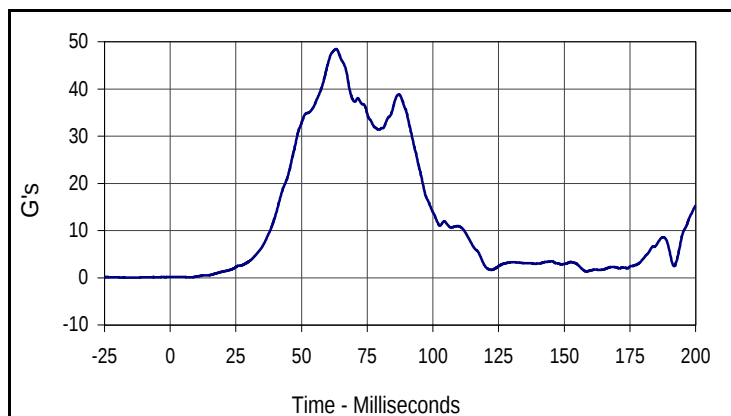
Curve Description			
Right Rear (3 Yr.) Chest X			
CURNO	Type	SAE Class	Units
175	FIL	180	G's
Max	Time	Min	Time
8.0	187.7	-38.1	87.0



Curve Description			
Right Rear (3 Yr.) Chest Y			
CURNO	Type	SAE Class	Units
176	FIL	180	G's
Max	Time	Min	Time
4.2	77.0	-3.6	66.6



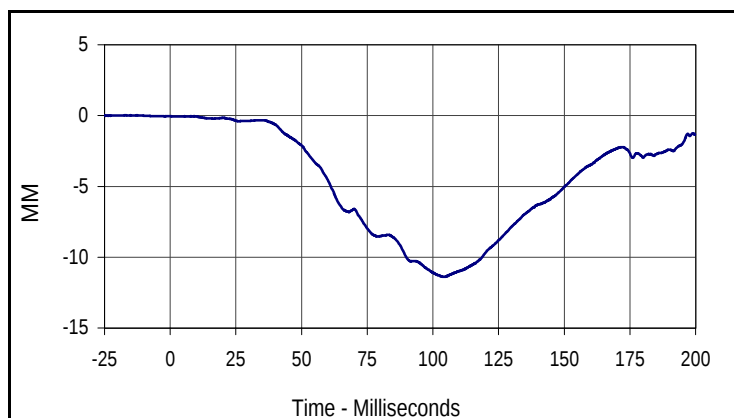
Curve Description			
Right Rear (3 Yr.) Chest Z			
CURNO	Type	SAE Class	Units
177	FIL	180	G's
Max	Time	Min	Time
14.6	200.0	-34.6	61.8



Curve Description			
Right Rear (3 Yr.) Chest Resultant			
CURNO	Type	SAE Class	Units
177	RES	180	G's
Max	Time	Min	Time
48.4	63.1	0.1	8.2

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

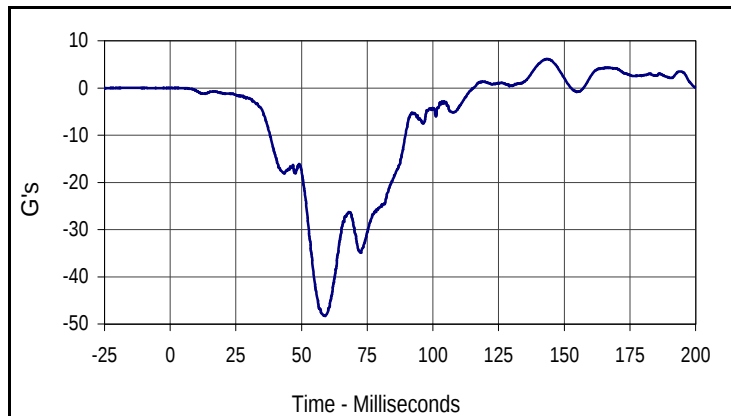
Test Date: 12/19/03
 NHTSA No.: M45300



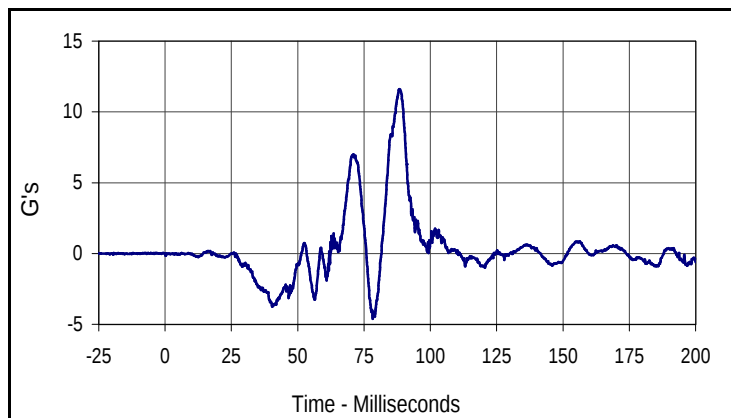
Curve Description			
Right Rear (3 Yr.) Chest Displacement			
CURNO	Type	SAE Class	Units
178	FIL	600	MM
Max	Time	Min	Time
0.0	0.0	-11.4	104.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

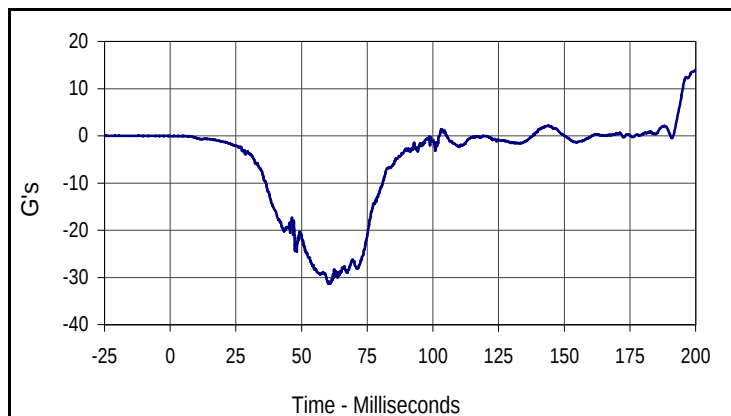
Test Date: 12/19/03
 NHTSA No.: M45300



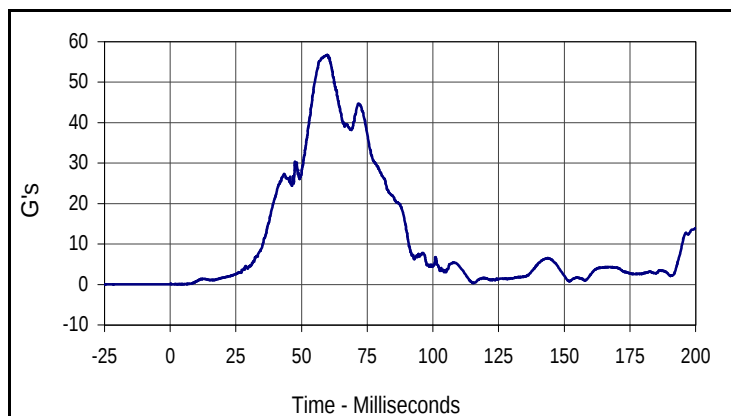
Curve Description			
Right Rear (3 Yr.) Pelvis X			
CURNO	Type	SAE Class	Units
179	FIL	1000	G's
Max	Time	Min	Time
6.1	143.2	-48.3	58.9



Curve Description			
Right Rear (3 Yr.) Pelvis Y			
CURNO	Type	SAE Class	Units
180	FIL	1000	G's
Max	Time	Min	Time
11.6	88.3	-4.6	78.3



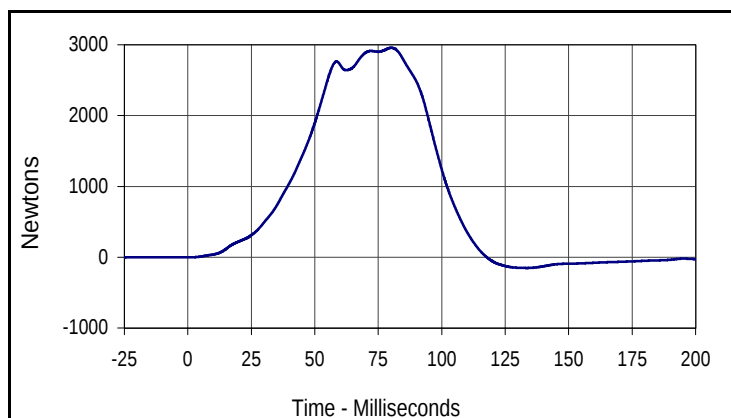
Curve Description			
Right Rear (3 Yr.) Pelvis Z			
CURNO	Type	SAE Class	Units
181	FIL	1000	G's
Max	Time	Min	Time
14.0	200.0	-31.3	60.9



Curve Description			
Right Rear (3 Yr.) Pelvis Resultant			
CURNO	Type	SAE Class	Units
179	RES	1000	G's
Max	Time	Min	Time
56.7	59.7	0.0	1.5

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

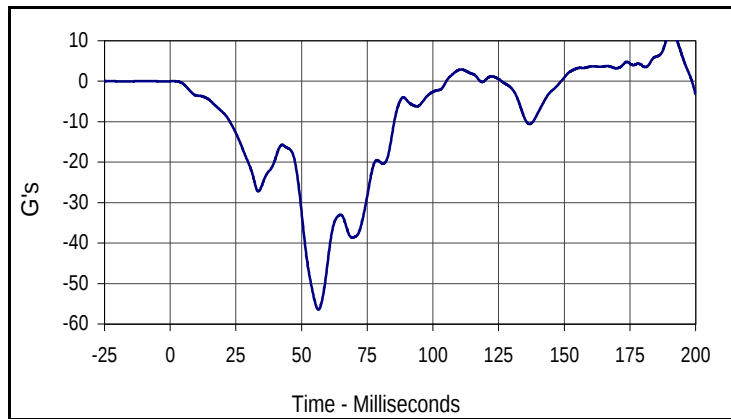
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 NHTSA No.: M45300



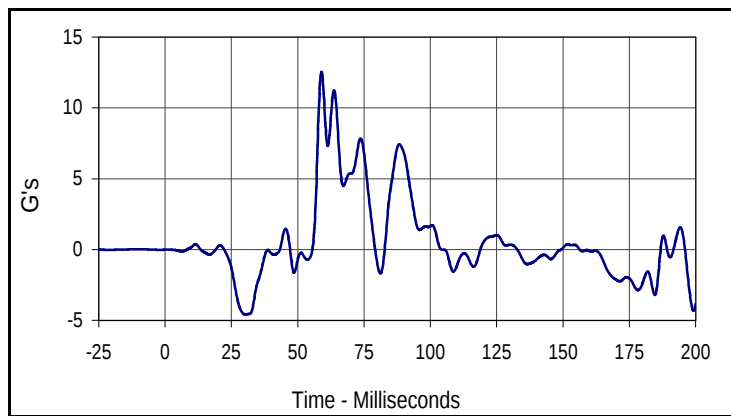
Curve Description			
Right Rear (3 Yr.) Car Seat Upper Tether Force			
CURNO	Type	SAE Class	Units
182	FIL	60	Newtons
Max	Time	Min	Time
2957.9	80.1	-152.7	133.6

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

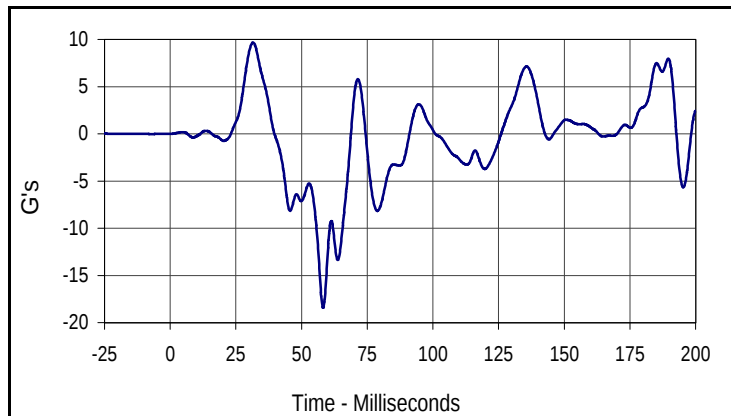
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 NHTSA No.: M45300



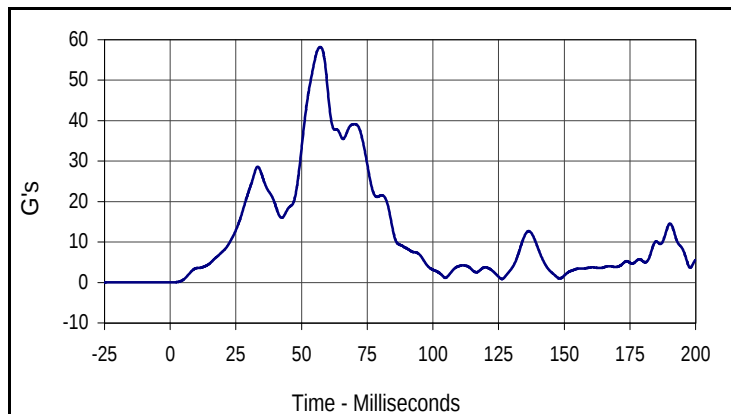
Curve Description			
Right Rear (3 Yr.) Car Seat X			
CURNO	Type	SAE Class	Units
183	FIL	60	G's
Max	Time	Min	Time
12.6	190.8	-56.5	56.4



Curve Description			
Right Rear (3 Yr.) Car Seat Y			
CURNO	Type	SAE Class	Units
184	FIL	60	G's
Max	Time	Min	Time
12.5	59.0	-4.6	30.3



Curve Description			
Right Rear (3 Yr.) Car Seat Z			
CURNO	Type	SAE Class	Units
185	FIL	60	G's
Max	Time	Min	Time
9.7	31.5	-18.4	58.2



Curve Description			
Right Rear (3 Yr.) Car Seat Resultant			
CURNO	Type	SAE Class	Units
183	RES	60	G's
Max	Time	Min	Time
58.2	57.0	0.0	0.5

SECTION F-4

CHILD DUMMY INSTRUMENTATION INFORMATION

2004 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Left Rear Child A.T.D. Serial Number 082
12/19/03
2004 Acura 3.2 TL 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

2004 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Right Rear Child A.T.D. Serial Number 139
12/19/03
2004 Acura 3.2 TL 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
160	HEAD CG	X	GPAC047	Accel.,1/2 bridge	Endevco	7264-2000	G
161	HEAD CG	Y	GPAC048	Accel.,1/2 bridge	Endevco	7264-2000	G
162	HEAD CG	Z	GPAC049	Accel.,1/2 bridge	Endevco	7264-2000	G
163	UPPER NECK FORCE	X	139UNFX	Load cell, six axis neck	R. A. Denton	IF-234	N
164	UPPER NECK FORCE	Y	139UNFY	Load cell, six axis neck	R. A. Denton	IF-234	N
165	UPPER NECK FORCE	Z	139UNFZ	Load cell, six axis neck	R. A. Denton	IF-234	N
166	UPPER NECK MOMENT	X	139UNMX	Load cell, six axis neck	R. A. Denton	IF-234	Nm
167	UPPER NECK MOMENT	Y	139UNMY	Load cell, six axis neck	R. A. Denton	IF-234	Nm
168	UPPER NECK MOMENT	Z	139UNMZ	Load cell, six axis neck	R. A. Denton	IF-234	Nm
169	LOWER NECK FORCE	X	139LNFX	Load cell, six axis neck	R. A. Denton	3303	N
170	LOWER NECK FORCE	Y	139LNFY	Load cell, six axis neck	R. A. Denton	3303	N
171	LOWER NECK FORCE	Z	139LNFZ	Load cell, six axis neck	R. A. Denton	3303	N
172	LOWER NECK MOMENT	X	139LNMX	Load cell, six axis neck	R. A. Denton	3303	Nm
173	LOWER NECK MOMENT	Y	139LNMY	Load cell, six axis neck	R. A. Denton	3303	Nm
174	LOWER NECK MOMENT	Z	139LNMZ	Load cell, six axis neck	R. A. Denton	3303	Nm
175	CHEST CG	X	2116-A01	Accel., Full Bridge	Entran	2000JF	G
176	CHEST CG	Y	2116-A06	Accel., Full Bridge	Entran	2000JF	G
177	CHEST CG	Z	2116-A07	Accel., Full Bridge	Entran	2000JF	G
178	CHEST DISPLACEMENT	X	139CP	Rotary Pot Chest	Servo	14CBI	MM
179	PELVIS	X	2116-N07	Accel., Full Bridge	Entran	2000JF	G
180	PELVIS	Y	2116-A03	Accel., Full Bridge	Entran	2000JF	G
181	PELVIS	Z	2116-A17	Accel., Full Bridge	Entran	2000JF	G
182	CAR SEAT UPPER TETHER FORCE	X	BL113	Load cell, Seat belt	FGP	FN4060	N
183	CAR SEAT	X	KETX4A	Accel.,1/2 bridge	Endevco	7264-200	G
184	CAR SEAT	Y	KETX4B	Accel.,1/2 bridge	Endevco	7264-200	G
185	CAR SEAT	Z	KETX4C	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

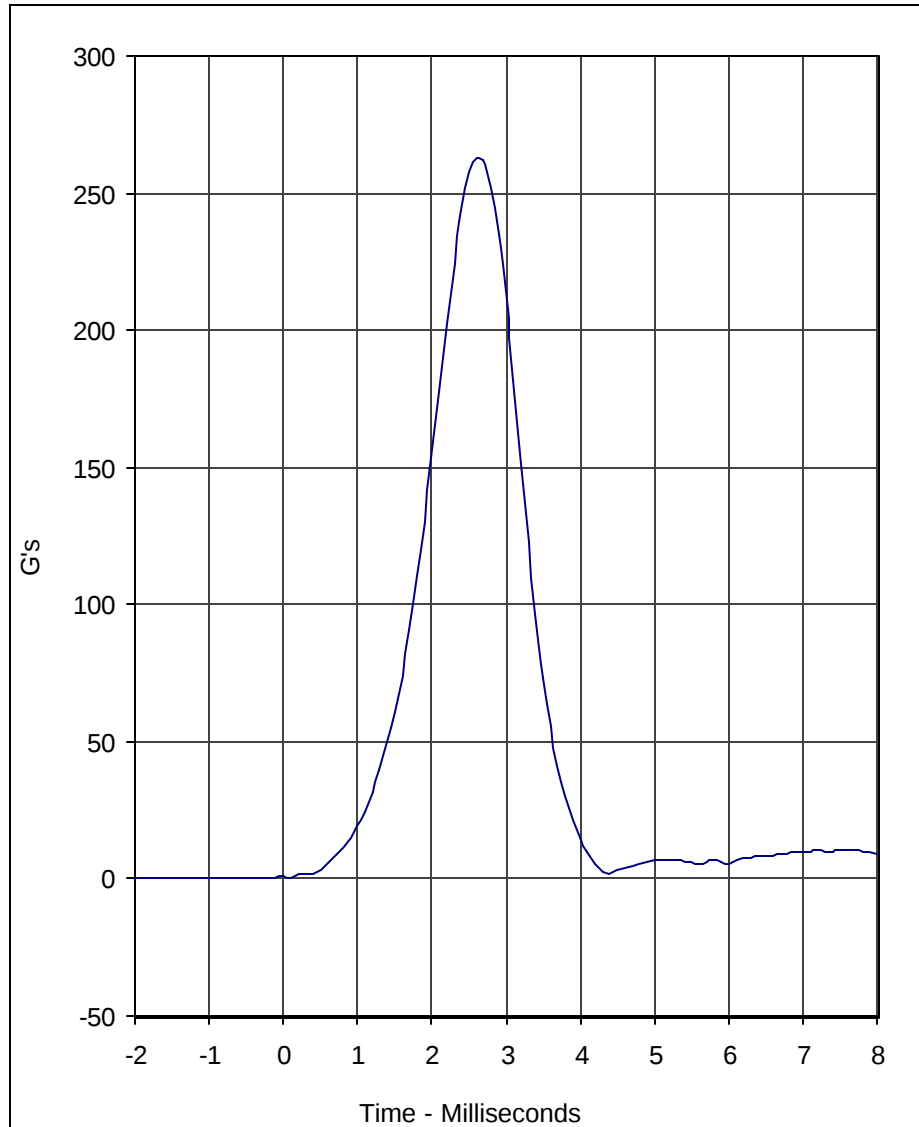
F5-1

TR-P24001-06-NC

Laboratory Technician

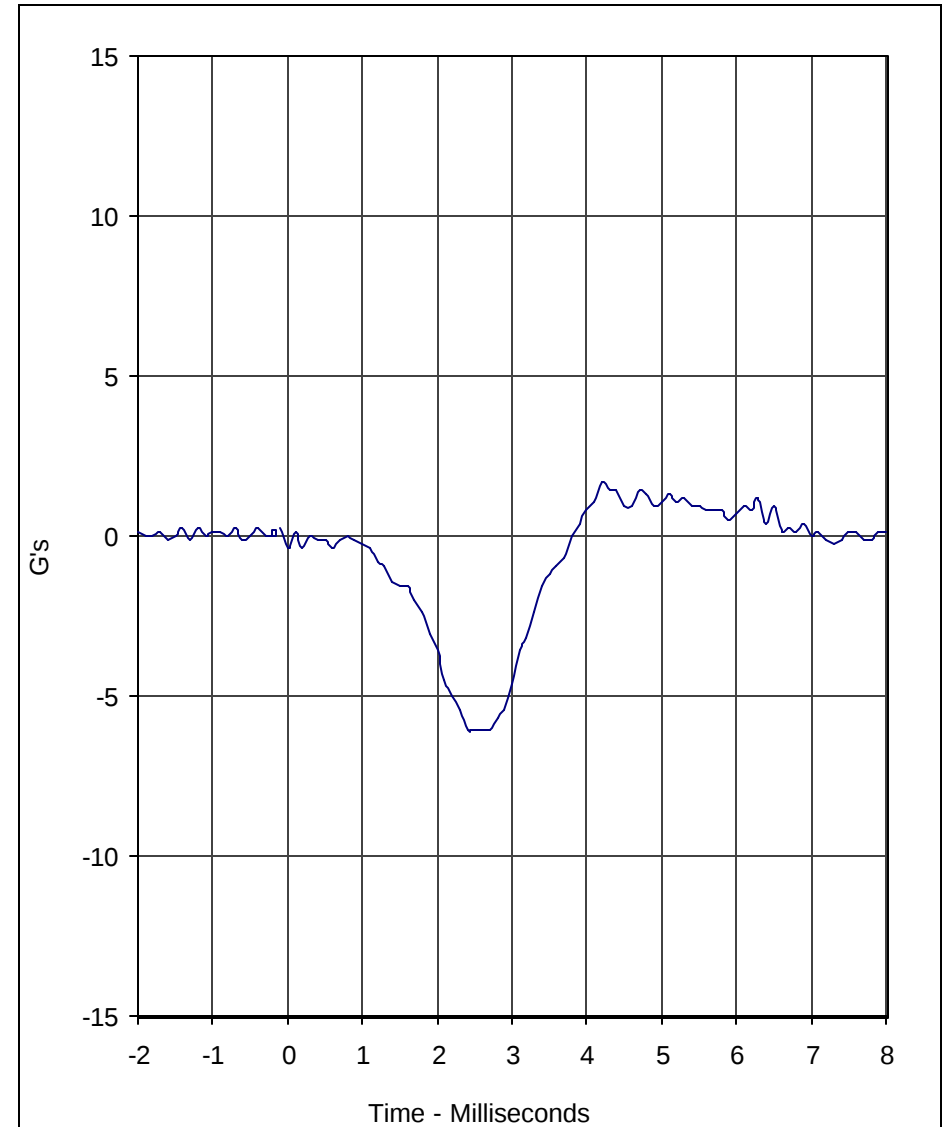
December 18, 2003

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

Test Program: Hybrid III 3 Year Old Head Drop Test
 Test Date: 12/18/03



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

A.T.D. Serial No.: 082
 Test I.D.: HD11D





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	°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 Hysteresis	%	65 to 85	78.2	Pass
Overall Test Results				Pass

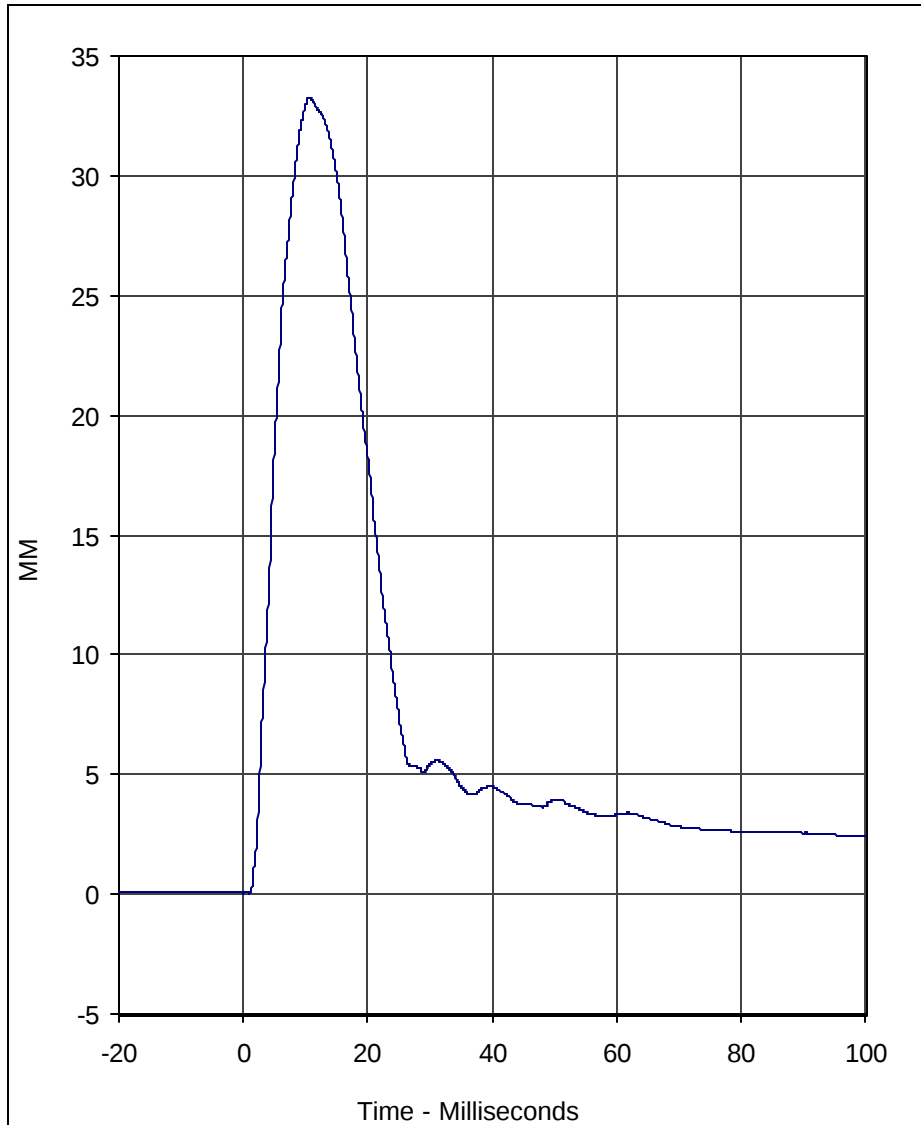
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TR-P24001-06-NC

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December 18, 2003

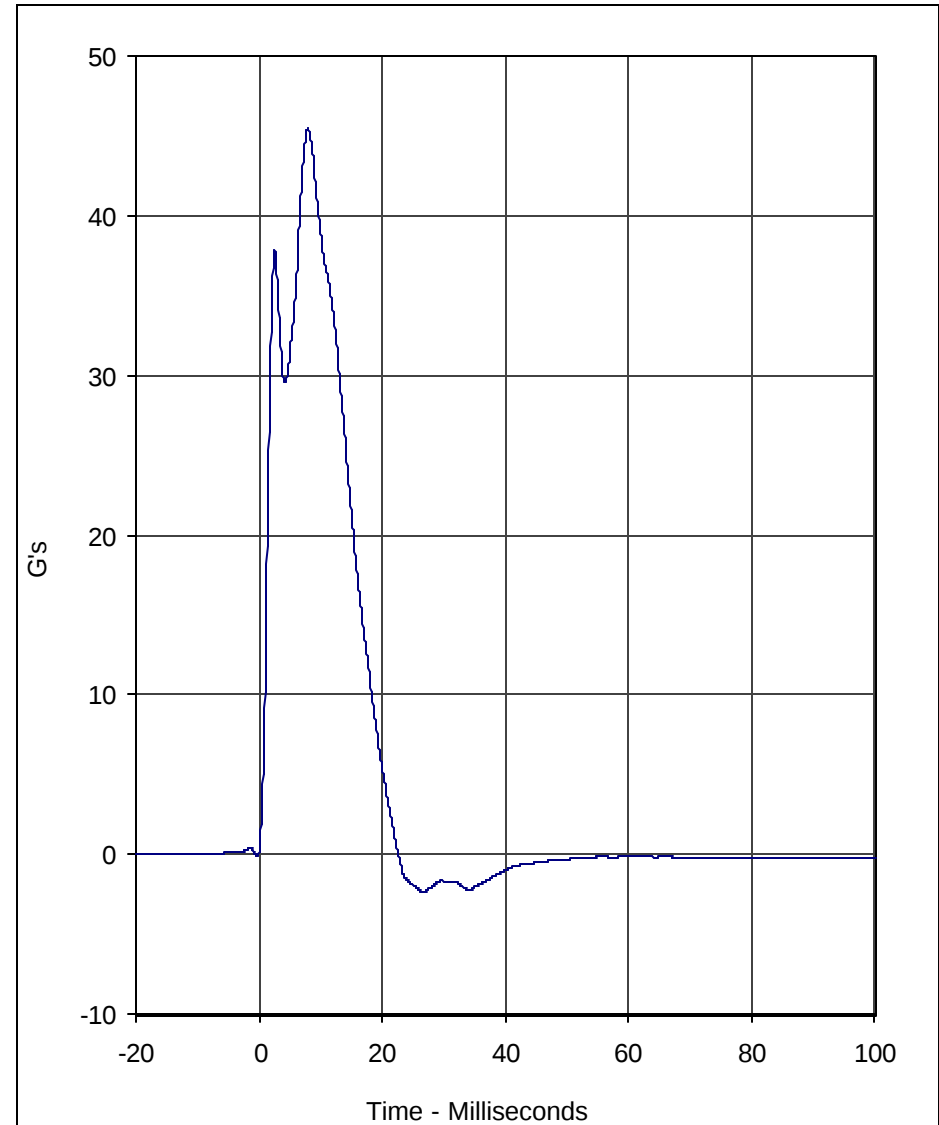
Test Date



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

Test Program: Hybrid III 3 Year Old Thorax Impact

Test Date: 12/18/03

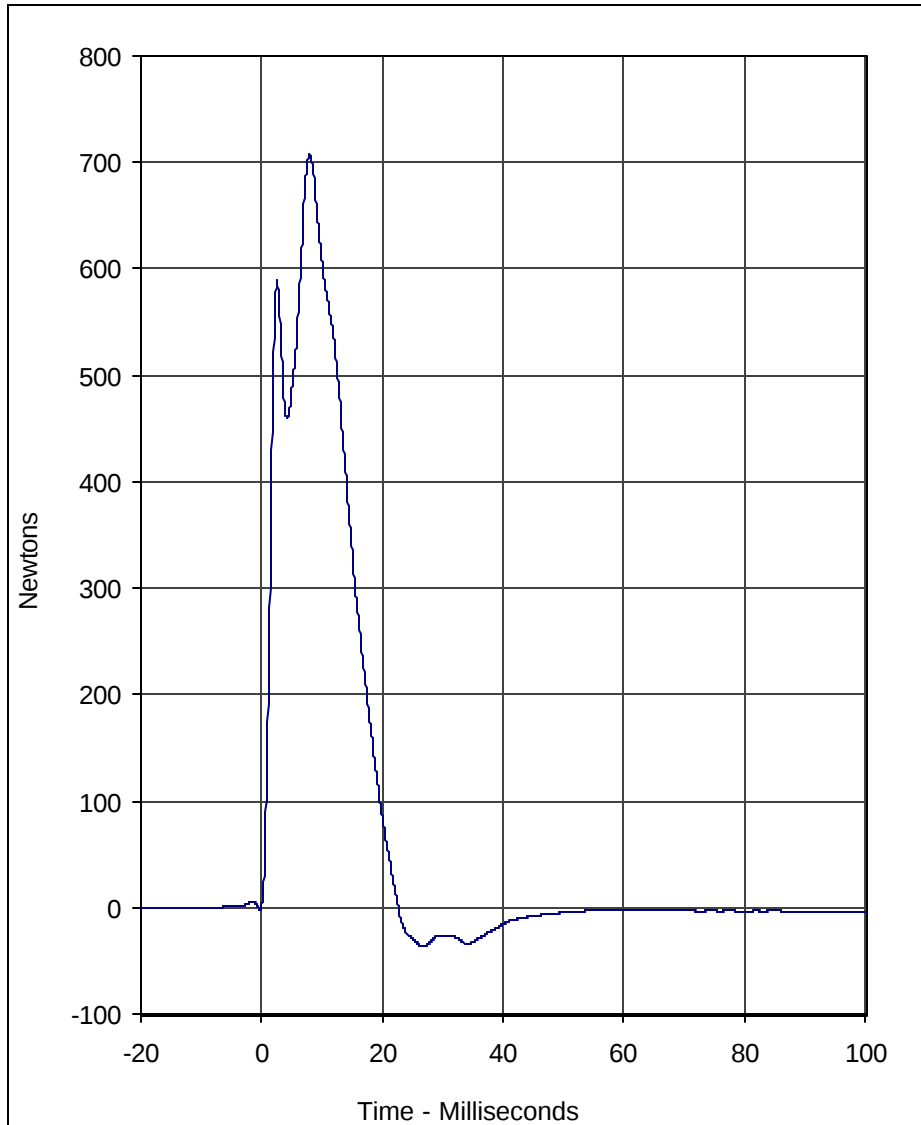


Curve Description				CURNO	Type
Probe Acceleration				002	FIL
Units	Max	Time	Min	Time	SAE Class
G's	45.4	8.0	-2.3	26.7	600

A.T.D. Serial No.: 082

Test I.D.: CH12D

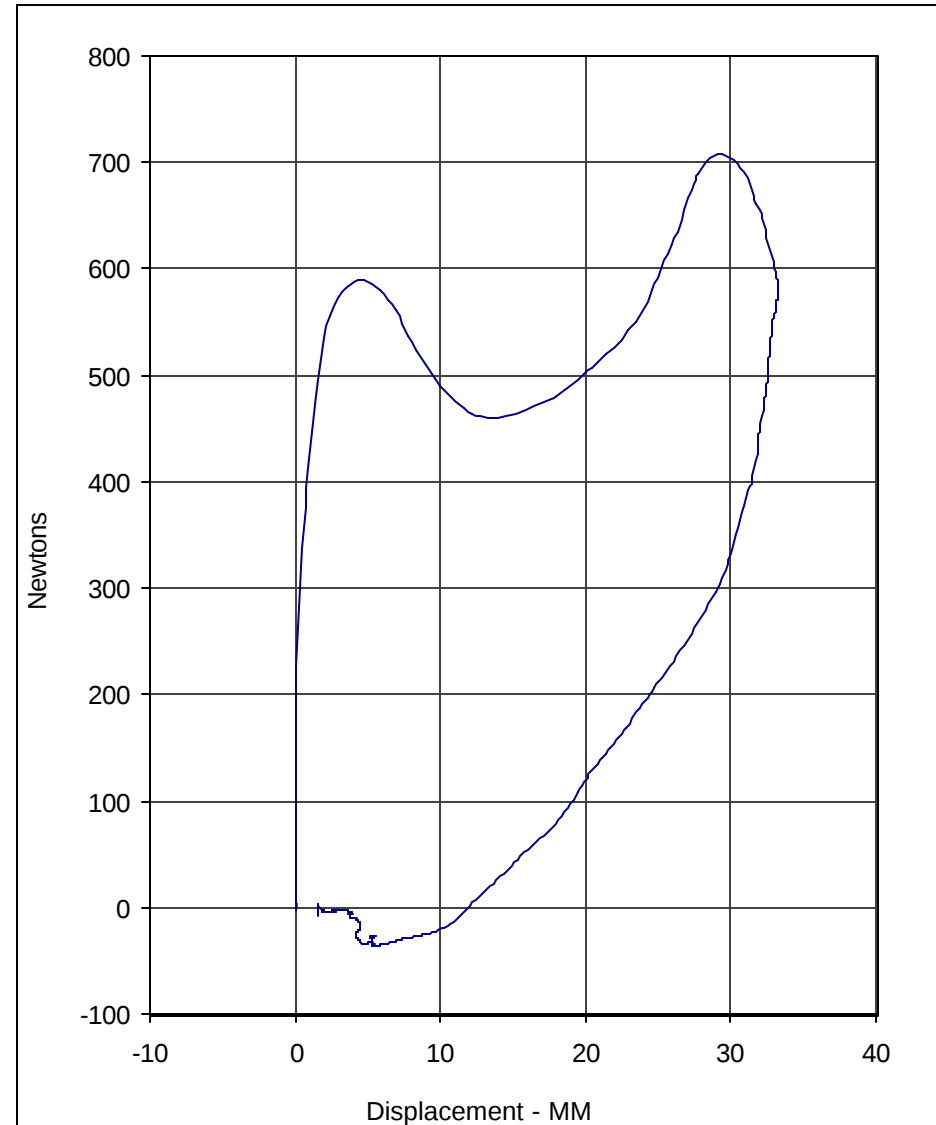




Curve Description				CURNO	Type
Probe Force				003	FIL
Units	Max	Time	Min	Time	SAE Class
Newtontons	707.4	8.0	-36.5	26.7	180

Test Program: Hybrid III 3 Year Old Thorax Impact

Test Date: 12/18/03



Curve Description			CURNO	Type
Probe Force vs. Chest Compression			004	FIL
Units	Hysteresis	SAE Class		
%	78.2	180/600		

A.T.D. Serial No.: 082

Test I.D.: CH12D





Calibration Data Sheet

Hybrid III 3 Year Old

Neck Flexion Test

ATD Serial No.: 082

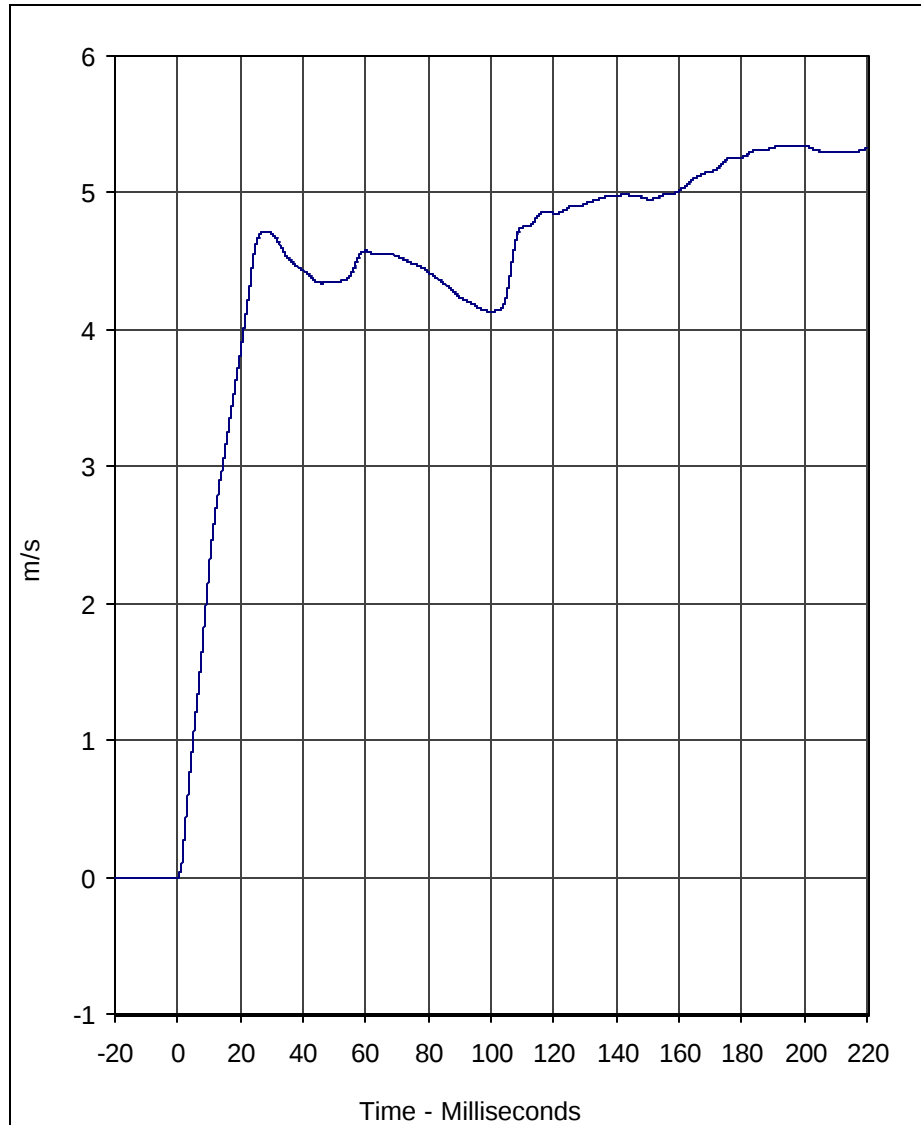
Test I.D.: NF12D

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

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December 18, 2003

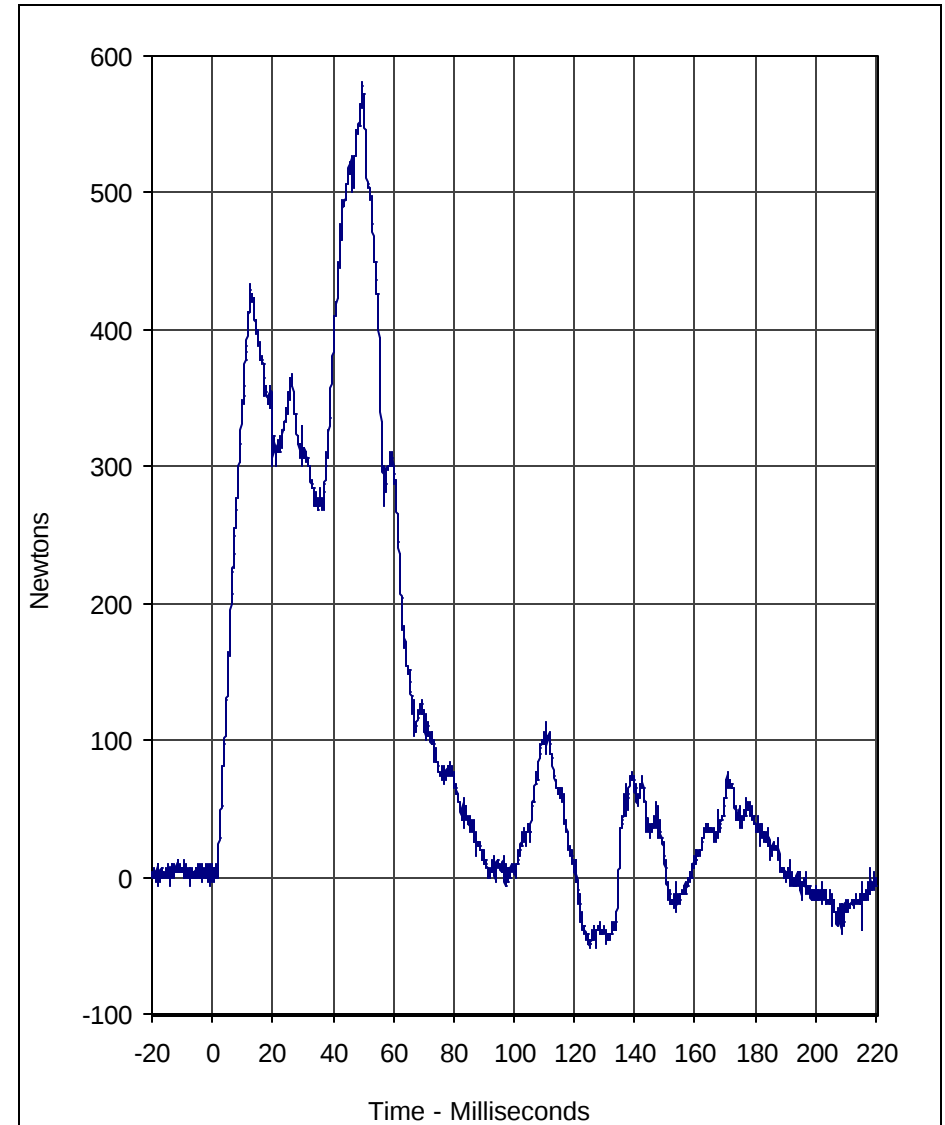
Test Date



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

Test Program: 3 Year Old Hybrid III Neck Flexion Test

Test Date: 12/18/03

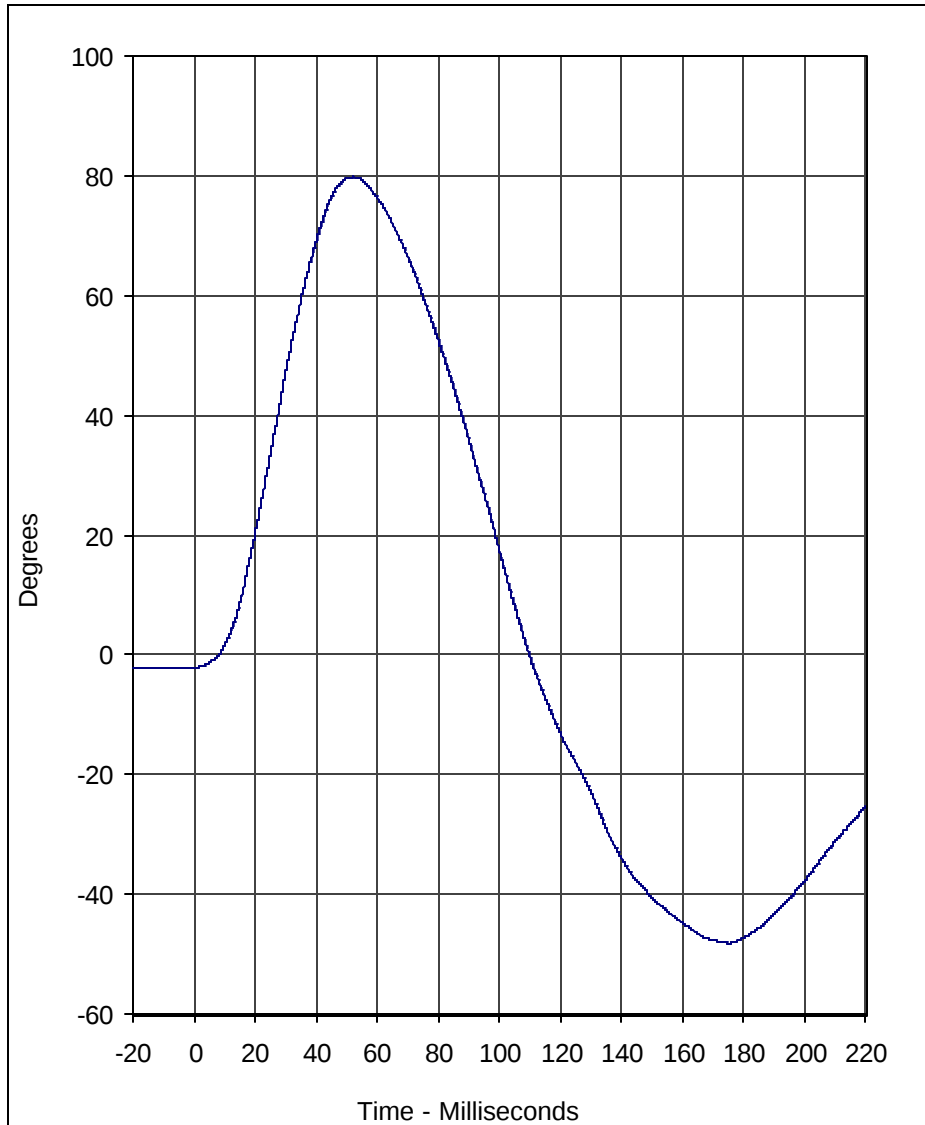


Curve Description				CURNO	Type
Neck Force X				002	FIL
Units	Max	Time	Min	Time	SAE Class
Newtons	581.2	49.7	-51.7	124.9	1000

A.T.D. Serial No.: 082

Test I.D.: NF12D

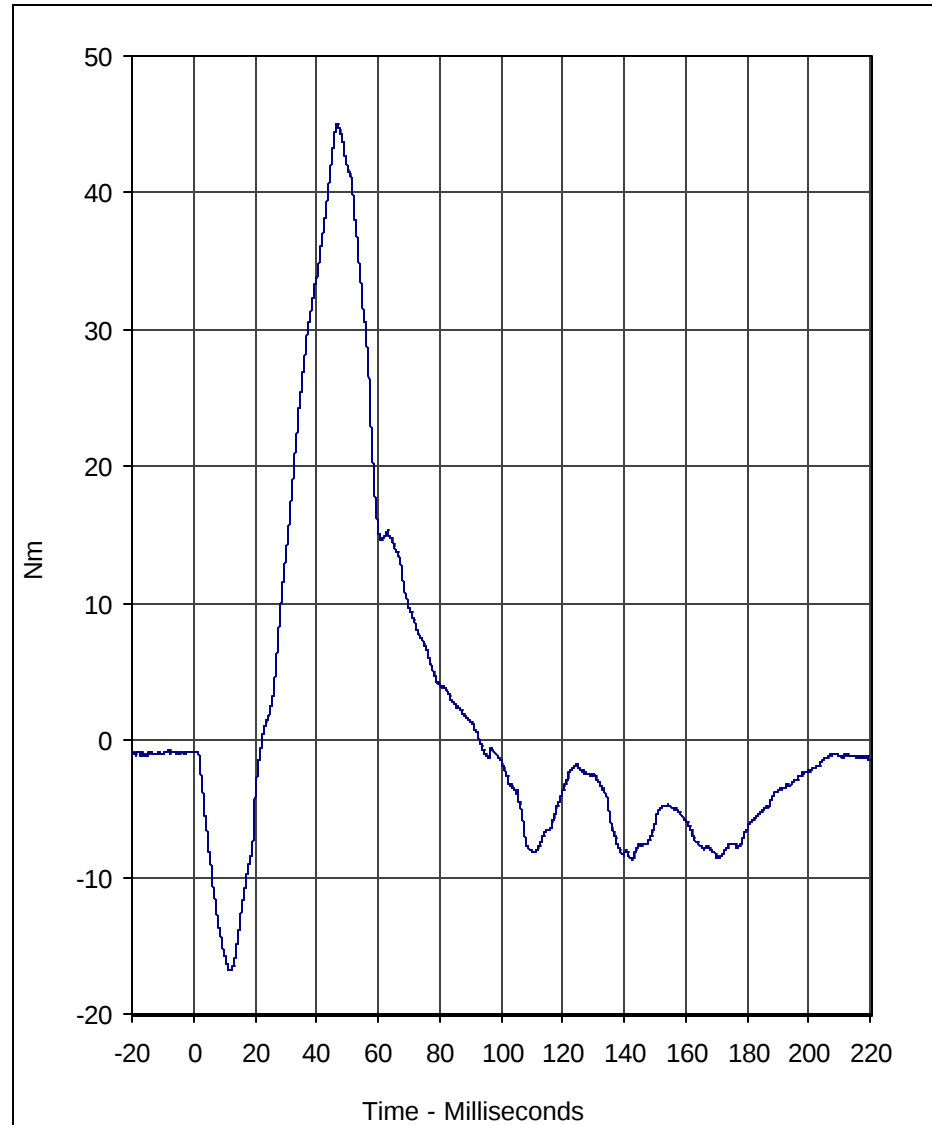




Curve Description				CURNO	Type
"D" Plane Rotation				003	FIL
Units	Max	Time	Min	Time	SAE Class
Degrees	79.8	52.2	-48.2	175.4	60

Test Program: 3 Year Old Hybrid III Neck Flexion Test

Test Date: 12/18/03



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

A.T.D. Serial No.: 082

Test I.D.: NF12D





Calibration Data Sheet

Hybrid III 3 Year Old

Neck Extension Test

ATD Serial No.: 082

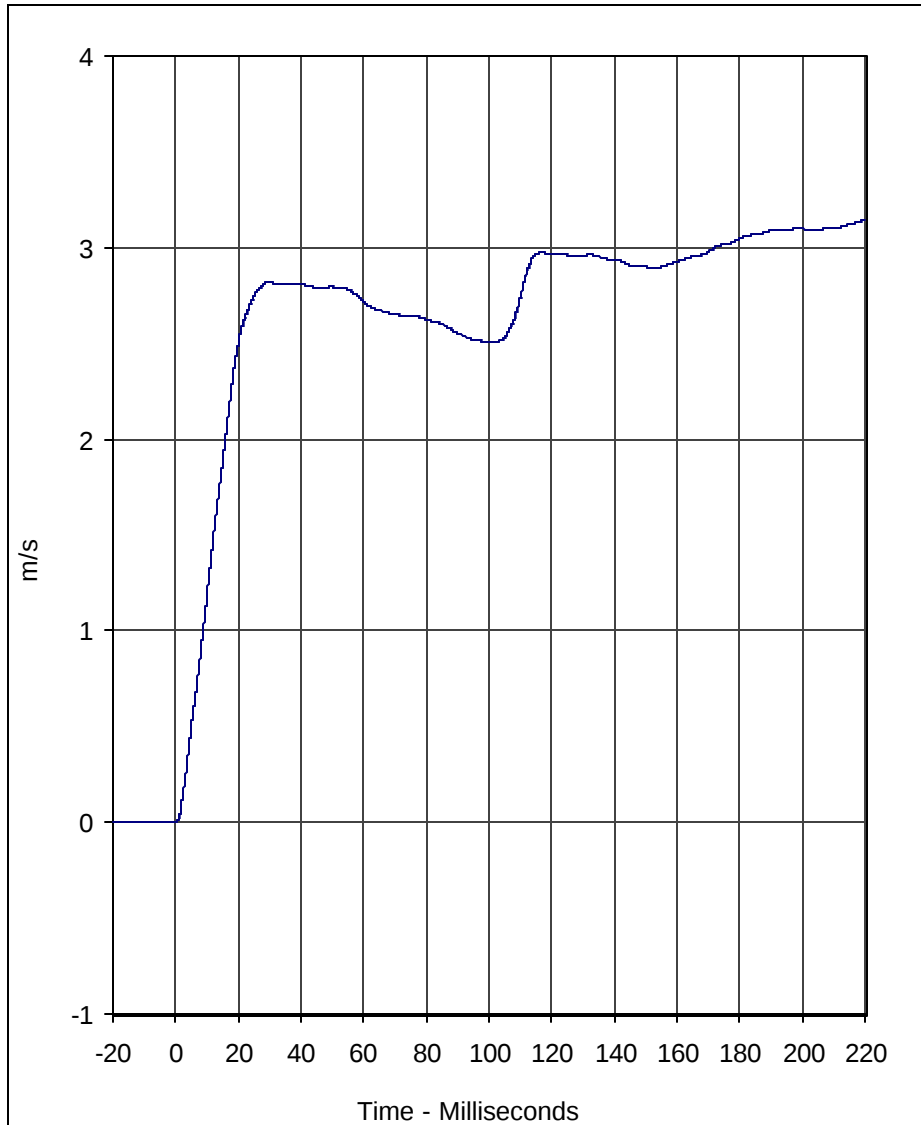
Test I.D.: NE12G

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

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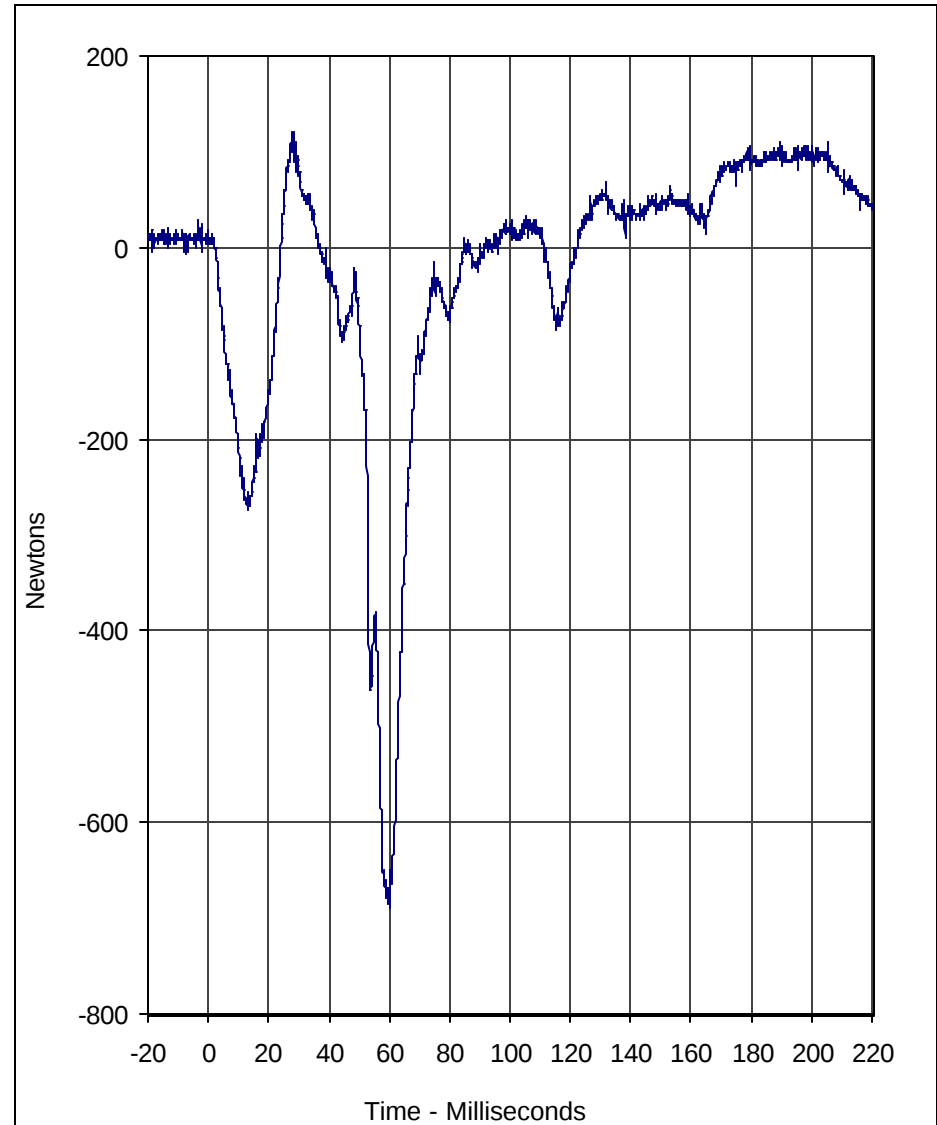
Test Date



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

Test Program: 3 Year Old Hybrid III Neck Extension Test

Test Date: 12/18/03

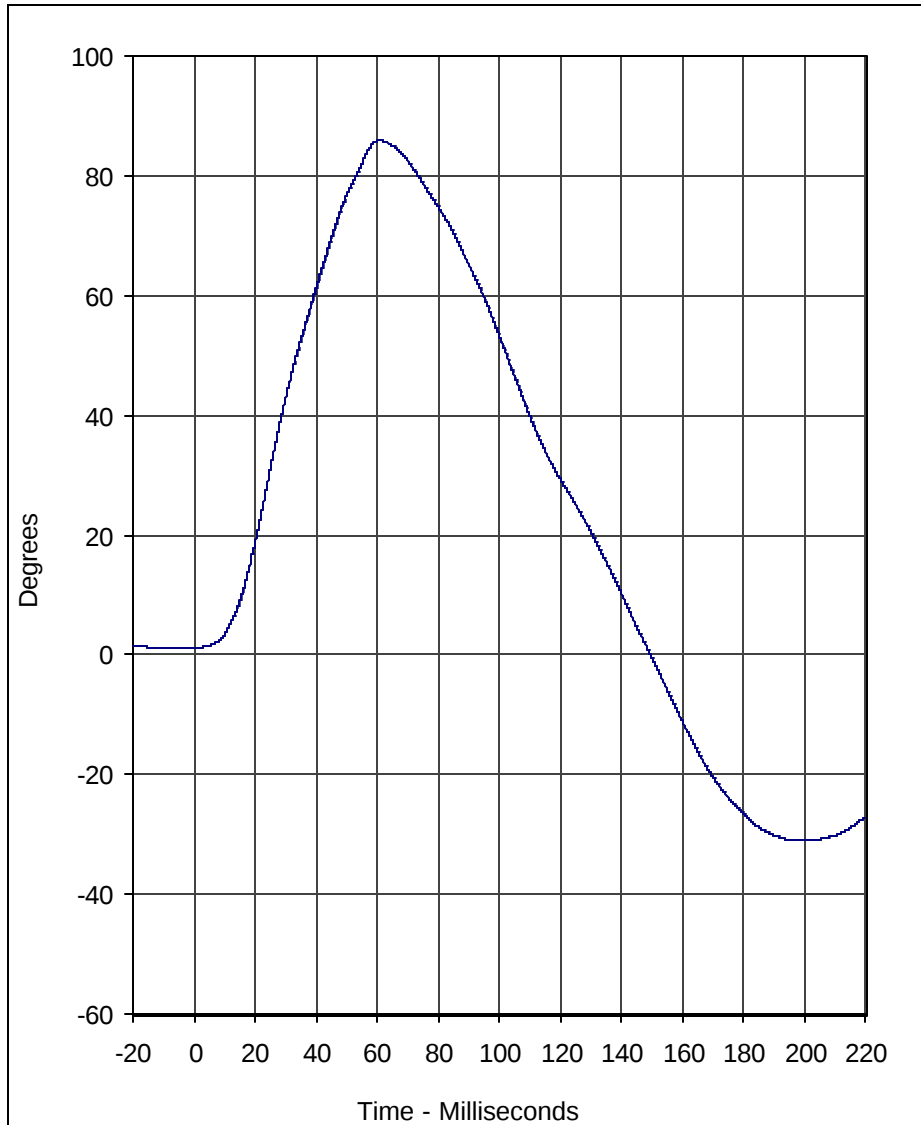


Curve Description				CURNO	Type
Neck Force X				002	FIL
Units	Max	Time	Min	Time	SAE Class
Newtons	120.8	27.9	-689.1	59.9	1000

A.T.D. Serial No.: 082

Test I.D.: NE12G



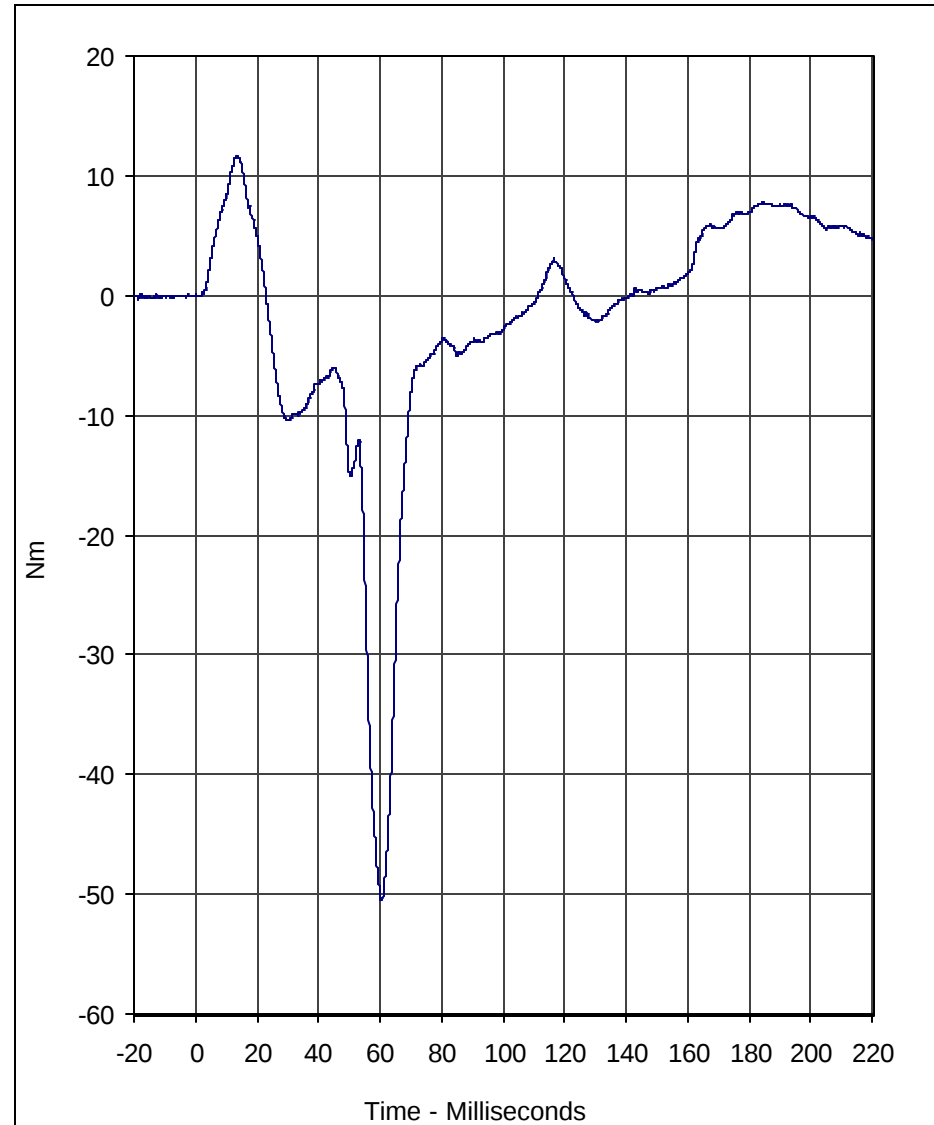


Curve Description				CURNO	Type
"D" Plane Rotation				003	FIL

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

Test Program: 3 Year Old Hybrid III Neck Extension Test

Test Date: 12/18/03



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

A.T.D. Serial No.: 082

Test I.D.: NE12G





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

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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 - Popliteal length	mm	219 to 234	230	Pass
M - Knee pivot height	mm	242 to 257	255	Pass
N - Buttock popliteal 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



Calibration Data Sheet

Hybrid III 3 Year Old

Head Drop Test

ATD Serial No.: 139

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	254.8	Pass
Peak Lateral Acceleration	G's	≤15.0	2.4	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<10	9.7	Pass
Overall Test Results				Pass

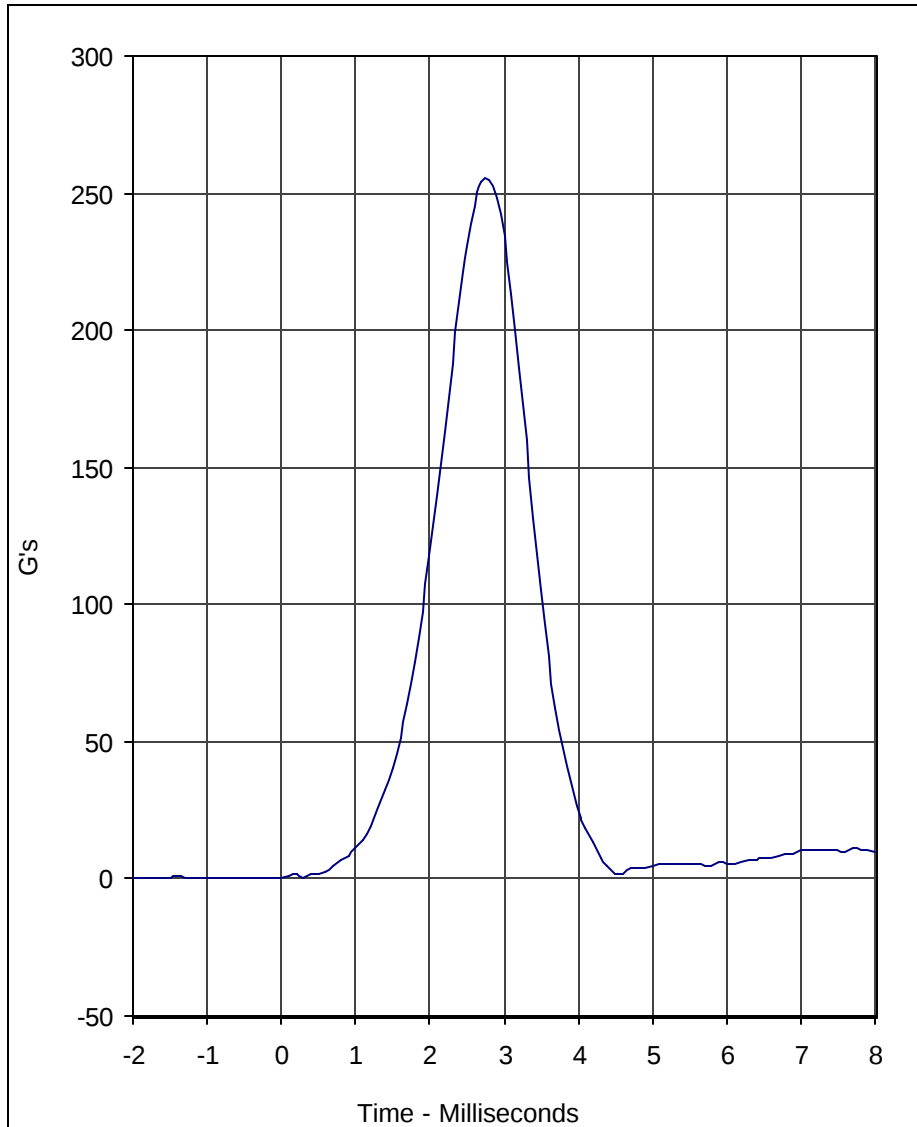
F5-14

TR-P24001-06-NC

Laboratory Technician

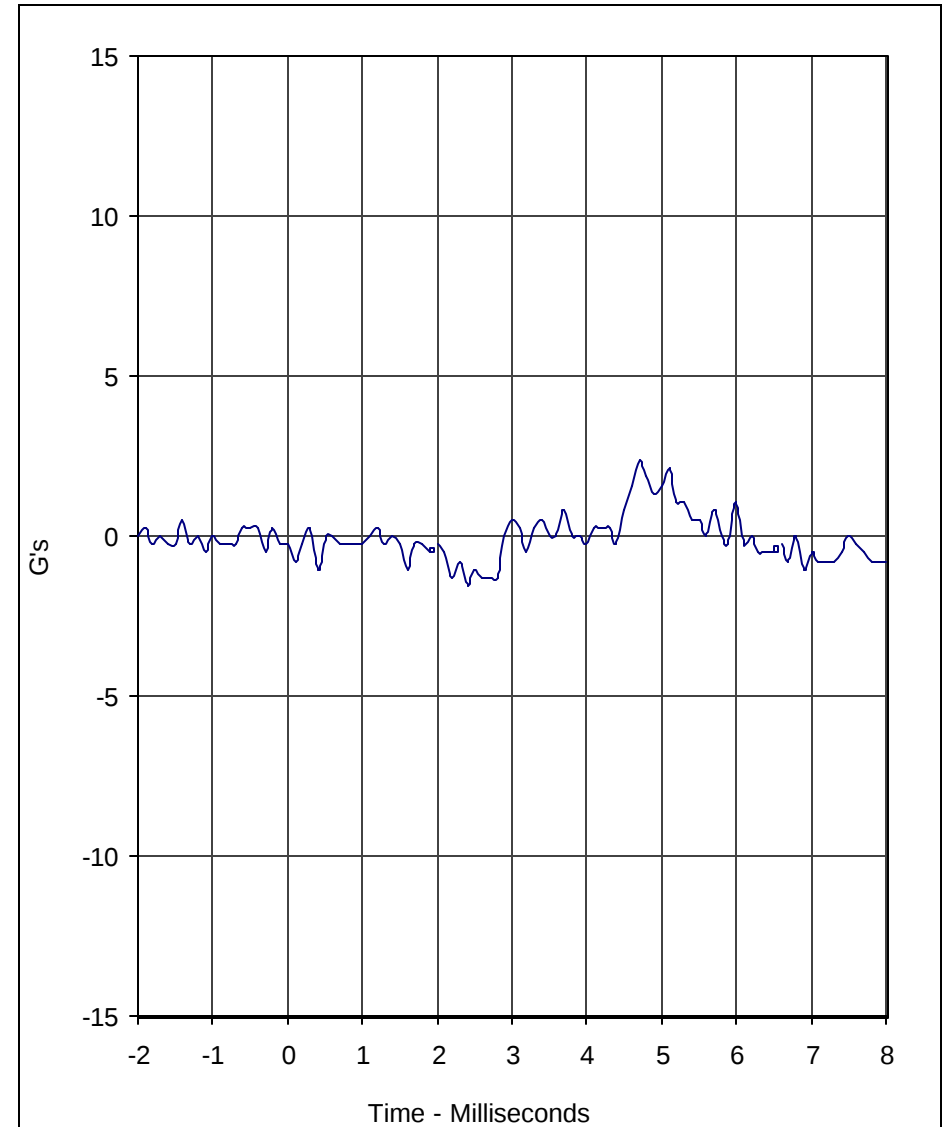
November 24, 2003

Test Date



Curve Description				CURNO	Type
Head Resultant				001	RES
Units	Max	Time	Min	Time	SAE Class
G's	254.8	2.8	0.3	-0.4	1000

Test Program: Hybrid III 3 Year Old Head Drop Test
 Test Date: 11/24/03



Curve Description				CURNO	Type
Head Y				002	FIL
Units	Max	Time	Min	Time	SAE Class
G's	2.4	4.7	-1.6	2.4	1000

A.T.D. Serial No.: 139
 Test I.D.: HD11D





Calibration Data Sheet

Hybrid III 3 Year Old

Thorax Impact Test

ATD Serial No.: 139

Test I.D.: CH11B

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	5.9 to 6.1	5.91	Pass
Peak Chest Compression	MM	32 to 38	34.3	Pass
Peak Probe Force Between 32 and 38 MM	Newtons	680 to 810	765.2	Pass
Peak Probe Force Between 12.5 and 32 MM	Newtons	≤860	773.5	Pass
Internal Hysteresis	%	65 to 85	75.9	Pass
Overall Test Results				Pass

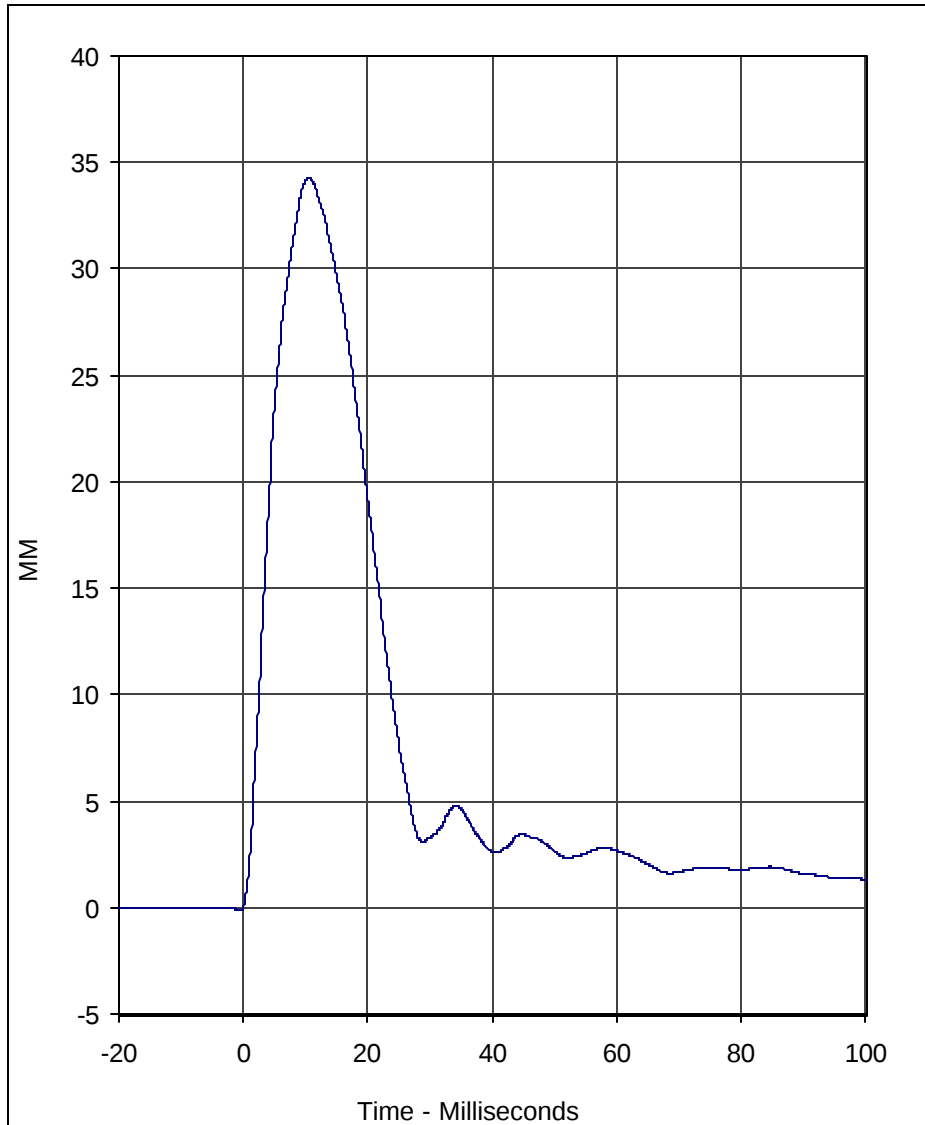
F5-16

TR-P24001-06-NC

Laboratory Technician

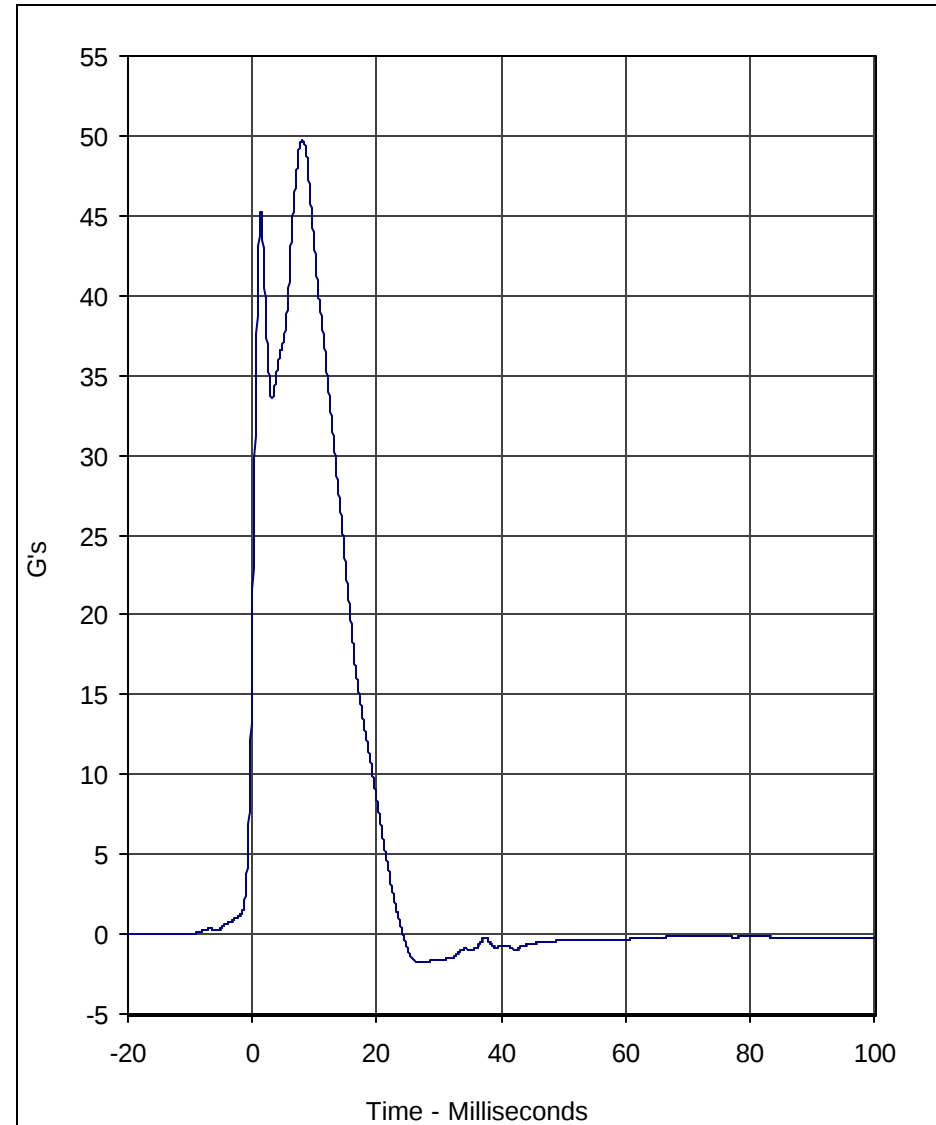
November 25, 2003

Test Date



Curve Description				CURNO	Type
Chest Compression				001	FIL

Units	Max	Time	Min	Time	SAE Class
MM	34.3	10.5	-0.1	-0.6	600



Curve Description				CURNO	Type
Probe Acceleration				002	FIL

Units	Max	Time	Min	Time	SAE Class
G's	49.7	8.1	-1.8	27.1	180

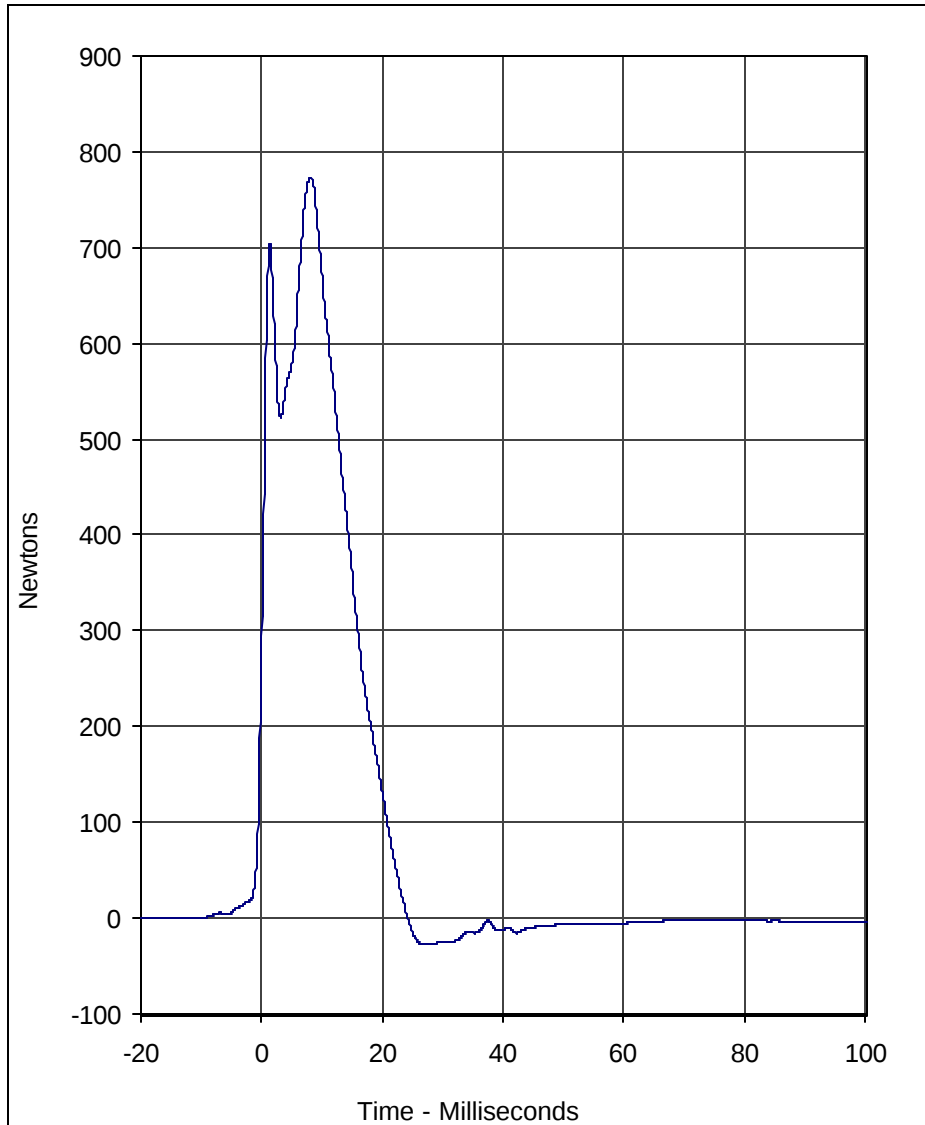
Test Program: Hybrid III 3 Year Old Thorax Impact

Test Date: 11/25/03

A.T.D. Serial No.: 139

Test I.D.: CH11B

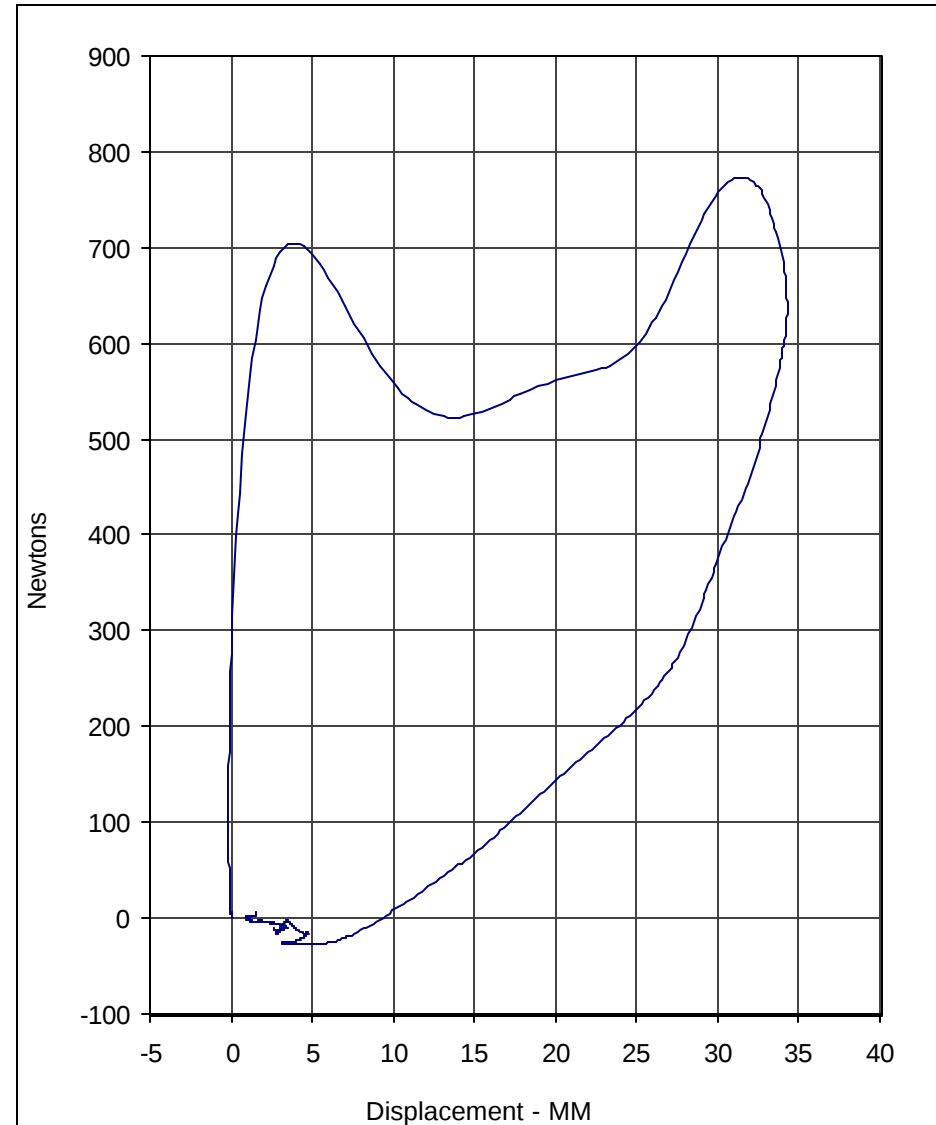




Curve Description				CURNO	Type
Probe Force				003	FIL
Units	Max	Time	Min	Time	SAE Class
Newtons	773.5	8.1	-27.3	27.1	180

Test Program: Hybrid III 3 Year Old Thorax Impact

Test Date: 11/25/03



Curve Description			CURNO	Type
Probe Force vs. Chest Compression			004	FIL
Units	Hysteresis	SAE Class		
%	75.9	180/600		

A.T.D. Serial No.: 139

Test I.D.: CH11B





Calibration Data Sheet

Hybrid III 3 Year Old

Neck Flexion Test

ATD Serial No.: 139

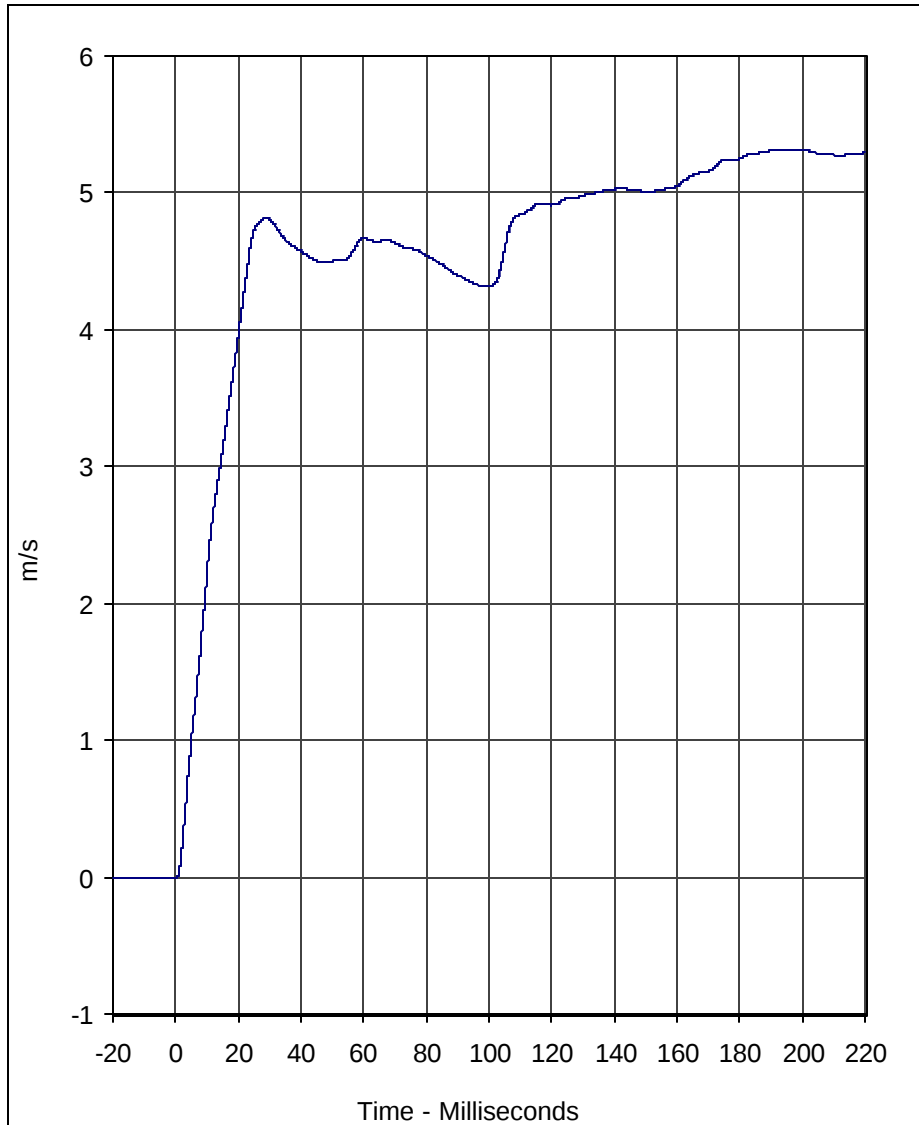
Test I.D.: NF11A

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	5.46	Pass
Pendulum Deceleration	10 Msec.	m/s	2.0 to 2.7	2.2	Pass
	20 Msec.	m/s	3.0 to 4.0	4.0	Pass
	30 Msec.	m/s	4.0 to 5.1	4.8	Pass
"D" Plane Rotation	Maximum	Degrees	70.0 to 82.0	78.9	Pass
Peak Moment in Rotation	Maximum	Nm	42.0 to 53.0	45.1	Pass
Positive Moment Decay, Time to 10Nm		Msec.	60.0 to 80.0	69.0	Pass
Overall Test Results					Pass

Laboratory Technician

November 24, 2003

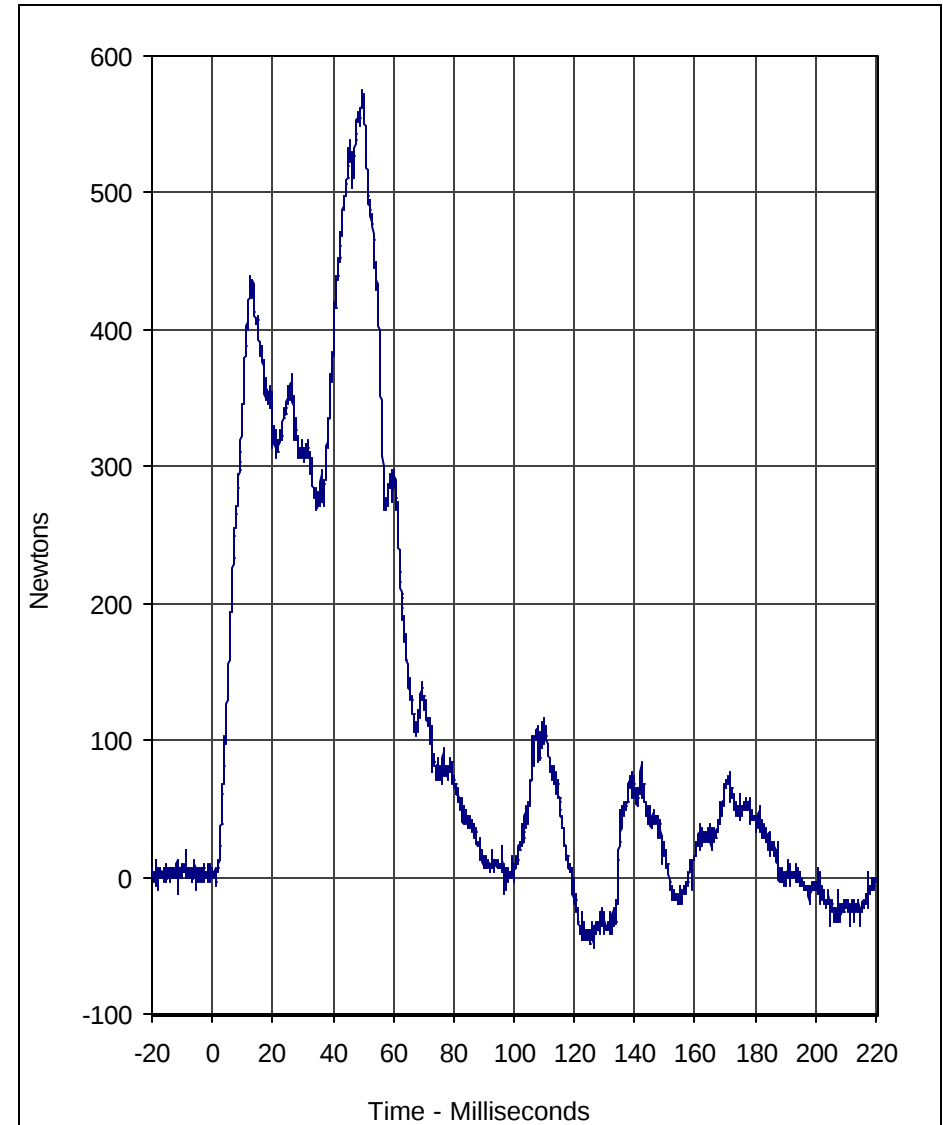
Test Date



Curve Description				CURNO	Type
Pendulum Velocity				001	FIL
Units	Max	Time	Min	Time	SAE Class
m/s	5.3	198.7	0.0	0.0	180

Test Program: 3 Year Old Hybrid III Neck Flexion Test

Test Date: 11/24/03

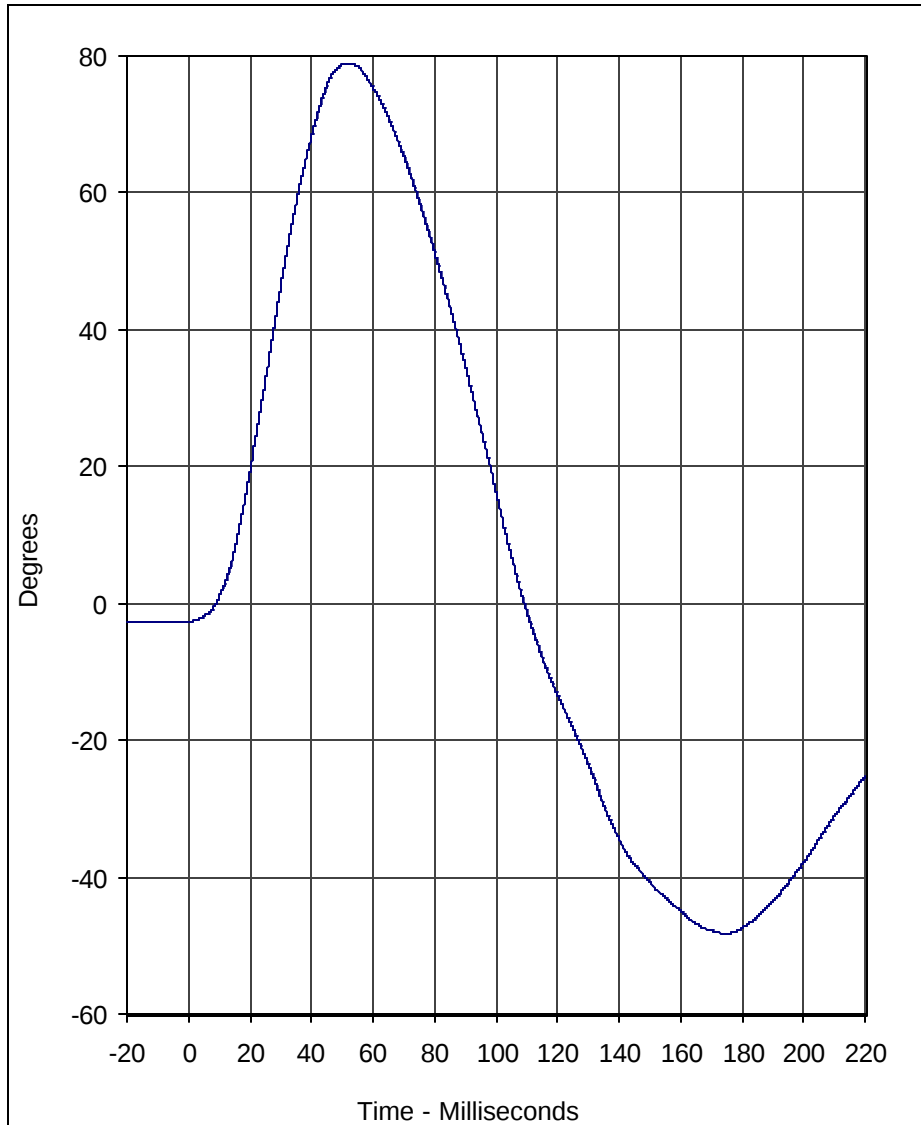


Curve Description				CURNO	Type
Neck Force X				002	FIL
Units	Max	Time	Min	Time	SAE Class
Newtons	574.8	49.7	-51.7	126.2	1000

A.T.D. Serial No.: 139

Test I.D.: NF11A

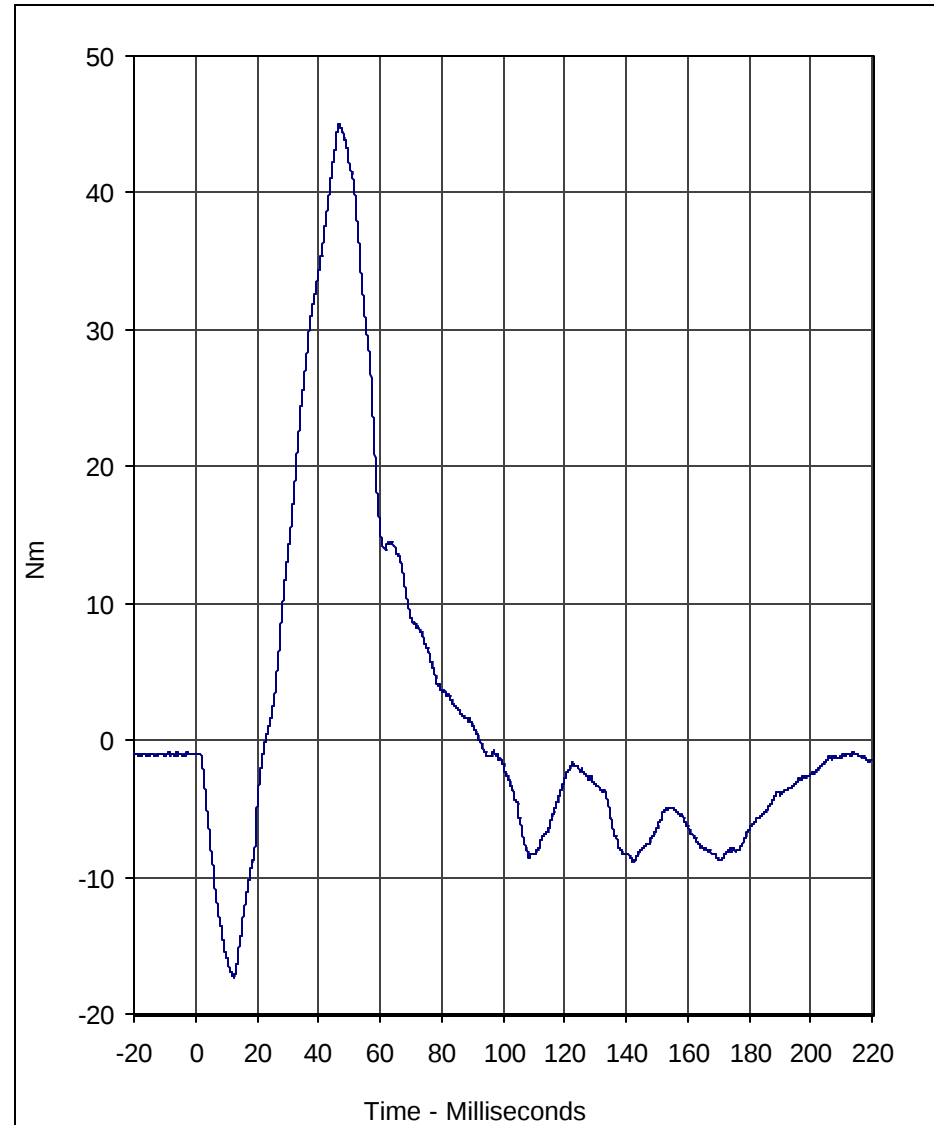




Curve Description				CURNO	Type
"D" Plane Rotation				003	FIL
Units	Max	Time	Min	Time	SAE Class
Degrees	78.9	52.2	-48.3	174.7	60

Test Program: 3 Year Old Hybrid III Neck Flexion Test

Test Date: 11/24/03



Curve Description				CURNO	Type
Neck Moment Y				002	FIL
Units	Max	Time	Min	Time	SAE Class
Nm	45.1	46.8	-17.3	12.4	600

A.T.D. Serial No.: 139

Test I.D.: NF11A





Calibration Data Sheet

Hybrid III 3 Year Old

Neck Extension Test

ATD Serial No.: 139

Test I.D.: NE12B

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	83.6	Pass
Peak Moment in Rotation	Maximum	Nm	-43.7 to -53.3	-51.6	Pass
Positive Moment Decay, Time to 10Nm		Msec.	60.0 to 80.0	66.1	Pass
Overall Test Results					Pass

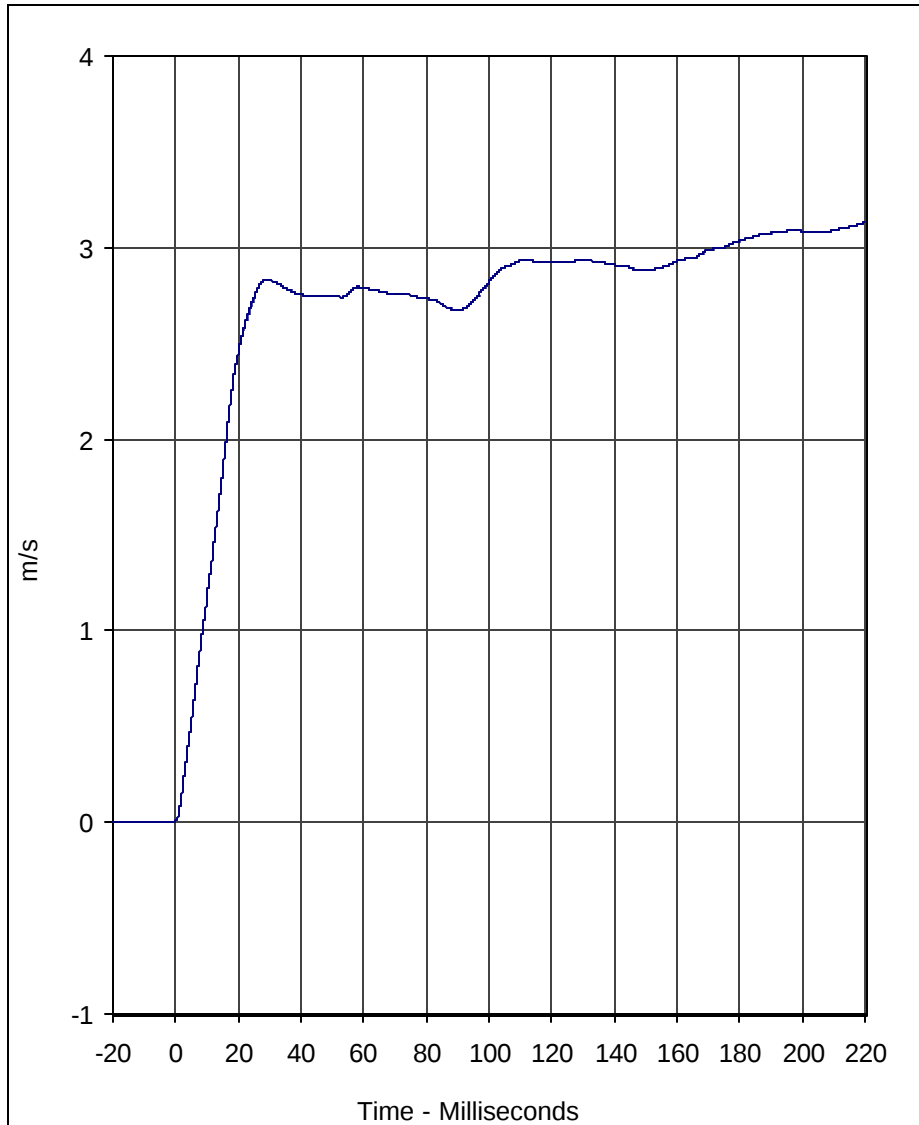
Laboratory Technician

November 24, 2003

Test Date

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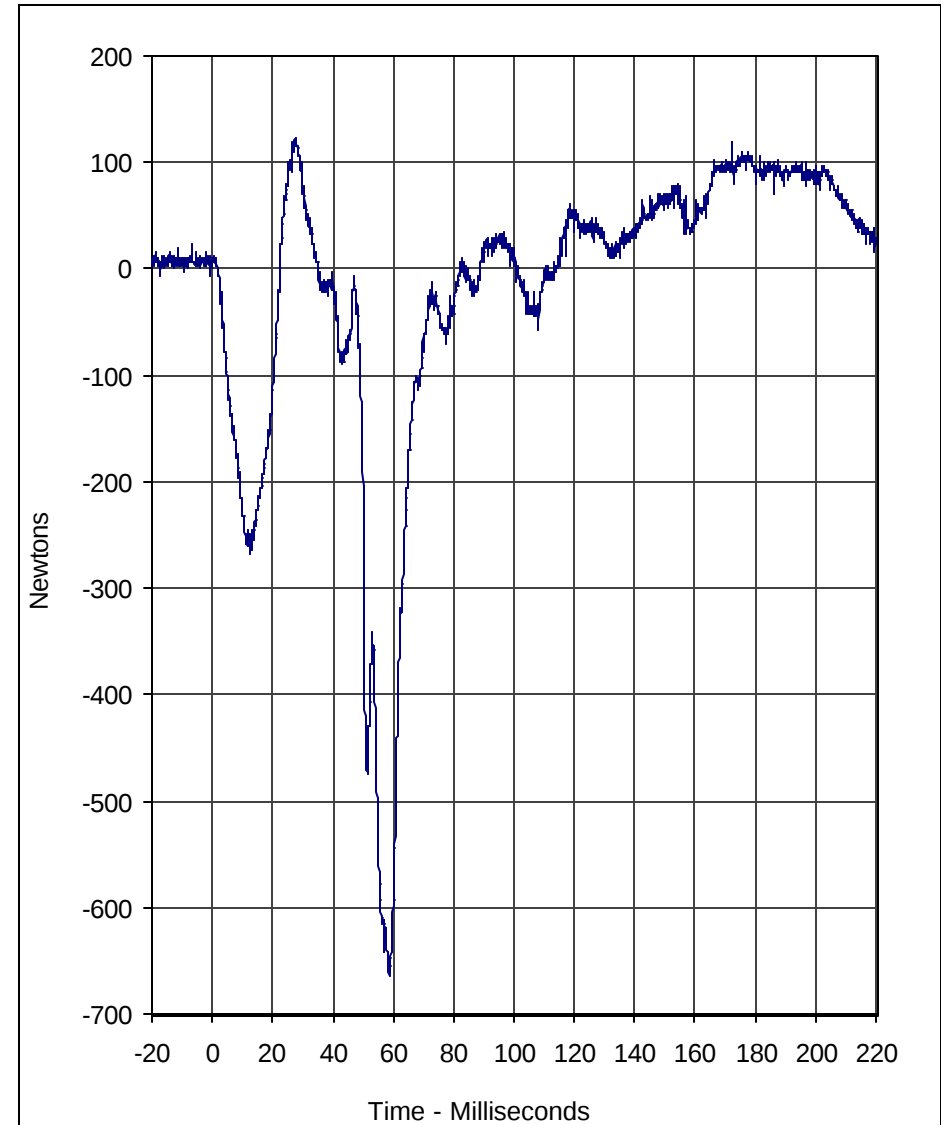
TR-P24001-06-NC



Curve Description				CURNO	Type
Pendulum Velocity				001	FIL
Units	Max	Time	Min	Time	SAE Class
m/s	3.1	220.0	0.0	-0.7	180

Test Program: 3 Year Old Hybrid III Neck Extension Test

Test Date: 11/24/03

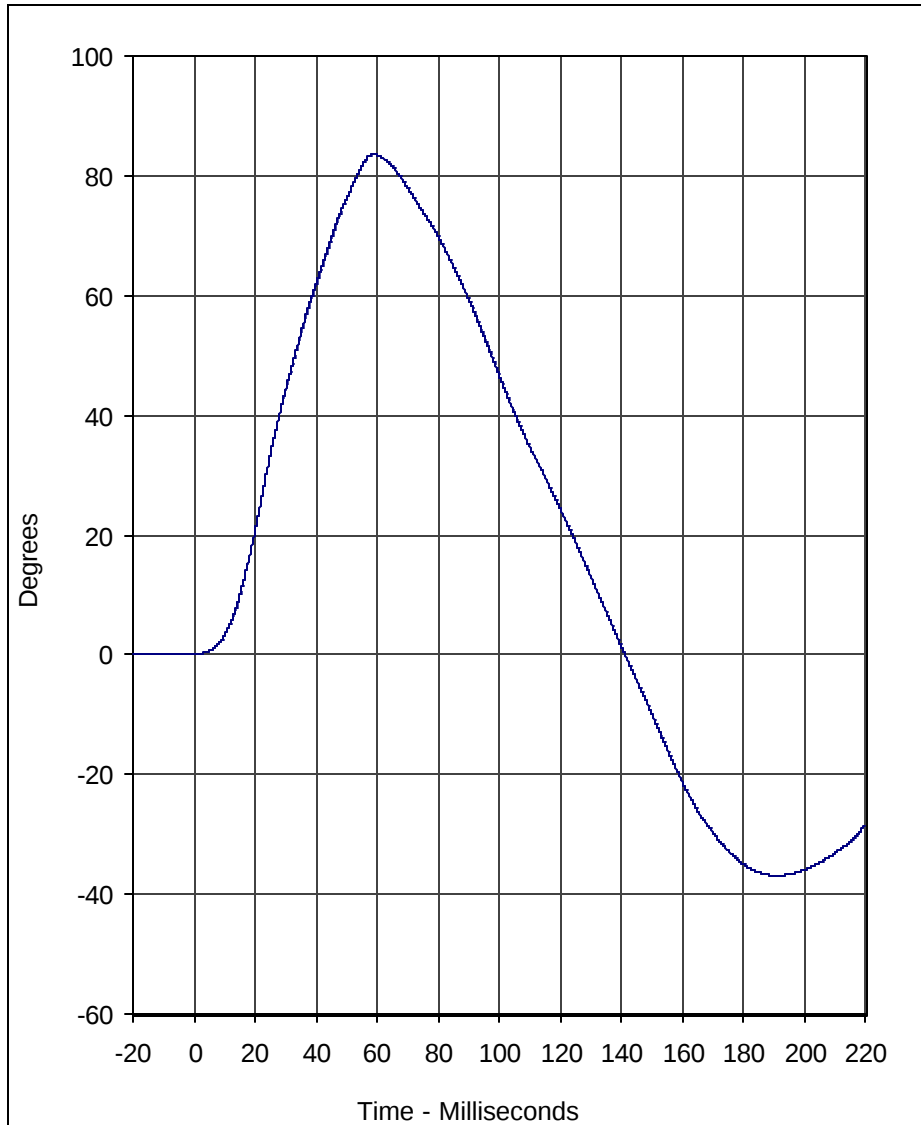


Curve Description				CURNO	Type
Neck Force X				002	FIL
Units	Max	Time	Min	Time	SAE Class
Newtons	122.5	27.5	-664.2	58.6	1000

A.T.D. Serial No.: 139

Test I.D.: NE12B



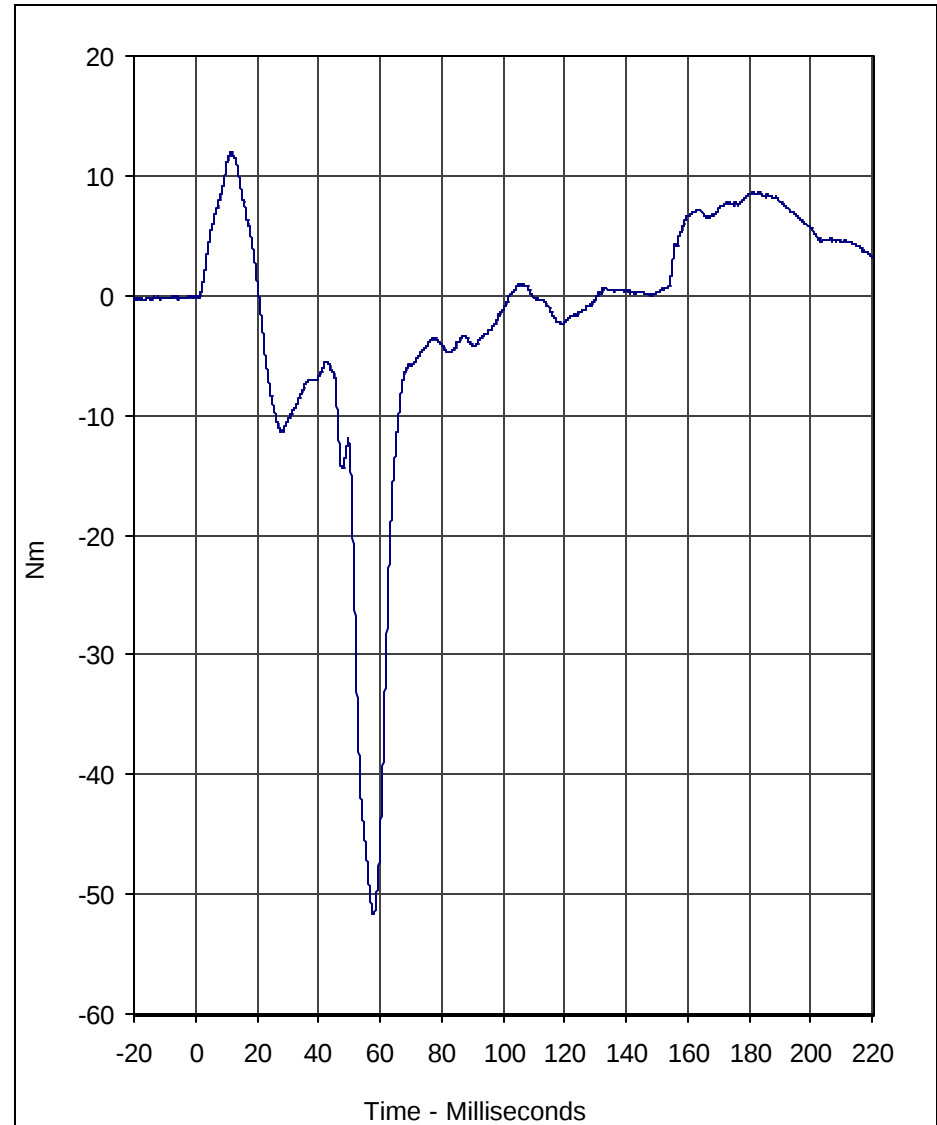


Curve Description				CURNO	Type
"D" Plane Rotation				003	FIL

Units	Max	Time	Min	Time	SAE Class
Degrees	83.6	59.0	-36.8	192.1	60

Test Program: 3 Year Old Hybrid III Neck Extension Test

Test Date: 11/24/03



Curve Description				CURNO	Type
Neck Moment Y				002	FIL

Units	Max	Time	Min	Time	SAE Class
Nm	12.0	11.5	-51.6	57.9	600

A.T.D. Serial No.: 139

Test I.D.: NE12B





Calibration Data Sheet

Hybrid III 3 Year Old

Torso Flexion Test

ATD Serial No.: 139

Test I.D.: FL11B

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	2.1	Pass
Peak Force at 45 +/-0.5 degrees	Newtons	130.0 to 180.0	172.3	Pass
Torso rotation rate	deg/sec	0.5 to 1.5	1.1	Pass
Final reference plane angle	Degrees	+/-10	4.6	Pass
Overall Test Results				Pass

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Laboratory Technician

November 25, 2003

Test Date



Calibration Data Sheet Hybrid III 3 Year Old External Measurements

ATD Serial No.: 139

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	545	Pass
B - Shoulder pivot height	mm	307 to 323	310	Pass
C - "H" point height	mm	34 to 45	35	Pass
D - "H" point from backline	mm	57 to 67	60	Pass
E - Shoulder pivot from back	mm	61 to 71	70	Pass
F - Thigh clearance	mm	81 to 91	90	Pass
G - Elbow back to wrist pivot	mm	247 to 263	250	Pass
H - Skull cap to back line	mm	48 to 58	50	Pass
I - Shoulder to elbow length	mm	185 to 201	200	Pass
J - Elbow rest height	mm	134 to 149	140	Pass
K - Buttock to knee length	mm	285 to 300	285	Pass
L - Popliteal length	mm	219 to 234	220	Pass
M - Knee pivot height	mm	242 to 257	255	Pass
N - Buttock popliteal 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	140	Pass
R - Buttock to knee pivot length	mm	251 to 262	260	Pass
S - Head Breadth	mm	128 to 144	135	Pass
T - Head Depth	mm	167 to 183	180	Pass
U - Hip breadth	mm	201 to 216	210	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	510	Pass
Y - Chest circumference with jacket	mm	527 to 553	530	Pass
Z - Waist circumference	mm	527 to 553	545	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

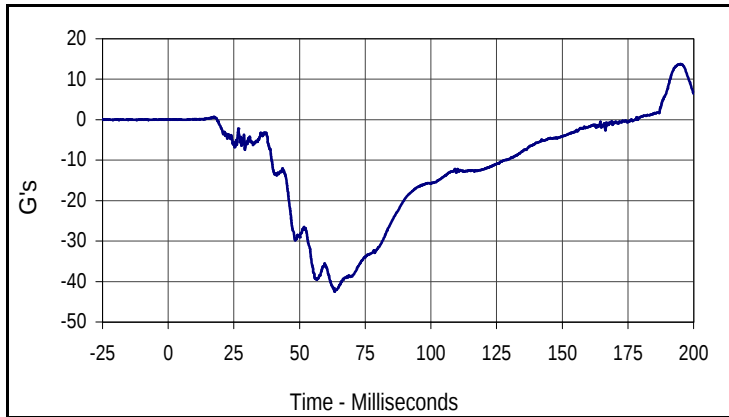
November 25, 2003
Test Date

APPENDIX G

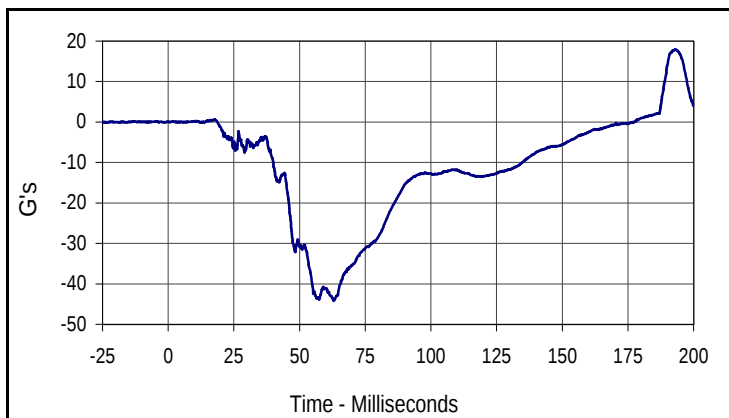
NINE ACCELEROMETER ARRAY HEAD

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

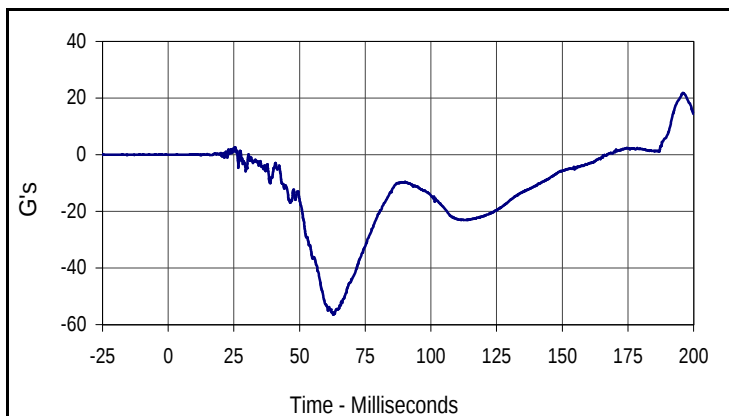
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Driver Head Primary X			
CURNO	Type	SAE Class	Units
001	FIL	1000	G's
Max	Time	Min	Time
13.7	195.0	-42.5	63.4



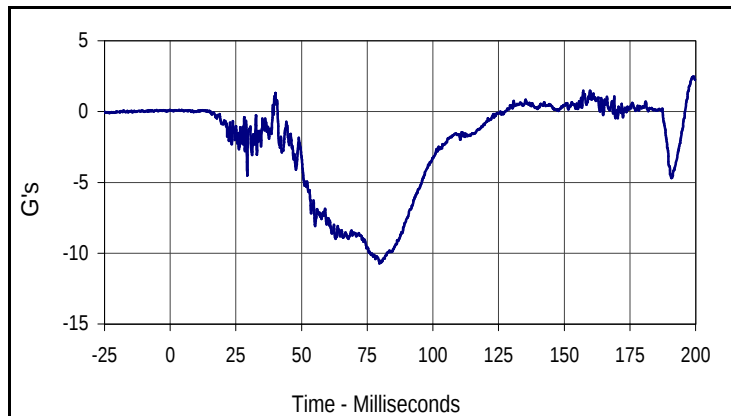
Curve Description			
Driver NAAH Yarm-X			
CURNO	Type	SAE Class	Units
188	FIL	1000	G's
Max	Time	Min	Time
17.9	192.8	-44.2	62.9



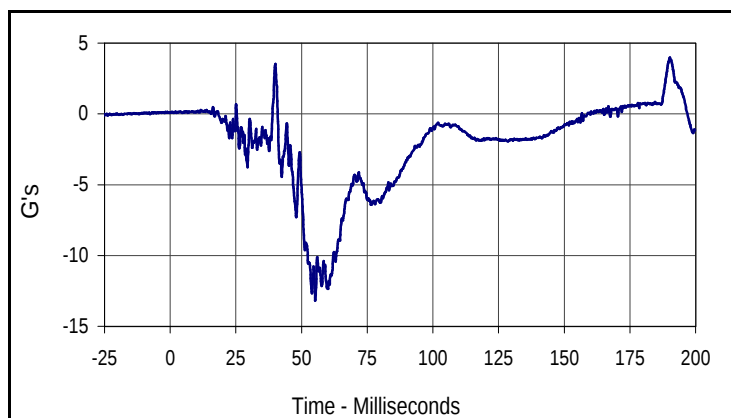
Curve Description			
Driver NAAH Zarm-X			
CURNO	Type	SAE Class	Units
190	FIL	1000	G's
Max	Time	Min	Time
21.8	195.9	-56.5	62.8

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

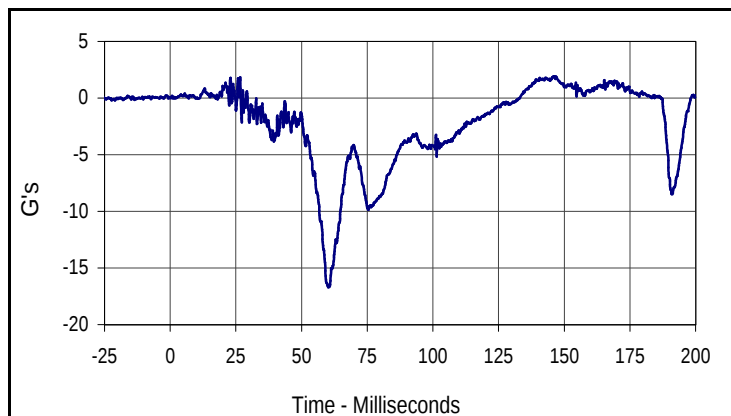
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Driver Head Primary Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
2.5	199.1	-10.7	79.7



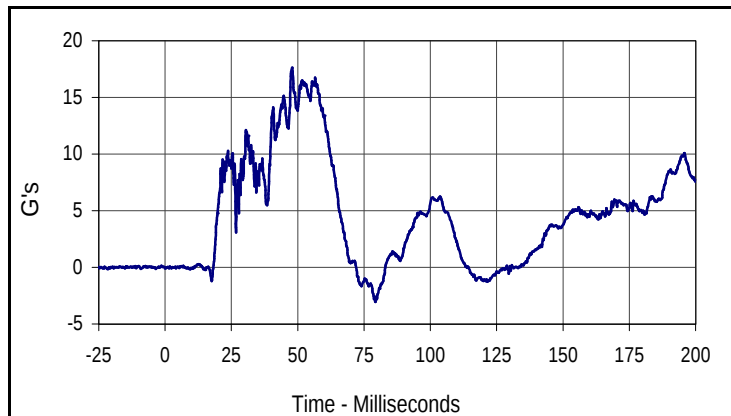
Curve Description			
Driver NAAH Xarm-Y			
CURNO	Type	SAE Class	Units
186	FIL	1000	G's
Max	Time	Min	Time
4.0	190.2	-13.2	55.2



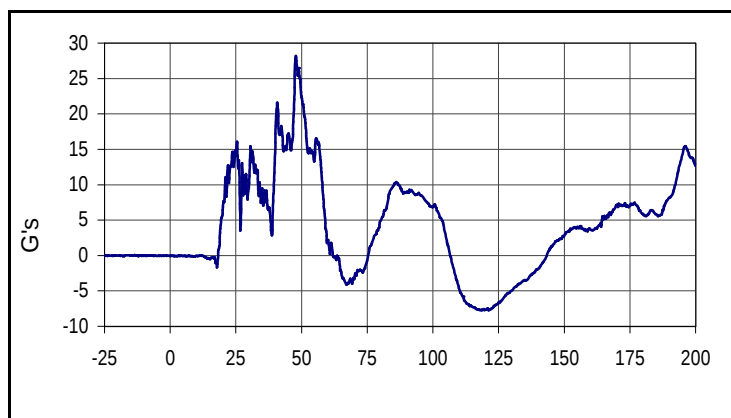
Curve Description			
Driver NAAH Zarm-Y			
CURNO	Type	SAE Class	Units
191	FIL	1000	G's
Max	Time	Min	Time
1.9	146.1	-16.7	60.1

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

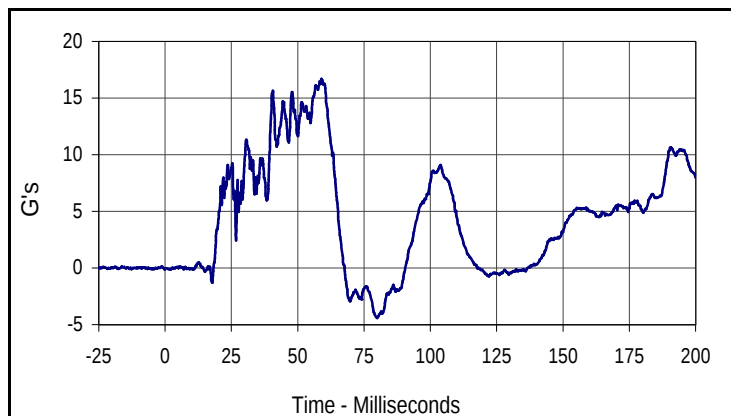
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Driver Head Primary Z			
CURNO	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
17.6	48.0	-3.0	79.2



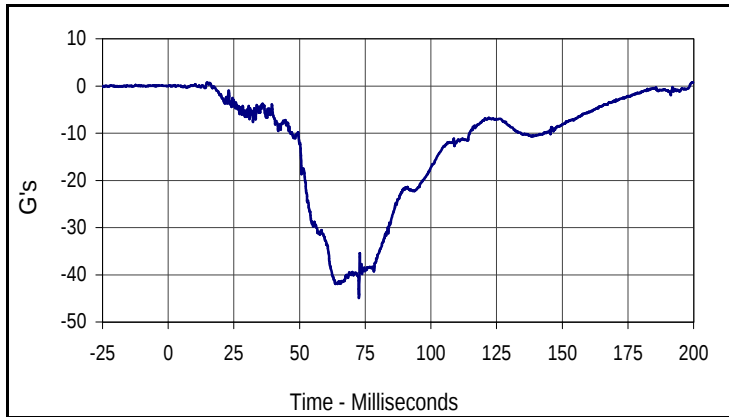
Curve Description			
Driver NAAH Xarm-Z			
CURNO	Type	SAE Class	Units
187	FIL	1000	G's
Max	Time	Min	Time
28.2	47.8	-7.8	119.7



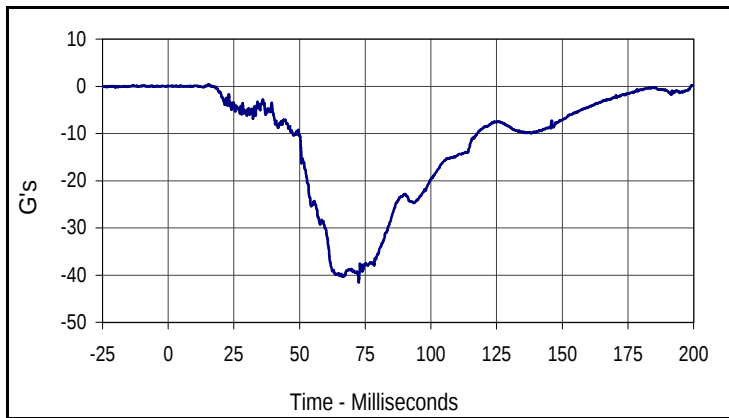
Curve Description			
Driver NAAH Yarm-Z			
CURNO	Type	SAE Class	Units
189	FIL	1000	G's
Max	Time	Min	Time
16.7	59.0	-4.4	80.0

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

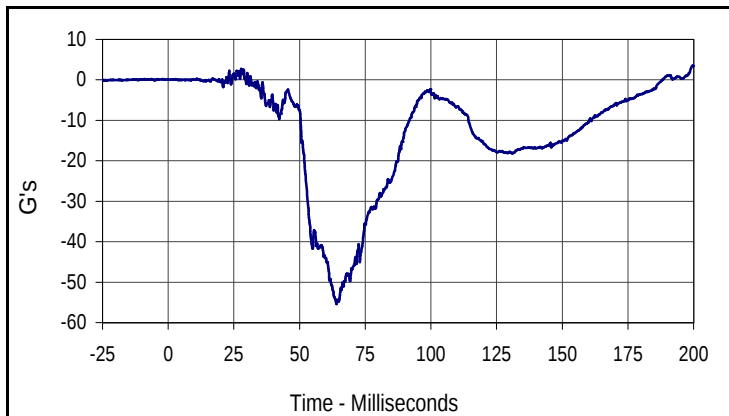
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Passenger Head Primary X			
CURNO	Type	SAE Class	Units
045	FIL	1000	G's
Max	Time	Min	Time
0.8	200.0	-44.9	72.6



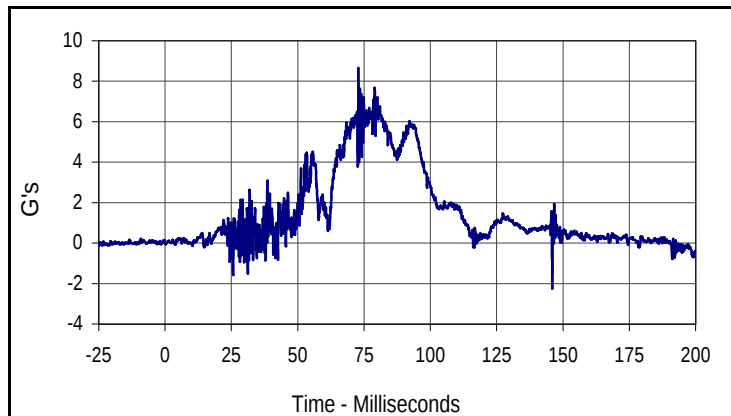
Curve Description			
Passenger NAAH Yarm-X			
CURNO	Type	SAE Class	Units
194	FIL	1000	G's
Max	Time	Min	Time
0.4	15.4	-41.5	72.6



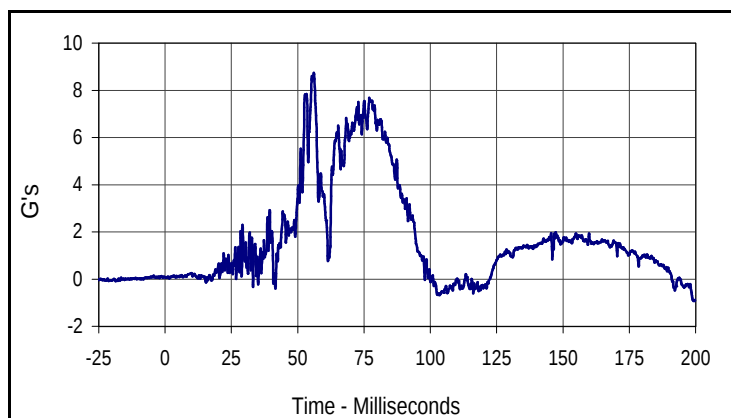
Curve Description			
Passenger NAAH Zarm-X			
CURNO	Type	SAE Class	Units
196	FIL	1000	G's
Max	Time	Min	Time
3.5	199.6	-55.4	64.1

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

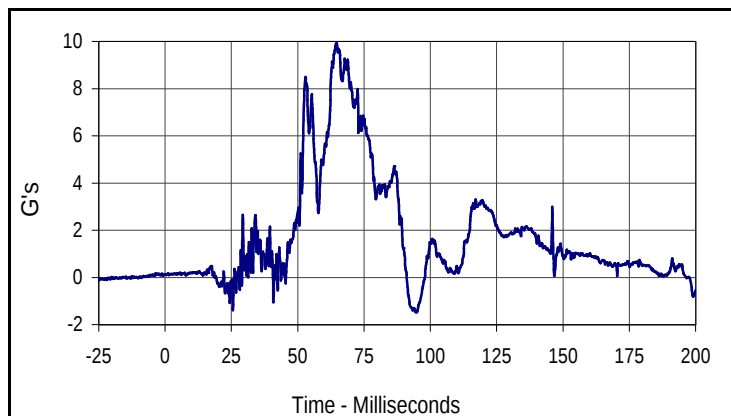
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Passenger Head Primary Y			
CURNO	Type	SAE Class	Units
046	FIL	1000	G's
Max	Time	Min	Time
8.7	72.9	-2.2	146.0



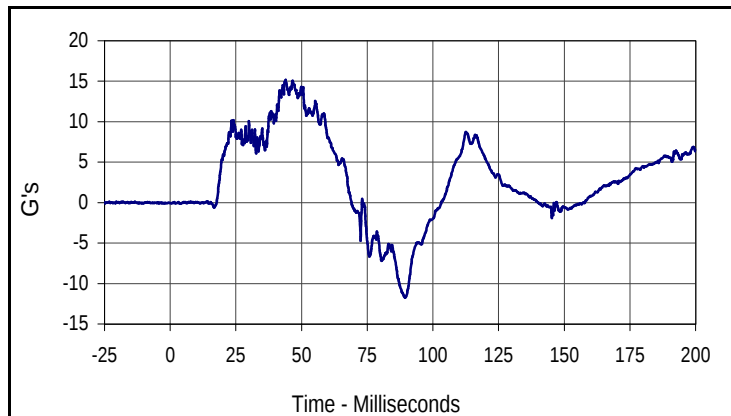
Curve Description			
Passenger NAAH Xarm-Y			
CURNO	Type	SAE Class	Units
192	FIL	1000	G's
Max	Time	Min	Time
8.7	56.1	-0.9	199.3



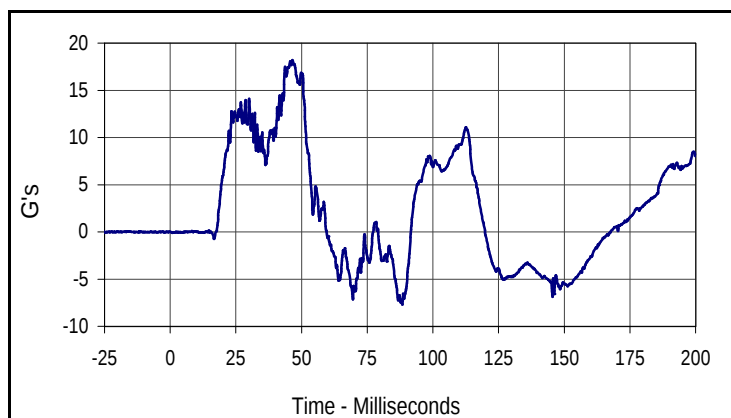
Curve Description			
Passenger NAAH Zarm-Y			
CURNO	Type	SAE Class	Units
197	FIL	1000	G's
Max	Time	Min	Time
9.9	64.6	-1.5	94.4

Test Vehicle: 2004 Acura 3.2 TL 4 Door Sedan
 Test Program: 2004 NHTSA 35mph NCAP

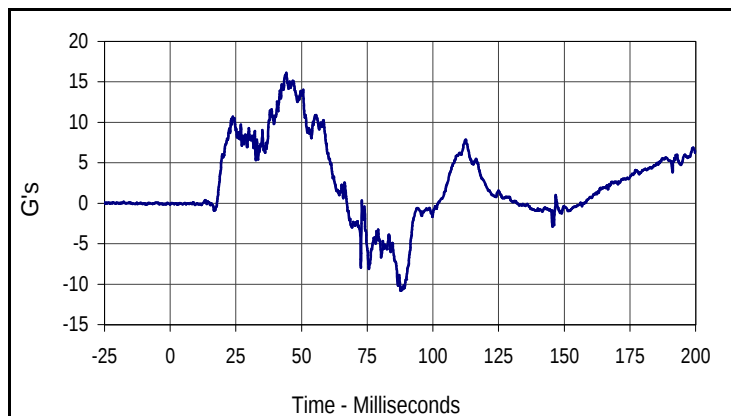
Test Date: 12/19/03
 NHTSA No.: M45300



Curve Description			
Passenger Head Primary Z			
CURNO	Type	SAE Class	Units
047	FIL	1000	G's
Max	Time	Min	Time
15.2	43.9	-11.7	89.4



Curve Description			
Passenger NAAH Xarm-Z			
CURNO	Type	SAE Class	Units
193	FIL	1000	G's
Max	Time	Min	Time
18.2	46.5	-7.7	88.4



Curve Description			
Passenger NAAH Yarm-Z			
CURNO	Type	SAE Class	Units
195	FIL	1000	G's
Max	Time	Min	Time
16.1	44.2	-10.8	87.7