

**REPORT NUMBER TR-P24144-01-NC**

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

**HONDA MOTOR CORPORATION  
2005 ACURA RL  
4-DOOR SEDAN**

**NHTSA NUMBER: H55300**

**PREPARED BY:  
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**OCTOBER 28, 2004**

**FINAL REPORT**

**PREPARED FOR:  
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**Technical Report Documentation Page**

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<b>16. Abstract</b>  A 35 mph (56.3 km/h) frontal barrier impact was conducted on a 2005 Acura RL 4-Door Sedan at Karco Engineering, LLC on October 28, 2004. This test was conducted to obtain data indicant of FMVSS 208, 212, 219 (partial), 301, and footwell intrusion performance. The impact velocity was 56.33 km/h. The ambient temperature at the barrier face at the time of impact was 12.2 degrees Celcius. The vehicle's maximum post test static crush was 346 mm to the right of the vehicle center line. 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:					
<b>Measurement Description</b>		<b>Units</b>	<b>Threshold</b>	<b>Driver ATD</b>	<b>Passenger ATD</b>
Head Injury Criteria (HIC <sub>36</sub> )		N/A	1000	211.2	395.1
Max. Chest Accel. (3 msec Clip)		G's	60	39.2	40.9
Left Femur Force		Newtons	10008	-2617.7	-3296.9
Right Femur Force		Newtons	10008	-3303.7	-2548.1
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## SECTION 1

### PURPOSE AND SUMMARY OF TEST H55300

#### 1.1 PURPOSE

This 35 mph (56.3 km/h) frontal barrier impact test is part of the New Car Assessment Program (NCAP) sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-01-D-02005. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for an impact speed in excess of the current 30 mph (48.3 km/h) requirements.

This 56.3 km/h frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards (OCS) New Car Assessment Program (NCAP) Laboratory Indicant Test Procedure, dated December 1999. Data was obtained indicant of FMVSS 208 "Occupant Crash Protection"; FMVSS 212, "Windshield Retention"; FMVSS 219, "Windshield Zone Intrusion (Partial)"; and FMVSS 301 "Fuel System Integrity" performance. Procedures for receiving, inspection testing and reporting of test results are described in the test procedures and are not repeated in this report.

#### 1.2 SUMMARY

A load cell barrier consisting of 36 load cells was impacted by a 2005 Acura RL 4-Door Sedan at a velocity of 56.33 km/h (35.01 mph). The test was performed at Karco Engineering, LLC on October 28, 2004.

Three (3) real-time video cameras and eighteen (18) high-speed film cameras were used to document the frontal barrier impact event. Camera locations and other pertinent camera information can be found in data sheet number 15 (page number: 27) of this report.

Two Part 572E, 50<sup>th</sup> percentile male anthropomorphic test devices (ATDs), were placed in the driver and right-front passenger seating positions according to dummy placement instructions specified in the Laboratory Indicant Test Procedure.

Both ATDs were fully instrumented with head (primary and redundant), chest (primary and redundant) and pelvic triaxial accelerometers, chest displacement potentiometers, six-axis upper neck transducers, right/left femur load cells, and lower leg instrumentation. Seat belt load cells were also placed on the driver's and passenger's lap and shoulder belts to measure dummy torso and pelvic section loading. Also, shoulder belt spool-off was measured for the driver and passenger dummies. The driver (position 1) ATD (Serial No. 035) and the right-front passenger (position 2) ATD (Serial No. 034) 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. Appendix F contains the Child Restraint data and Appendix G contains NAAH 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 346 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 contacted the airbag and on rebound the head contacted the headrest, its chest and abdomen contacted the airbag, both knees contacted the knee bolster.

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

Occupant injury data is contained in table below.

#### OCCUPANT DATA SUMMARY

ATD Position	HIC <sub>36</sub>	Clip (g)	Chest Disp. (mm)	Left Femur (N)	Right Femur (N)	Belt Spool (mm)
Driver	211.2	39.2	-21.5	-2617.7	-3303.7	*
Passenger	395.1	40.9	-22.6	-3296.9	-2548.1	*

\* Belt spool out was not measured as per manufacturer's request.

**SECTION 2  
OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**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 <sup>2</sup>	kPa	7.0
Volume	Liquid	gal	liter	3.785
Temperature	General Use	°F	°C	=(tf -32)/1.8
Force	Dynamic Forces	lbf	N	4.448
Moment	Torque	lbf/ft	Nm	1.355

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

**DATA SHEET NO. 1  
CRASH TEST SUMMARY**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**PRIMARY IMPACT DATA**

Measured Parameter	Units	Value
Velocity at Impact	km/h	56.33
Test Weight	kg	2011
Impact Angle	degrees	0
Average Rebound	mm	518
Maximum Static Crush	mm	346

**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)	13	20
Seat Back Failure	No	No

**TEST DUMMY INFORMATION**

Description	Driver	Passenger
Dummy Type/ Serial No.	50% Male Hybrid III No. 035	50% Male Hybrid III No. 034
Head Contact	Airbag, Head Rest	Airbag, Head Rest
Chest Contact	Airbag	Airbag
Abdomen Contact	Airbag	Airbag
Left Knee Contact	Knee Bolster	Glove Box
Right Knee Contact	Knee Bolster	Glove Box

**16mm MOVIE COVERAGE**

High Speed	18
Real Time	3
Total	21

**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: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**TEST VEHICLE INFORMATION AND OPTIONS**

NHTSA No.	H55300
Make	Acura
Model	RL
Body Style	4-Door Sedan
Vin No.	JH4KB16585C000425
Color	Light Blue
Delivery Date	10/22/04
Odometer	20
Dealer	Thomas Acura
Transmission	5-Speed Automatic
Final Drive	All Wheel Drive
Type/No. Cyl.	V6
Engine Disp. (L)	3.5
Engine Placement	Transverse
Roof Rack	No
Sunroof/T-Top	Yes
Tinted Glass	Yes
Traction Control	Yes
Power Brakes	Yes
Front Disc	Yes
Rear Disc	Yes

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

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

**Yes**

**DATA FROM CERTIFICATION LABEL**

Manufactured By	Honda Motor Corporation Ltd.
Date of Manufacture	Aug-04

GVWR (kg)	2259
GAWR Front (kg)	1216
GAWR Rear (kg)	1080

**VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION**

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bucket	None	
Number of Occupants	2	3	0	5
Capacity Weight (VCW) (kg)				386
Cargo Weight (RCLW) (kg)				45

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

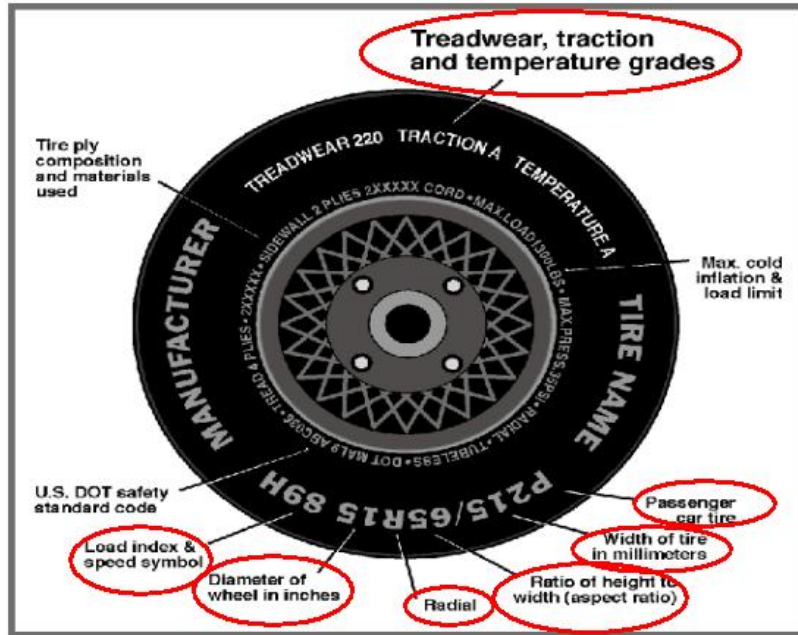
Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

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)	224	210
Recommended Tire Size	P245/50R17	P245/50R17
Tire Size on Vehicle	P245/50R17	P245/50R17
Tire Manufacturer	Michelin	Michelin
Treadwear	300	300
Traction	A	A
Temperature Grades	A	A
Tire Plies Sidewall	2 Polyester	2 Polyester
Tire Plies Body	M+S	M+S
Load Index/Speed Symbol	98V	98V
Tire Material	2 Steel + 2 Polyester + 1 Polyamide	2 Steel + 2 Polyester + 1 Polyamide
DOT Safety Code Right	DOT B9LM JHMX 2404	DOT B9LM JHMX 2404
DOT Safety Code Left	DOT B9LM JHMX 2404	DOT B9LM JHMX 2404

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

Test Vehicle: 2005 Acura RL 4-Door Sedan NHTSA No.: H55300  
 Test Program: 2005 NHTSA 35mph NCAP Test Date: 10/28/04

**TEST VEHICLE WEIGHTS**

	Units	As Delivered Weights (UVW)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	531	392	923	552	465	1017
Right	kg	533	364	897	556	438	994
Ratio	%	58.5	41.5	100%	55.1	44.9	100%
Totals	kg	1064	756	1820	1108	904	2011

**TARGET TEST WEIGHT CALCULATION**

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1820
Weight of 2 P572 ATD's	kg	152
Rated Cargo/Luggage Wt. (RCLW)	kg	45
Calculated Vehicle Target Wt. (TVTW)	kg	2017

**TEST VEHICLE ATTITUDE AND CG**

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	718	717	727	730	1160
As Tested	mm	704	705	690	700	1255

Vehicle Wheel Base (mm) 2795  
 Weight of Ballast Secured in cargo area (kg) 0  
 Vehicle Components Removed Rear bumper, spare tire, rear windshield, trunk lid, muffler

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

**FUEL SYSTEM DATA**

Fuel System Capacity From Owners Manual (L) 73.43  
 Usable Capacity Furnished by COTR (L) N/A  
 Actual Test Volume with entire fuel System Filled (L) 24.22  
 1/3 of Usable Capacity (L) 24.48  
 Test Fluid Type: Stoddard Solvent  
 Kinematic Viscosity: as per ASTM Standard D484-71 Purple  
 Is Vehicle Fuel Pump Electric or Mechanical? Electric  
 If electric, does pump operate with ignition switch "On" & engine "OFF" Yes  
 Fuel System Particulars: None

**DATA SHEET NO. 3  
POST TEST IMPACT DATA**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**SPEED TRAP DATA**

Measured Parameter	Units	Requirement	Value
Trap No.1 Velocity (Primary)	km/h	55.51 to 57.12	56.33
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	56.28
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	4666	4525	-141
Center	mm	4915	4575	-340
Right Side	mm	4663	4360	-303

**VEHICLE REBOUND FROM BARRIER**

Measured Parameter	Units	Value
Left Side	mm	520
Center	mm	445
Right Side	mm	590
Average	mm	518

**DATA SHEET NO. 4  
TEST VEHICLE INFORMATION**

Test Vehicle: 2005 Acura RL 4-Door Sedan

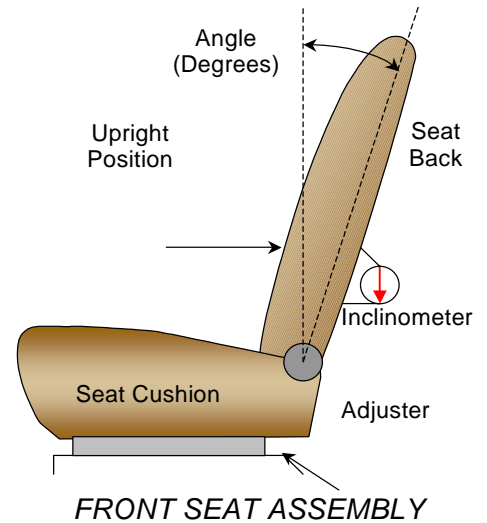
NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**NOMINAL DESIGN RIDING POSITION**

The driver and passenger seat backs are positioned to the manufacturers designated angle.



**SEAT BACK ANGLES**

	Distance
Driver w/seated Dummy	620 mm
Passenger w/seated Dummy	600 mm

\* Distance was measured from sunvisor bolt to the center of the head support.

**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	255 mm	127 mm
Passenger	255 mm	127 mm

**SEAT BELT UPPER ANCHORAGE**

Position number one (1) is the uppermost position.

**SEAT BELT UPPER ANCHORAGE**

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

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

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

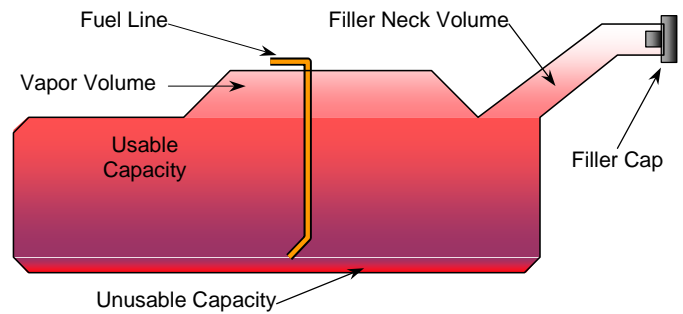
Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**FUEL TANK CAPACITY**

	Liters
Usable Capacity of "Standard Tank"	73.43
Usable Capacity of "Optional" Tank	N/A
Usable Capacity used for FMVSS 301	67.56 to 69.04
Actual Amount of Solvent used	24.22
1/3 of Usable Capacity	24.48

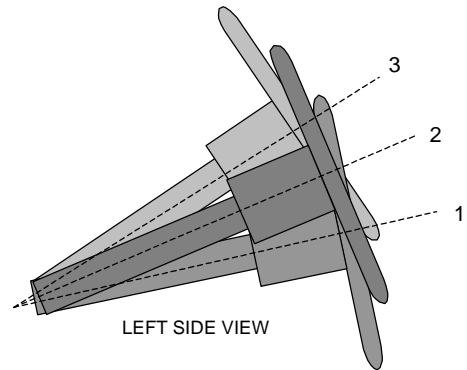
The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the right rear fender. The standard fuel tank occupies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



VEHICLE FUEL TANK ASSEMBLY

**STEERING COLUMN ADJUSTMENT**

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



STEERING COLUMN ASSEMBLY

**STEERING COLUMN POSITIONS**

	Fore/Aft Positon (mm)	Degrees
Lowermost positon No. 1	0	18.6
Geometric center position No. 2	20	21.2
Uppermost position No. 3	40	23.8

**DATA SHEET NO. 5**  
**DUMMY POSITIONING IN VEHICLE**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**TEST DUMMY POSITION MEASUREMENTS**

Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (deg)	Length (mm)	Angle (deg)
WA	Windshield Angle		67.0		
SWA	Steering Wheel Angle		68.8		
SCA	Steering Column Angle		21.2		
SA	Seat Back Angle		*		*
HZ	Head to Roof (Z)	160	90.0	160	90.0
HH	Head to Header	310		310	
HW	Head to Windshield	610		645	
HR	Head to Side Header (Y)	245		230	
NR	Nose to Rim	340	7.2		
CD	Chest to Dash	510		580	
CS	Chest to Steering Hub	295			
RA	Rim to Abdomen	190			
KDL	Left Knee to Dash	140	27.1	165	
KDR	Right Knee to Dash	180		165	9.2
PA	Pelvic Angle		20.9		21.0
TA	Tibia Angle		41.2		41.0
KK	Knee to Knee (Y)	320		270	
SK	Striker to Knee	635	7.6	630	9.2
ST	Striker to Head	450	73.9	470	67.0
SH	Striker to H-Point	310	46.1	310	42.4
SHY	Striker to H-Point (Y)	245		250	
HS	Head to Side Window	340		335	
HD	H-Point to Door (Y)	130		145	
AD	Arm to Door (Y)	60		130	

\* The seatbacks were set at 620 mm and 600 mm. The distance was measured from sunvisor front bolt to the center of the head support for the driver and passenger respectively.

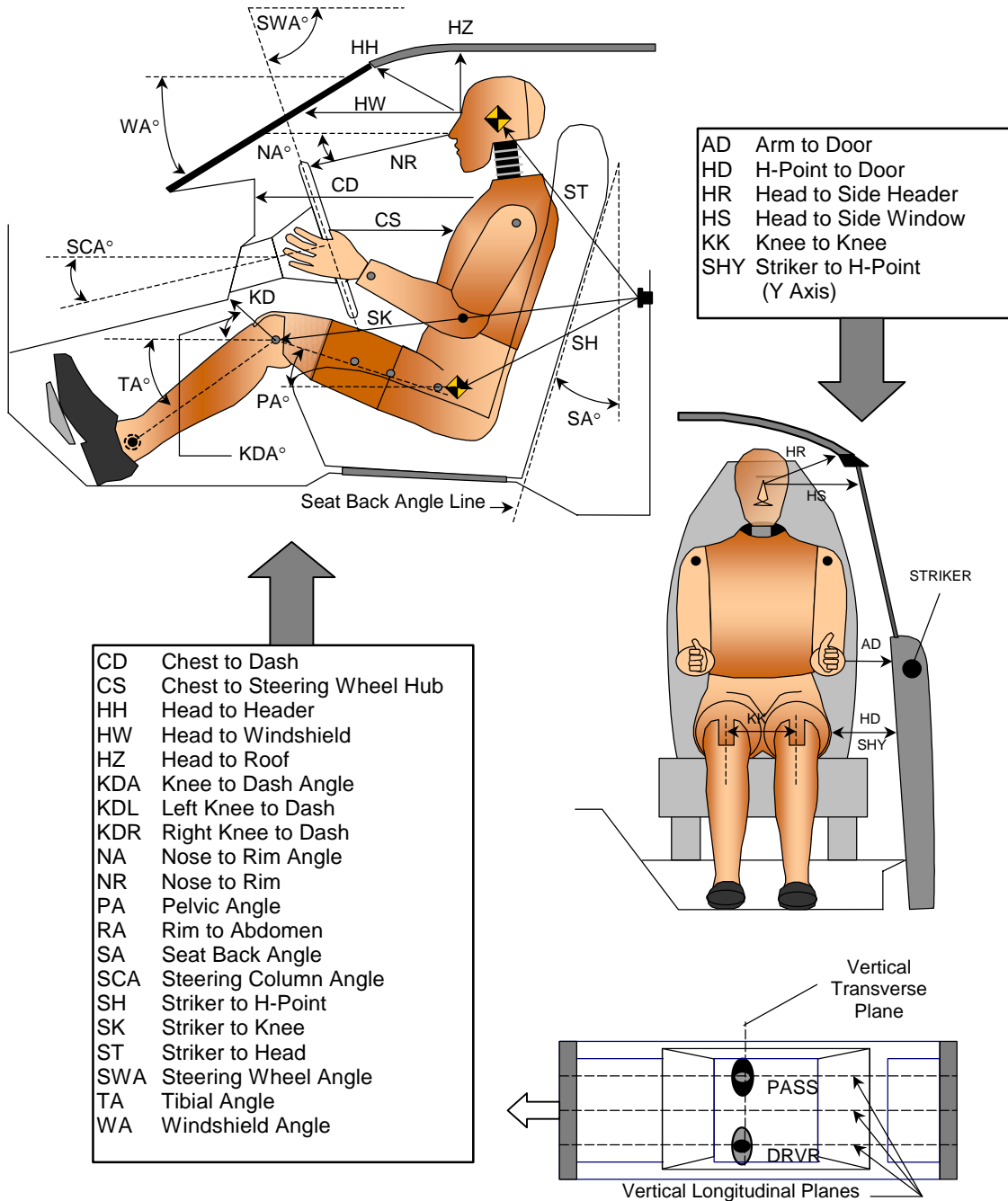
**DATA SHEET NO. 5...(CONTINUED)**  
**DUMMY POSITIONING IN VEHICLE**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

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**DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS**

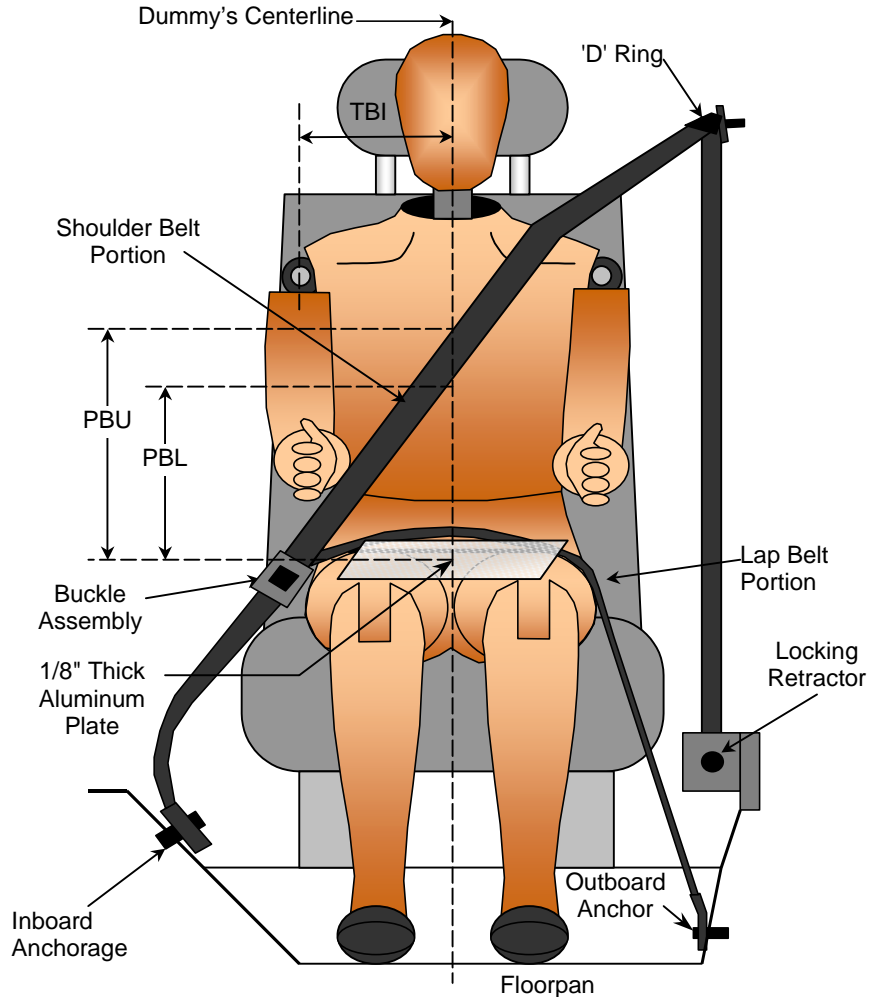
**DATA SHEET NO. 6**  
**SEAT BELT POSITIONING DATA**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04



**SEAT BELT POSITIONING MEASUREMENTS**

Measured Parameter	Units	Driver	Passenger
TBI -Dummy C/L to Lap/Shoulder Belt Intersect	mm	190	180
PBU - Top Surface of reference to belt upper edge	mm	360	330
PBL - Top Surface of reference to belt lower edge	mm	285	250
Lap Belt Tension	Newtons	10	10
Shoulder Belt Tension	N/A	Retractor	Retractor

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

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

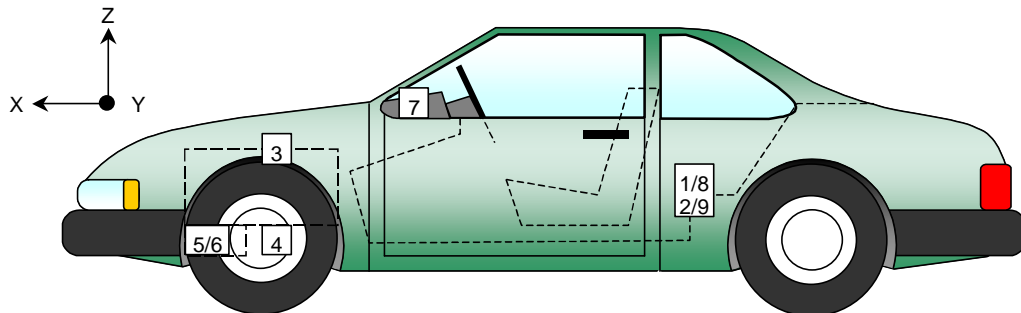
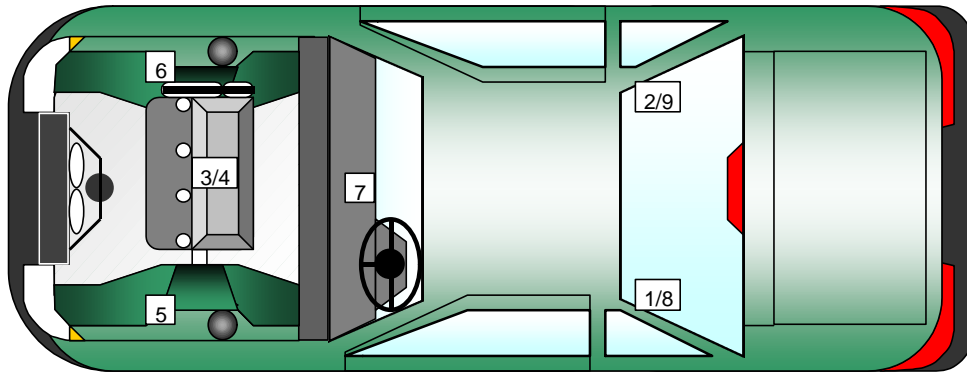
Test Date: 10/28/04

## 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	1880	-740	330	G's	3.1	148.8	-39.4	47.0
2	Right Rear X-Member	1880	740	330	G's	3.1	157.9	-43.4	54.5
3	Engine Top	4120	110	850	G's	3.1	40.2	-183.3	30.6
4	Engine Bottom	4250	210	150	G's	39.3	36.5	-118.4	28.9
5	Left Brake Caliper	4060	-695	240	G's	0.0	0.0	0.0	0.0
6	Right Brake Caliper	4060	695	240	G's	0.0	0.0	0.0	0.0
7	Instrument Panel	3200	0	900	G's	9.7	87.0	-61.8	47.7
8	Left Rear X-Member (Z-Axis)	1840	-740	330	G's	7.0	63.4	-13.6	38.5
9	Right Rear X-Member (Z-Axis)	1840	740	330	G's	7.3	41.5	-6.3	61.4

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

- 1.) Channels failed, no data
- 2.) Channel failed at 37.4 msec.



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

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**HEAD PRIMARY PEAK ACCELERATIONS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	0.4	14.6	-35.2	72.6	0.7	14.6	-46.9	83.6
Head CG	Y	G's	2.4	65.4	-3.8	93.3	2.0	46.3	-16.9	100.3
Head CG	Z	G's	14.0	39.3	-11.6	93.3	30.8	84.1	-0.9	17.3
Head CG Resultant	N/A	G's	35.7	72.6			57.3	83.6		

**CHEST PRIMARY PEAK ACCELERATIONS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	2.3	152.9	-39.4	71.4	1.1	198.1	-42.3	77.3
Chest CG	Y	G's	5.3	82.5	-2.6	31.0	1.8	39.2	-8.7	74.2
Chest CG	Z	G's	6.0	23.2	-5.6	90.3	14.1	88.1	-7.2	60.0
Chest CG Resultant	N/A	G's	39.6	71.3			42.5	77.3		

**FEMUR PEAK FORCES**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Femur	Z	Newtons	921.7	53.5	-2617.7	68.8	709.6	51.1	-3296.9	64.9
Right Femur	Z	Newtons	1213.2	58.0	-3303.7	67.3	528.8	46.4	-2548.1	68.9

**SEAT BELT SENSOR PEAK VALUES**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Shoulder Belt Pullout	N/A	MM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shoulder Belt Stretch	N/A	MM/CM	0.0	0.0	0.0	0.0	0.00	0.0	0.00	0.0
Lap Belt Force	N/A	Newtons	5199.9	59.6	-0.6	4.4	5760.5	63.8	-12.7	192.3
Shoulder Belt Force	N/A	Newtons	4709.6	52.5	-44.0	10.4	4944.9	51.0	-35.2	191.8

2.) Not used with pre-tensioners

1.) Driver and Passenger sensors not installed

**PRIMARY HEAD INJURY CRITERIA (HIC36)**

Location	Driver				Passenger			
	HIC	T <sup>1</sup>	T <sup>2</sup>	Avg G	HIC	T <sup>1</sup>	T <sup>2</sup>	Avg G
Head CG Primary	211.2	48.8	84.8	32.1	395.1	70.7	106.7	41.3

**PRIMARY CHEST CLIP (3MSEC)**

Location	Driver			Passenger		
	CLIP	T <sup>1</sup>	T <sup>2</sup>	CLIP	T <sup>1</sup>	T <sup>2</sup>
Chest CG Primary	39.2	69.6	72.6	40.9	74.8	77.8

**DATA SHEET NO. 8...(CONTINUED)**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**PELVIC PEAK ACCELERATIONS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	5.1	199.9	-60.1	67.3	5.3	200.0	-65.8	64.8
Pelvis	Y	G's	10.2	73.5	-5.1	60.8	4.2	111.5	-7.6	58.1
Pelvis	Z	G's	4.3	199.8	-36.0	74.2	2.0	195.3	-30.8	73.6
Pelvis Resultant	N/A	G's	68.0	67.3			70.1	64.8		

**UPPER NECK PEAK FORCES AND MOMENTS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	575.8	73.4	-358.5	141.9	556.5	91.8	-369.9	136.7
Neck Force	Y	Newtons	43.2	71.6	-98.7	100.8	48.3	48.5	-173.7	102.6
Neck Force	Z	Newtons	922.7	45.8	-348.2	95.8	1114.8	77.7	-197.5	95.8
Neck Force Resultant	N/A	Newtons	924.3	45.8			1124.7	77.7		
Neck Moment	X	N•m	4.1	157.3	-8.2	112.6	24.1	101.2	-10.8	125.7
Neck Moment	Y	N•m	53.1	65.3	-27.2	101.3	38.0	92.6	-21.2	106.4
Neck Moment	Z	N•m	4.3	77.0	-2.4	166.3	19.8	110.8	-8.4	158.2
Neck Moment Resultant	N/A	N•m	53.5	65.3			41.5	93.3		

**FOOT PEAK ACCELERATIONS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Foot Aft	X	G's	13.9	28.3	-26.3	57.5	7.3	97.3	-82.2	43.1
Left Foot Aft	Z	G's	3.6	161.6	-48.8	63.5	3.6	168.1	-69.6	49.5
Left Foot Fore	Z	G's	10.3	23.7	-65.4	51.6	38.5	57.2	-115.3	49.0
Right Foot Aft	X	G's	23.0	31.3	-72.1	42.2	21.9	74.5	-60.4	63.7
Right Foot Aft	Z	G's	36.9	51.0	-94.4	42.5	4.3	147.7	-30.2	79.9
Right Foot Fore	Z	G's	39.5	51.2	-150.5	41.2	23.1	57.3	-76.6	63.9

1.) Pass. Channel failed at 73.7 msec.

**UPPER AND LOWER TIBIA PEAK FORCES AND MOMENTS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Upper Moment	X	N•m	10.5	200.0	-110.4	60.2	18.9	49.5	-27.9	66.9
Left Upper Moment	Y	N•m	73.7	57.6	-10.1	175.6	17.8	199.4	-98.4	61.2
Right Upper Moment	X	N•m	48.0	52.8	-34.7	38.6	29.3	93.7	-18.2	64.0
Right Upper Moment	Y	N•m	13.3	199.7	-115.4	43.4	14.6	199.1	-87.8	61.7
Left Lower Moment	X	N•m	22.4	59.5	-32.3	75.1	11.8	48.7	-17.5	66.6
Left Lower Moment	Y	N•m	15.3	69.7	-34.1	52.5	23.3	55.4	-45.9	61.5
Left Lower Force	Z	Newtons	101.7	176.2	-1723.1	65.9	105.8	186.5	-2368.7	43.3
Right Lower Moment	X	N•m	67.6	51.7	-23.8	62.9	42.7	81.6	-10.6	68.8
Right Lower Moment	Y	N•m	42.9	91.6	-45.6	58.5	28.9	77.3	-50.4	62.4
Right Lower Force	Z	Newtons	135.5	183.2	-3311.2	42.7	55.3	178.7	-2851.9	77.4

**DATA SHEET NO. 8...(CONTINUED)**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**CHEST PEAK DISPLACEMENTS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	MM	0.0	4.8	-21.5	70.0	0.0	3.9	-22.6	85.1

**HEAD REDUNDANT PEAK ACCELERATIONS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	0.3	15.6	-35.2	72.5	0.6	13.1	-47.2	80.9
Head CG	Y	G's	2.4	65.8	-3.8	94.1	2.2	43.7	-17.3	94.4
Head CG	Z	G's	13.9	39.3	-11.5	92.8	30.6	84.1	-0.9	17.1
Head CG Resultant	N/A	G's	35.8	72.5			57.0	84.6		

**CHEST REDUNDANT PEAK ACCELERATIONS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	2.3	152.9	-39.3	71.5	1.2	193.4	-42.5	77.2
Chest CG	Y	G's	5.2	82.4	-2.3	30.7	1.7	38.2	-8.8	74.2
Chest CG	Z	G's	6.0	23.2	-5.4	90.4	14.5	88.2	-7.4	59.9
Chest CG Resultant	N/A	G's	39.5	71.4			42.7	77.3		

**REDUNDANT HEAD INJURY CRITERIA (HIC36)**

Location	Driver				Passenger			
	HIC	T <sup>1</sup>	T <sup>2</sup>	Avg G	HIC	T <sup>1</sup>	T <sup>2</sup>	Avg G
Head CG Redundant	211.6	48.7	84.7	32.2	395.6	70.7	106.7	41.3

**REDUNDANT CHEST CLIP (3MSEC)**

Location	Driver			Passenger		
	CLIP	T <sup>1</sup>	T <sup>2</sup>	CLIP	T <sup>1</sup>	T <sup>2</sup>
Chest CG Redundant	39.2	69.7	72.7	41.3	74.8	77.8

**DATA SHEET NO. 9**  
**SEATBELT ASSESSMENT TEST DATA**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**SEAT BELT POSITIONING MEASUREMENTS**

Measurement Description	Units	Driver	Passenger
TBI -Dummy C/L to Lap/Shoulder Belt Intersect	mm	190	180
PBU - Top Surface of reference to belt upper edge	mm	360	330
PBL - Top Surface of reference to belt lower edge	mm	285	250
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	740	740
Shoulder Belt length as measured on ATD	mm	940	950
Lap Belt length as measured on ATD	mm	635	630
Remainder of belt on reel	mm	910	970
Total belt length for continuous webbing systems	mm	3225	3290

**SHOULDER BELT SPOOL-OFF DATA**

Measurement Description	Units	Driver	Passenger
As determined mechanically	mm	125.0	210.0
As determined electronically	mm	*	*

\* Belt spool-out was not measured as per manufacturer's request.

**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: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

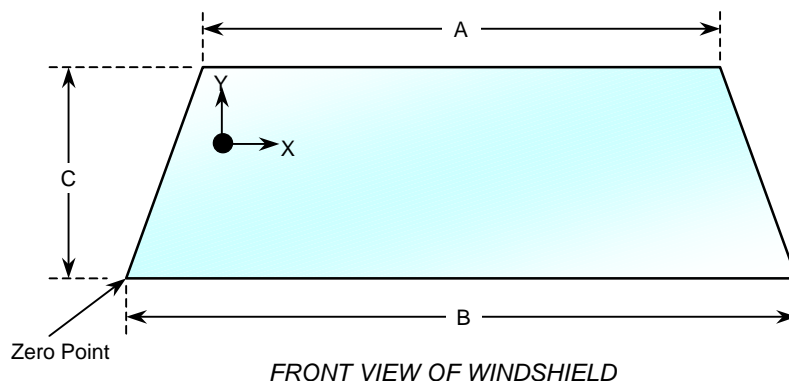
Windshield Mounting Details: Windshield glass is secured to the vehicle frame with a rubber type adhesive. No molding covers the windshield periphery at any point.

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

Temperature of windshield molding during test: 12.2 °C

**WINDSHIELD PERIPHERY MEASUREMENTS**

Measurement	Pre-Test(mm)	Post-Test(mm)	% of Retention
Left Side	2185	2185	100
Right Side	2185	2185	100
Total	4370	4370	100



**WINDSHIELD DIMENSIONS**

Item	Units	Segment Length	Molding Width
A	mm	1195	17
B	mm	1515	13
C-Left	mm	830	20
C-Right	mm	830	20

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

Test Vehicle: 2005 Acura RL 4-Door Sedan

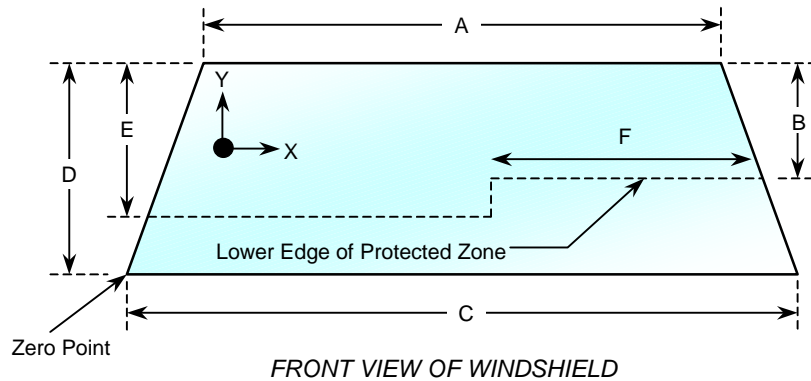
NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**WINDSHIELD AND  
PROTECTED ZONE**

Item	Units	Value
A	mm	1195
B	mm	480
C	mm	1515
D	mm	830
E	mm	520
F	mm	530



**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: 2005 Acura RL 4-Door Sedan NHTSA No.: H55300  
Test Program: 2005 NHTSA 35mph NCAP Test Date: 10/28/04  
Test Time: 1:10 PM Temperature: 12.2 Deg. C.

**STODDARD SOLVENT SPILLAGE MEASUREMENTS**

- A. From impact until vehicle motion ceases: 0.0 oz.  
(Maximum Allowable = 1 ounce)
- B. For the 5-minute period after motion ceases: 0.0 oz.  
(Maximum Allowable = 5 ounces)
- C. For the following 25 minutes: 0.0 oz.  
(Maximum Allowable = 1 oz./minute)
- D. Spillage Location Details: No leakage occurred

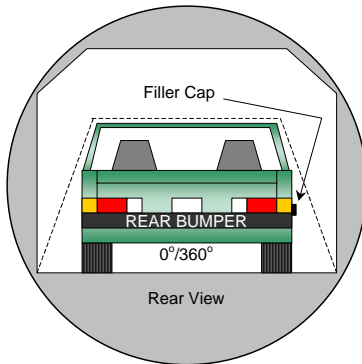
**DATA SHEET NO. 13**  
**FMVSS 301 STATIC ROLLOVER DATA**

Test Vehicle: 2005 Acura RL 4-Door Sedan

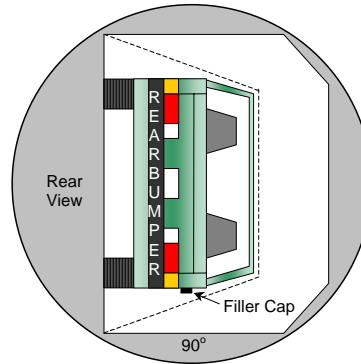
NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

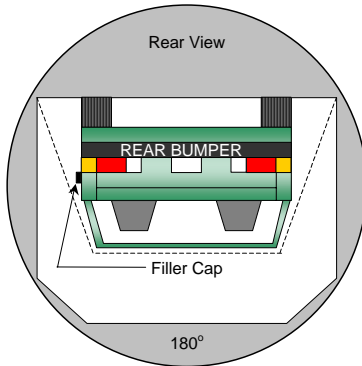
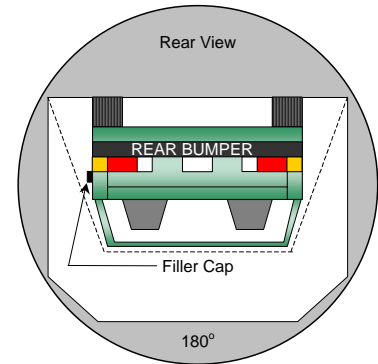
Test Date: 10/28/04



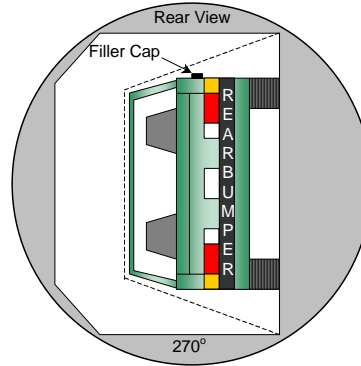
**0° to 90°**



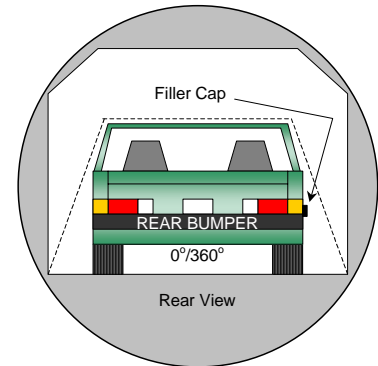
**90° to 180°**



**180° to 270°**



**270° to 360°**



1. The specified fixture rollover rate for each 90° of rotation is 60 to 120 seconds.
2. The position hold time at each position is 300 seconds (minimum).
3. No solvent leakage occurred during rollover.

**DATA SHEET NO. 13...(CONTINUED)**  
**FMVSS 301 STATIC ROLLOVER DATA**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**SOLVENT COLLECTION TIME TABLE IN SECONDS**

Test Phase	Rotation Time	Hold Time	Total Time
0° to 90°	85	300	385
90° to 180°	77	300	377
180° to 270°	79	300	379
270° to 360°	83	300	383

**FMVSS 301 SPILLAGE TABLE REQUIREMENT (oz.)**

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

**ACTUAL TEST VEHICLE SOLVENT SPILLAGE TABLE (oz.)**

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

**SOLVENT SPILLAGE LOCATION TABLE**

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

**DATA SHEET NO. 14**  
**VEHICLE MEASUREMENTS**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**VEHICLE MEASUREMENT TABLE**

No.	Measurement Description	Units	Pre-Test	Post-Test	Diff.
1	Total length of vehicle at centerline	mm	4915	4575	-340
2	RSOV to front of engine	mm	4405	4065	-340
3	RSOV to firewall centerline	mm	3815	3786	-29
4	RSOV to leading edge of right door	mm	3413	3420	7
5	RSOV to leading edge of left door	mm	3412	3420	8
6	RSOV to lower leading edge of right door	mm	3408	3402	-6
7	RSOV to lower leading edge of left door	mm	3407	3410	3
8	RSOV to upper trailing edge of right door	mm	2270	2280	10
9	RSOV to upper trailing edge of left door	mm	2269	2274	5
10	RSOV to lower trailing edge of right door	mm	2292	2287	-5
11	RSOV to lower trailing edge of left door	mm	2292	2290	-2
12	RSOV to bottom of right 'A' pillar	mm	3388	3393	5
13	RSOV to bottom of left 'A' pillar	mm	3393	3395	2
14	RSOV to firewall on right side	mm	3795	3766	-29
15	RSOV to firewall on left side	mm	3780	3750	-30
16	RSOV to steering column	mm	2885	2907	22
17	Center of steering column to left 'A' pillar	mm	360	365	5
18	Center of steering column to headlining	mm	415	435	20
19	RSOV to right side of front bumper	mm	4663	4360	-303
20	RSOV to left side of front bumper	mm	4666	4525	-141
21	Length of engine block	mm	610	610	0
RD	RSOV to right side of dash panel	mm	3086	3076	-10
CD	RSOV to center of dash panel	mm	3080	3076	-4
LD	RSOV to left side of dash panel	mm	3083	3083	0

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

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**VEHICLE STRUCTURAL MEASUREMENT TABLE**

No.	Measurement Description	Units	Pre-Test	Post-Test	Diff.
1	Total length	mm	4915	4575	-340
2	Total width	mm	1850	1845	-5
3	Bumper top height	mm	575	525	-50
4	Bumper bottom height	mm	200	145	-55
5	Longitudinal member top height	mm	550	520	-30
6	Longitudinal member bottom height	mm	460	490	30
7	Distance between longitudinal members	mm	880	1100	220
8	Longitudinal member width	mm	120	120	0
9	Engine top height	mm	870	820	-50
10	Engine bottom height	mm	194	171	-23
11	Engine and gear box width	mm	800	800	0
12	Front bumper to engine distance	mm	520	445	-75
13	Front shock absorber fixing width	mm	873	890	17
14	Bonnet leading edge height	mm	720	764	44
15	Front shock absorber fixing width	mm	1040	920	-120
16	Front bumper to front axle distance	mm	1004	790	-214
17	Front axle to 'A' pillar distance	mm	450	430	-20
18	'A' pillar to 'B' pillar distance	mm	1152	1155	3
19	'B' pillar to rear axle distance	mm	1205	1200	-5
20	'B' pillar to 'C' pillar distance	mm	950	950	0
21	Roof sill bottom height	mm	1290	1245	-45
22	Roof sill top height	mm	1413	1412	-1
23	Floor sill bottom height	mm	175	185	10
24	Floor sill top height	mm	325	315	-10

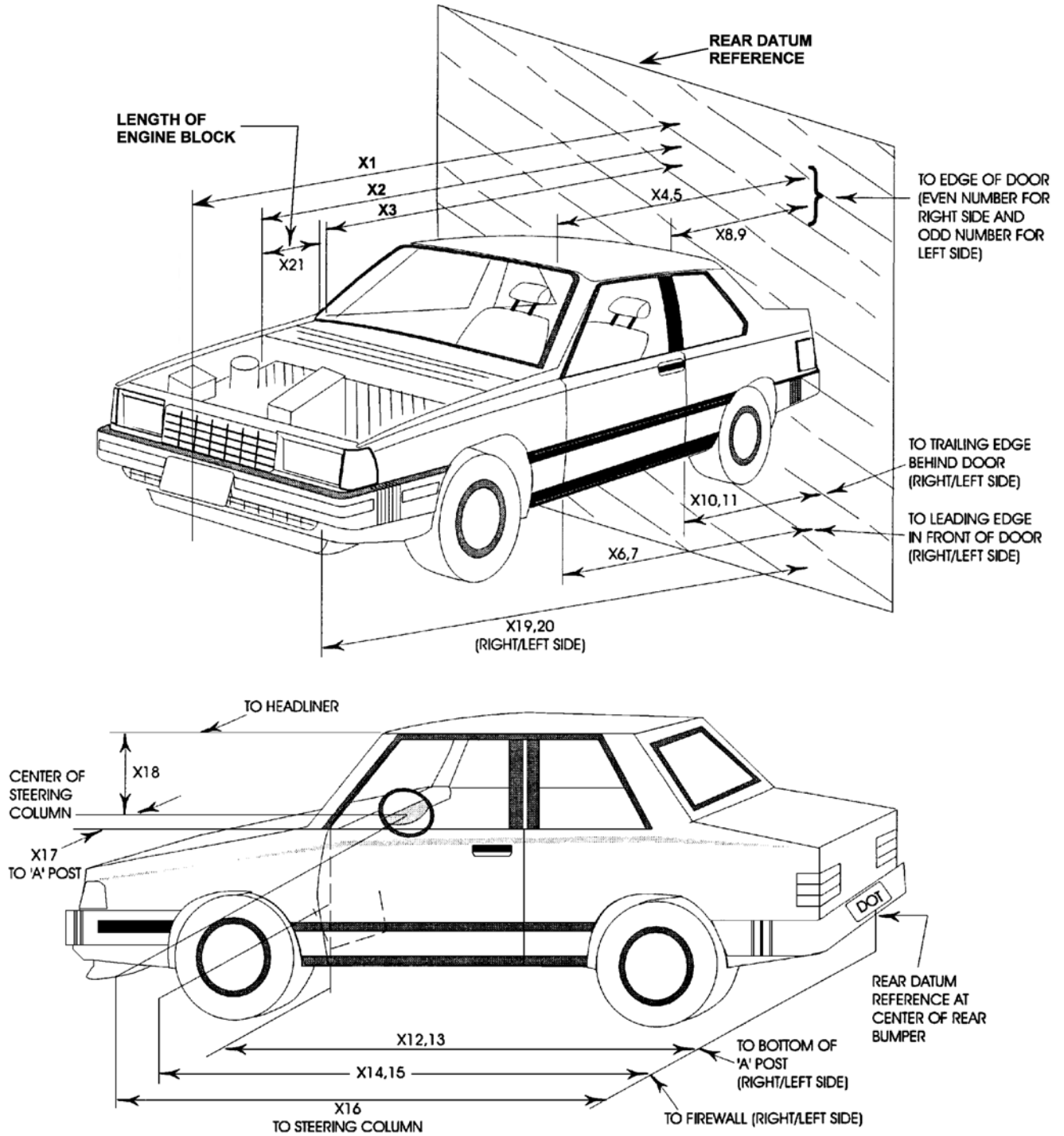
**DATA SHEET NO. 14...(CONTINUED)**  
**VEHICLE MEASUREMENTS**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04



**DATA SHEET NO. 15  
CAMERA LOCATIONS**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**VEHICLE CAMERA MEASUREMENT TABLE**

No.	Camera View	Location (mm)			Angle (deg.)	Film Plane to Head	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Real Time Camera (Panning)	-12192	-6096	-1651	-10	N/A	Zoom	30
1B	Real Time Camera (Still)	-1219	-8585	-1372	0	8222.8	Zoom	30
1C	Real Time Camera (Still)	-1067	7976	-991	0	7644.0	Zoom	30
2	Overall Left Side	-2489	-8280	-1143	-4	7873.2	13	1015
2B	Extra Overall Left Side View	-1883	-7671	-1143	-2	7235.3	10	1000
3	Left Side View	-2134	-8230	-1449	-4	7785.9	35	1050
3B	Extra Left Side View	-1934	-8230	-1449	-4	7796.3	35	1005
4	Driver and Interior View	-5257	-10897	-4648	-13	11375.4	75	1015
5	Steering Column (Bottom)	-2134	-8230	-2997	-16	8002.6	19	1000
6	Steering Column (Top)	-2134	-8230	-3404	-20	8107.8	19	1020
7	Overall Right Side	-2083	8230	-1270	-6	7782.5	13	1020
8	Right Side View	-1677	10871	-1575	-4	10451.7	80	5500
9	Passenger and Interior View	-6781	9144	-2997	-9	9892.2	50	920
10	Right Side View	-2083	8230	-1575	-4	7794.5	28	1025
11	Windshield View	-610	0	-5944	-90	N/A	13	1025
12	Driver Front View	610	-432	-2667	-40	N/A	13	NTM
13	Passenger Front View	610	432	-2667	-40	N/A	13	NTM
14	Pit View of Engine	-914	0	1499	90	N/A	9	920
15	Pit View of Fuel Tank	-2438	0	1499	90	N/A	6	980
16	Extra Camera View DSP-01	-2450	320	-1430	-30	500	8	1000
17	Extra Camera View DSP-02	-2450	-320	-1430	-30	500	8	1000

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

**DATA SHEET NO. 16**  
**PHOTOGRAPHIC REFERENCE TARGET LOCATIONS**

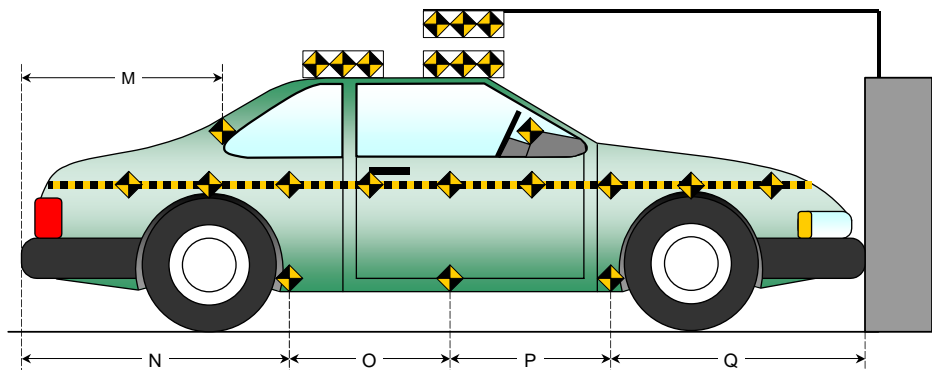
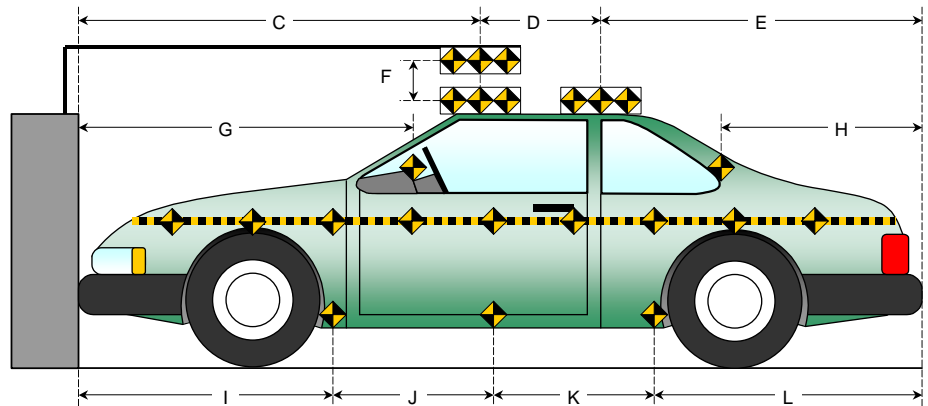
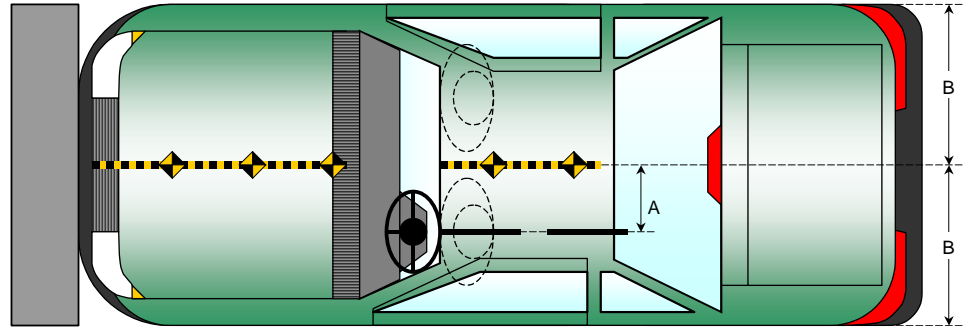
Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

All Dimensions in (mm)	
Item	Value
A	*
B	925
C	N/A
D	N/A
E	N/A
F	N/A
G	1805
H	1211
I	1490
J	1890
K	1890
L	1545
M	1200
N	1545
O	1890
P	1890
Q	1490



\* Ran test without A targets due to side curtain airbag and sunroof.

**DATA SHEET NO. 17**  
**VEHICLE INTRUSION MEASUREMENTS**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

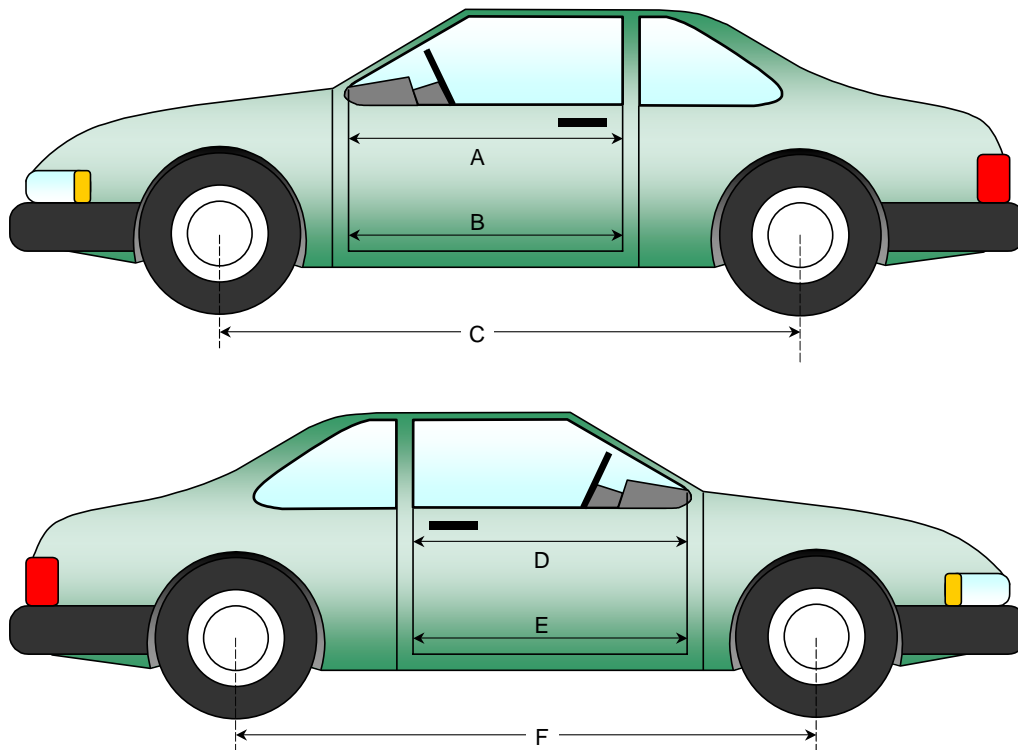
Test Date: 10/28/04

**DOOR OPENING WIDTH TABLE**

Item	Description	Units	Pre-Test	Post-Test	Diff.
A	Left Side Upper	mm	1061	1059	-2
B	Left Side Lower	mm	956	958	2
D	Right Side Upper	mm	1059	1056	-3
E	Right Side Lower	mm	954	950	-4

**WHEELBASE MEASUREMENT TABLE**

Item	Description	Units	Pre-Test	Post-Test	Diff.
C	Left Side Wheel Base	mm	2795	2750	-45
F	Right Side Wheel Base	mm	2795	2680	-115



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

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

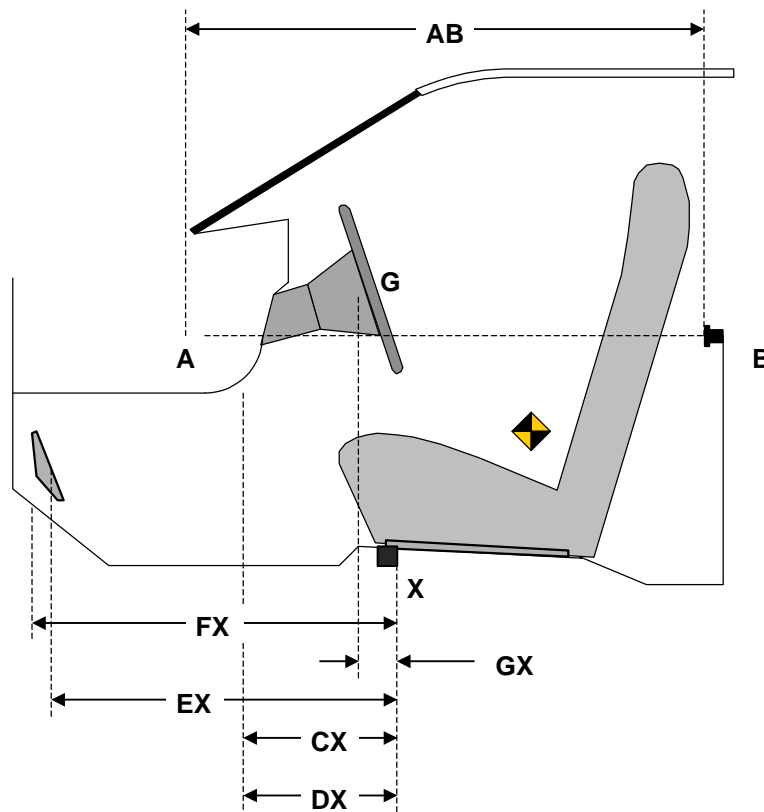
Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**DRIVER COMPARTMENT INTRUSION TABLE**

Item	Description	Units	Pre-Test	Post-Test	Diff.
AB	Door Opening (Inside window jam)	mm	1061	1059	-2
CX	Left Knee Bolster to X	mm	250	260	10
DX	Right Knee Bolster to X	mm	265	290	25
EX	Brake Pedal to X	mm	581	406	-175
FX	Foot Rest to X	mm	671	461	-210
GX	Center of Steering Wheel Hub to X	mm	80	92	12

X = Left Front Seat Outboard Anchor Bolt Head



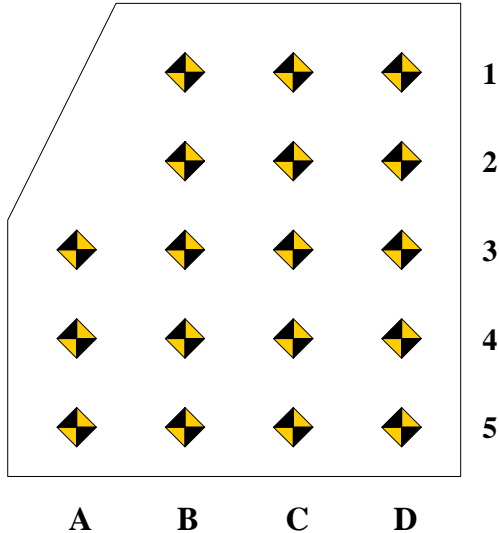
**DATA SHEET NO. 17...(CONTINUED)**  
**VEHICLE INTRUSION MEASUREMENTS**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04



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

Columns A through D are evenly spaced.

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

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

**DRIVER FLOOR PAN X-AXIS**

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1		1192	1187	1178		1183	1181	1168		-9	-6	-10
2		1120	1104	1103		1122	1114	1108		2	10	4
3	1017	1014	1008	1000	1021	1020	1019	1018	4	6	11	17
4	920	914	907	899	922	920	918	917	2	6	11	19
5	822	814	811	799	827	818	818	817	5	4	8	18

**DRIVER FLOOR PAN Z-AXIS**

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1		392	395	395		382	386	377		-10	-9	-18
2		462	452	459		462	454	453		0	2	-6
3	485	462	481	484	487	462	486	487	2	0	4	3
4	496	491	478	485	494	492	483	488	-2	1	4	3
5	495	491	488	485	491	497	497	488	-4	6	9	4

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

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

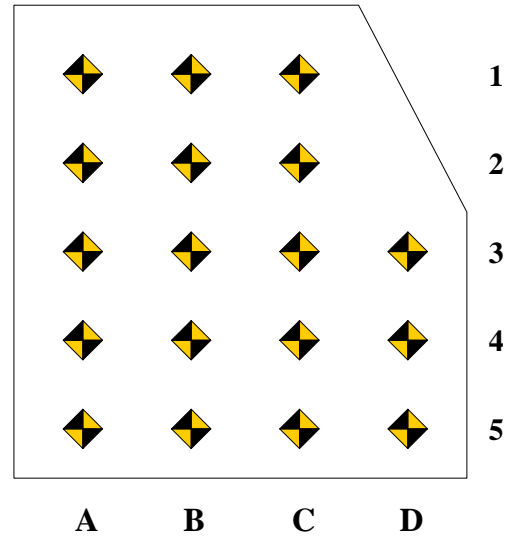
Test Date: 10/28/04

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	1192	1196	1199		1150	1167	1169		-42	-29	-30	
2	1122	1129	1134		1098	1116	1116		-24	-13	-18	
3	1031	1035	1044	1047	1030	1036	1043	1048	-1	1	-1	1
4	930	935	944	954	935	940	945	955	5	5	1	1
5	829	835	834	852	833	839	843	854	4	4	9	2

**PASSENGER FLOOR PAN Z-AXIS**

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	360	371	362		350	362	362		-10	-9	0	
2	434	442	438		440	450	442		6	8	4	
3	482	490	489	488	493	512	504	500	11	22	15	12
4	487	487	488	494	514	499	502	507	27	12	14	13
5	487	490	489	501	506	501	503	512	19	11	14	11

**DATA SHEET NO. 18**  
**FIXED BARRIER LOAD CELL LOCATIONS**

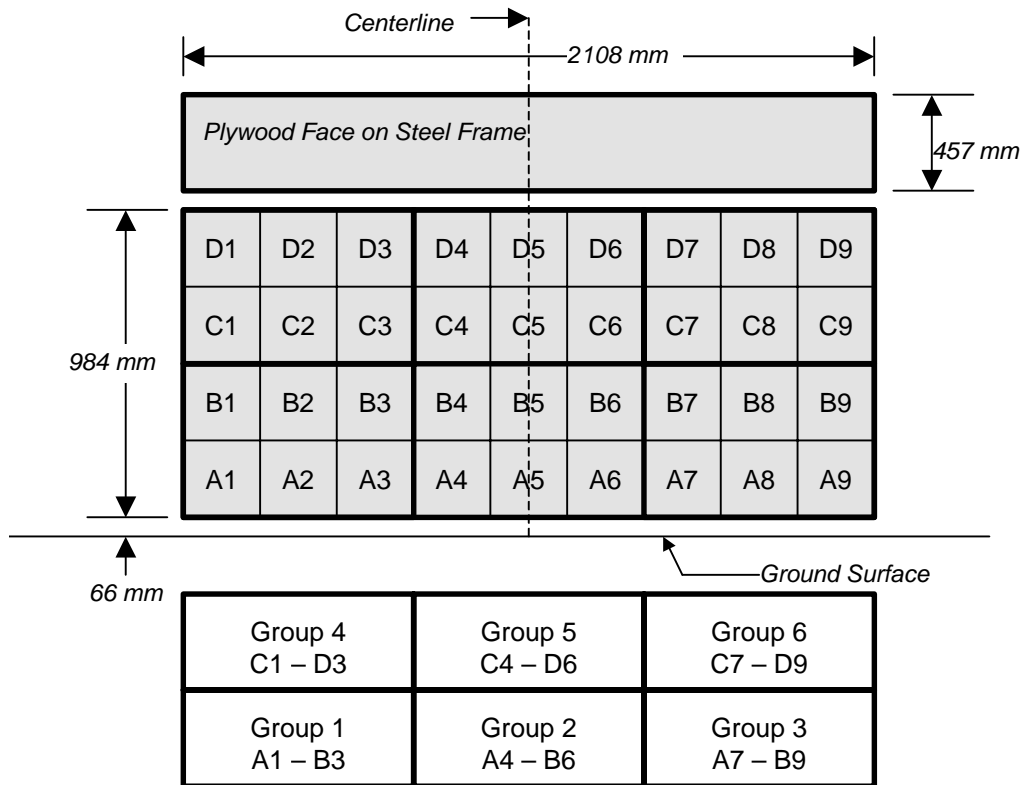
Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

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



6 Groups of 6 Load Cells Each

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

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

**DATA SHEET NO. 19  
POST-TEST AIRBAG DATA**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**POST-TEST AIRBAG DATA**

	DRIVER	PASSENGER
No. of vent holes	2	2
Size of vent (mm <sup>2</sup> )	970	2397
Total vent area (mm <sup>2</sup> )	1940	4794

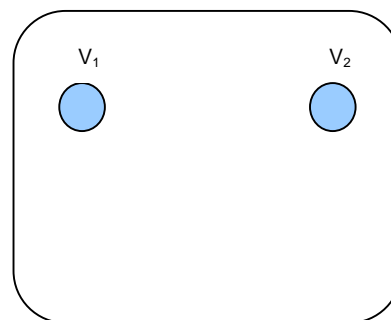
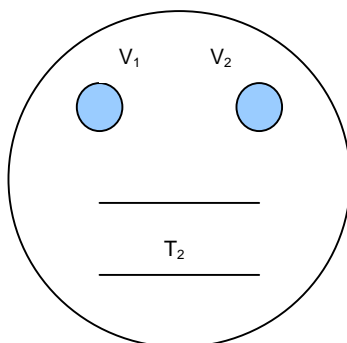
<b>Deflated Airbag Length and Width Dimensions or, If Round, Diameter (mm)</b>		
Length	N/A	700
Width	N/A	560
Depth or Diameter	550	420

<b>Tethering Information</b>		
Is the airbag tethered?	Yes	No
Record length of tether (mm)	320	N/A

<b>Airbag Manufacturing Information</b>		
Manufacturer	Takata	Takata
Part No.	10247812 PE04607K04T 160804-T	1028817 PH04717B01T 010804-P
Gas Generator	ZCRR090915 BAMPTI-1085 HERST:2004	*

\* Gas generator label was burned due to air bag deployment.

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



**DATA SHEET NO. 20**  
**ACCIDENT INVESTIGATION DIVISION DATA**

Test Vehicle: 2005 Acura RL 4-Door Sedan NHTSA No.: H55300  
 Test Program: 2005 NHTSA 35mph NCAP Test Date: 10/28/04

**VEHICLE INFORMATION**

VIN: JH4KB16585C000425 Wheel base (mm): 2795  
 Vehicle Size Category: 4-Door Sedan Test Weight (kg): 2011

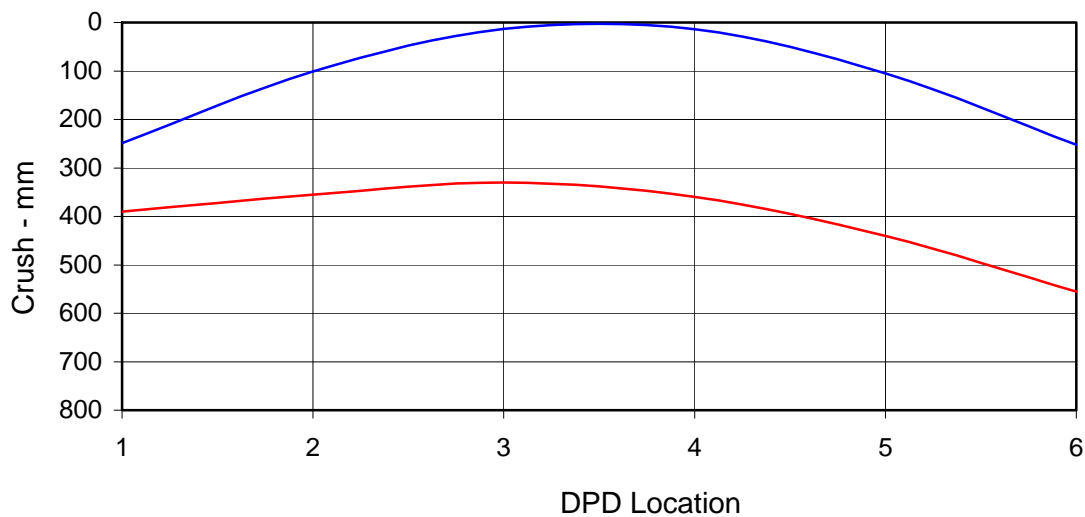
**ACCELEROMETER DATA**

Accelerometer Location: Left rear cross member  
 Cal. Procedure/Interval: 6 months / drop test  
 Integration Algorithm: NHTSA Standard Linearity: Good  
 Impact Velocity (km/h): 56.33  
 Velocity Change (km/h): 64.99 Time of Separation (msec): 76.6

**CRUSH PROFILE**

Collision Deformation Classification: 12FDEW6 Midpoint of Damage: Vehicle Centerline  
 Damage Region Length (mm): 1506 Impact Mode: Full Frontal

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	249	390	-141
C2	Crush zone 2 on left side	mm	101	355	-254
C3	Crush zone 3 on left side	mm	13	330	-317
C4	Crush zone 4 on right side	mm	14	360	-346
C5	Crush zone 5 on right side	mm	105	440	-335
C6	Crush zone 6 at right side	mm	252	555	-303



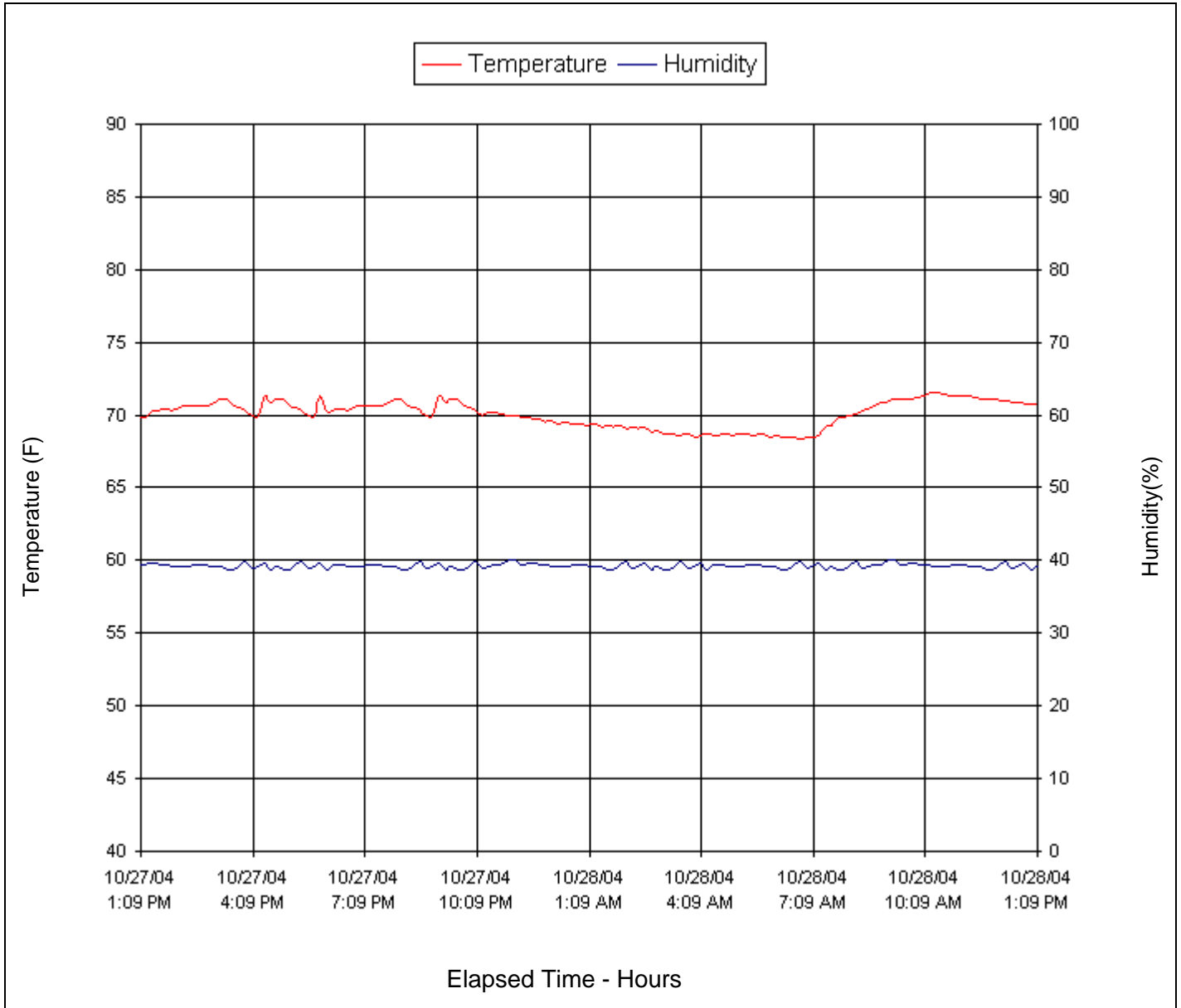
**DATA SHEET NO. 21**  
**DUMMY/VEHICLE TEMPERATURE STABILIZATION**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04



APPENDIX A  
PHOTOGRAPHS

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10	Post-Test Left Side View	A-10
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49	Pre-Test Passenger Dummy Door Open	A-49
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60	Vehicle on Rollover Device 90°	A-60
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62	Vehicle on Rollover Device 270°	A-62
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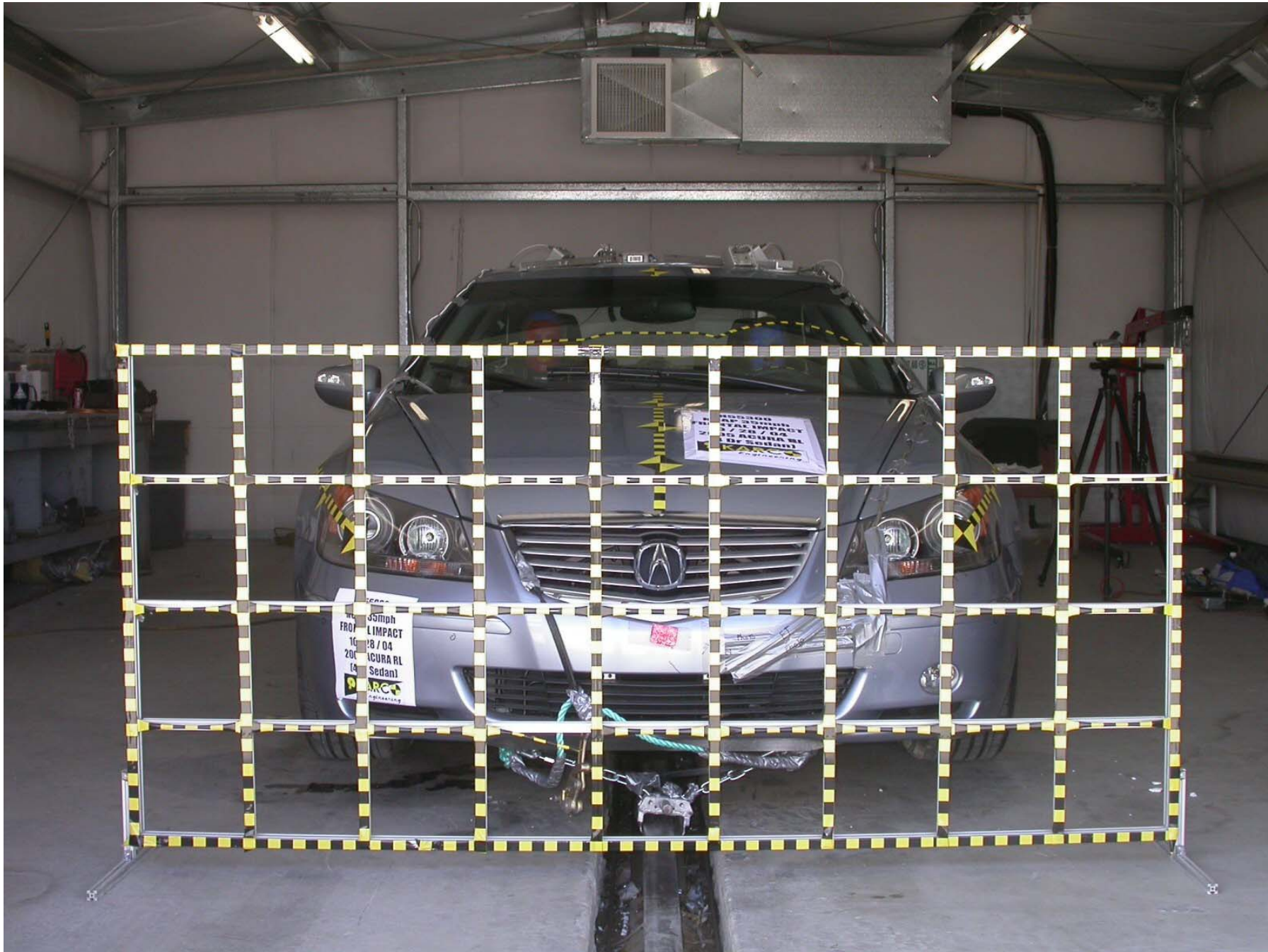
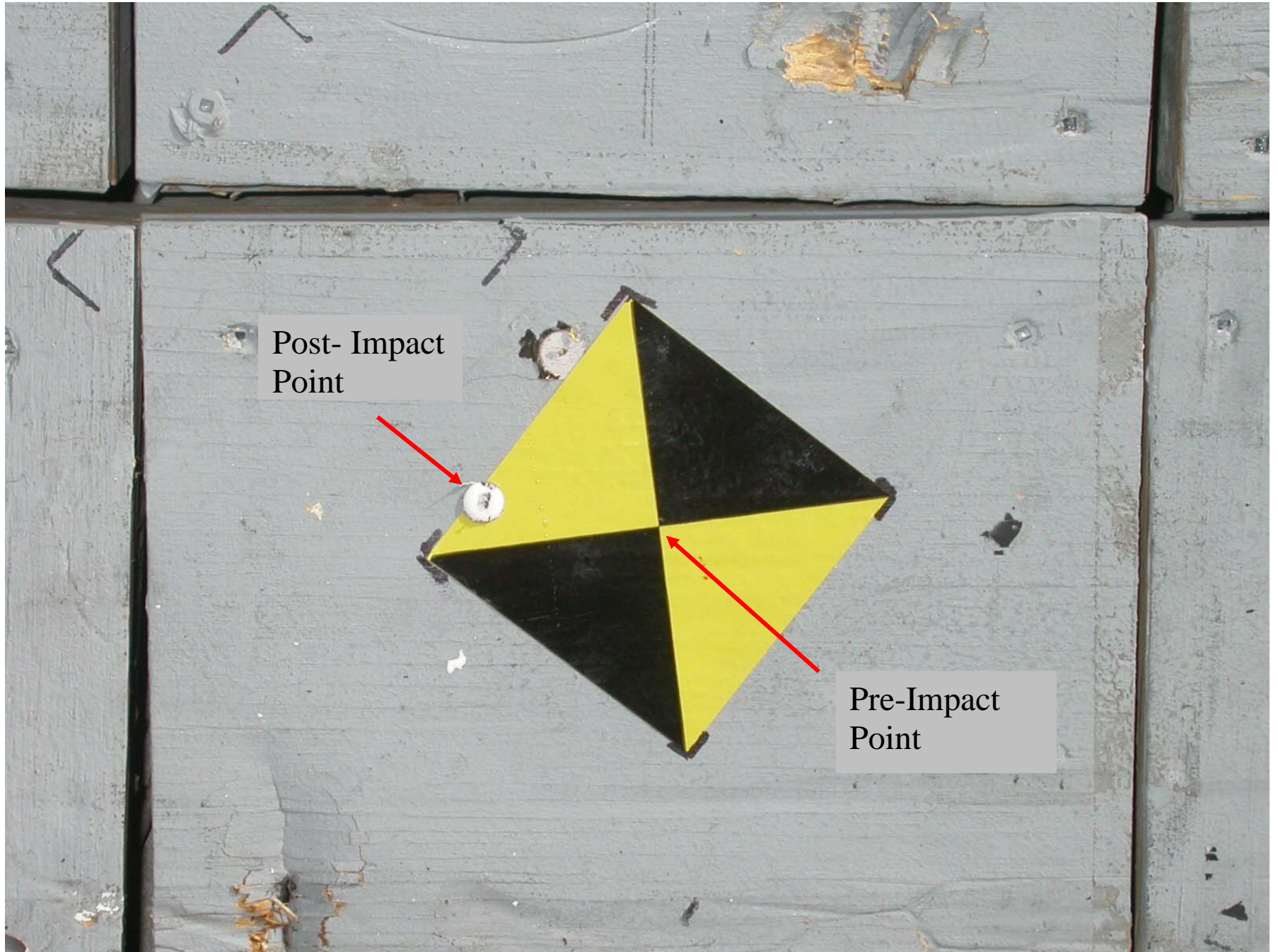


Figure A-1: Load Cell Location



Post- Impact  
Point

Pre-Impact  
Point

Figure A-2: Test Vehicle Barrier Contact Location

MFD. IN JAPAN BY HONDA MOTOR CO., LTD; 08/'04  
GVWR 4980LBS GAWR F 2680LBS R 2380LBS  
GVWR 2260KG GAWR F 1215KG R 1080KG  
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.: JH4KB16585C000425 TYPE: PASSENGER CAR

  
SJA 5 AC6 -B522M -A -C

Figure A-3: Manufacturer's Label



Figure A-4: Tire Placard



Figure A-5: Right Front  $\frac{3}{4}$  View, As Received



A-6

TR-P24144-01-NC

Figure A-6: Left Rear  $\frac{3}{4}$  View, as Received



A-7

TR-P24144-01-NC

Figure A-7: Pre-Test Front View

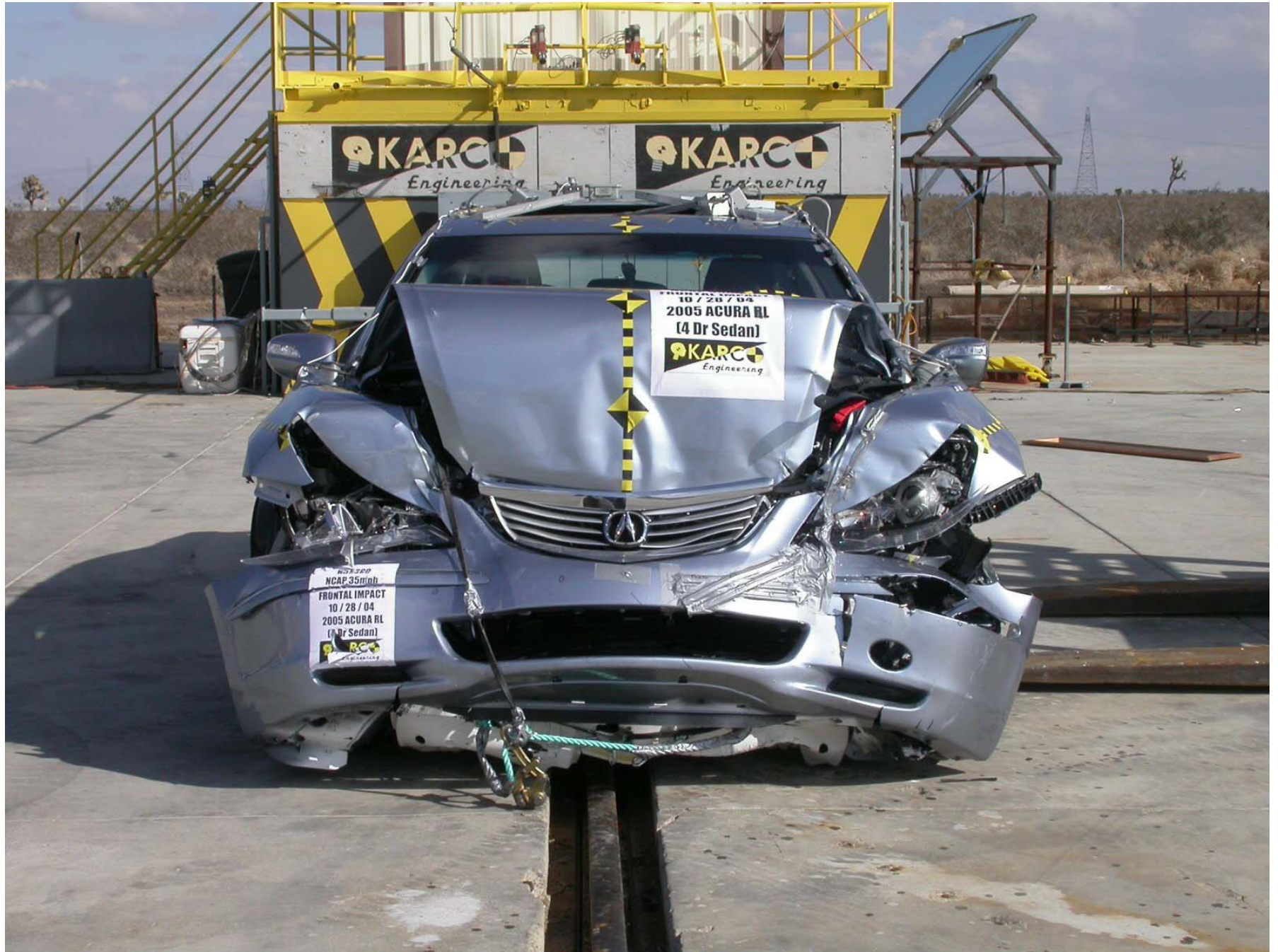


Figure A-8: Post-Test Front View (Vehicle Moved)



Figure A-9: Pre-Test Left Side View



Figure A-10: Post-Test Left Side View



Figure A-11: Pre-Test Right Side View



Figure A-12: Post-Test Right Side View



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



Figure A-14: Post-Test Right Front ¾ View (Vehicle Moved)



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



Figure A-16: Post-Test Left Rear  $\frac{3}{4}$  View



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



Figure A-18: Right Rear 3/4 View of Doors After Impact

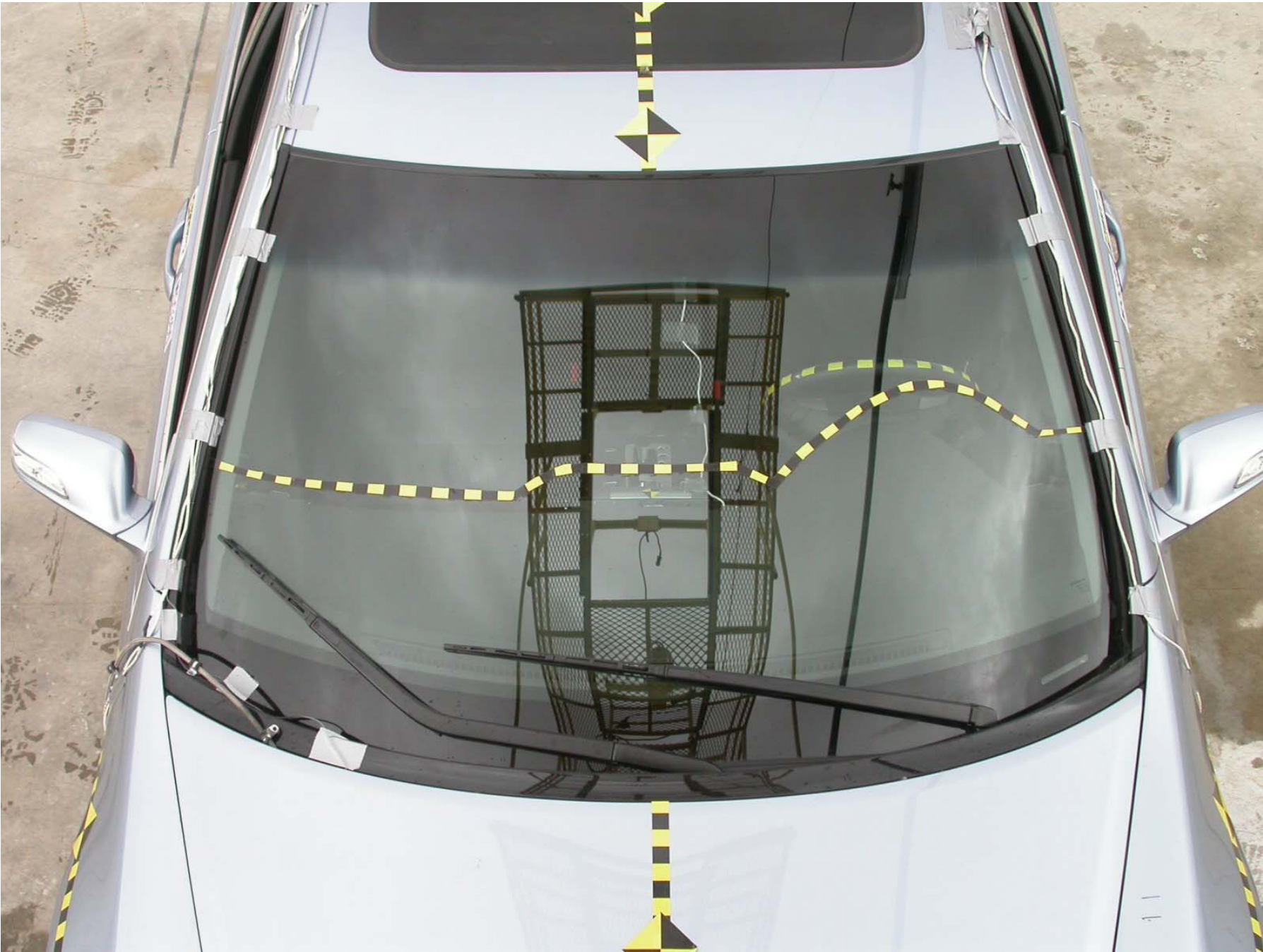


Figure A-19: Pre-Test Windshield



Figure A-20: Post-Test Windshield



Figure A-21: Pre-Test Engine Compartment

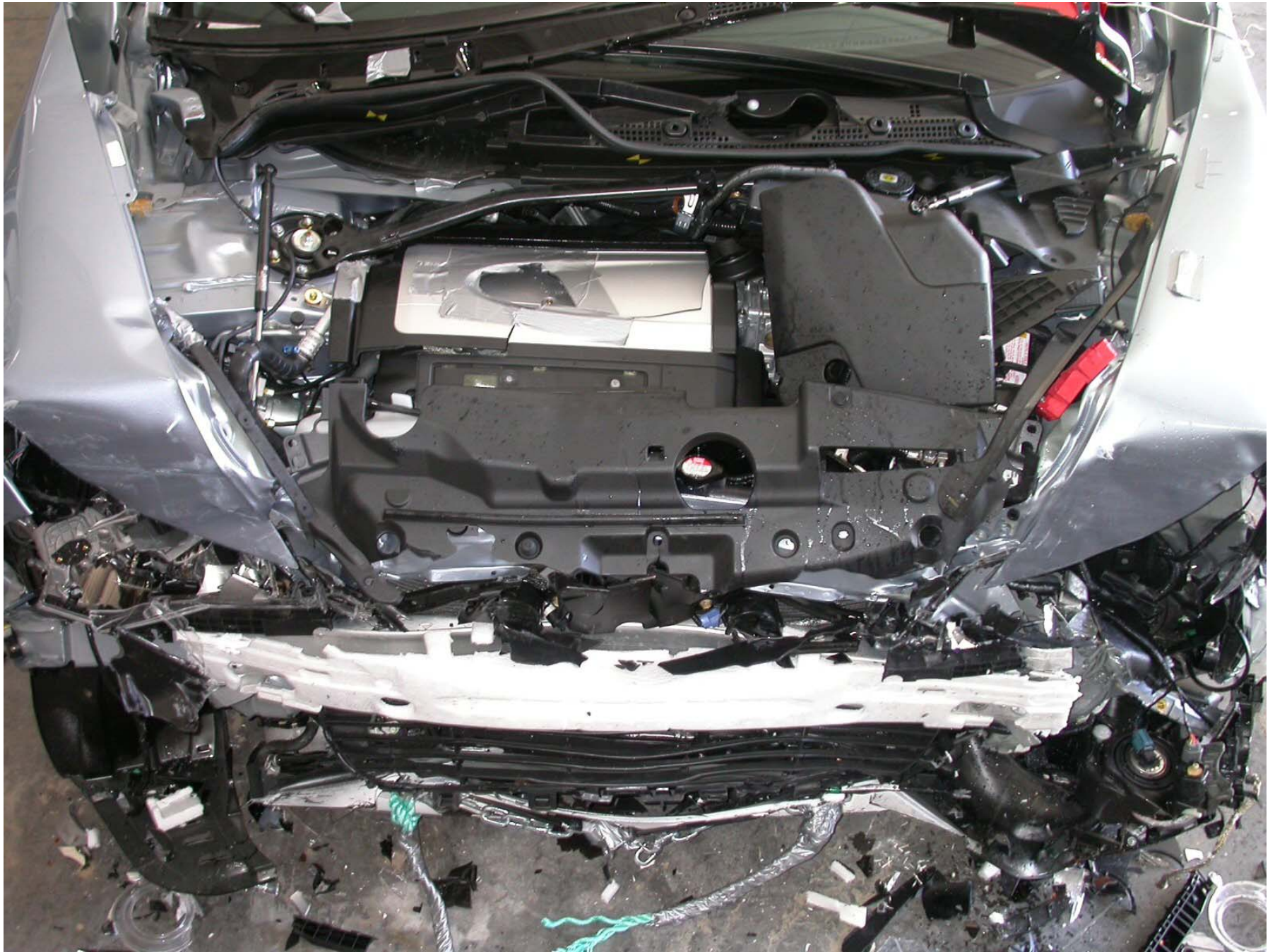


Figure A-22: Post-Test Engine Compartment (Vehicle Moved)



Figure A-23: Pre-Test Fuel Cap



Figure A-24: Post-Test Fuel Cap

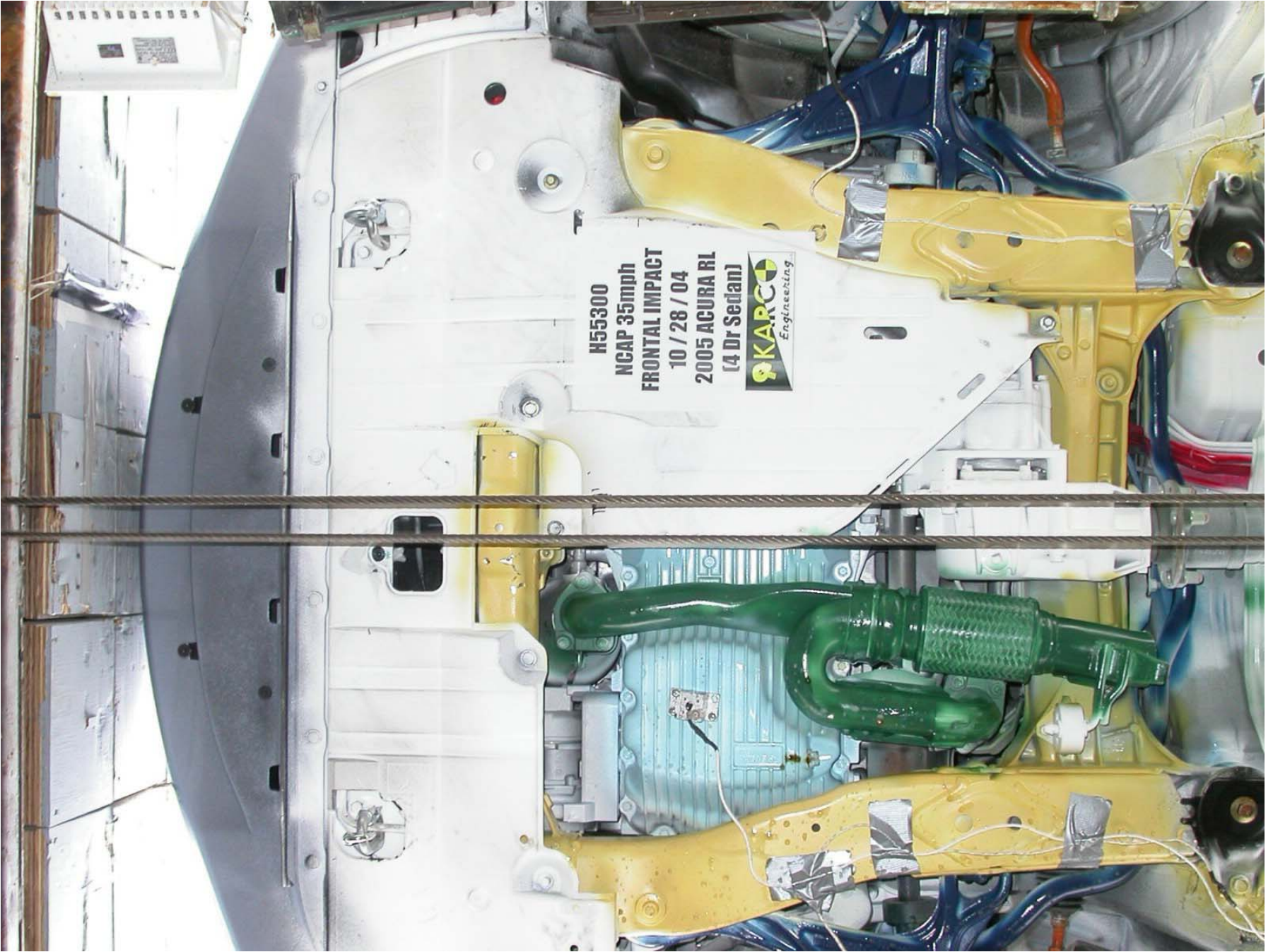


Figure A-25: Pre-Test Front Underbody

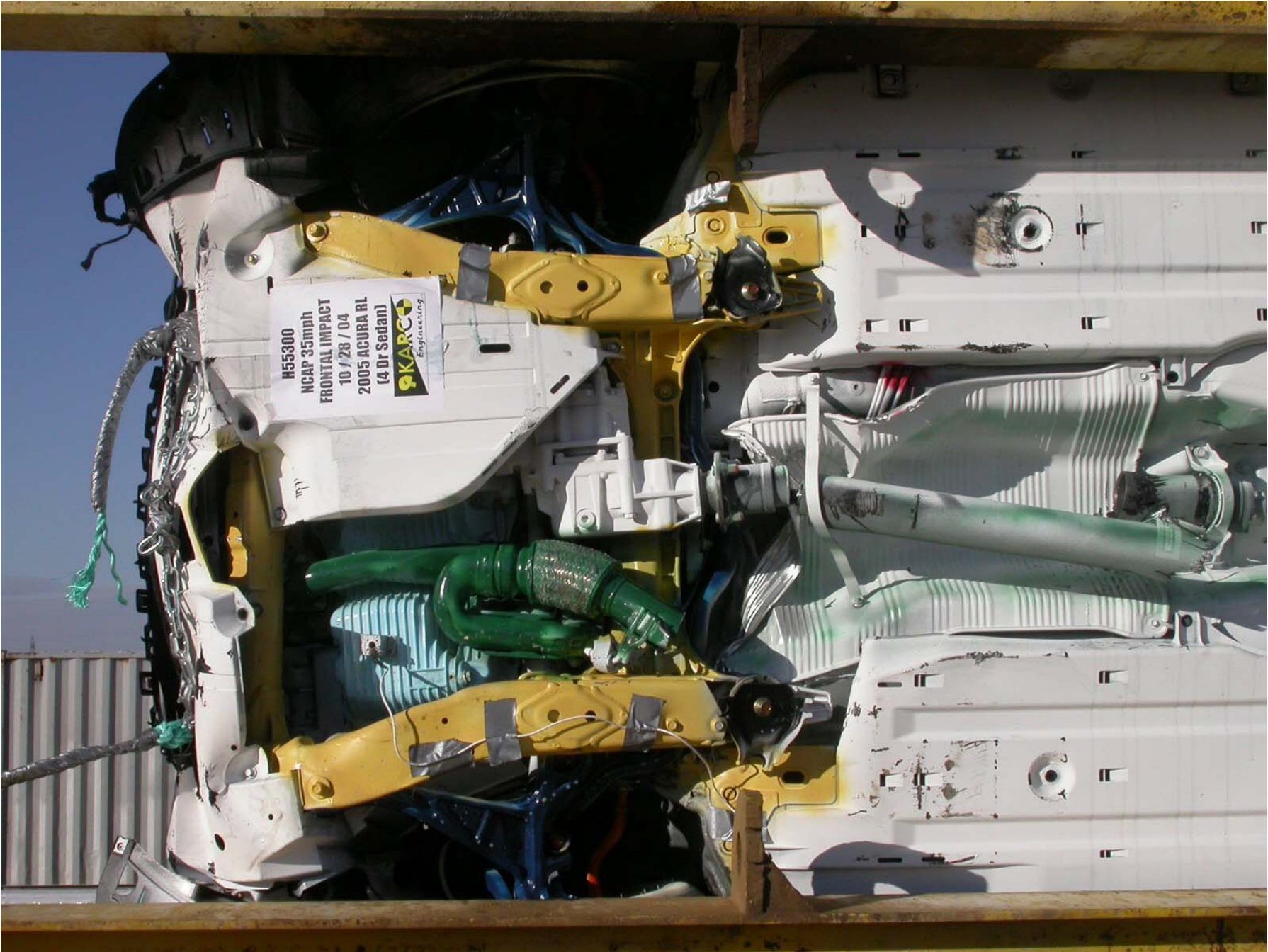


Figure A-26: Post-Test Front Underbody



Figure A-27: Pre-Test Mid Underbody



Figure A-28: Post-Test Mid Underbody

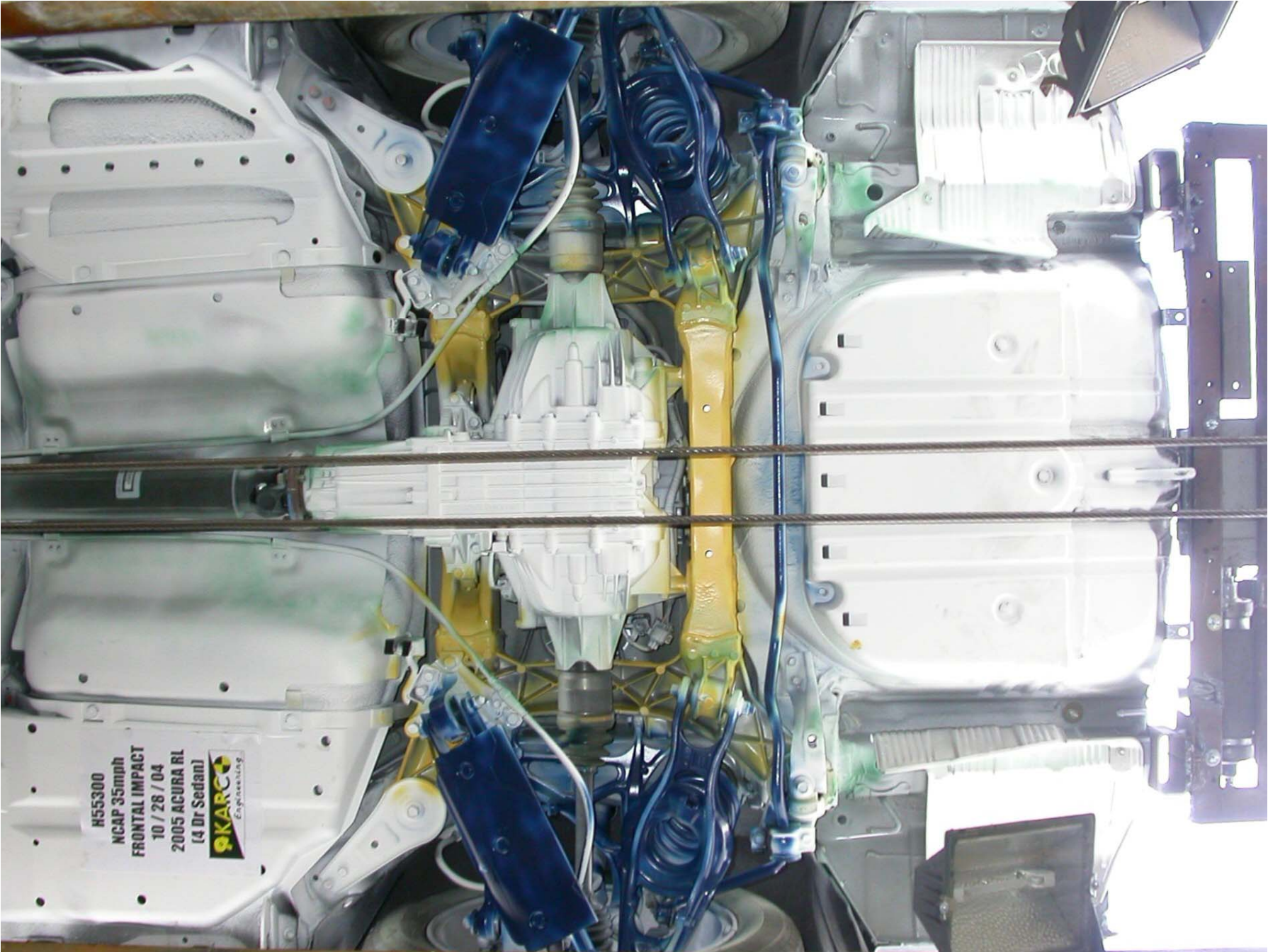


Figure A-29: Pre-Test Rear Underbody

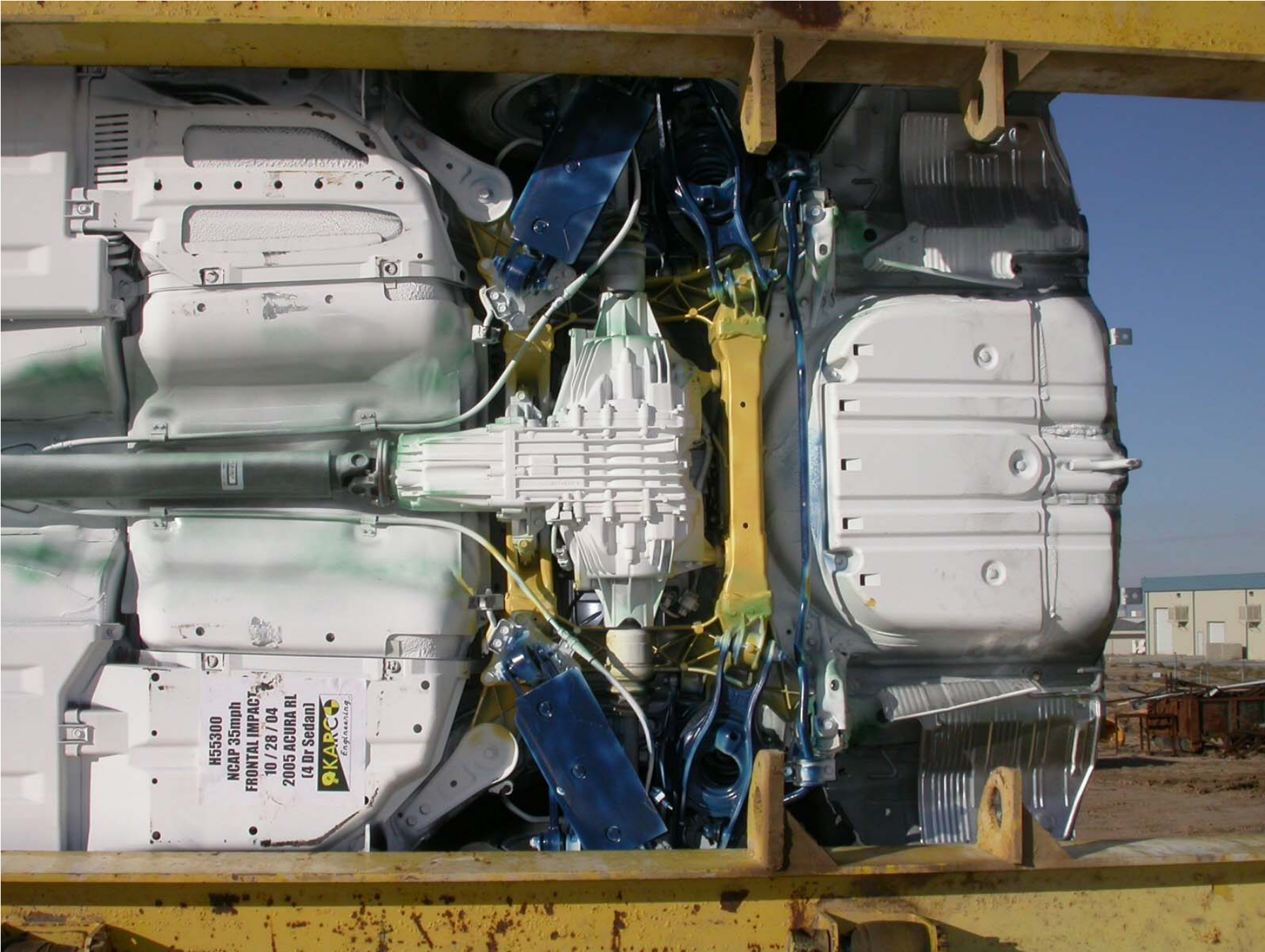


Figure A-30: Post-Test Rear Underbody



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



Figure A-32: Post-Test Driver Dummy Front View (Head Position)



Figure A-33: Pre-Test Driver Dummy Through Window



Figure A-34: Post-Test Driver Dummy Through Window



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



Figure A-36: Post-Test Driver Dummy Door Open



A-37

TR-P24144-01-NC

Figure A-37: Pre-Test Driver Dummy Feet



Figure A-38: Post-Test Driver Dummy Feet



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



Figure A-40: Post-Test Driver Side Knee Bolster



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



Figure A-42: Post-Test Driver Side Floor Pan



Figure A-43: Post-Test Driver Dummy Head



Figure A-44: Post-Test Driver Dummy Contact to Air Bag



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



Figure A-46: Post-Test Passenger Dummy Front View (Head Position)



Figure A-47: Pre-Test Passenger Dummy Through Window



Figure A-48: Post-Test Passenger Dummy Through Window



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



Figure A-50: Post-Test Passenger Dummy Door Open



Figure A-51: Pre-Test Passenger Dummy Feet



Figure A-52: Post-Test Passenger Dummy Feet



A-53

TR-P24144-01-NC

Figure A-53: Pre-Test Passenger Side Glove Box



Figure A-54: Post-Test Passenger Side Glove Box



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



Figure A-56: Post-Test Passenger Side Floor Pan



Figure A-57: Post-Test Passenger Dummy Head



Figure A-58: Post-Test Passenger Dummy Contact to Air Bag



A-59

TR-P24144-01-NC

Figure A-59: Vehicle on Rollover Device (0°)



Figure A-60: Vehicle on Rollover Device (90°)



Figure A-61: Vehicle on Rollover Device (180°)



Figure A-62: Vehicle on Rollover Device (270°)



Figure A-63: Vehicle Impact

APPENDIX B

DATA PLOTS

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	Driver Head Primary Y	B-1
	Driver Head Primary Z	B-1
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	Driver Head Primary X Displacement	B-2
B-3	Driver Head Redundant X	B-3
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	Driver Head Redundant Z	B-3
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	Driver Head Redundant X Displacement	B-4
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B-6	Driver Upper Neck Moment X	B-6
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B-7	Driver Chest Primary X	B-7
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	Driver Chest Redundant X Displacement	B-10
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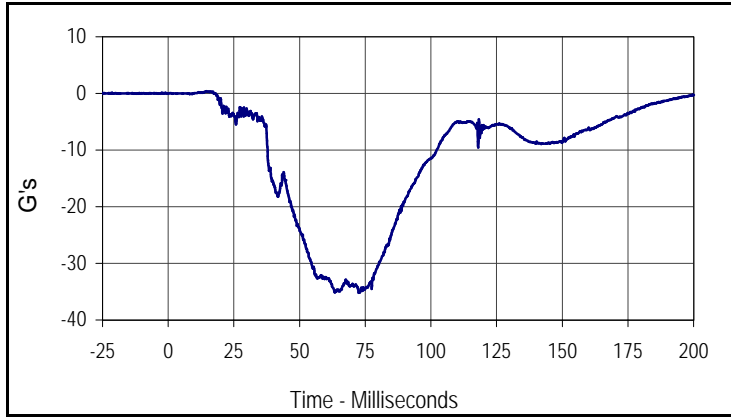
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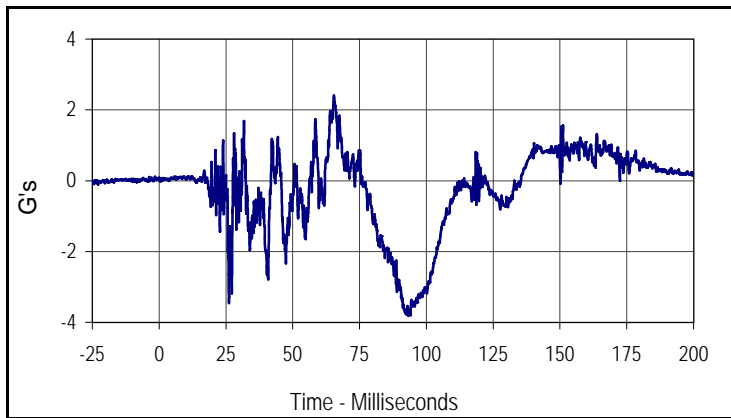
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Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

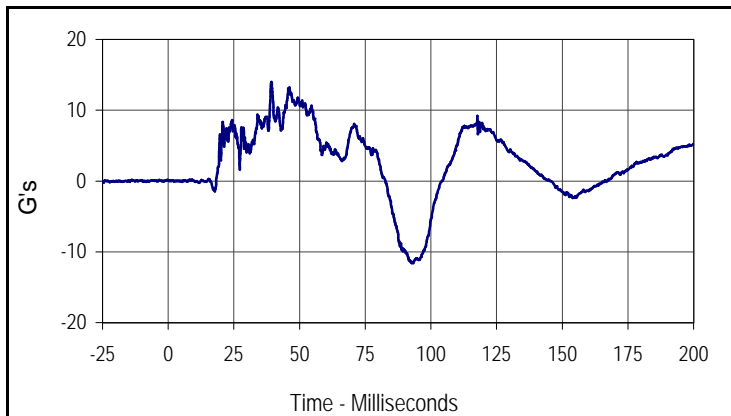
Test Date: 10/28/04  
 NHTSA No.: H55300



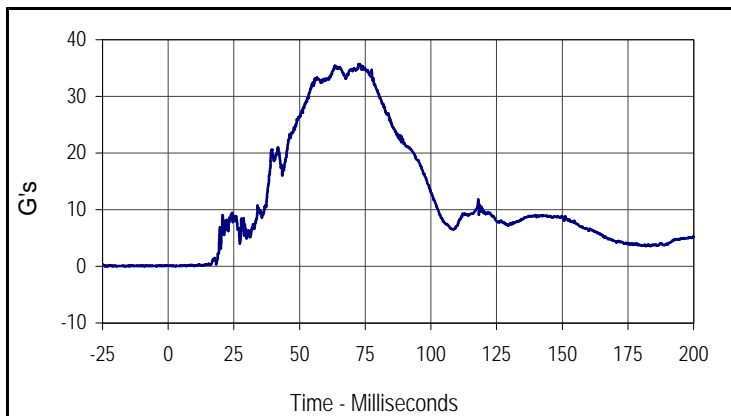
Curve Description			
Driver Head Primary X			
CURNO	Type	SAE Class	Units
001	FIL	1000	G's
Max	Time	Min	Time
0.4	14.6	-35.2	72.6



Curve Description			
Driver Head Primary Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
2.4	65.4	-3.8	93.3



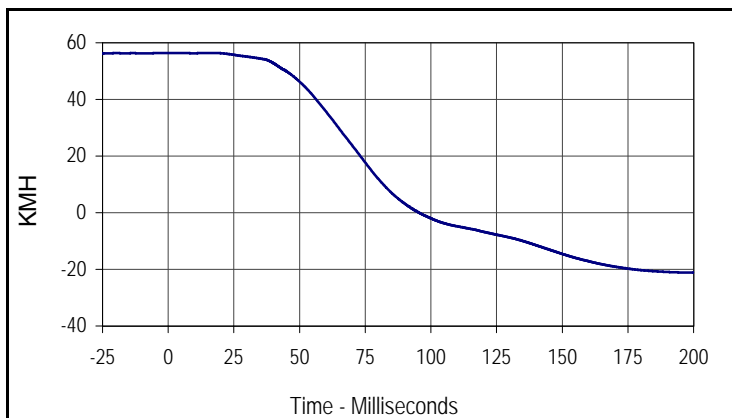
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Driver Head Primary Z			
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Max	Time	Min	Time
14.0	39.3	-11.6	93.3



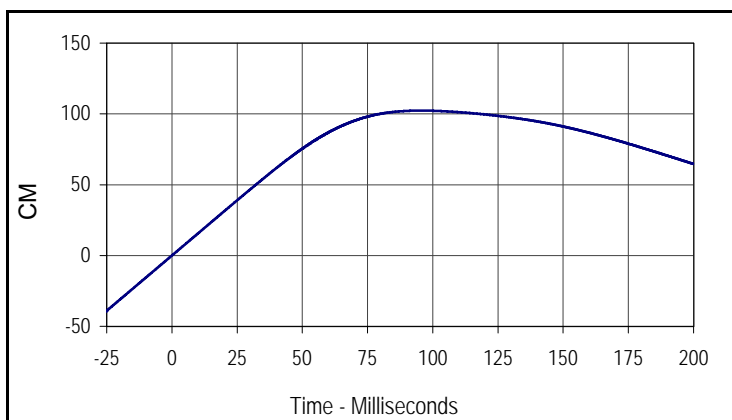
Curve Description			
Driver Head Resultant Primary			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
35.7	72.6	0.0	2.7

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04  
 NHTSA No.: H55300



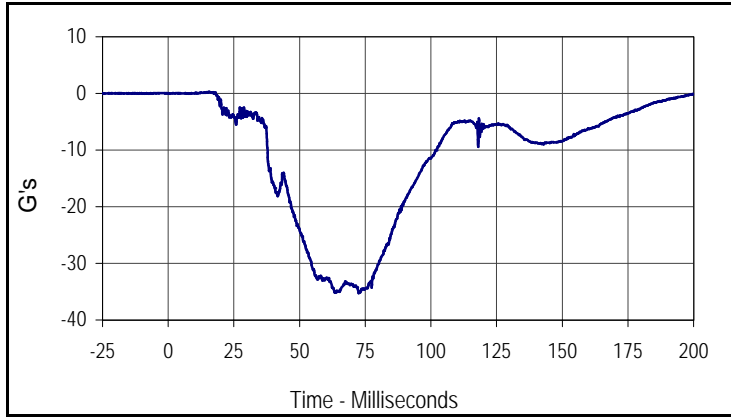
Curve Description			
Driver Head Primary X Velocity			
CURNO	Type	SAE Class	Units
001	IN1	180	KMH
Max	Time	Min	Time
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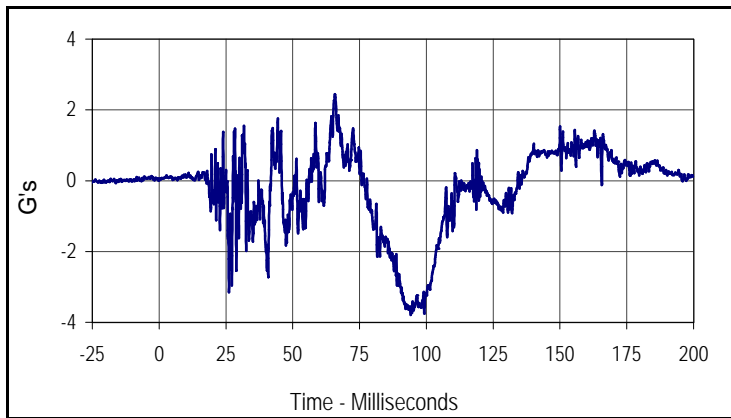
Curve Description			
Driver Head Primary X Displacement			
CURNO	Type	SAE Class	Units
001	IN2	180	CM
Max	Time	Min	Time
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Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

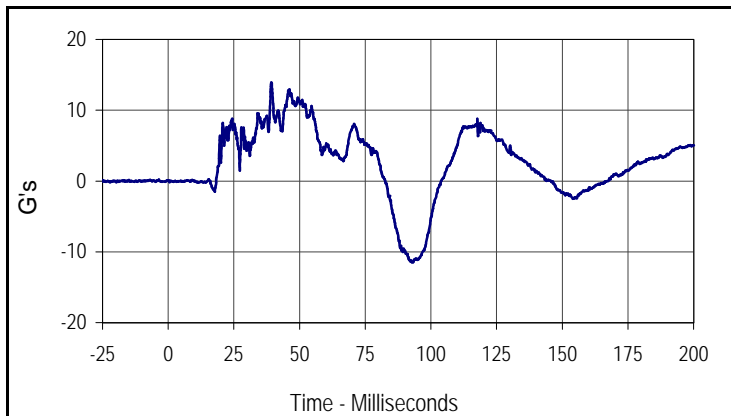
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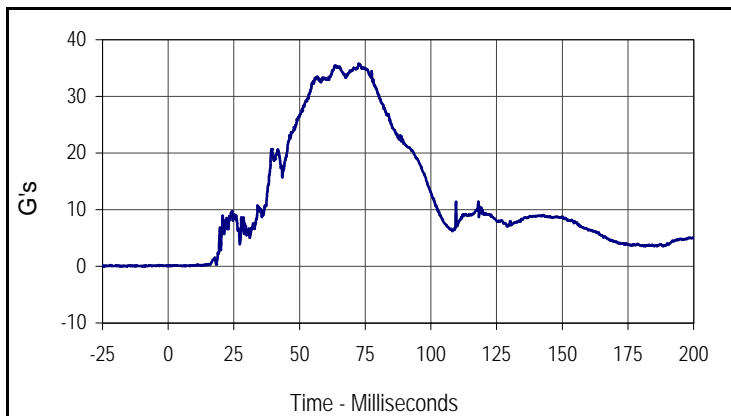
Curve Description			
Driver Head Redundant X			
CURNO	Type	SAE Class	Units
004	FIL	1000	G's
Max	Time	Min	Time
0.3	15.6	-35.2	72.5



Curve Description			
Driver Head Redundant Y			
CURNO	Type	SAE Class	Units
005	FIL	1000	G's
Max	Time	Min	Time
2.4	65.8	-3.8	94.1



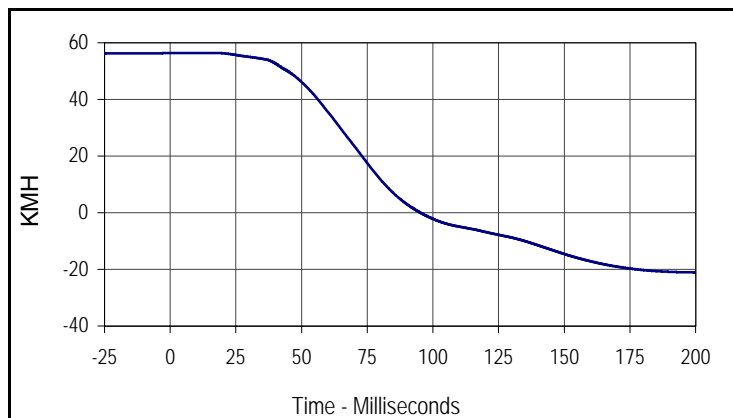
Curve Description			
Driver Head Redundant Z			
CURNO	Type	SAE Class	Units
006	FIL	1000	G's
Max	Time	Min	Time
13.9	39.3	-11.5	92.8



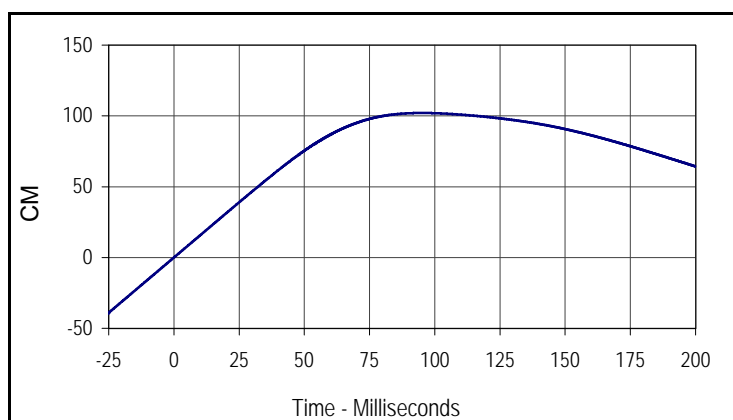
Curve Description			
Driver Head Resultant Redundant			
CURNO	Type	SAE Class	Units
004	RES	1000	G's
Max	Time	Min	Time
35.8	72.5	0.0	0.4

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04  
 NHTSA No.: H55300



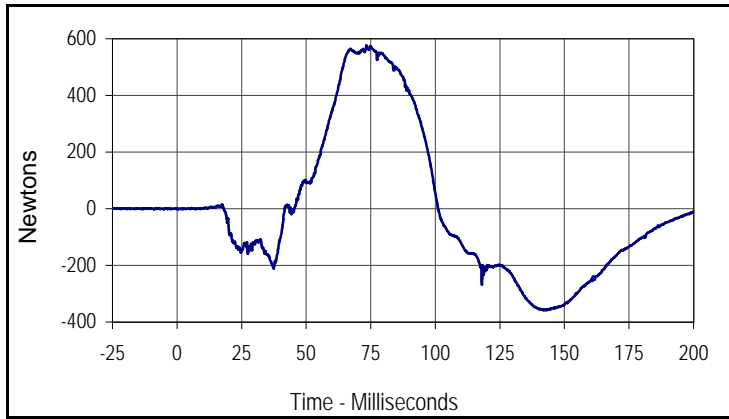
Curve Description			
Driver Head Redundant X Velocity			
CURNO	Type	SAE Class	Units
004	IN1	180	KMH
Max	Time	Min	Time
56.4	17.8	-21.1	200.0



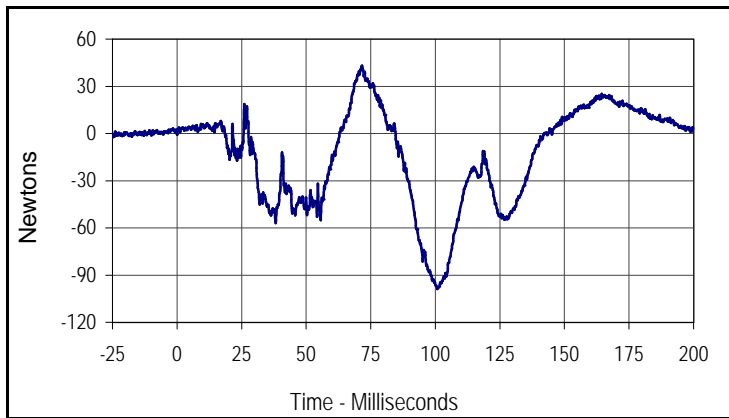
Curve Description			
Driver Head Redundant X Displacement			
CURNO	Type	SAE Class	Units
004	IN2	180	CM
Max	Time	Min	Time
102.1	95.2	0.0	0.0

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

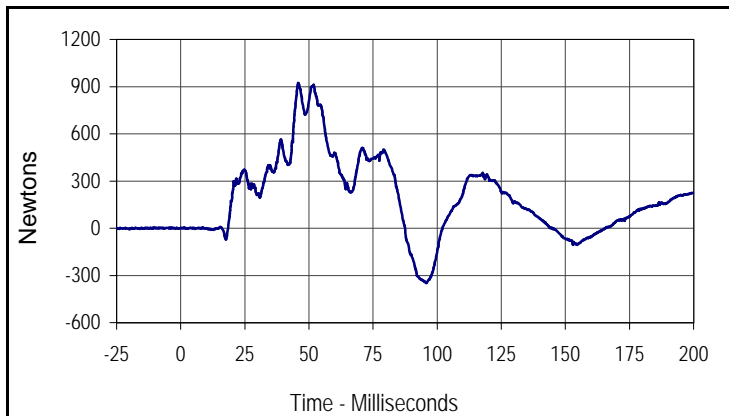
Test Date: 10/28/04  
 NHTSA No.: H55300



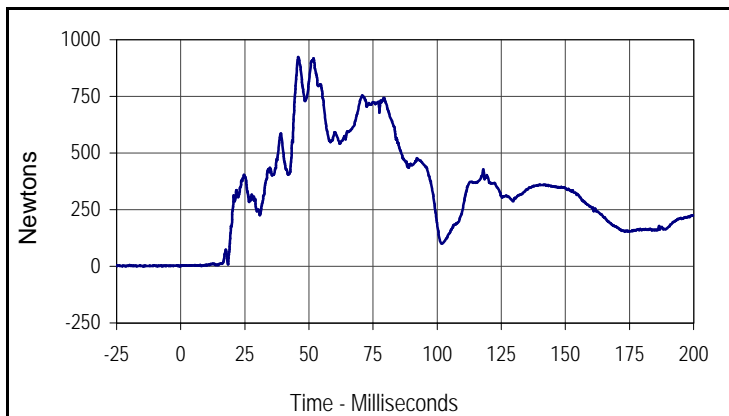
Curve Description			
Driver Upper Neck Force X			
CURNO	Type	SAE Class	Units
007	FIL	1000	Newtons
Max	Time	Min	Time
575.8	73.4	-358.5	141.9



Curve Description			
Driver Upper Neck Force Y			
CURNO	Type	SAE Class	Units
008	FIL	1000	Newtons
Max	Time	Min	Time
43.2	71.6	-98.7	100.8



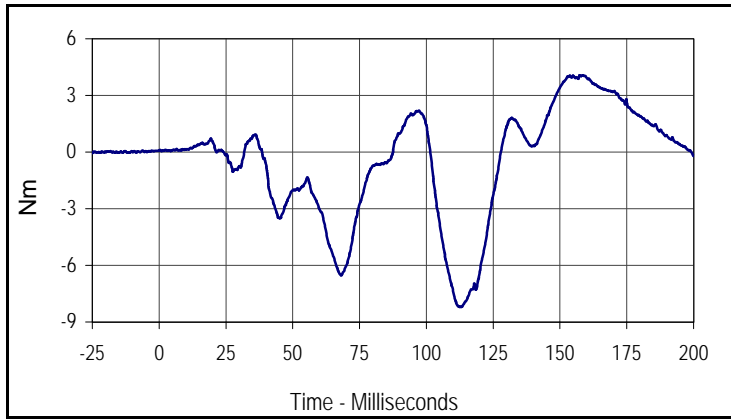
Curve Description			
Driver Upper Neck Force Z			
CURNO	Type	SAE Class	Units
009	FIL	1000	Newtons
Max	Time	Min	Time
922.7	45.8	-348.2	95.8



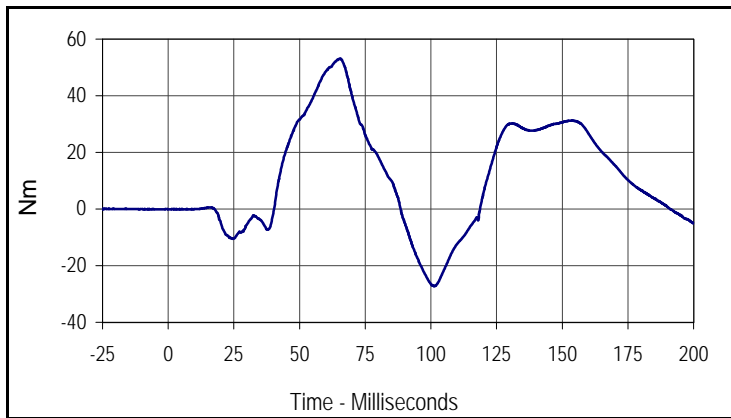
Curve Description			
Driver Upper Neck Force Res.			
CURNO	Type	SAE Class	Units
007	RES	1000	Newtons
Max	Time	Min	Time
924.3	45.8	1.6	8.1

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

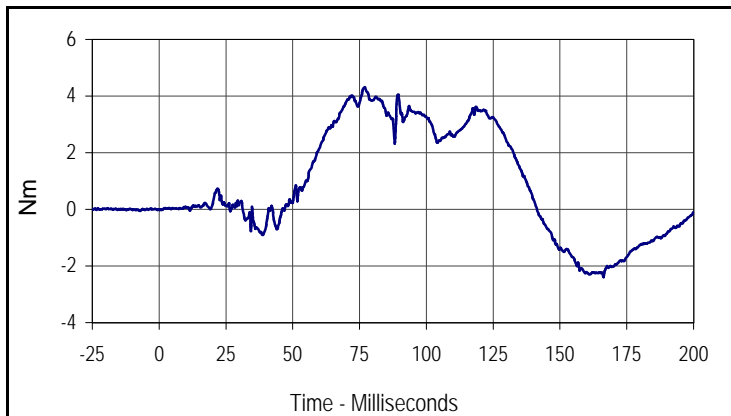
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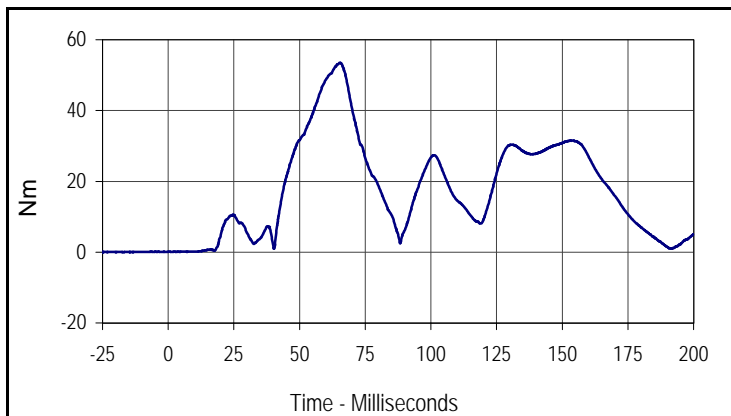
Curve Description			
Driver Upper Neck Moment X			
CURNO	Type	SAE Class	Units
010	FIL	600	Nm
Max	Time	Min	Time
4.1	157.3	-8.2	112.6



Curve Description			
Driver Upper Neck Moment Y			
CURNO	Type	SAE Class	Units
011	FIL	600	Nm
Max	Time	Min	Time
53.1	65.3	-27.2	101.3



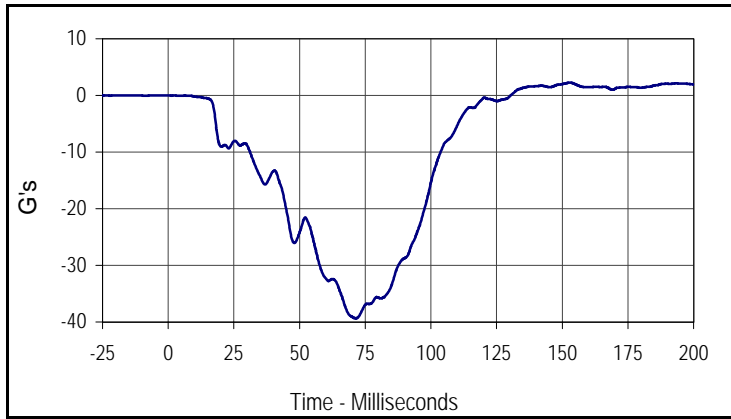
Curve Description			
Driver Upper Neck Moment Z			
CURNO	Type	SAE Class	Units
012	FIL	600	Nm
Max	Time	Min	Time
4.3	77.0	-2.4	166.3



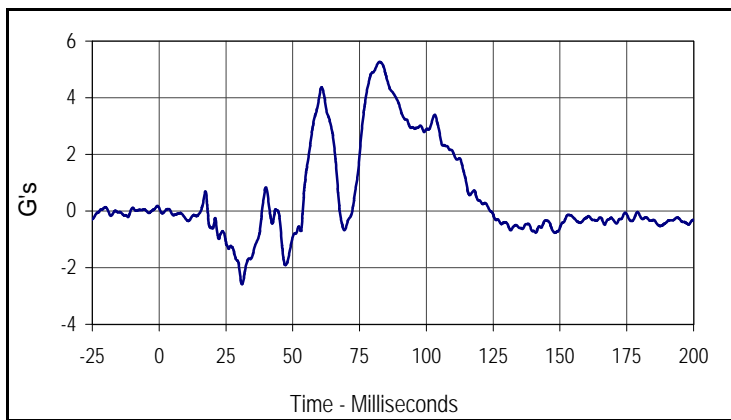
Curve Description			
Driver Upper Neck Moment Res.			
CURNO	Type	SAE Class	Units
010	RES	600	Nm
Max	Time	Min	Time
53.5	65.3	0.1	1.6

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

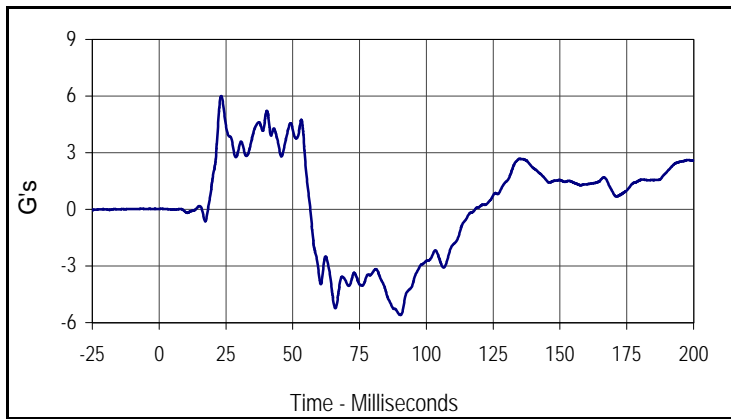
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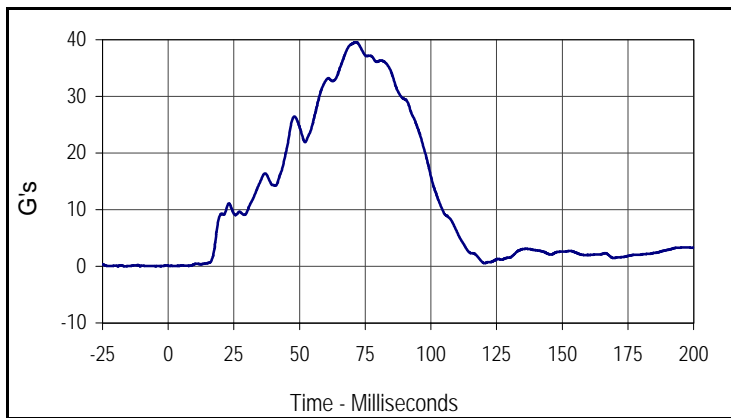
Curve Description			
Driver Chest Primary X			
CURNO	Type	SAE Class	Units
013	FIL	180	G's
Max	Time	Min	Time
2.3	152.9	-39.4	71.4



Curve Description			
Driver Chest Primary Y			
CURNO	Type	SAE Class	Units
014	FIL	180	G's
Max	Time	Min	Time
5.3	82.5	-2.6	31.0



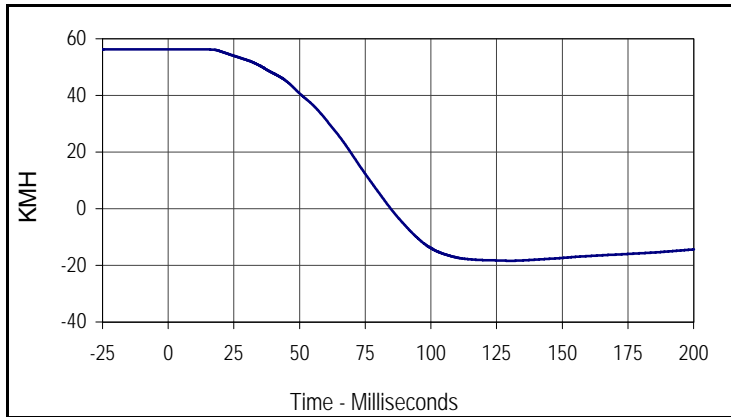
Curve Description			
Driver Chest Primary Z			
CURNO	Type	SAE Class	Units
015	FIL	180	G's
Max	Time	Min	Time
6.0	23.2	-5.6	90.3



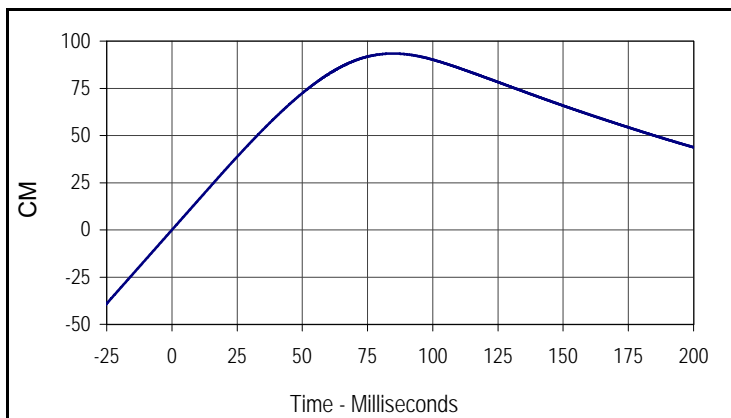
Curve Description			
Driver Chest Resultant Primary			
CURNO	Type	SAE Class	Units
013	RES	180	G's
Max	Time	Min	Time
39.6	71.3	0.0	0.5

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04  
 NHTSA No.: H55300



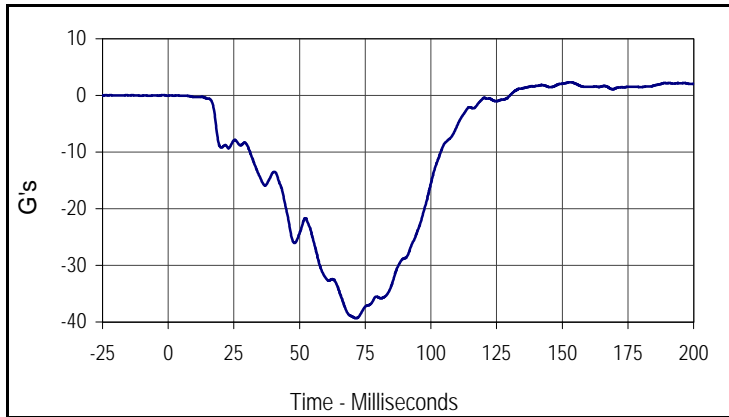
Curve Description			
Driver Chest Primary X Velocity			
CURNO	Type	SAE Class	Units
013	IN1	180	KMH
Max	Time	Min	Time
56.3	0.3	-18.4	130.3



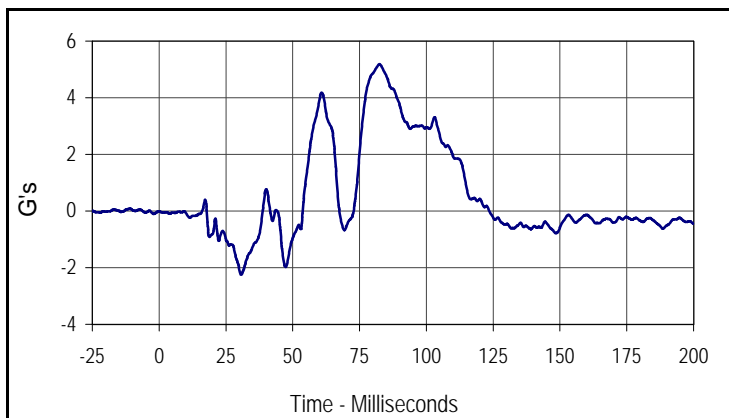
Curve Description			
Driver Chest Primary X Displacement			
CURNO	Type	SAE Class	Units
013	IN2	180	CM
Max	Time	Min	Time
93.4	84.7	0.0	0.0

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

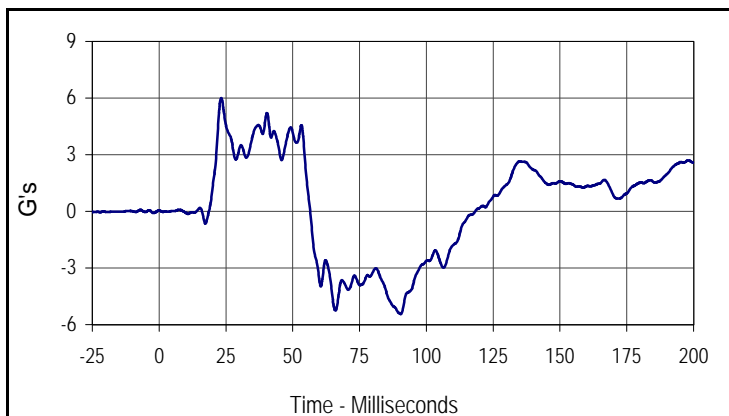
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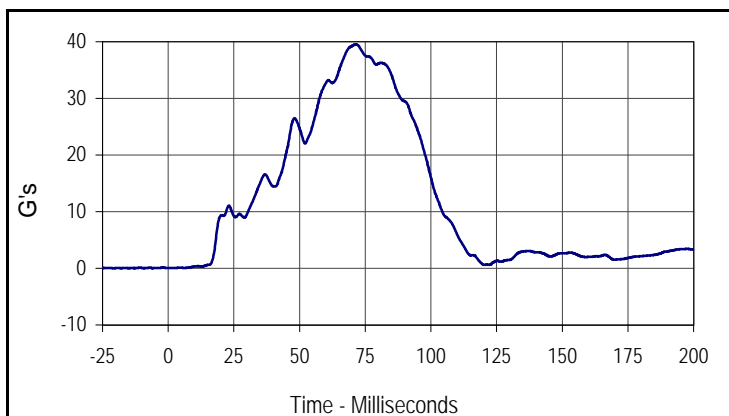
Curve Description			
Driver Chest Redundant X			
CURNO	Type	SAE Class	Units
016	FIL	180	G's
Max	Time	Min	Time
2.3	152.9	-39.3	71.5



Curve Description			
Driver Chest Redundant Y			
CURNO	Type	SAE Class	Units
017	FIL	180	G's
Max	Time	Min	Time
5.2	82.4	-2.3	30.7



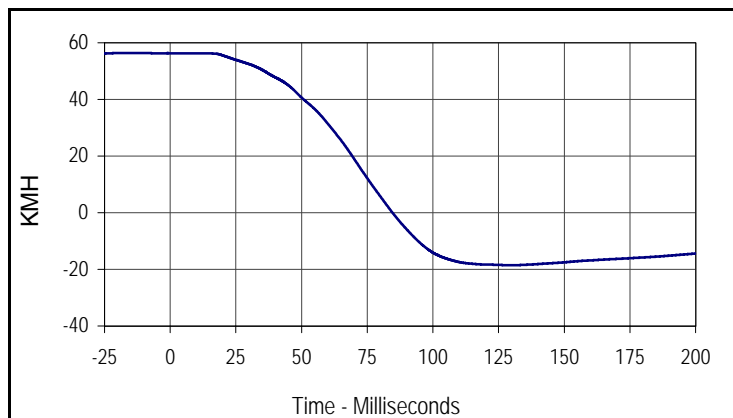
Curve Description			
Driver Chest Redundant Z			
CURNO	Type	SAE Class	Units
018	FIL	180	G's
Max	Time	Min	Time
6.0	23.2	-5.4	90.4



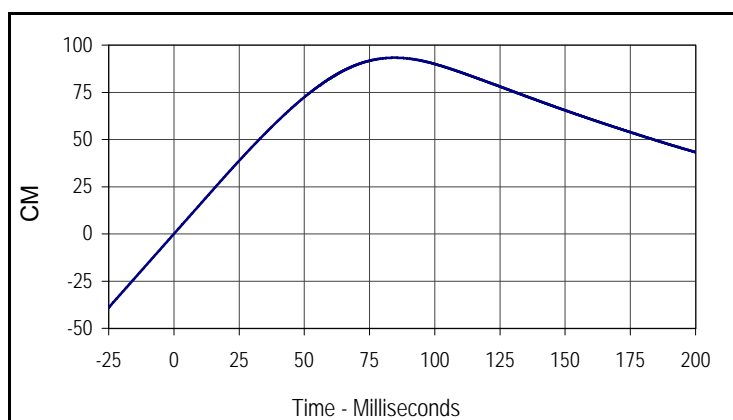
Curve Description			
Driver Chest Resultant Redundant			
CURNO	Type	SAE Class	Units
016	RES	180	G's
Max	Time	Min	Time
39.5	71.4	0.0	0.7

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04  
 NHTSA No.: H55300



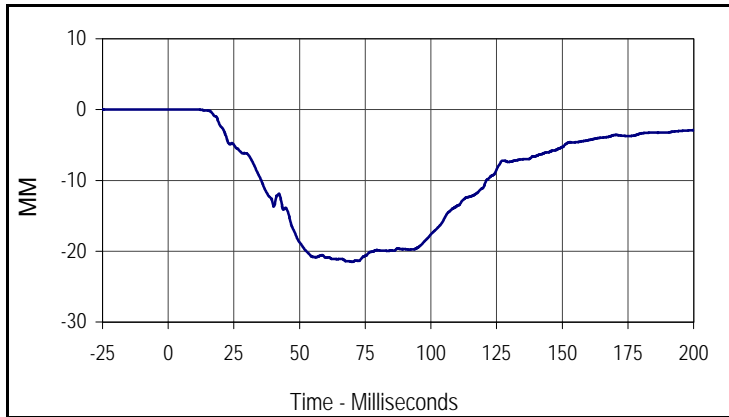
Curve Description			
Driver Chest Redundant X Velocity			
CURNO	Type	SAE Class	Units
016	IN1	180	KMH
Max	Time	Min	Time
56.3	0.0	-18.5	130.1



Curve Description			
Driver Chest Redundant X Displacement			
CURNO	Type	SAE Class	Units
016	IN2	180	CM
Max	Time	Min	Time
93.3	84.6	0.0	0.0

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

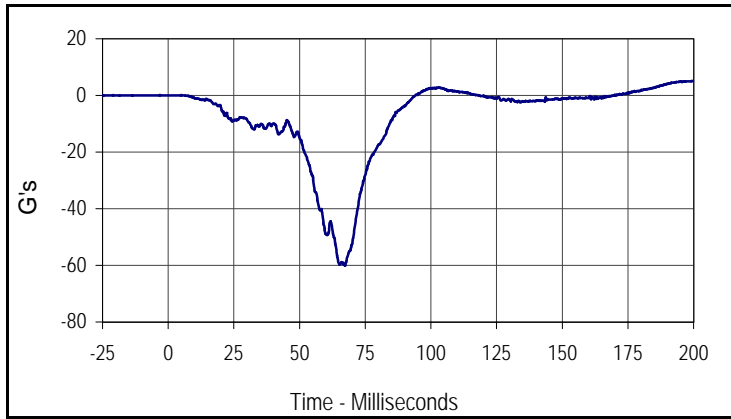
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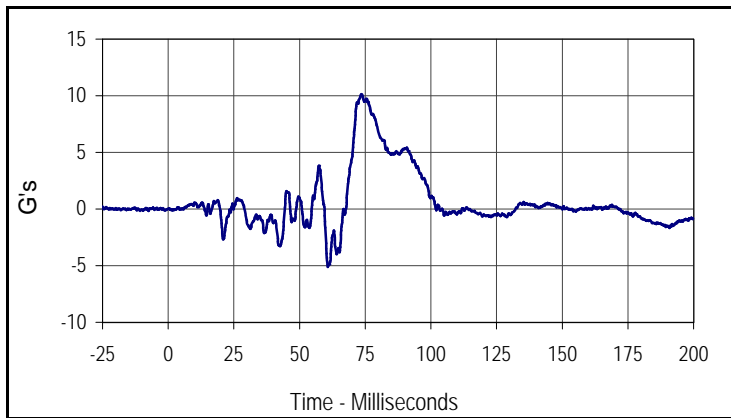
Curve Description			
Driver Chest Displacement			
CURNO	Type	SAE Class	Units
019	FIL	600	MM
Max	Time	Min	Time
0.0	4.8	-21.5	70.0

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

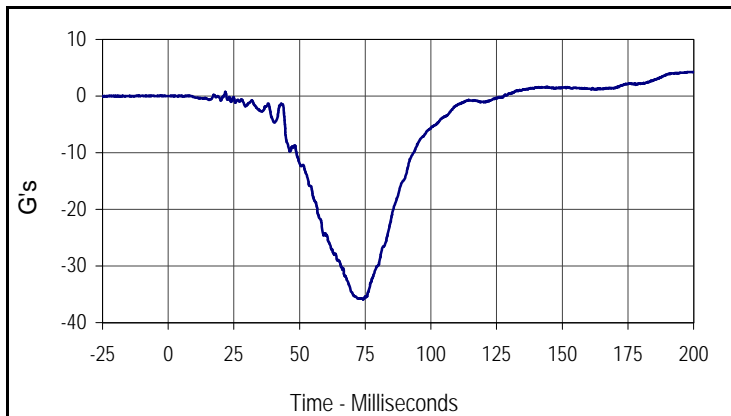
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 NHTSA No.: H55300



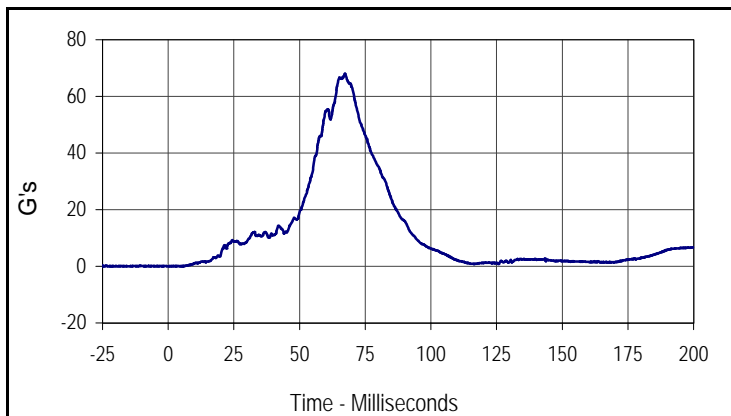
Curve Description			
Driver Pelvis X			
CURNO	Type	SAE Class	Units
020	FIL	1000	G's
Max	Time	Min	Time
5.1	199.9	-60.1	67.3



Curve Description			
Driver Pelvis Y			
CURNO	Type	SAE Class	Units
021	FIL	1000	G's
Max	Time	Min	Time
10.2	73.5	-5.1	60.8



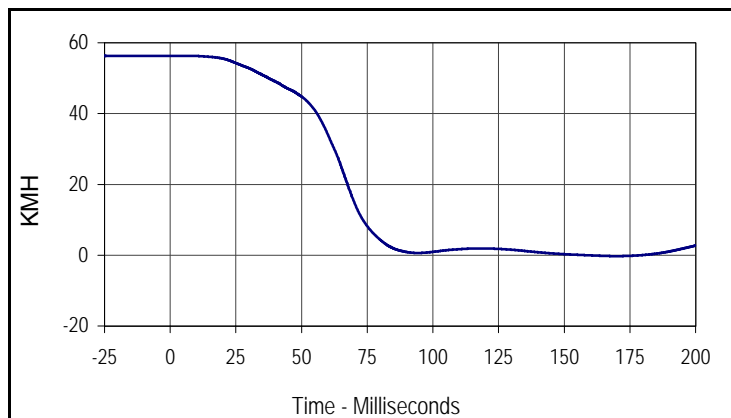
Curve Description			
Driver Pelvis Z			
CURNO	Type	SAE Class	Units
022	FIL	1000	G's
Max	Time	Min	Time
4.3	199.8	-36.0	74.2



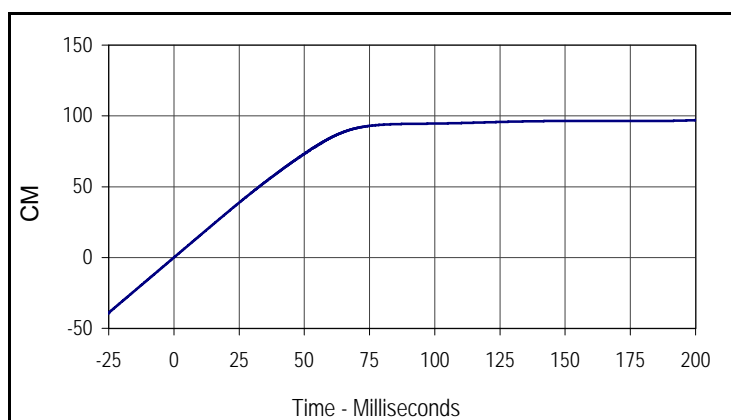
Curve Description			
Driver Pelvis Resultant			
CURNO	Type	SAE Class	Units
020	RES	1000	G's
Max	Time	Min	Time
68.0	67.3	0.0	3.2

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04  
 NHTSA No.: H55300



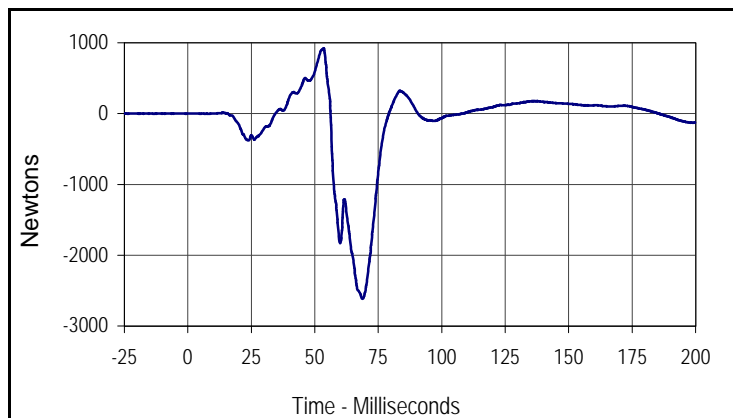
Curve Description			
Driver Pelvis X Velocity			
CURNO	Type	SAE Class	Units
020	IN1	180	KMH
Max	Time	Min	Time
56.3	5.7	-0.3	169.8



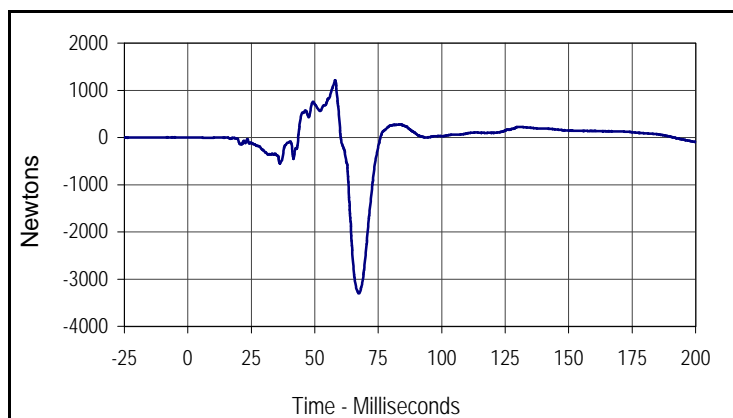
Curve Description			
Driver Pelvis X Displacement			
CURNO	Type	SAE Class	Units
020	IN2	180	CM
Max	Time	Min	Time
97.0	200.0	0.0	0.0

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04  
 NHTSA No.: H55300



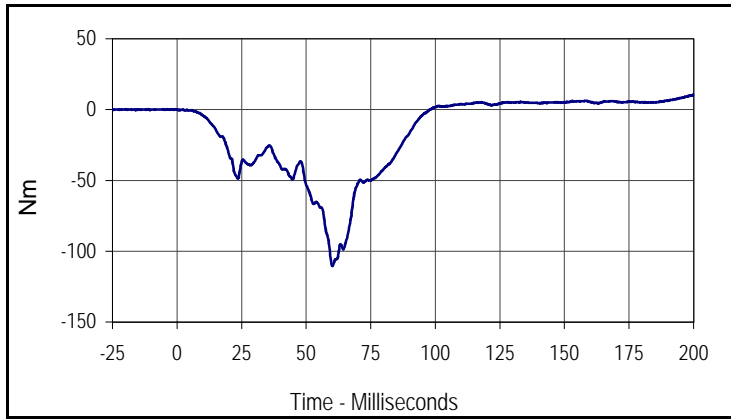
Curve Description			
Driver Left Femur Force			
CURNO	Type	SAE Class	Units
023	FIL	600	Newtons
Max	Time	Min	Time
921.7	53.5	-2617.7	68.8



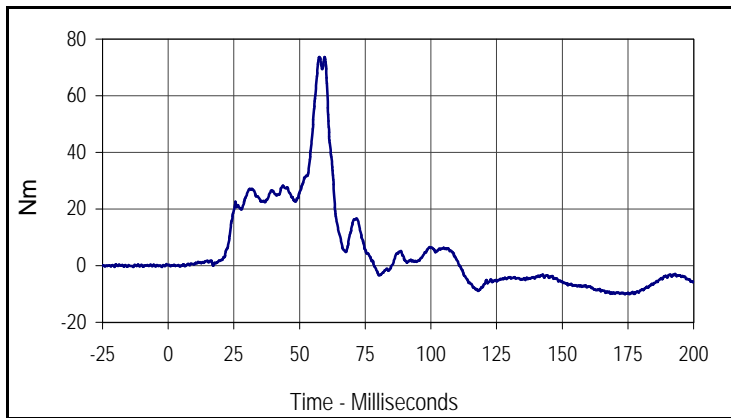
Curve Description			
Driver Right Femur Force			
CURNO	Type	SAE Class	Units
024	FIL	600	Newtons
Max	Time	Min	Time
1213.2	58.0	-3303.7	67.3

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

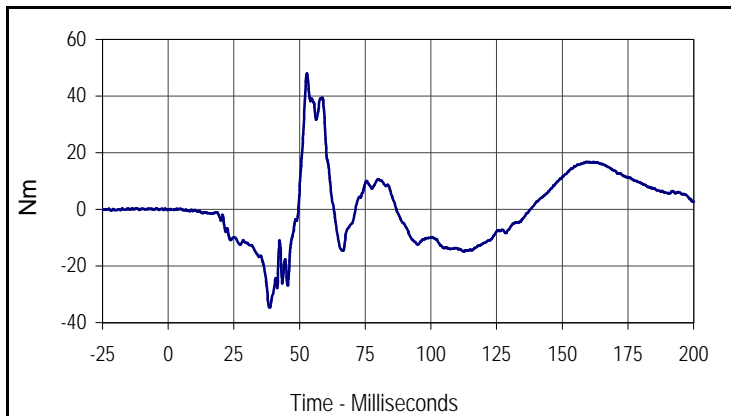
Test Date: 10/28/04  
 NHTSA No.: H55300



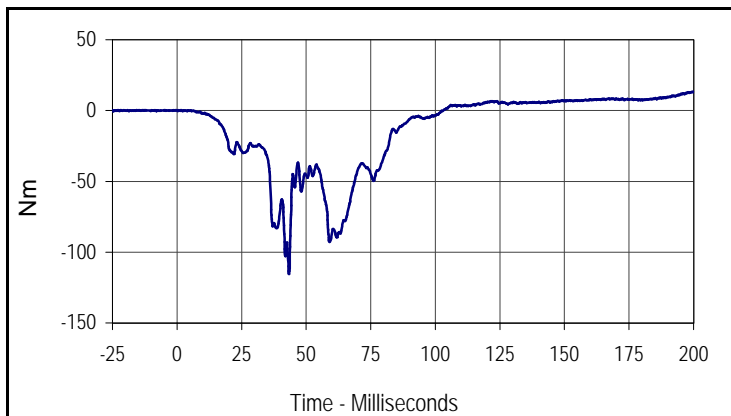
Curve Description			
Driver Left Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
025	FIL	600	Nm
Max	Time	Min	Time
10.5	200.0	-110.4	60.2



Curve Description			
Driver Left Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
026	FIL	600	Nm
Max	Time	Min	Time
73.7	57.6	-10.1	175.6



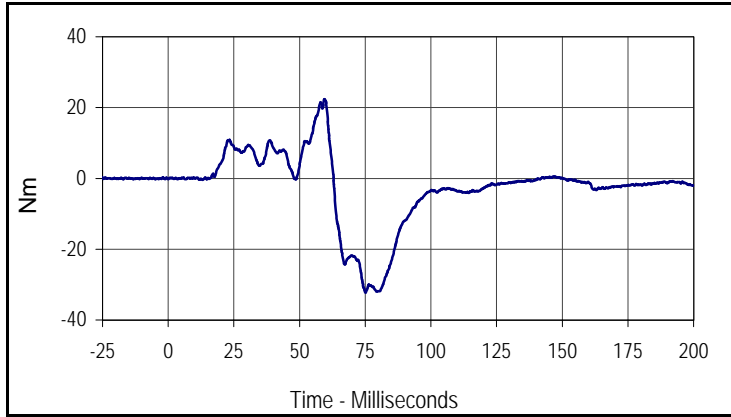
Curve Description			
Driver Right Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
027	FIL	600	Nm
Max	Time	Min	Time
48.0	52.8	-34.7	38.6



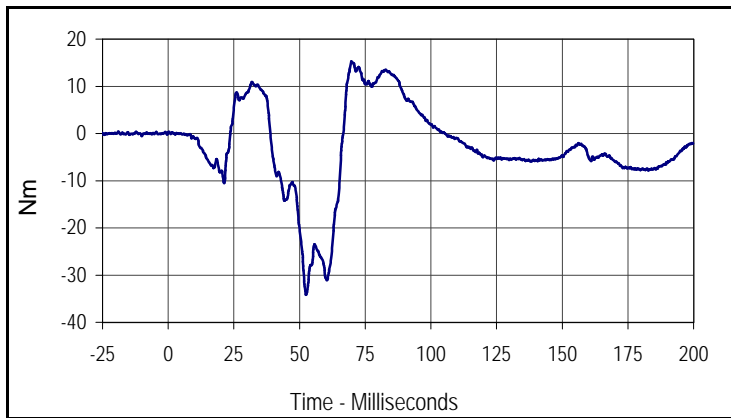
Curve Description			
Driver Right Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
028	FIL	600	Nm
Max	Time	Min	Time
13.3	199.7	-115.4	43.4

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

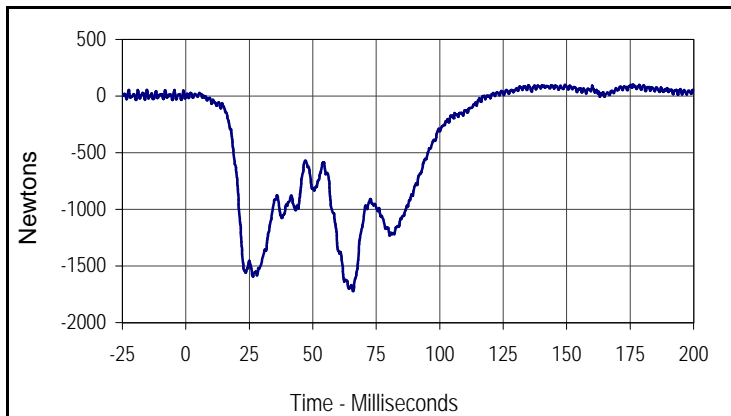
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Driver Left Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
029	FIL	600	Nm
Max	Time	Min	Time
22.4	59.5	-32.3	75.1



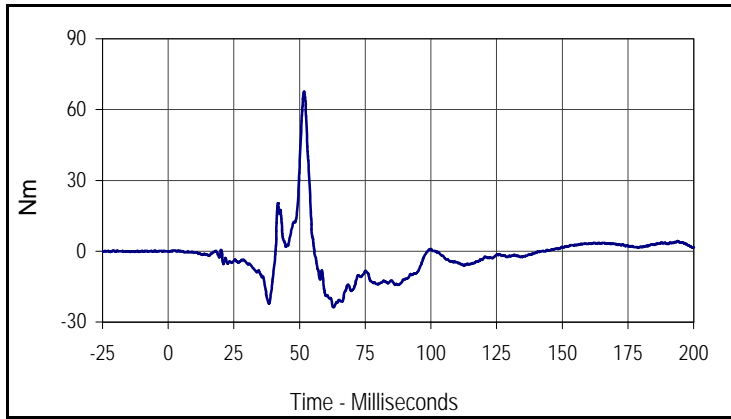
Curve Description			
Driver Left Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
030	FIL	600	Nm
Max	Time	Min	Time
15.3	69.7	-34.1	52.5



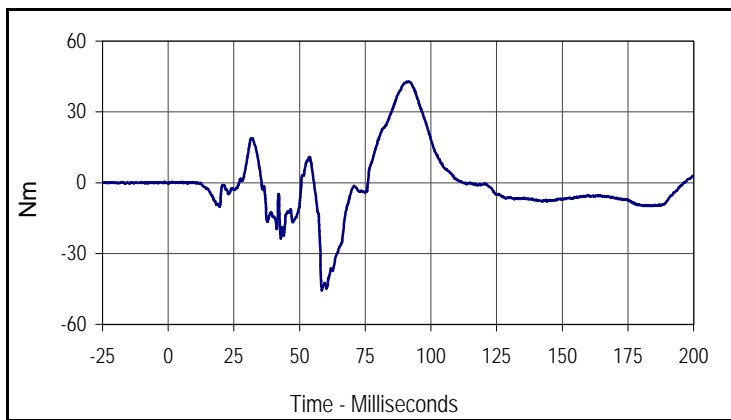
Curve Description			
Driver Left Lower Tibia Force Z			
CURNO	Type	SAE Class	Units
031	FIL	600	Newtons
Max	Time	Min	Time
101.7	176.2	-1723.1	65.9

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

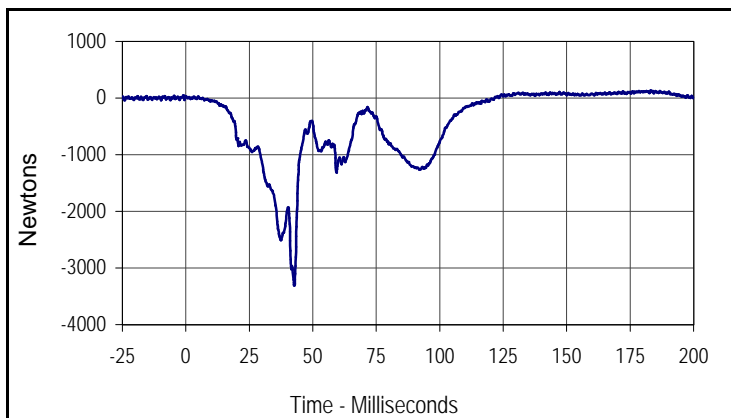
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Driver Right Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
032	FIL	600	Nm
Max	Time	Min	Time
67.6	51.7	-23.8	62.9



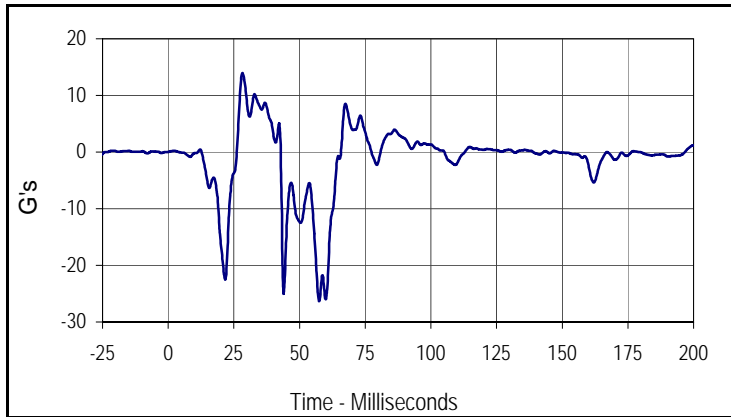
Curve Description			
Driver Right Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
033	FIL	600	Nm
Max	Time	Min	Time
42.9	91.6	-45.6	58.5



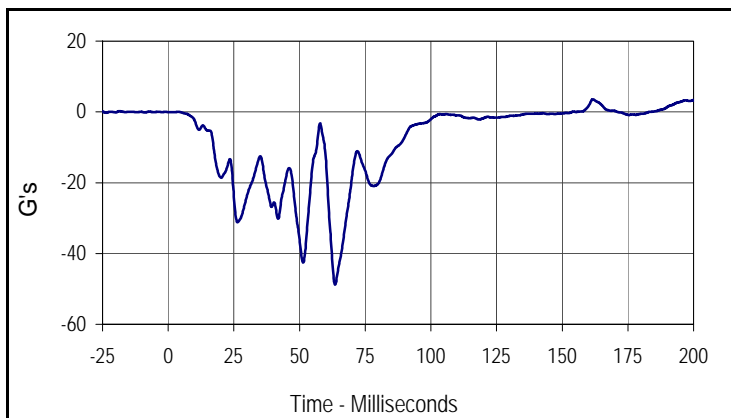
Curve Description			
Driver Right Lower Tibia Force Z			
CURNO	Type	SAE Class	Units
034	FIL	600	Newtons
Max	Time	Min	Time
135.5	183.2	-3311.2	42.7

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

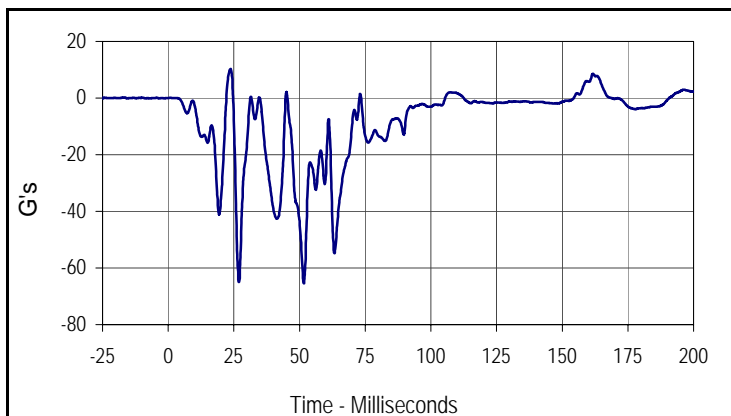
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Driver Left Foot Aft X			
CURNO	Type	SAE Class	Units
035	FIL	180	G's
Max	Time	Min	Time
13.9	28.3	-26.3	57.5



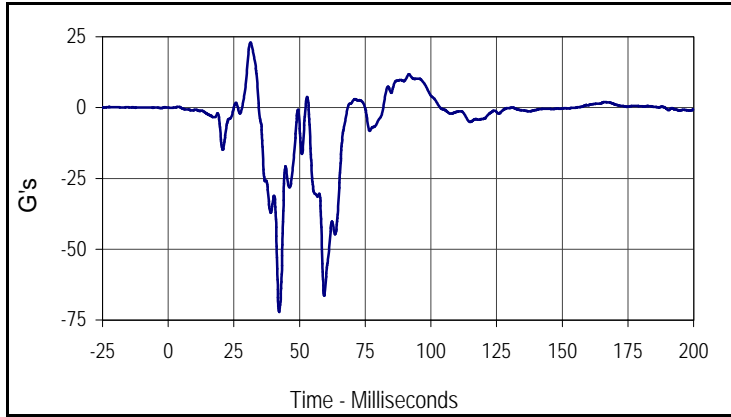
Curve Description			
Driver Left Foot Aft Z			
CURNO	Type	SAE Class	Units
036	FIL	180	G's
Max	Time	Min	Time
3.6	161.6	-48.8	63.5



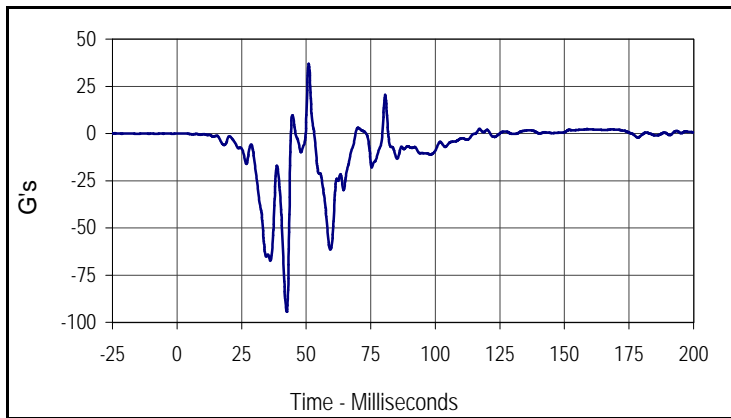
Curve Description			
Driver Left Foot Fore Z			
CURNO	Type	SAE Class	Units
037	FIL	180	G's
Max	Time	Min	Time
10.3	23.7	-65.4	51.6

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

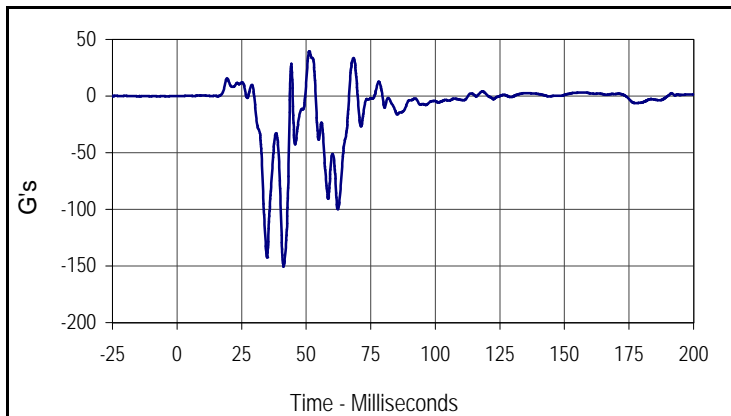
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Driver Right Foot Aft X			
CURNO	Type	SAE Class	Units
038	FIL	180	G's
Max	Time	Min	Time
23.0	31.3	-72.1	42.2



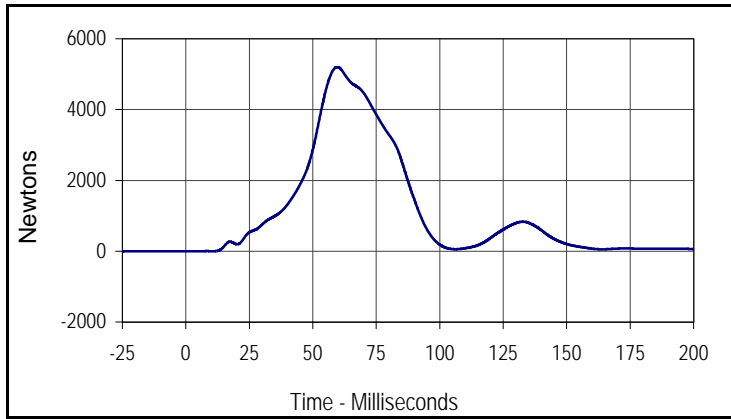
Curve Description			
Driver Right Foot Aft Z			
CURNO	Type	SAE Class	Units
039	FIL	180	G's
Max	Time	Min	Time
36.9	51.0	-94.4	42.5



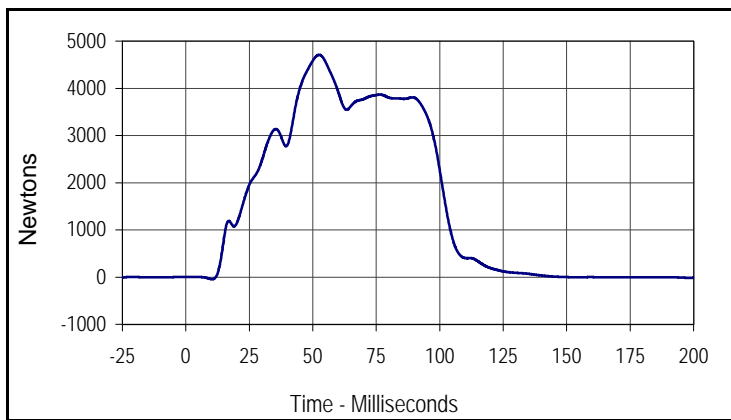
Curve Description			
Driver Right Foot Fore Z			
CURNO	Type	SAE Class	Units
040	FIL	180	G's
Max	Time	Min	Time
39.5	51.2	-150.5	41.2

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

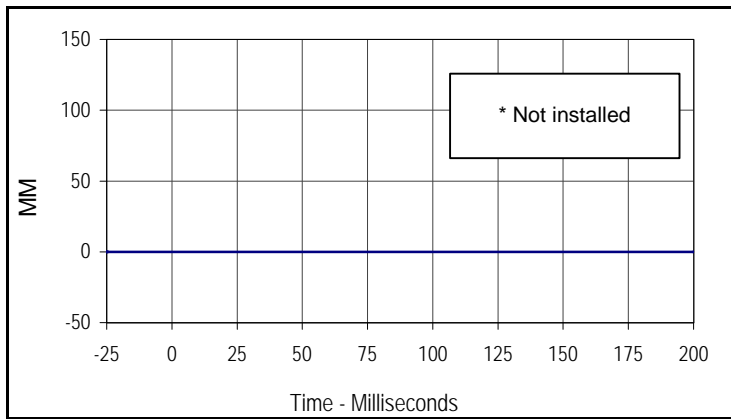
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Driver Lap Belt Force			
CURNO	Type	SAE Class	Units
041	FIL	60	Newtons
Max	Time	Min	Time
5199.9	59.6	-0.6	4.4

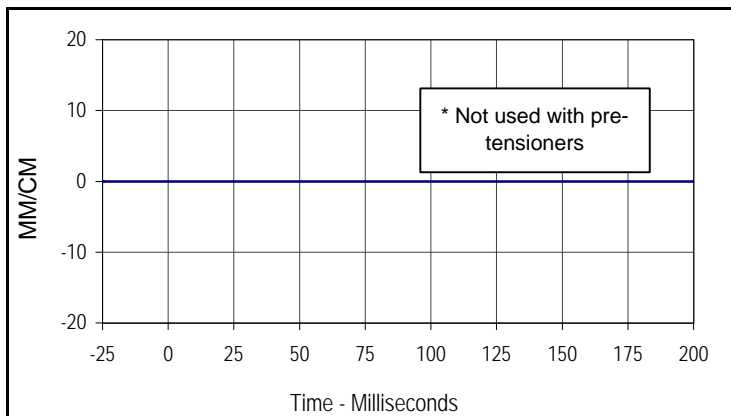


Curve Description			
Driver Shoulder Belt Force			
CURNO	Type	SAE Class	Units
042	FIL	60	Newtons
Max	Time	Min	Time
4709.6	52.5	-44.0	10.4



Curve Description			
Driver Shoulder Belt Pullout			
CURNO	Type	SAE Class	Units
043	FIL	60	MM
Max	Time	Min	Time
0.0	0.0	0.0	0.0

\* Not installed

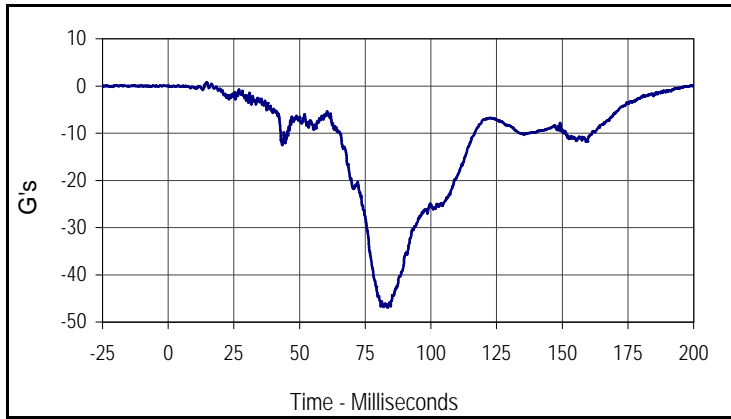


Curve Description			
Driver Shoulder Belt Elongation			
CURNO	Type	SAE Class	Units
044	FIL	60	MM/CM
Max	Time	Min	Time
0.0	0.0	0.0	0.0

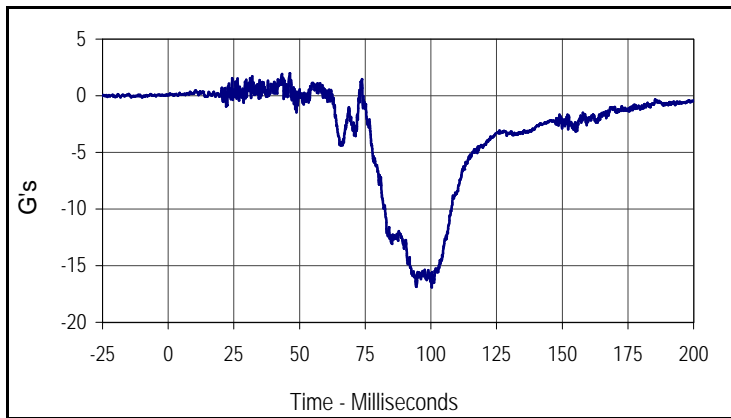
\* Not used with pre-tensioners

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

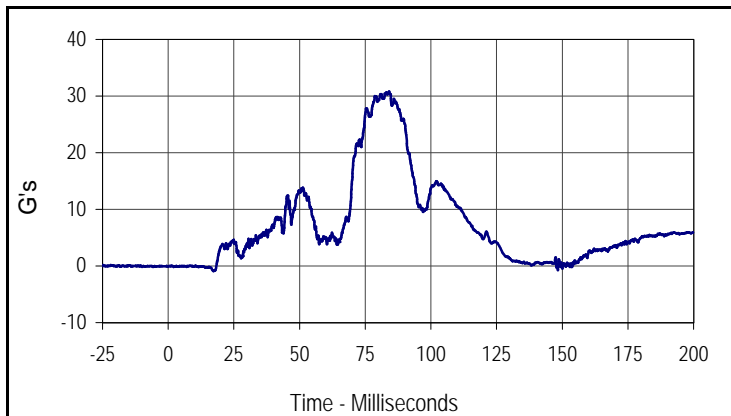
Test Date: 10/28/04  
 NHTSA No.: H55300



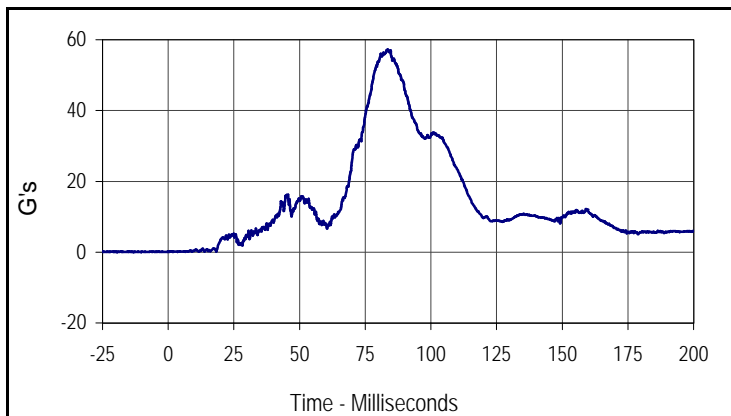
Curve Description			
Passenger Head Primary X			
CURNO	Type	SAE Class	Units
045	FIL	1000	G's
Max	Time	Min	Time
0.7	14.6	-46.9	83.6



Curve Description			
Passenger Head Primary Y			
CURNO	Type	SAE Class	Units
046	FIL	1000	G's
Max	Time	Min	Time
2.0	46.3	-16.9	100.3



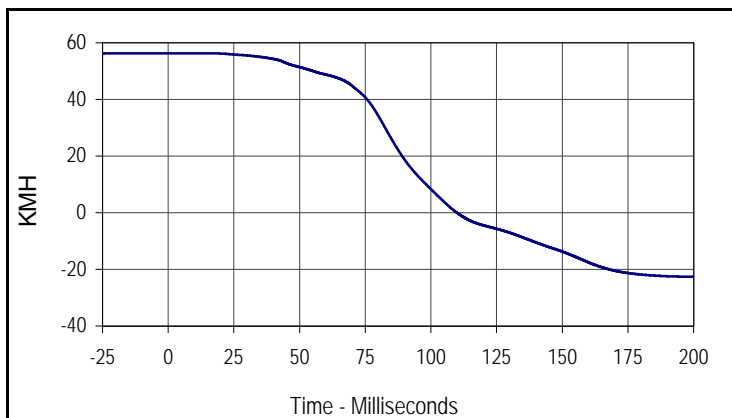
Curve Description			
Passenger Head Primary Z			
CURNO	Type	SAE Class	Units
047	FIL	1000	G's
Max	Time	Min	Time
30.8	84.1	-0.9	17.3



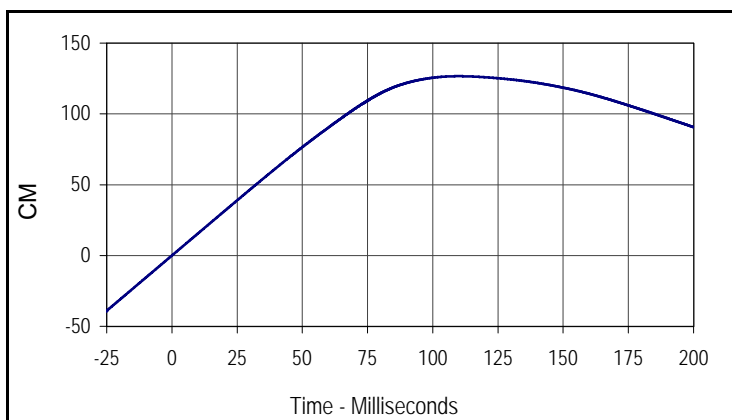
Curve Description			
Passenger Head Resultant Primary			
CURNO	Type	SAE Class	Units
045	RES	1000	G's
Max	Time	Min	Time
57.3	83.6	0.1	1.8

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04  
 NHTSA No.: H55300



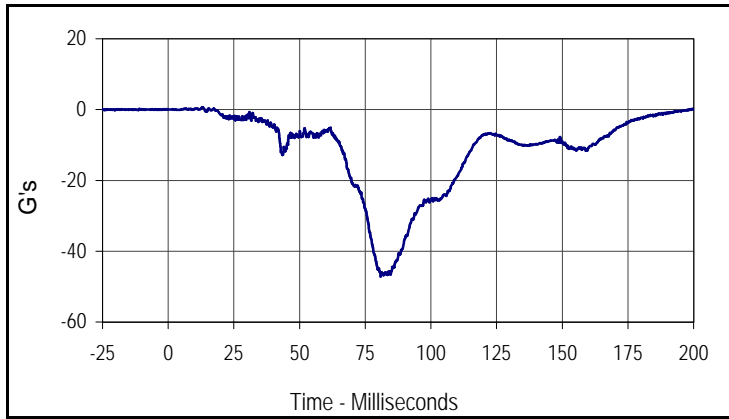
Curve Description			
Passenger Head Primary X Velocity			
CURNO	Type	SAE Class	Units
045	IN1	180	KMH
Max	Time	Min	Time
56.3	0.0	-22.6	198.5



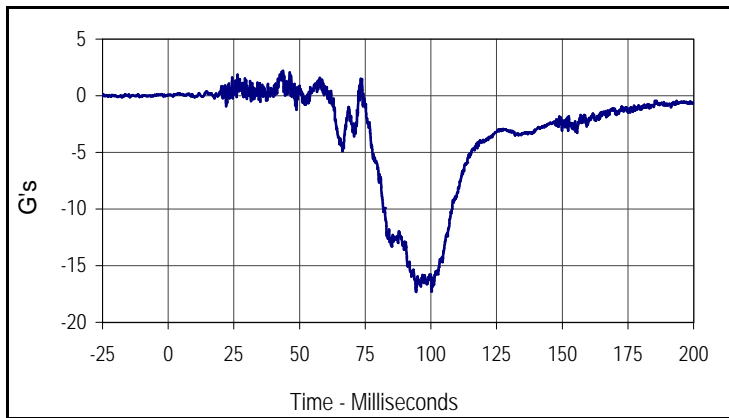
Curve Description			
Passenger Head Primary X Displacement			
CURNO	Type	SAE Class	Units
045	IN2	180	CM
Max	Time	Min	Time
126.6	109.9	0.0	0.0

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

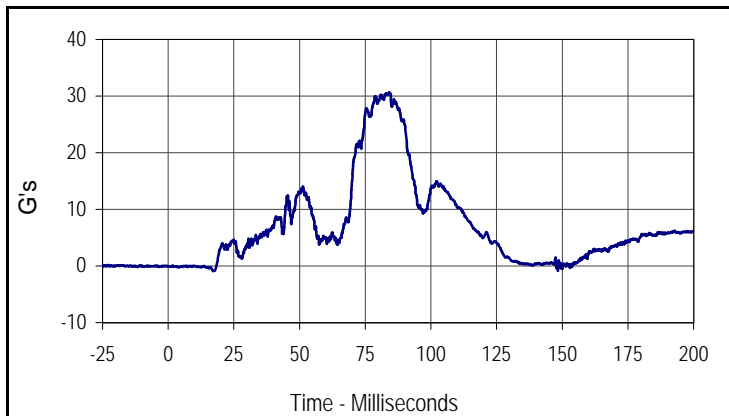
Test Date: 10/28/04  
 NHTSA No.: H55300



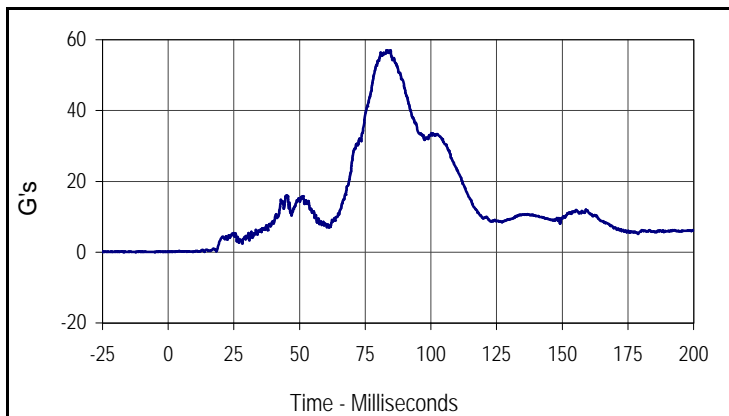
Curve Description			
Passenger Head Redundant X			
CURNO	Type	SAE Class	Units
048	FIL	1000	G's
Max	Time	Min	Time
0.6	13.1	-47.2	80.9



Curve Description			
Passenger Head Redundant Y			
CURNO	Type	SAE Class	Units
049	FIL	1000	G's
Max	Time	Min	Time
2.2	43.7	-17.3	94.4



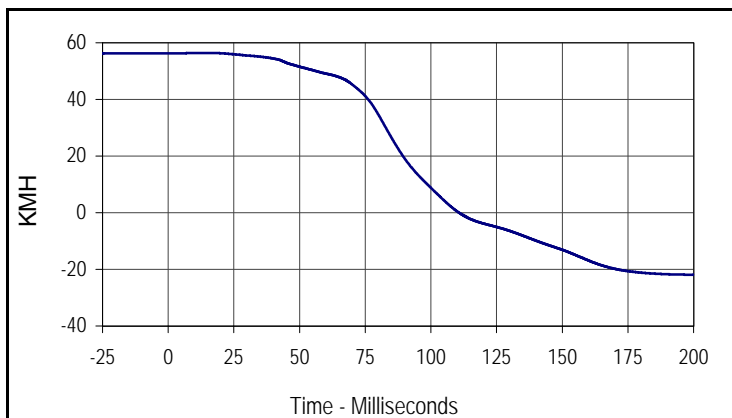
Curve Description			
Passenger Head Redundant Z			
CURNO	Type	SAE Class	Units
050	FIL	1000	G's
Max	Time	Min	Time
30.6	84.1	-0.9	17.1



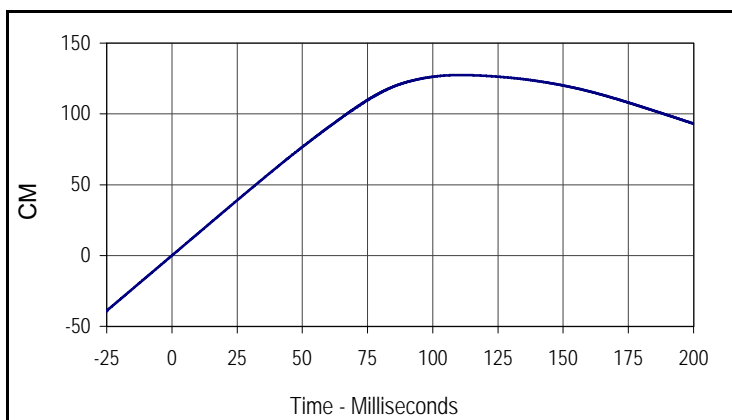
Curve Description			
Passenger Head Resultant Redundant			
CURNO	Type	SAE Class	Units
048	RES	1000	G's
Max	Time	Min	Time
57.0	84.6	0.0	9.3

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04  
 NHTSA No.: H55300



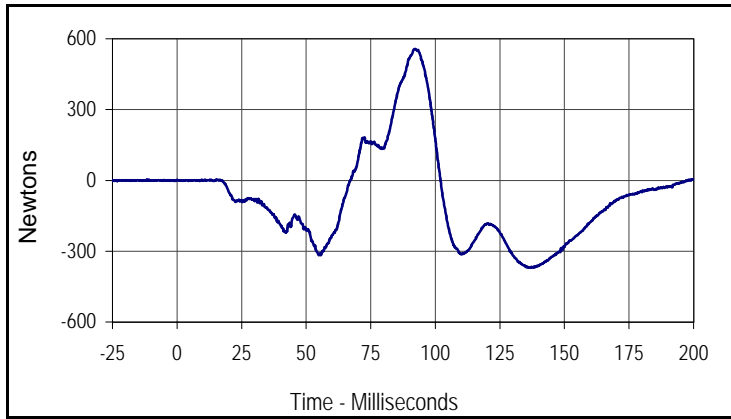
Curve Description			
Passenger Head Redundant X Velocity			
CURNO	Type	SAE Class	Units
048	IN1	180	KMH
Max	Time	Min	Time
56.4	13.8	-21.9	198.8



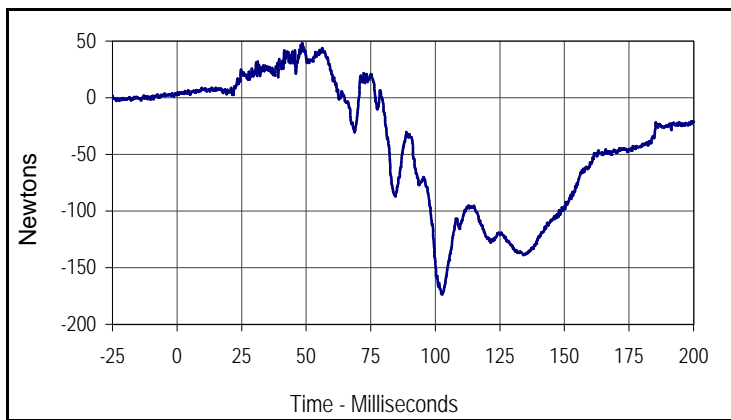
Curve Description			
Passenger Head Redundant X Displacement			
CURNO	Type	SAE Class	Units
048	IN2	180	CM
Max	Time	Min	Time
127.5	110.7	0.0	0.0

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

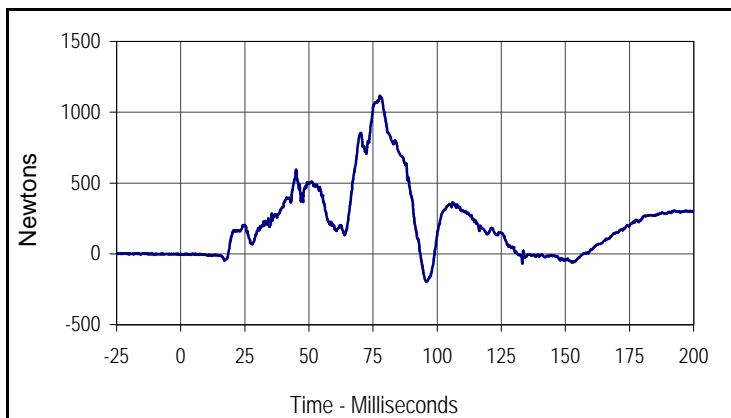
Test Date: 10/28/04  
 NHTSA No.: H55300



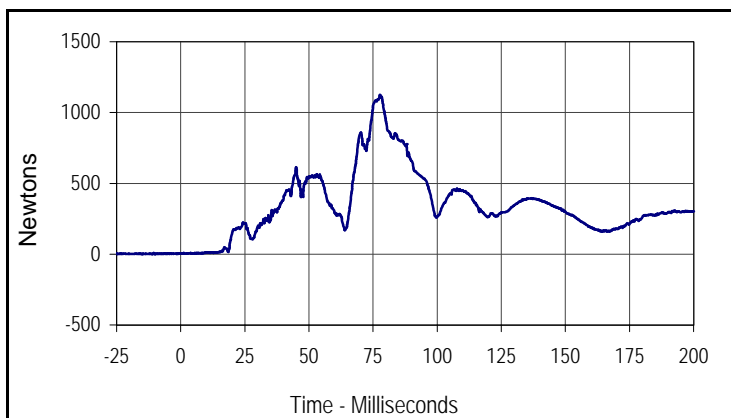
Curve Description			
Passenger Upper Neck Force X			
CURNO	Type	SAE Class	Units
051	FIL	1000	Newtons
Max	Time	Min	Time
556.5	91.8	-369.9	136.7



Curve Description			
Passenger Upper Neck Force Y			
CURNO	Type	SAE Class	Units
052	FIL	1000	Newtons
Max	Time	Min	Time
48.3	48.5	-173.7	102.6



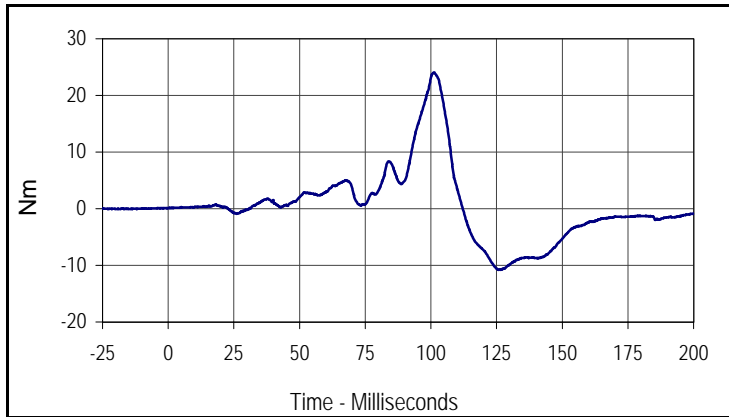
Curve Description			
Passenger Upper Neck Force Z			
CURNO	Type	SAE Class	Units
053	FIL	1000	Newtons
Max	Time	Min	Time
1114.8	77.7	-197.5	95.8



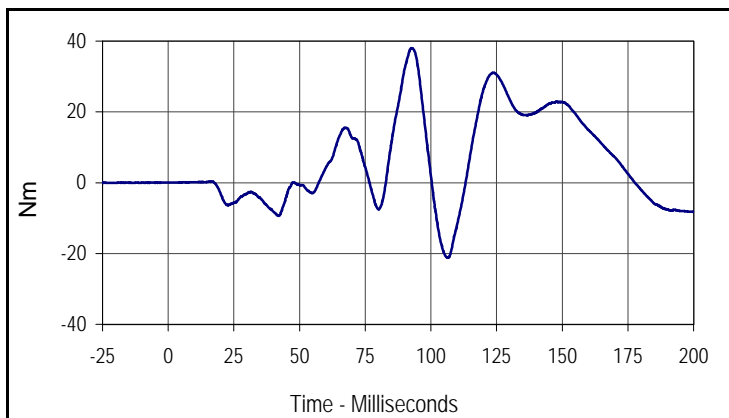
Curve Description			
Passenger Upper Neck Force Res.			
CURNO	Type	SAE Class	Units
051	RES	1000	Newtons
Max	Time	Min	Time
1124.7	77.7	3.7	0.7

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

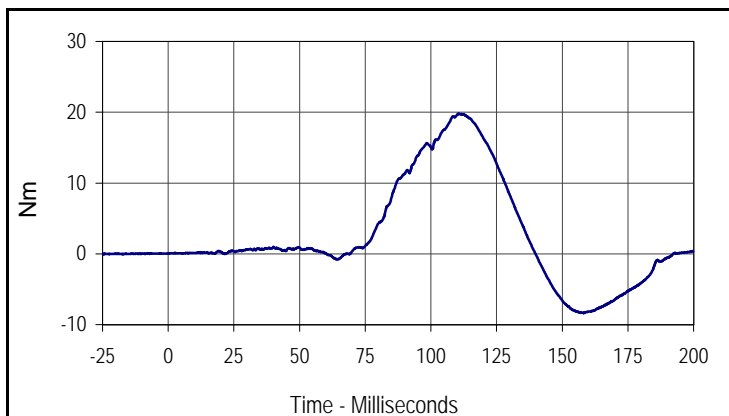
Test Date: 10/28/04  
 NHTSA No.: H55300



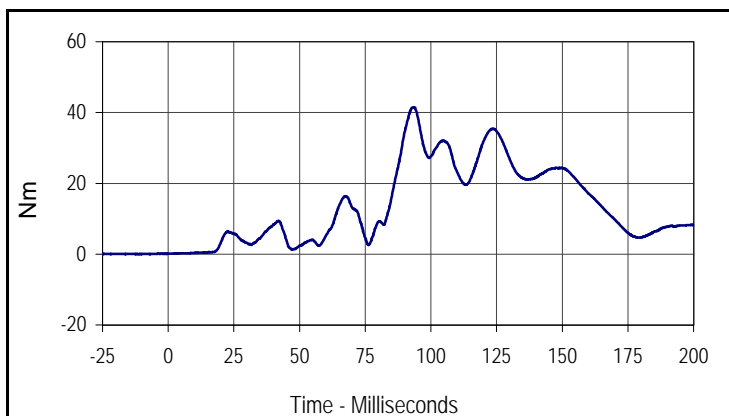
Curve Description			
Passenger Upper Neck Moment X			
CURNO	Type	SAE Class	Units
054	FIL	600	Nm
Max	Time	Min	Time
24.1	101.2	-10.8	125.7



Curve Description			
Passenger Upper Neck Moment Y			
CURNO	Type	SAE Class	Units
055	FIL	600	Nm
Max	Time	Min	Time
38.0	92.6	-21.2	106.4



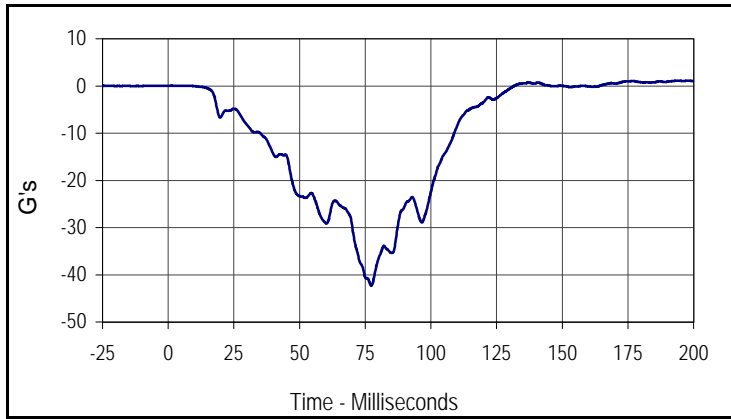
Curve Description			
Passenger Upper Neck Moment Z			
CURNO	Type	SAE Class	Units
056	FIL	600	Nm
Max	Time	Min	Time
19.8	110.8	-8.4	158.2



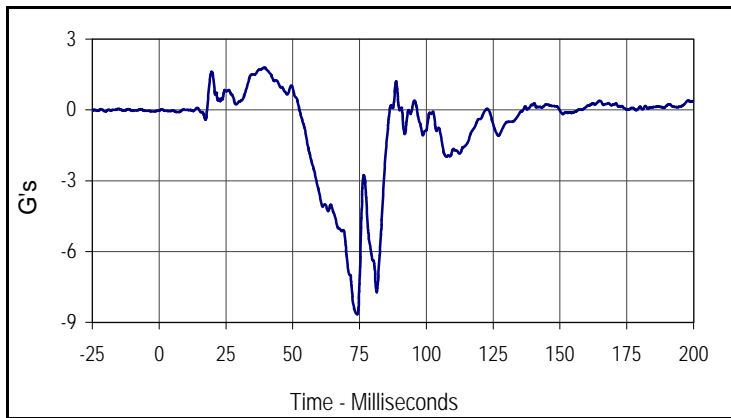
Curve Description			
Passenger Upper Neck Moment Res.			
CURNO	Type	SAE Class	Units
054	RES	600	Nm
Max	Time	Min	Time
41.5	93.3	0.1	1.0

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

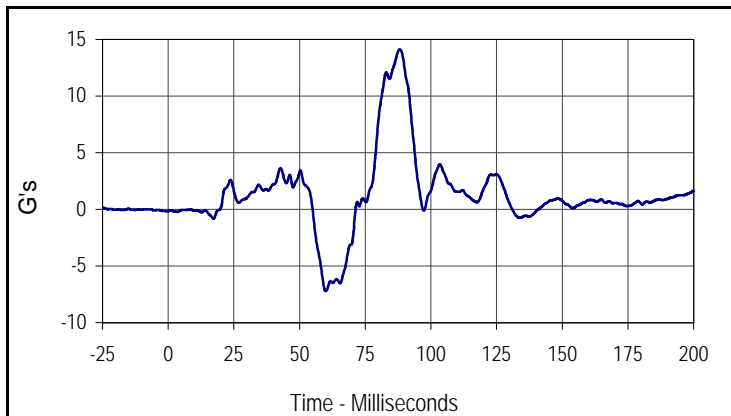
Test Date: 10/28/04  
 NHTSA No.: H55300



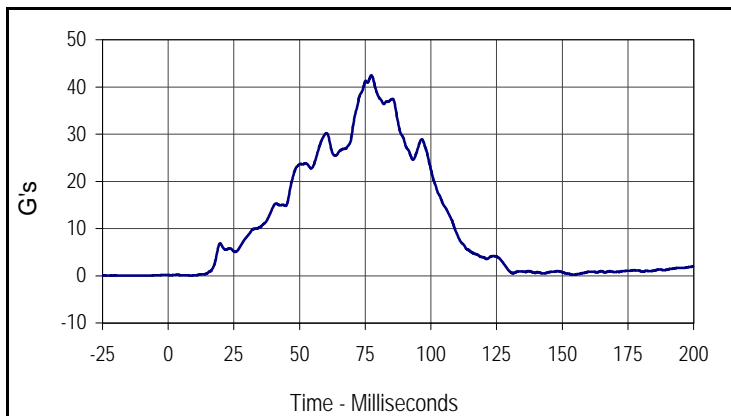
Curve Description			
Passenger Chest Primary X			
CURNO	Type	SAE Class	Units
057	FIL	180	G's
Max	Time	Min	Time
1.1	198.1	-42.3	77.3



Curve Description			
Passenger Chest Primary Y			
CURNO	Type	SAE Class	Units
058	FIL	180	G's
Max	Time	Min	Time
1.8	39.2	-8.7	74.2



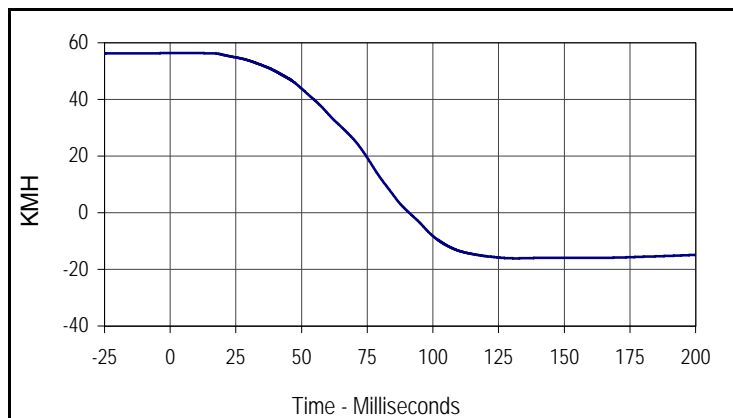
Curve Description			
Passenger Chest Primary Z			
CURNO	Type	SAE Class	Units
059	FIL	180	G's
Max	Time	Min	Time
14.1	88.1	-7.2	60.0



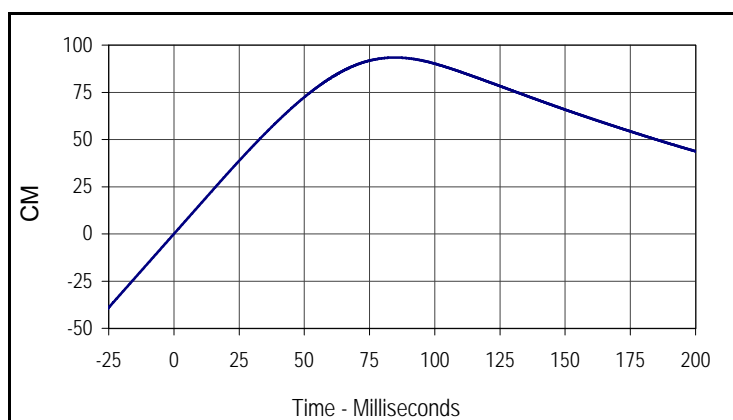
Curve Description			
Passenger Chest Resultant Primary			
CURNO	Type	SAE Class	Units
057	RES	180	G's
Max	Time	Min	Time
42.5	77.3	0.0	8.6

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04  
 NHTSA No.: H55300



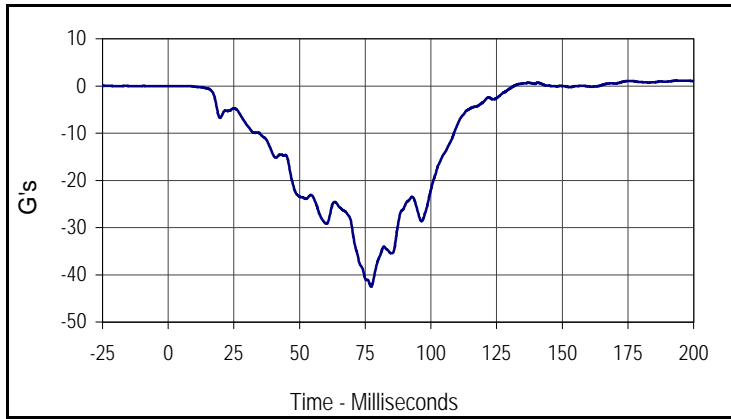
Curve Description			
Passenger Chest Primary X Velocity			
CURNO	Type	SAE Class	Units
057	IN1	180	KMH
Max	Time	Min	Time
56.3	9.3	-16.1	131.6



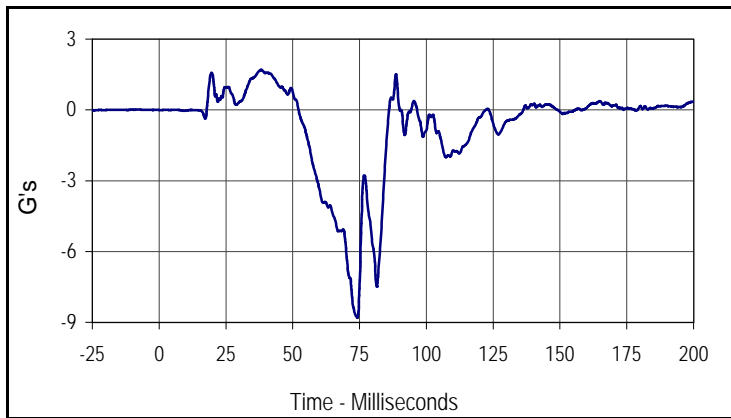
Curve Description			
Passenger Chest Primary X Displacement			
CURNO	Type	SAE Class	Units
057	IN2	180	CM
Max	Time	Min	Time
93.4	84.7	0.0	0.0

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

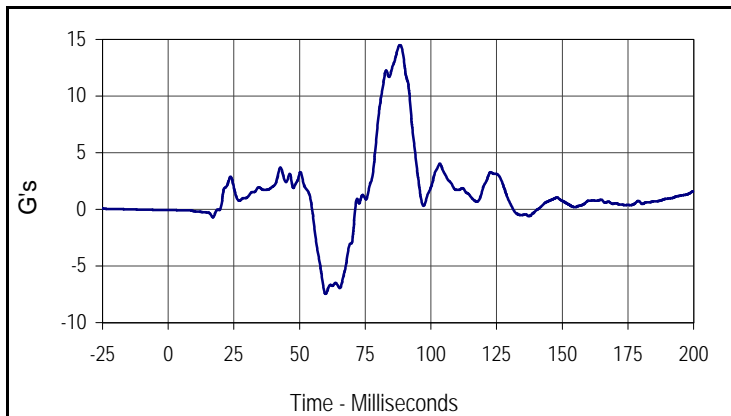
Test Date: 10/28/04  
 NHTSA No.: H55300



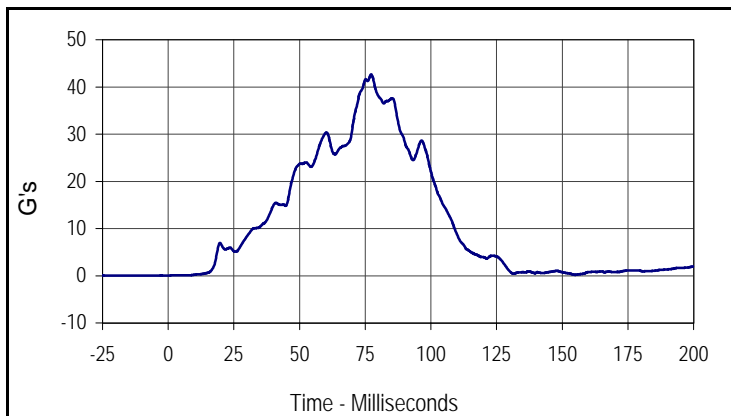
Curve Description			
Passenger Chest Redundant X			
CURNO	Type	SAE Class	Units
060	FIL	180	G's
Max	Time	Min	Time
1.2	193.4	-42.5	77.2



Curve Description			
Passenger Chest Redundant Y			
CURNO	Type	SAE Class	Units
061	FIL	180	G's
Max	Time	Min	Time
1.7	38.2	-8.8	74.2



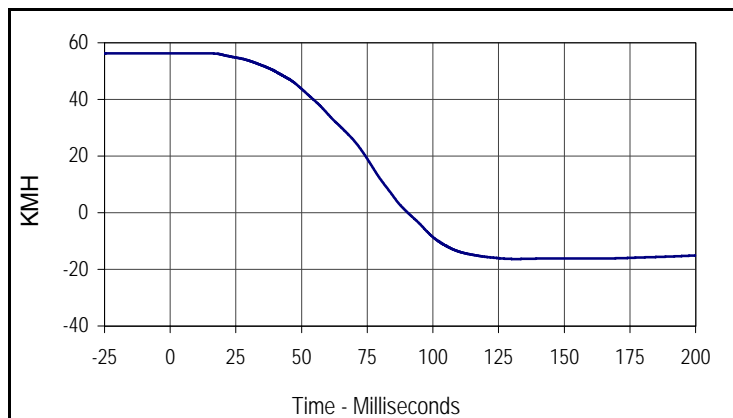
Curve Description			
Passenger Chest Redundant Z			
CURNO	Type	SAE Class	Units
062	FIL	180	G's
Max	Time	Min	Time
14.5	88.2	-7.4	59.9



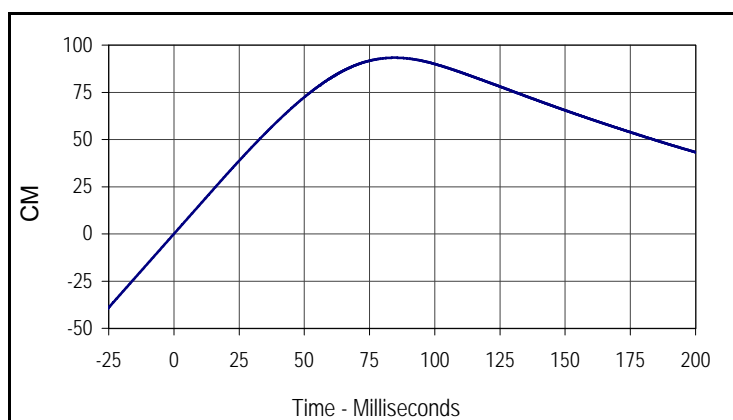
Curve Description			
Passenger Chest Resultant Redundant			
CURNO	Type	SAE Class	Units
060	RES	180	G's
Max	Time	Min	Time
42.7	77.3	0.1	0.0

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04  
 NHTSA No.: H55300



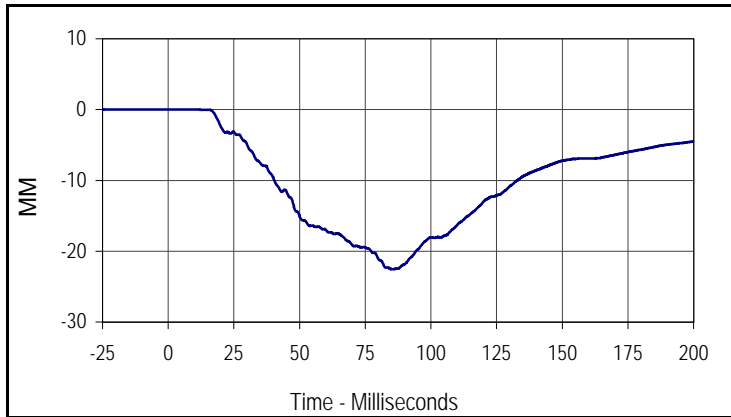
Curve Description			
Passenger Chest Redundant X Velocity			
CURNO	Type	SAE Class	Units
060	IN1	180	KMH
Max	Time	Min	Time
56.3	0.0	-16.3	131.6



Curve Description			
Passenger Chest Redundant X Displacement			
CURNO	Type	SAE Class	Units
060	IN2	180	CM
Max	Time	Min	Time
93.3	84.6	0.0	0.0

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

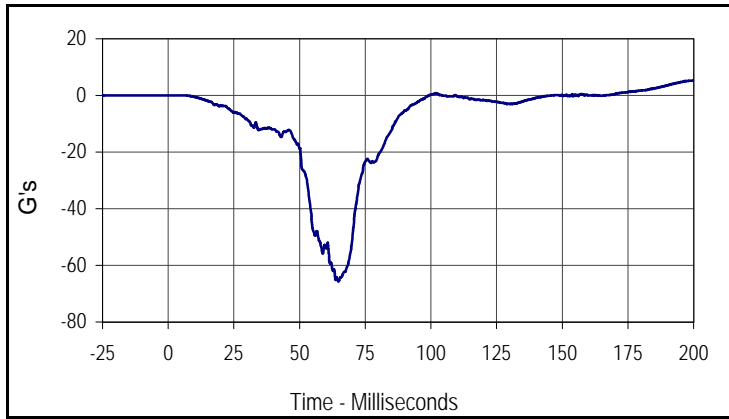
Test Date: 10/28/04  
 NHTSA No.: H55300



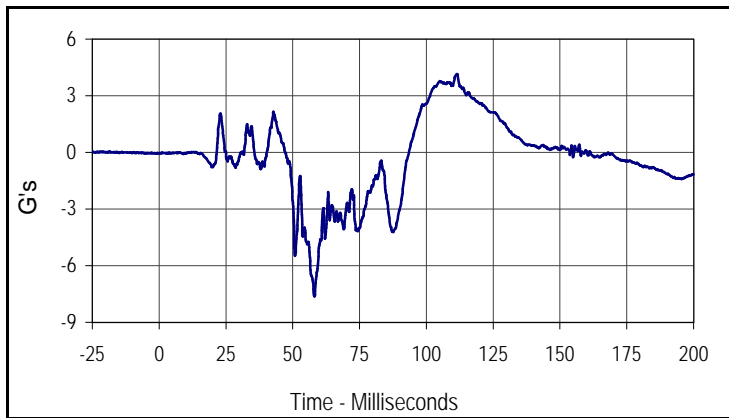
Curve Description			
Passenger Chest Displacement			
CURNO	Type	SAE Class	Units
063	FIL	600	MM
Max	Time	Min	Time
0.0	3.9	-22.6	85.1

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

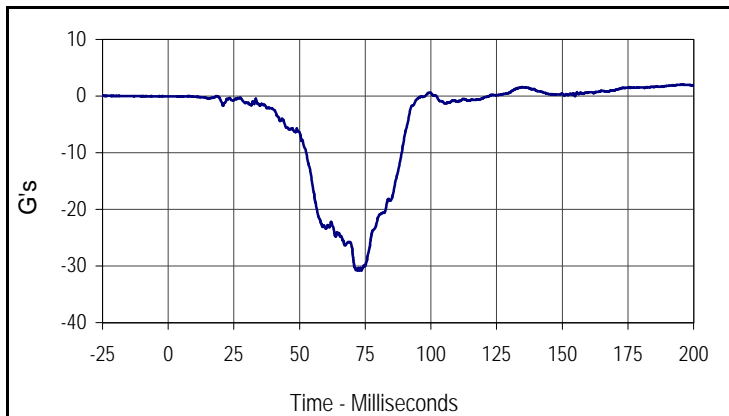
Test Date: 10/28/04  
 NHTSA No.: H55300



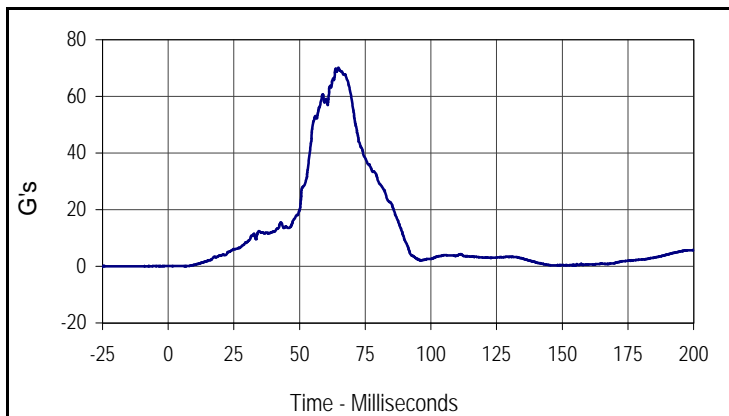
Curve Description			
Passenger Pelvis X			
CURNO	Type	SAE Class	Units
064	FIL	1000	G's
Max	Time	Min	Time
5.3	200.0	-65.8	64.8



Curve Description			
Passenger Pelvis Y			
CURNO	Type	SAE Class	Units
065	FIL	1000	G's
Max	Time	Min	Time
4.2	111.5	-7.6	58.1



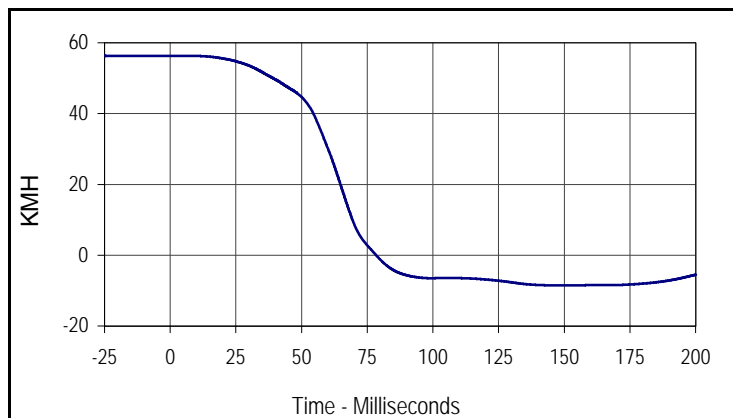
Curve Description			
Passenger Pelvis Z			
CURNO	Type	SAE Class	Units
066	FIL	1000	G's
Max	Time	Min	Time
2.0	195.3	-30.8	73.6



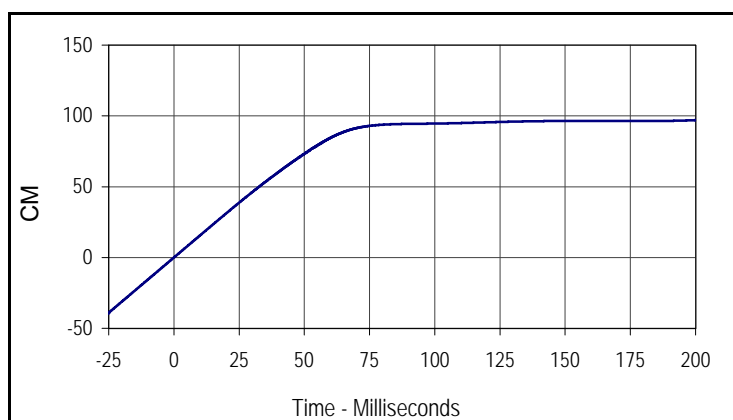
Curve Description			
Passenger Pelvis Resultant			
CURNO	Type	SAE Class	Units
064	RES	1000	G's
Max	Time	Min	Time
70.1	64.8	0.0	6.8

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04  
 NHTSA No.: H55300



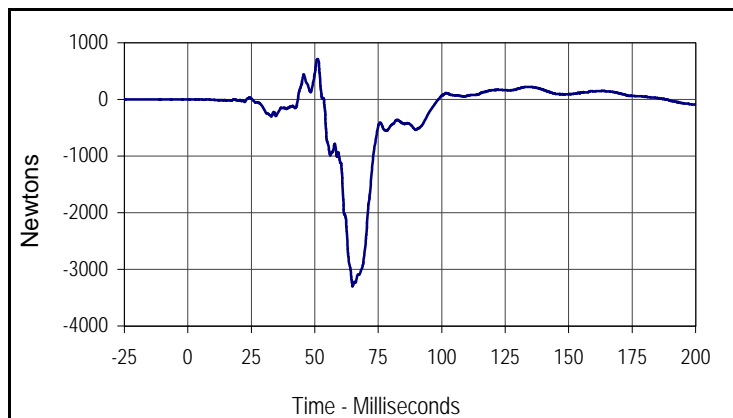
Curve Description			
Passenger Pelvis X Velocity			
CURNO	Type	SAE Class	Units
064	IN1	180	KMH
Max	Time	Min	Time
56.3	0.0	-8.5	146.2



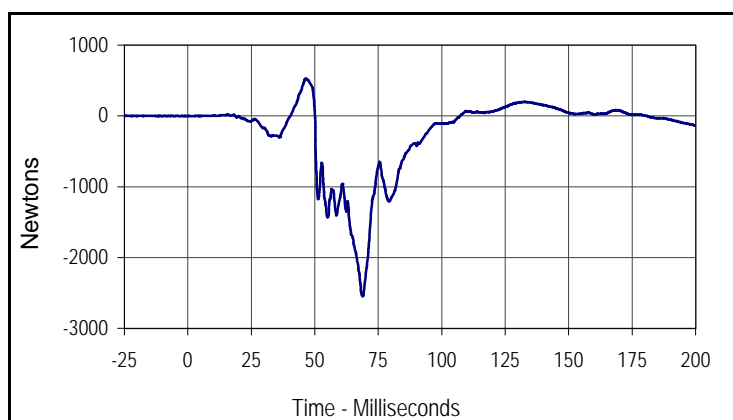
Curve Description			
Passenger Pelvis X Displacement			
CURNO	Type	SAE Class	Units
064	IN2	180	CM
Max	Time	Min	Time
97.0	200.0	0.0	0.0

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04  
 NHTSA No.: H55300



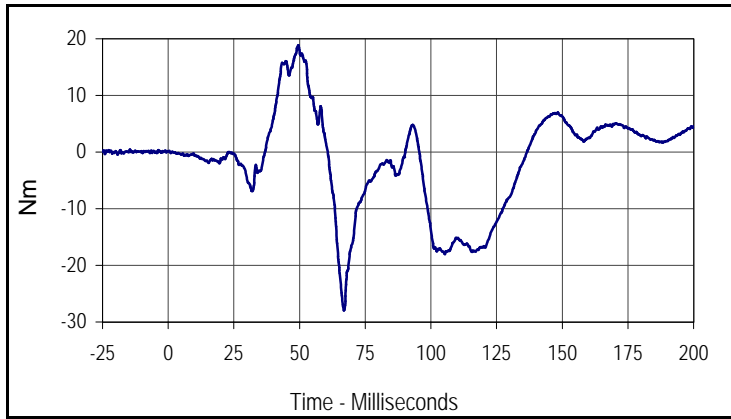
Curve Description			
Passenger Left Femur Force			
CURNO	Type	SAE Class	Units
067	FIL	600	Newtons
Max	Time	Min	Time
709.6	51.1	-3296.9	64.9



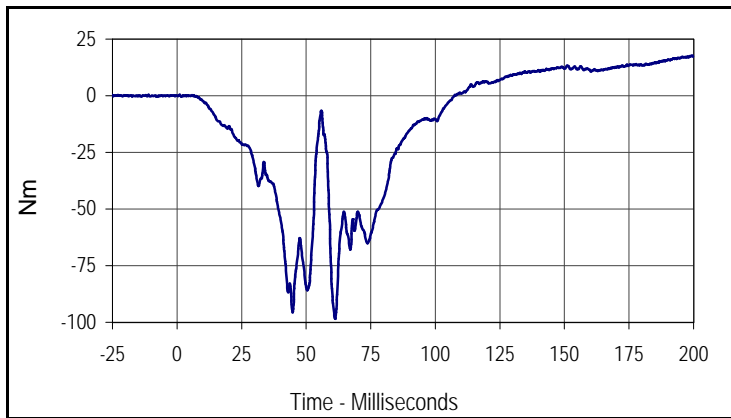
Curve Description			
Passenger Right Femur Force			
CURNO	Type	SAE Class	Units
068	FIL	600	Newtons
Max	Time	Min	Time
528.8	46.4	-2548.1	68.9

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

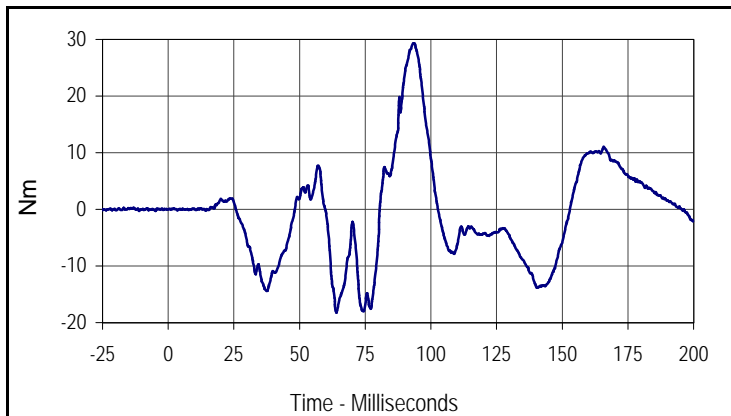
Test Date: 10/28/04  
 NHTSA No.: H55300



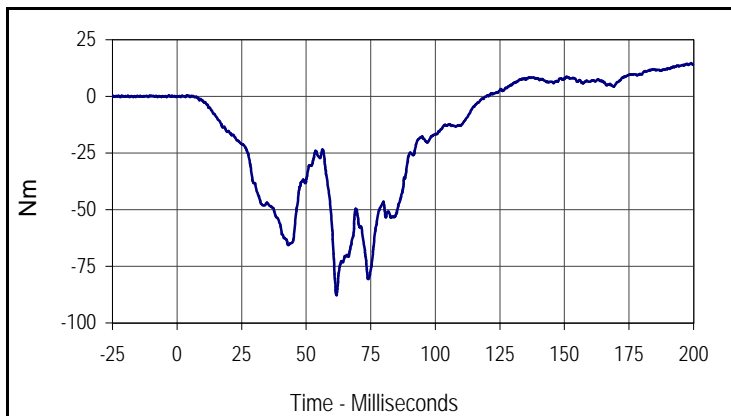
Curve Description			
Passenger Left Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
069	FIL	600	Nm
Max	Time	Min	Time
18.9	49.5	-27.9	66.9



Curve Description			
Passenger Left Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
070	FIL	600	Nm
Max	Time	Min	Time
17.8	199.4	-98.4	61.2



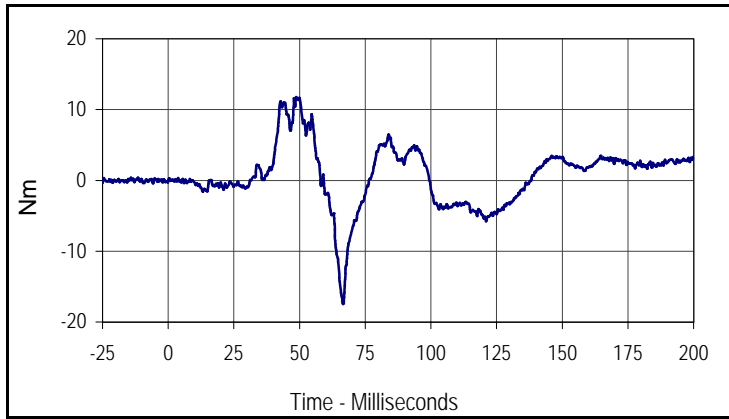
Curve Description			
Passenger Right Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
071	FIL	600	Nm
Max	Time	Min	Time
29.3	93.7	-18.2	64.0



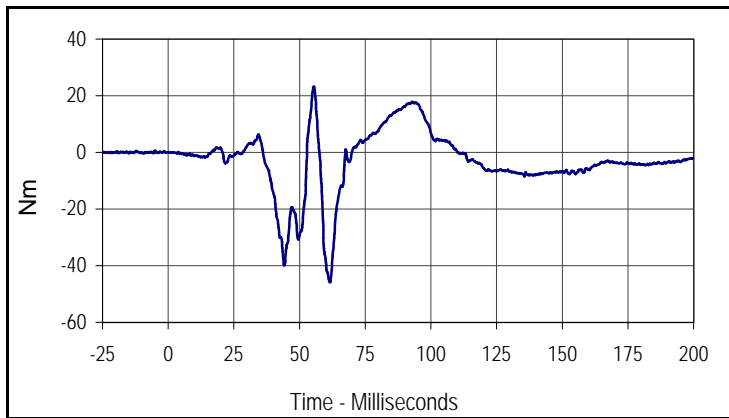
Curve Description			
Passenger Right Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
072	FIL	600	Nm
Max	Time	Min	Time
14.6	199.1	-87.8	61.7

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

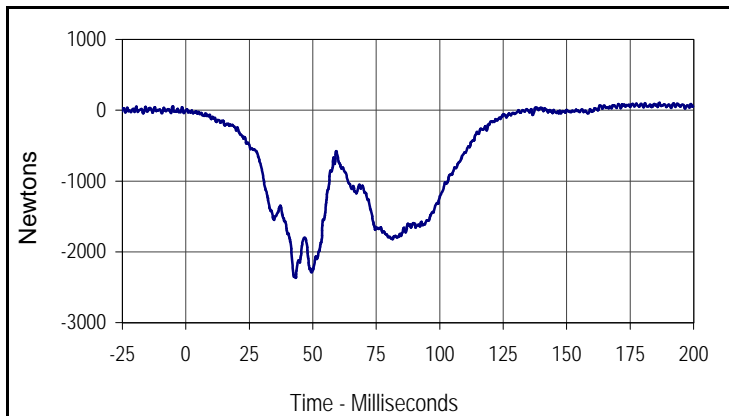
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Passenger Left Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
073	FIL	600	Nm
Max	Time	Min	Time
11.8	48.7	-17.5	66.6



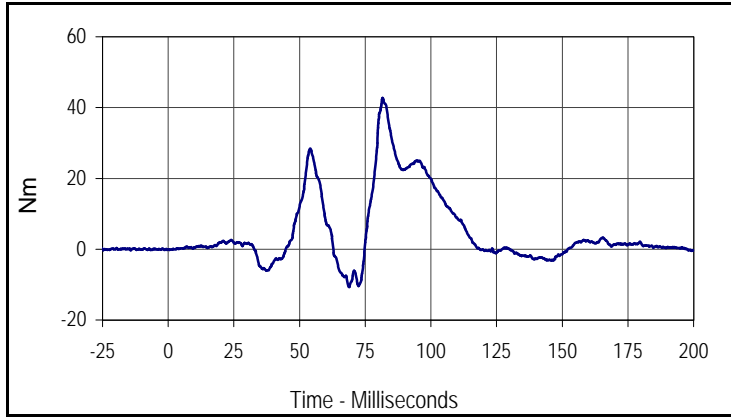
Curve Description			
Passenger Left Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
074	FIL	600	Nm
Max	Time	Min	Time
23.3	55.4	-45.9	61.5



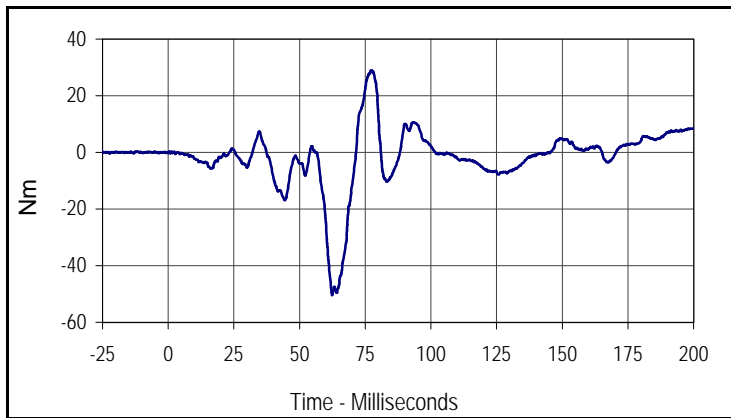
Curve Description			
Passenger Left Lower Tibia Force Z			
CURNO	Type	SAE Class	Units
075	FIL	600	Newtons
Max	Time	Min	Time
105.8	186.5	-2368.7	43.3

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

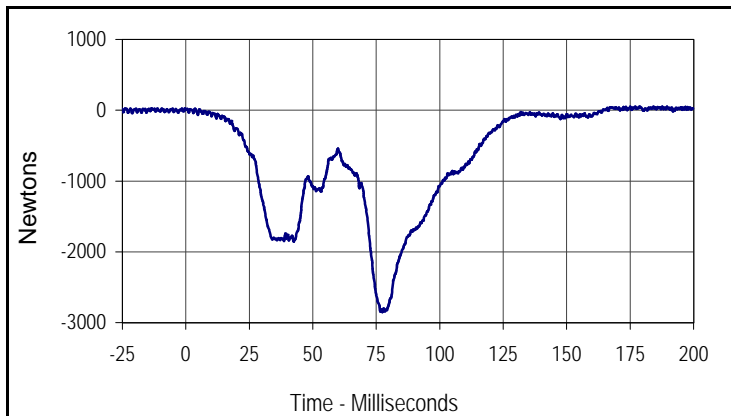
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Passenger Right Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
076	FIL	600	Nm
Max	Time	Min	Time
42.7	81.6	-10.6	68.8



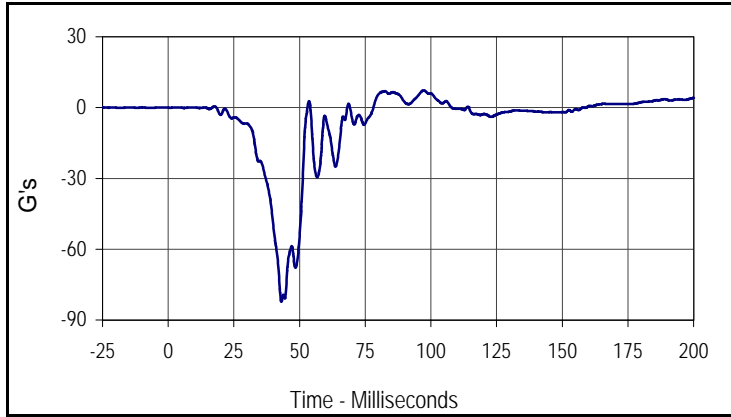
Curve Description			
Passenger Right Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
077	FIL	600	Nm
Max	Time	Min	Time
28.9	77.3	-50.4	62.4



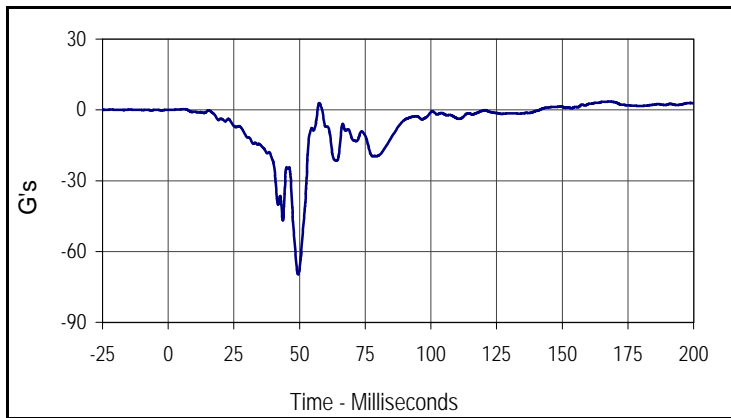
Curve Description			
Passenger Right lower Tibia Force Z			
CURNO	Type	SAE Class	Units
078	FIL	600	Newtons
Max	Time	Min	Time
55.3	178.7	-2851.9	77.4

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

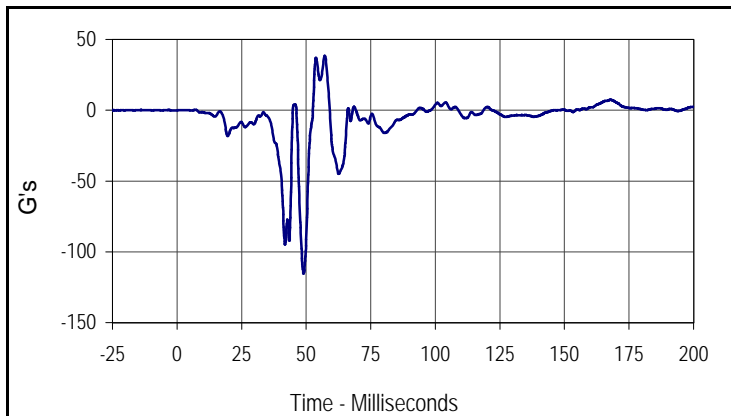
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Passenger Left Foot Aft X			
CURNO	Type	SAE Class	Units
079	FIL	180	G's
Max	Time	Min	Time
7.3	97.3	-82.2	43.1



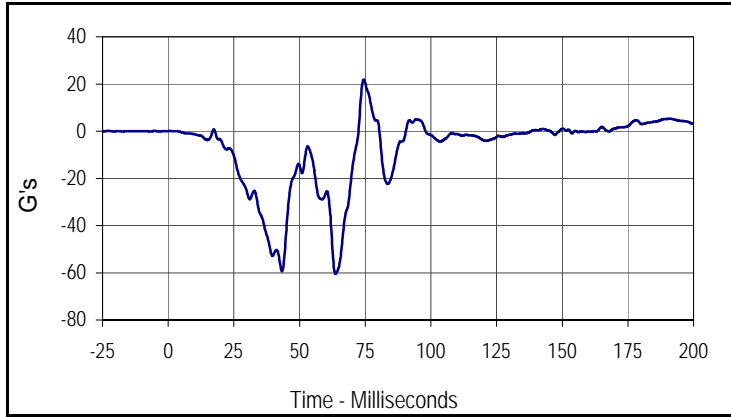
Curve Description			
Passenger Left Foot Aft Z			
CURNO	Type	SAE Class	Units
080	FIL	180	G's
Max	Time	Min	Time
3.6	168.1	-69.6	49.5



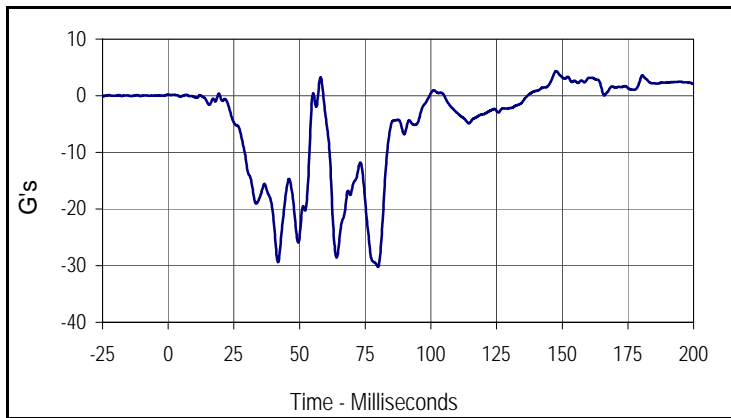
Curve Description			
Passenger Left Foot Fore Z			
CURNO	Type	SAE Class	Units
081	FIL	180	G's
Max	Time	Min	Time
38.5	57.2	-115.3	49.0

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

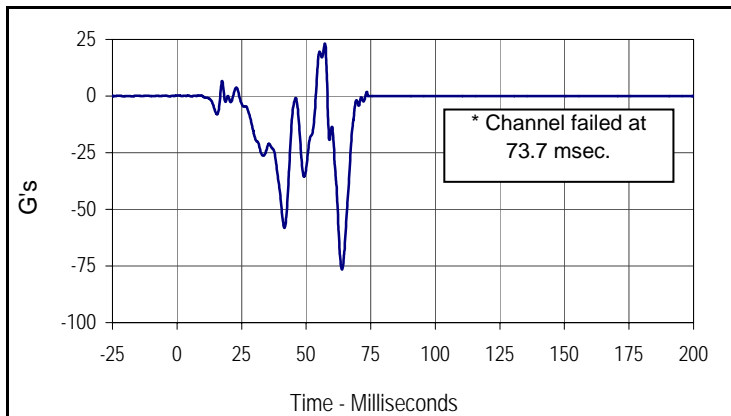
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Passenger Right Foot Aft X			
CURNO	Type	SAE Class	Units
082	FIL	180	G's
Max	Time	Min	Time
21.9	74.5	-60.4	63.7



Curve Description			
Passenger Right Foot Aft Z			
CURNO	Type	SAE Class	Units
083	FIL	180	G's
Max	Time	Min	Time
4.3	147.7	-30.2	79.9

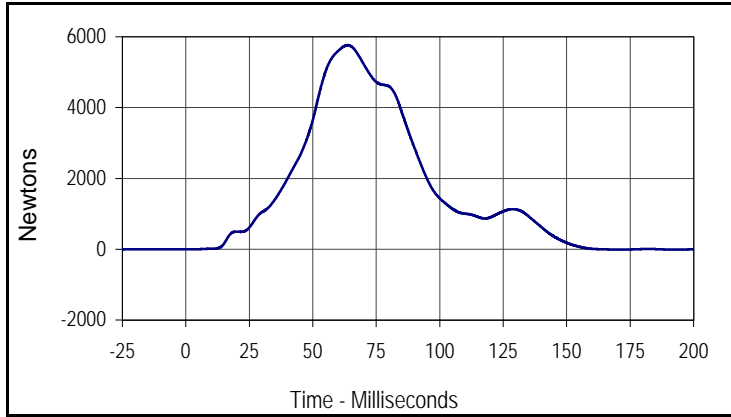


Curve Description			
Passenger Right Foot Fore Z			
CURNO	Type	SAE Class	Units
084	FIL	180	G's
Max	Time	Min	Time
23.1	57.3	-76.6	63.9

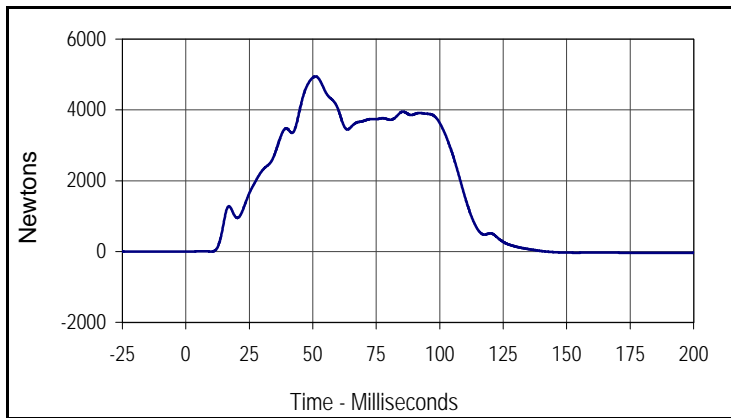
\* Channel failed at 73.7 msec.

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

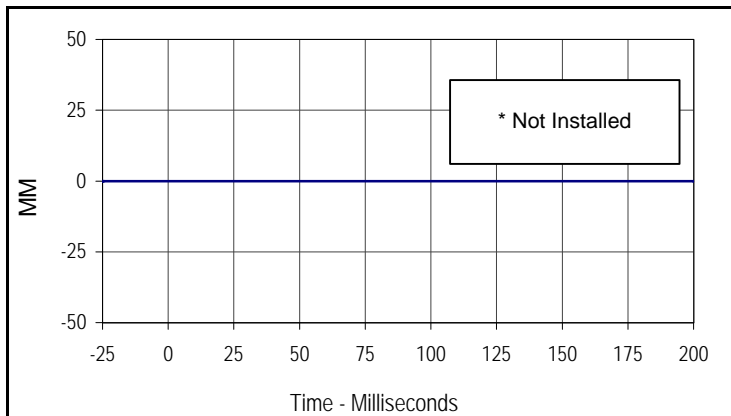
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Passenger Lap Belt Force			
CURNO	Type	SAE Class	Units
085	FIL	60	Newtons
Max	Time	Min	Time
5760.5	63.8	-12.7	192.3

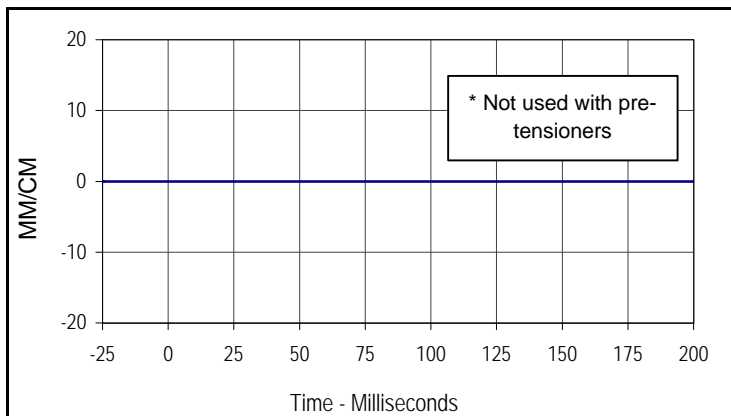


Curve Description			
Passenger Shoulder Belt Force			
CURNO	Type	SAE Class	Units
086	FIL	60	Newtons
Max	Time	Min	Time
4944.9	51.0	-35.2	191.8



Curve Description			
Passenger Shoulder Belt Pullout			
CURNO	Type	SAE Class	Units
087	FIL	60	MM
Max	Time	Min	Time
0.0	0.0	0.0	0.0

\* Not Installed

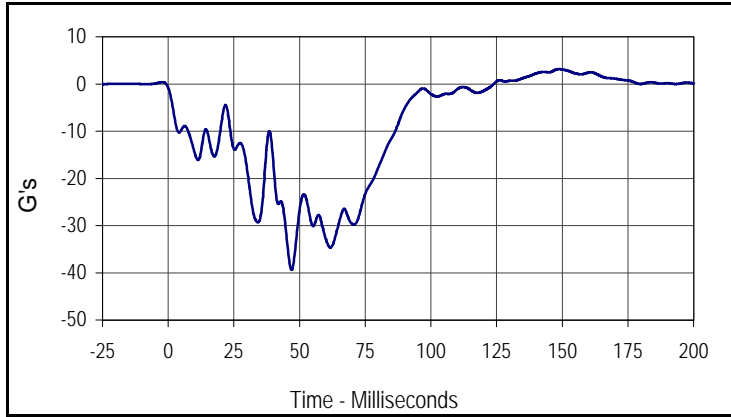


Curve Description			
Passenger Shoulder Belt Elongation			
CURNO	Type	SAE Class	Units
088	FIL	60	MM/CM
Max	Time	Min	Time
0.0	0.0	0.0	0.0

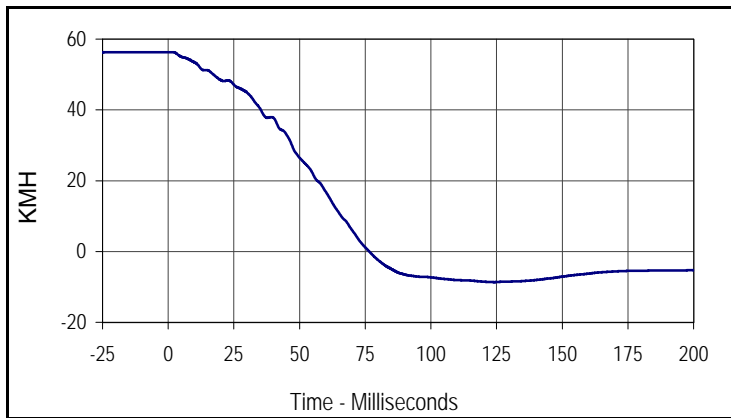
\* Not used with pre-tensioners

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

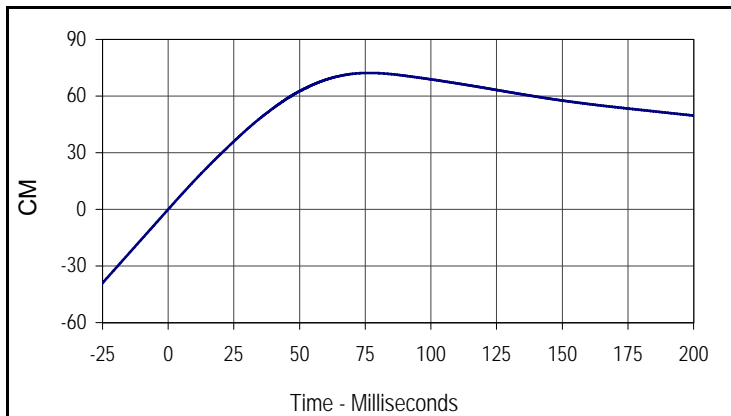
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Vehicle Left Rear X			
CURNO	Type	SAE Class	Units
089	FIL	60	G's
Max	Time	Min	Time
3.1	148.8	-39.4	47.0



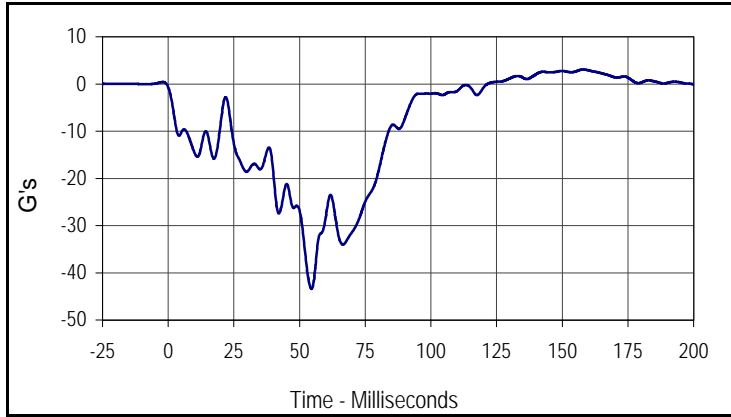
Curve Description			
Vehicle Left Rear X Velocity			
CURNO	Type	SAE Class	Units
089	IN1	180	KMH
Max	Time	Min	Time
56.3	1.3	-8.7	124.1



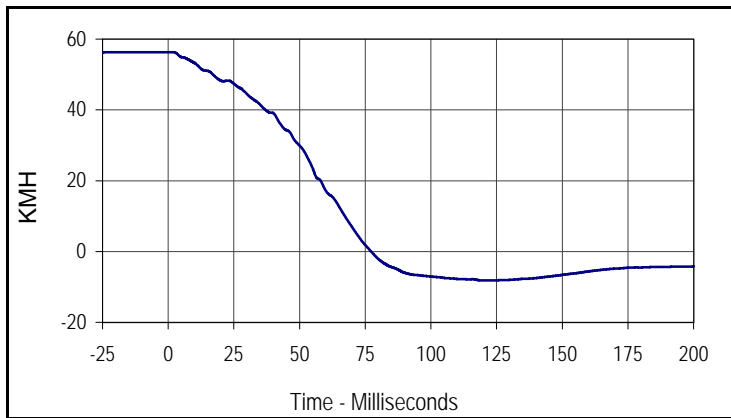
Curve Description			
Vehicle Left Rear X Displacement			
CURNO	Type	SAE Class	Units
089	IN2	180	CM
Max	Time	Min	Time
72.3	76.5	0.0	0.0

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

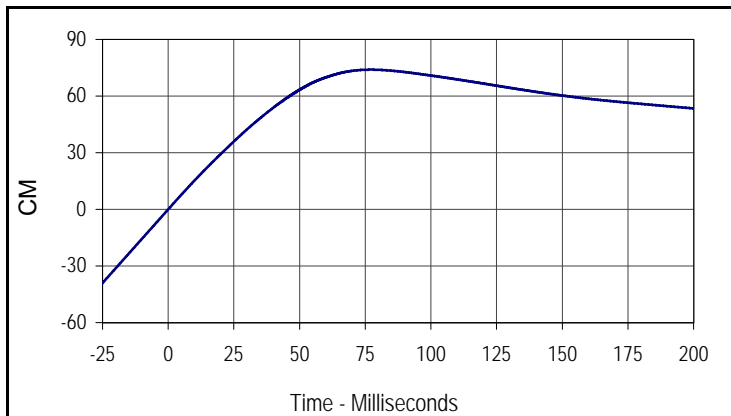
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Vehicle Right Rear X			
CURNO	Type	SAE Class	Units
090	FIL	60	G's
Max	Time	Min	Time
3.1	157.9	-43.4	54.5



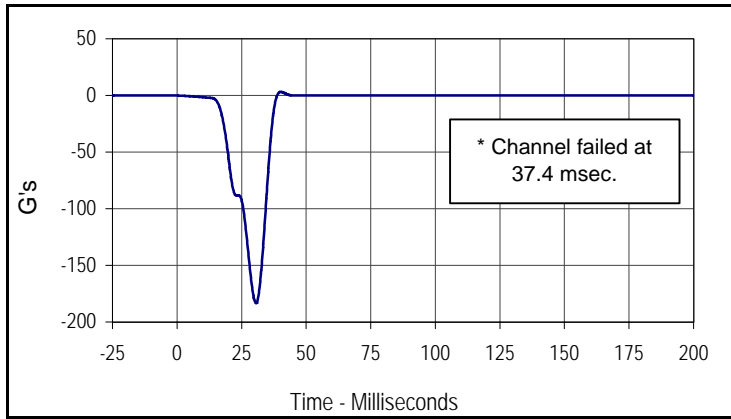
Curve Description			
Vehicle Right Rear X Velocity			
CURNO	Type	SAE Class	Units
090	IN1	180	KMH
Max	Time	Min	Time
56.3	1.4	-8.2	119.6



Curve Description			
Vehicle Right Rear X Displacement			
CURNO	Type	SAE Class	Units
090	IN2	180	CM
Max	Time	Min	Time
74.0	77.2	0.0	0.0

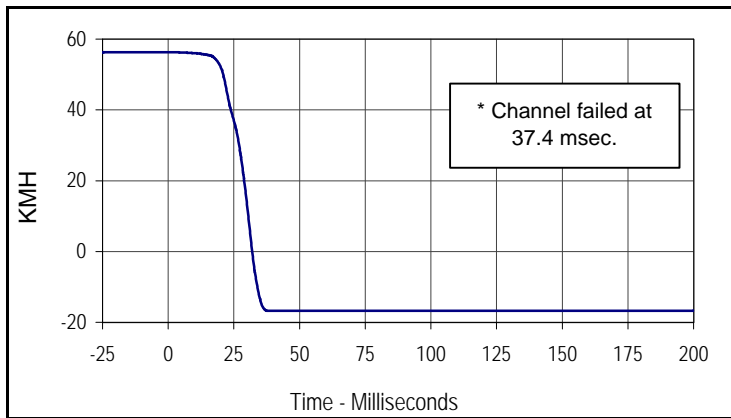
Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04  
 NHTSA No.: H55300



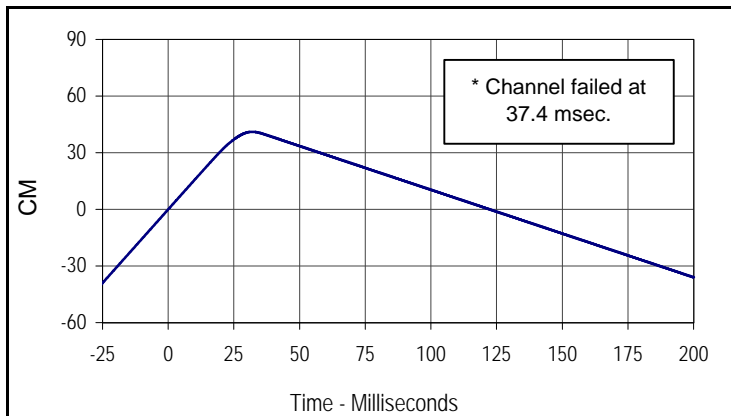
Curve Description			
Vehicle Engine Top X			
CURNO	Type	SAE Class	Units
091	FIL	60	G's
Max	Time	Min	Time
3.1	40.2	-183.3	30.6

\* Channel failed at 37.4 msec.



Curve Description			
Vehicle Engine Top X Velocity			
CURNO	Type	SAE Class	Units
091	IN1	180	KMH
Max	Time	Min	Time
56.3	0.0	-16.8	38.1

\* Channel failed at 37.4 msec.

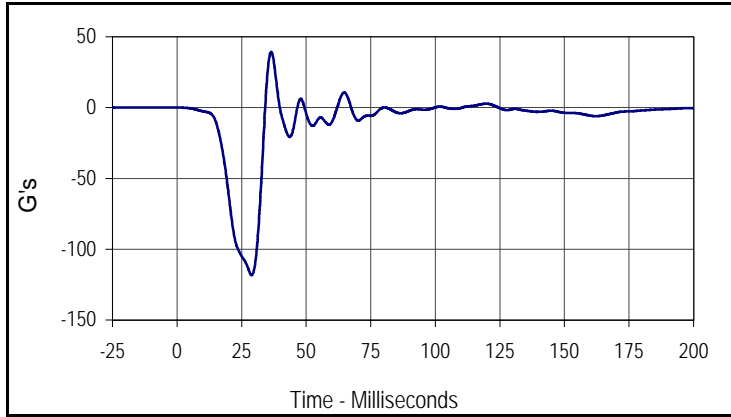


Curve Description			
Vehicle Engine Top X Displacement			
CURNO	Type	SAE Class	Units
091	IN2	180	CM
Max	Time	Min	Time
41.1	32.0	-36.0	200.0

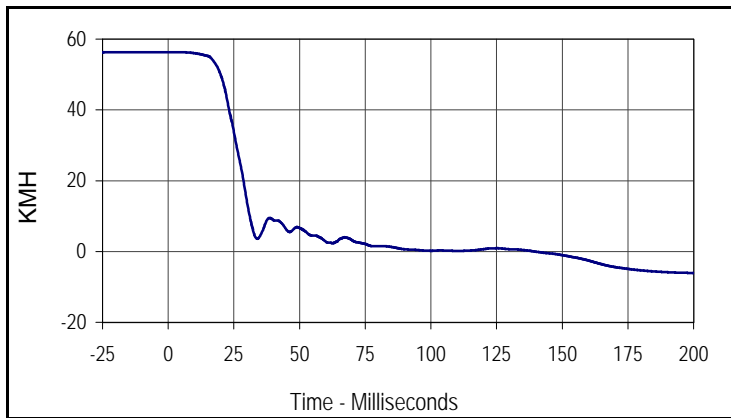
\* Channel failed at 37.4 msec.

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

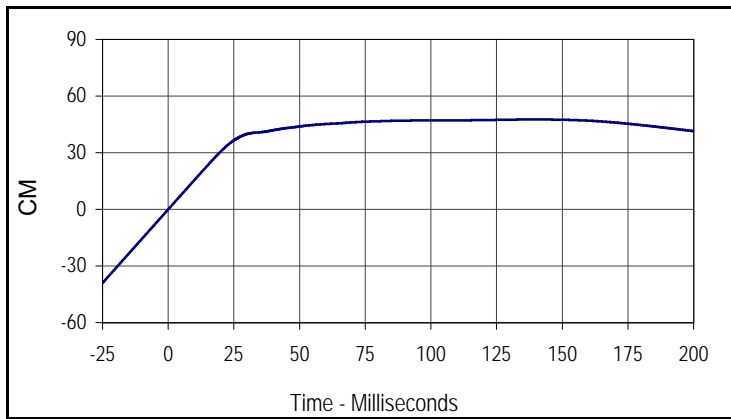
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Vehicle Engine Bottom X			
CURNO	Type	SAE Class	Units
092	FIL	60	G's
Max	Time	Min	Time
39.3	36.5	-118.4	28.9



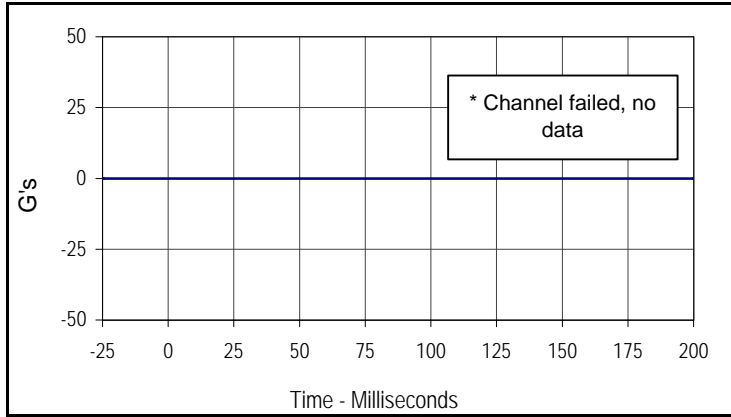
Curve Description			
Vehicle Engine Bottom X Velocity			
CURNO	Type	SAE Class	Units
092	IN1	180	KMH
Max	Time	Min	Time
56.3	1.9	-6.1	200.0



Curve Description			
Vehicle Engine Bottom X Displacement			
CURNO	Type	SAE Class	Units
092	IN2	180	CM
Max	Time	Min	Time
47.6	139.5	0.0	0.0

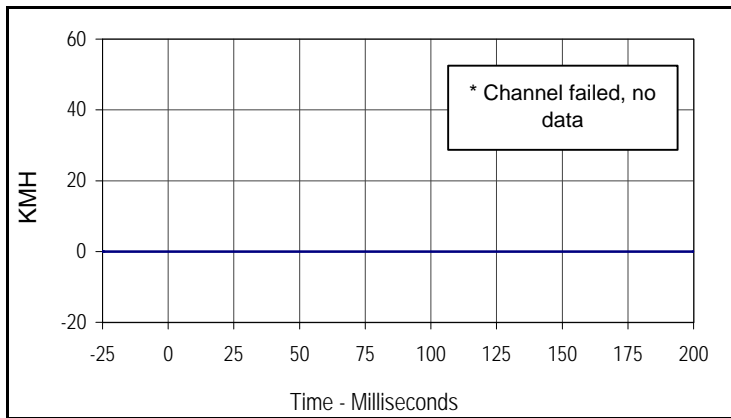
Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04  
 NHTSA No.: H55300



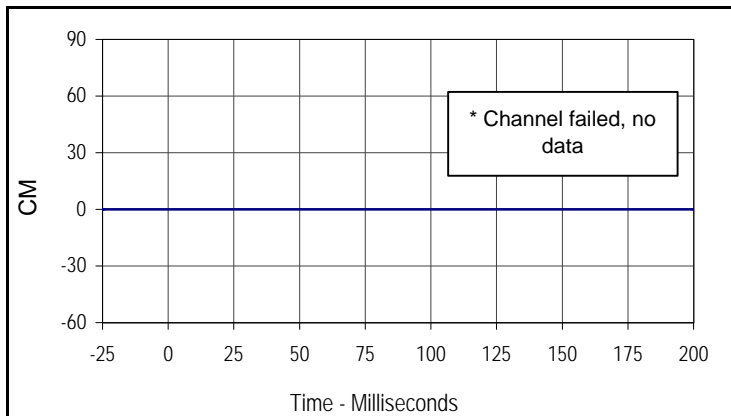
Curve Description			
Vehicle Left Brake Caliper X			
CURNO	Type	SAE Class	Units
093	FIL	60	G's
Max	Time	Min	Time
0.0	0.0	0.0	0.0

\* Channel failed, no data



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

\* Channel failed, no data

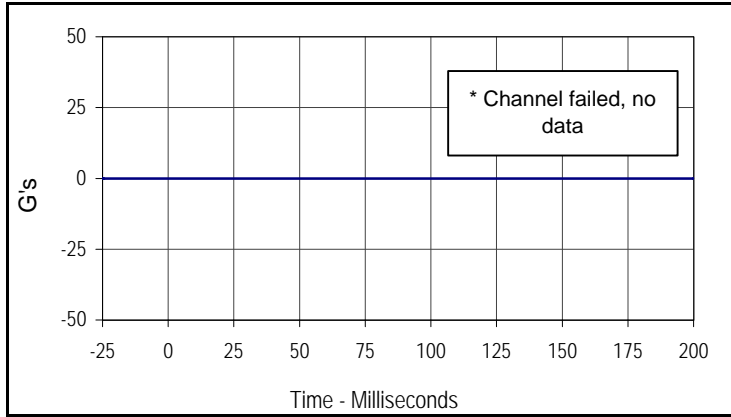


Curve Description			
Vehicle Left Brake Caliper X Displacement			
CURNO	Type	SAE Class	Units
093	IN2	180	CM
Max	Time	Min	Time
0.0	0.0	0.0	0.0

\* Channel failed, no data

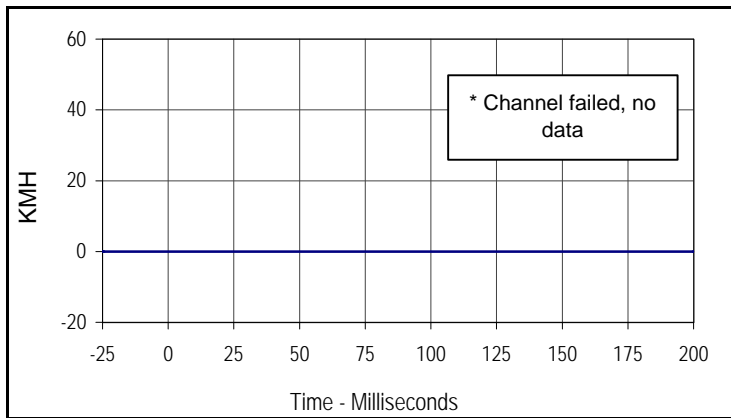
Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04  
 NHTSA No.: H55300



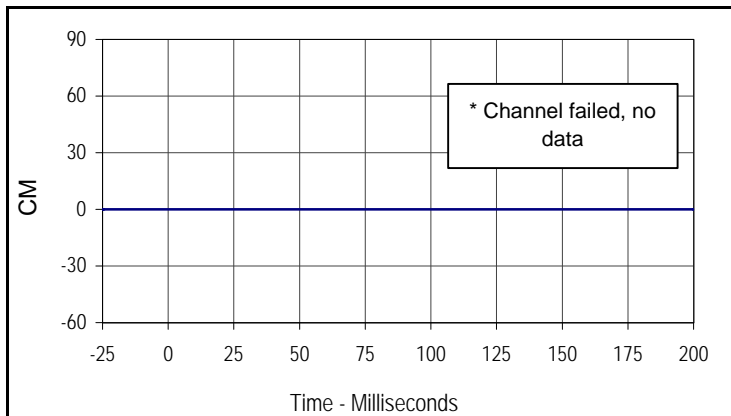
Curve Description			
Vehicle Right Brake Caliper X			
CURNO	Type	SAE Class	Units
094	FIL	60	G's
Max	Time	Min	Time
0.0	0.0	0.0	0.0

\* Channel failed, no data



Curve Description			
Vehicle Right Brake Caliper X Velocity			
CURNO	Type	SAE Class	Units
094	IN1	180	KMH
Max	Time	Min	Time
0.0	0.0	0.0	0.0

\* Channel failed, no data

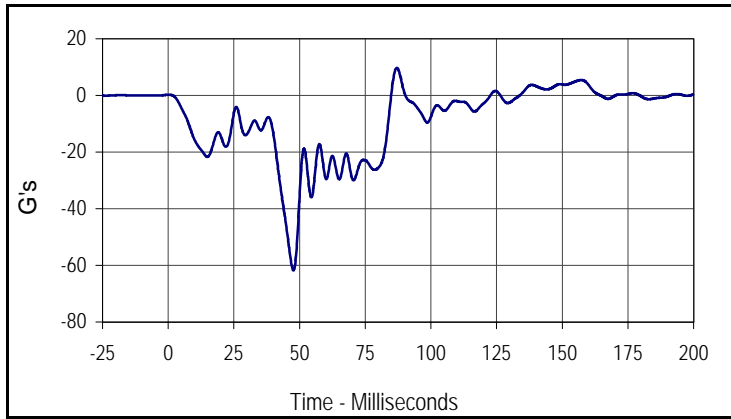


Curve Description			
Vehicle Right Brake Caliper X Displacement			
CURNO	Type	SAE Class	Units
094	IN2	180	CM
Max	Time	Min	Time
0.0	0.0	0.0	0.0

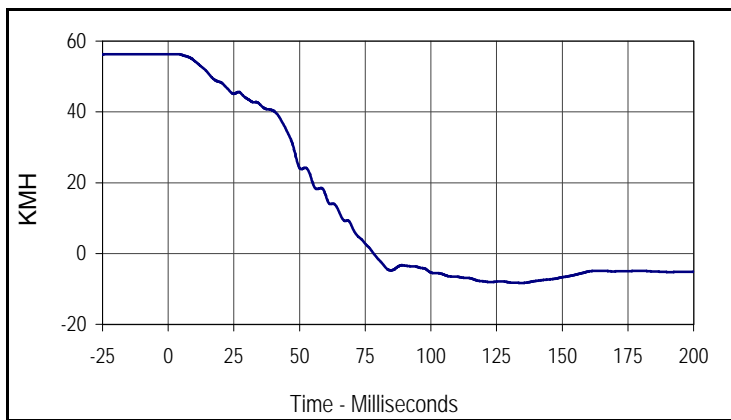
\* Channel failed, no data

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

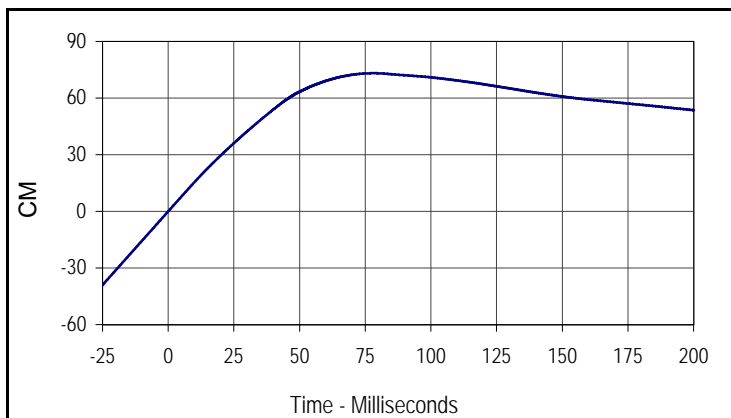
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Vehicle Instrument Panel X			
CURNO	Type	SAE Class	Units
095	FIL	60	G's
Max	Time	Min	Time
9.7	87.0	-61.8	47.7



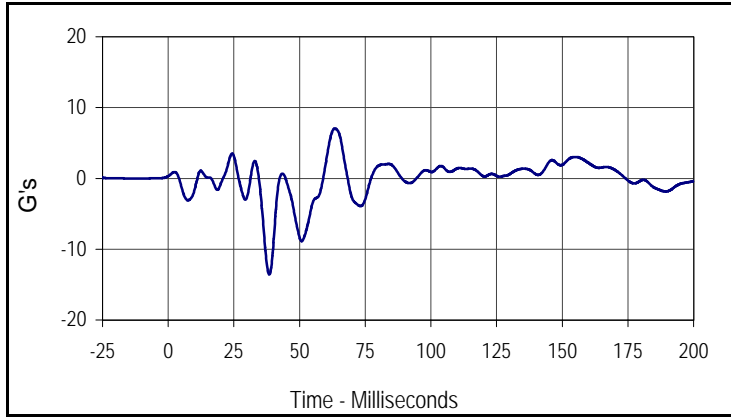
Curve Description			
Vehicle Instrument Panel X Velocity			
CURNO	Type	SAE Class	Units
095	IN1	180	KMH
Max	Time	Min	Time
56.3	3.0	-8.3	134.8



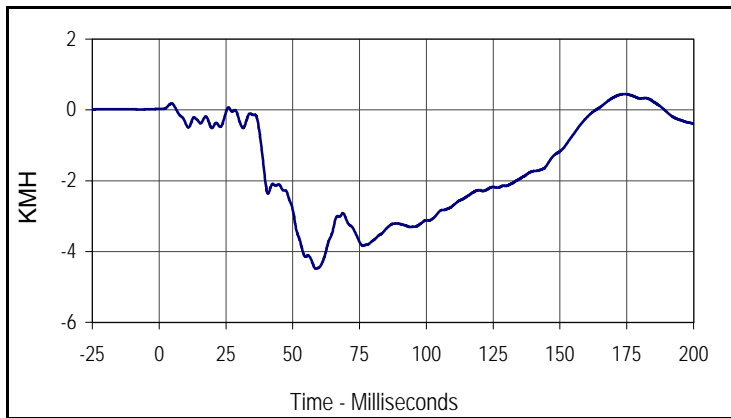
Curve Description			
Vehicle Instrument Panel X Displacement			
CURNO	Type	SAE Class	Units
095	IN2	180	CM
Max	Time	Min	Time
73.2	78.2	0.0	0.0

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

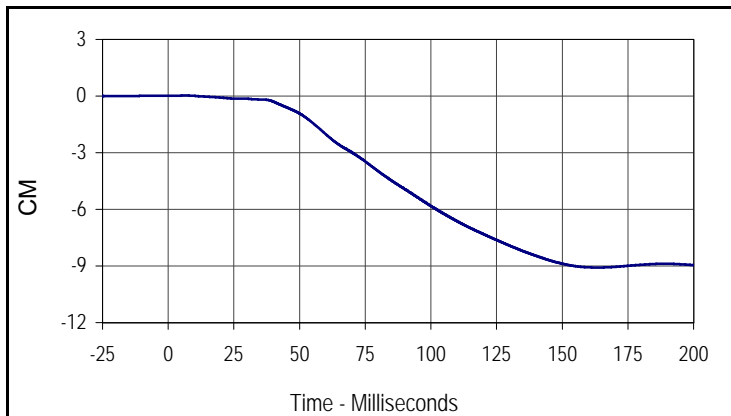
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Vehicle Left Rear Z			
CURNO	Type	SAE Class	Units
096	FIL	60	G's
Max	Time	Min	Time
7.0	63.4	-13.6	38.5



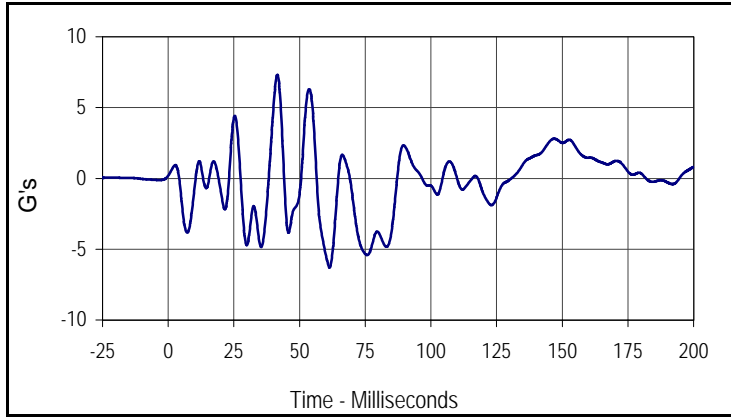
Curve Description			
Vehicle Left Rear Z Velocity			
CURNO	Type	SAE Class	Units
096	IN1	180	KMH
Max	Time	Min	Time
0.4	174.3	-4.5	58.6



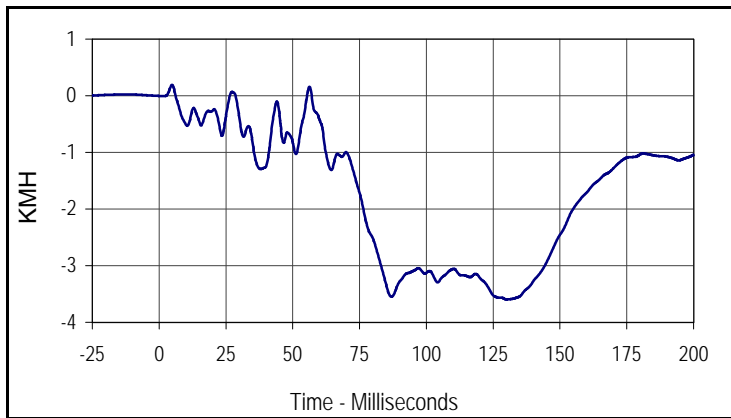
Curve Description			
Vehicle Left Rear Z Displacement			
CURNO	Type	SAE Class	Units
096	IN2	180	CM
Max	Time	Min	Time
0.0	6.5	-9.1	163.4

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

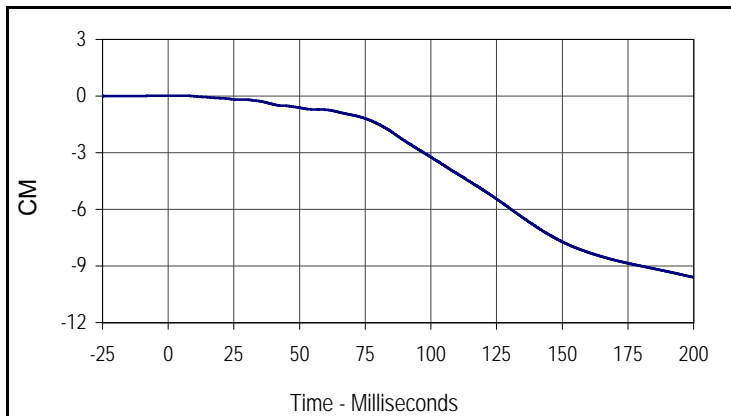
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Vehicle Right Rear Z			
CURNO	Type	SAE Class	Units
097	FIL	60	G's
Max	Time	Min	Time
7.3	41.5	-6.3	61.4



Curve Description			
Vehicle Right Rear Z Velocity			
CURNO	Type	SAE Class	Units
097	IN1	180	KMH
Max	Time	Min	Time
0.2	4.8	-3.6	130.0



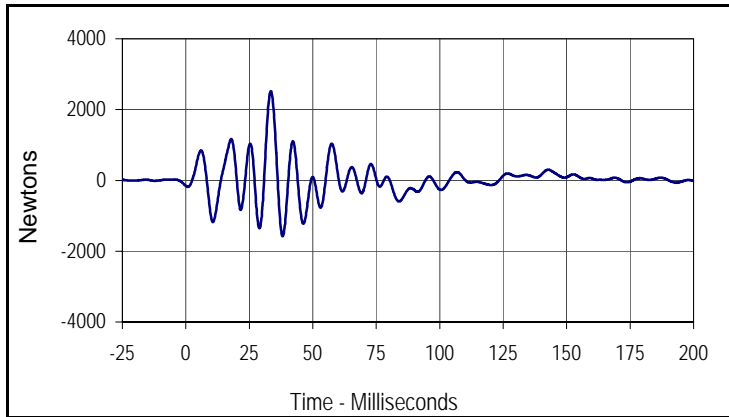
Curve Description			
Vehicle Right Rear Z Displacement			
CURNO	Type	SAE Class	Units
097	IN2	180	CM
Max	Time	Min	Time
0.0	6.1	-9.6	200.0

APPENDIX C

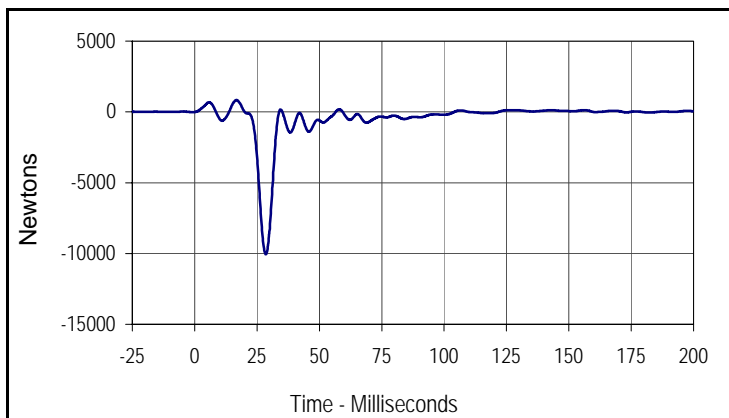
LOAD CELL BARRIER DATA PLOTS

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

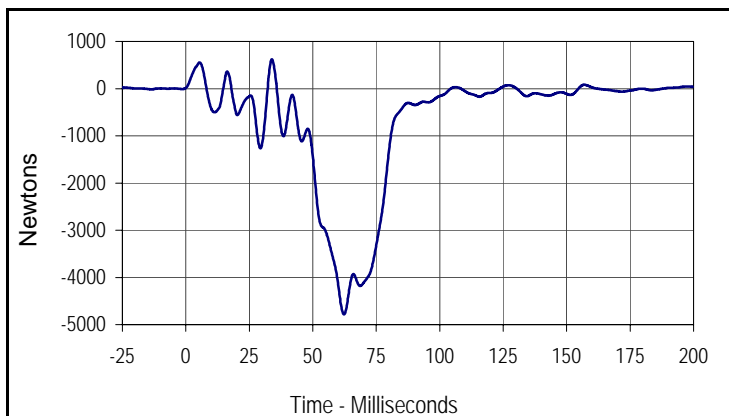
Test Date: 10/28/04  
 NHTSA No.: H55300



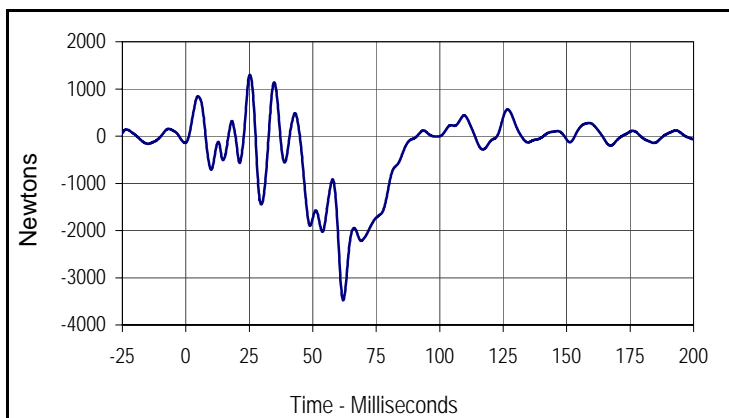
Curve Description			
Barrier Force A1			
CURNO	Type	SAE Class	Units
098	FIL	60	Newtons
Max	Time	Min	Time
2521.8	33.5	-1581.1	38.1



Curve Description			
Barrier Force B1			
CURNO	Type	SAE Class	Units
107	FIL	60	Newtons
Max	Time	Min	Time
845.7	16.7	-10056.3	28.5



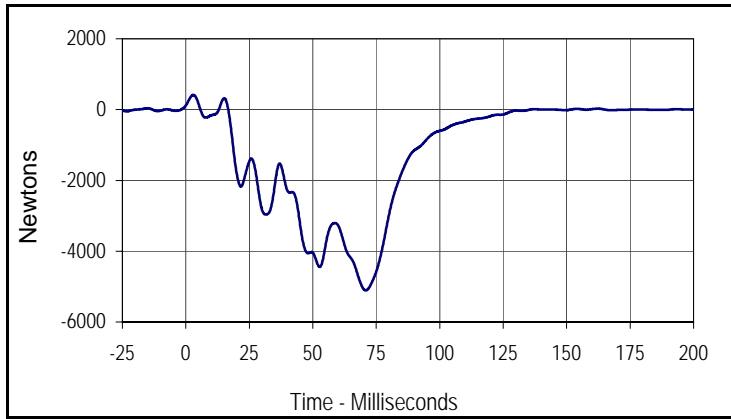
Curve Description			
Barrier Force C1			
CURNO	Type	SAE Class	Units
116	FIL	60	Newtons
Max	Time	Min	Time
620.8	33.9	-4782.4	62.3



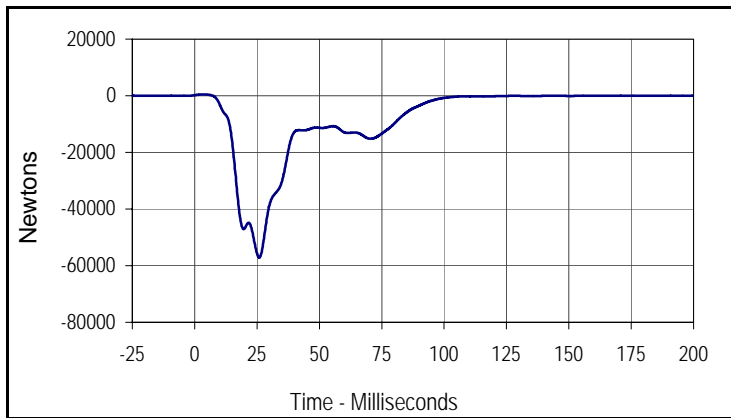
Curve Description			
Barrier Force D1			
CURNO	Type	SAE Class	Units
125	FIL	60	Newtons
Max	Time	Min	Time
1298.4	25.2	-3475.0	62.0

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

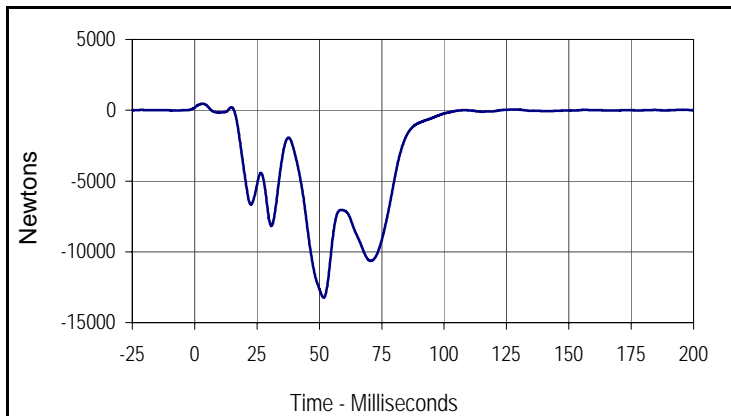
Test Date: 10/28/04  
 NHTSA No.: H55300



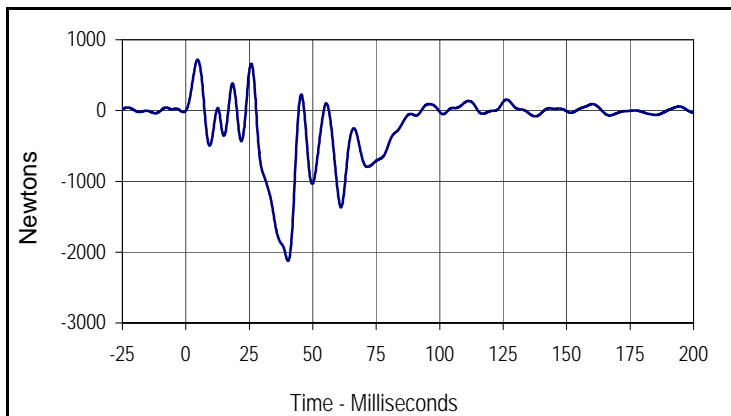
Curve Description			
Barrier Force A2			
CURNO	Type	SAE Class	Units
099	FIL	60	Newtons
Max	Time	Min	Time
413.7	2.9	-5107.5	70.9



Curve Description			
Barrier Force B2			
CURNO	Type	SAE Class	Units
108	FIL	60	Newtons
Max	Time	Min	Time
475.2	3.6	-57122.4	25.9



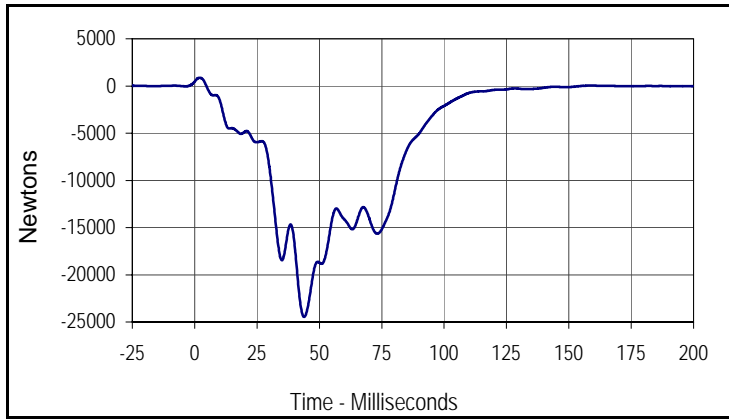
Curve Description			
Barrier Force C2			
CURNO	Type	SAE Class	Units
117	FIL	60	Newtons
Max	Time	Min	Time
458.4	3.1	-13233.3	51.7



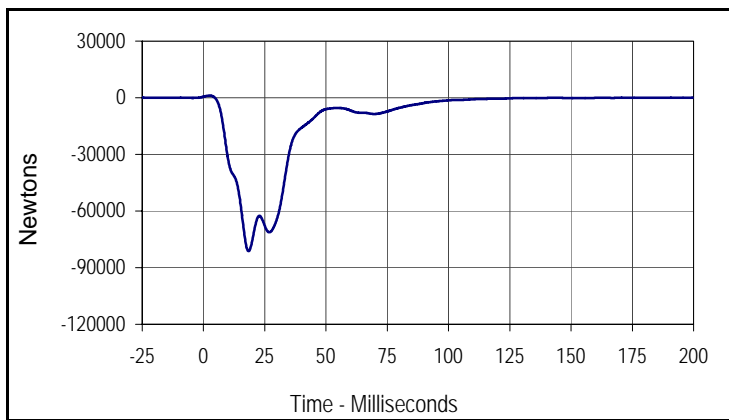
Curve Description			
Barrier Force D2			
CURNO	Type	SAE Class	Units
126	FIL	60	Newtons
Max	Time	Min	Time
720.4	4.6	-2123.7	40.3

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

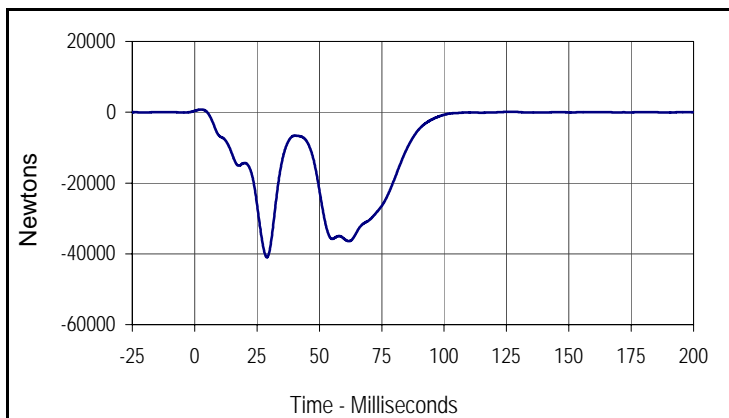
Test Date: 10/28/04  
 NHTSA No.: H55300



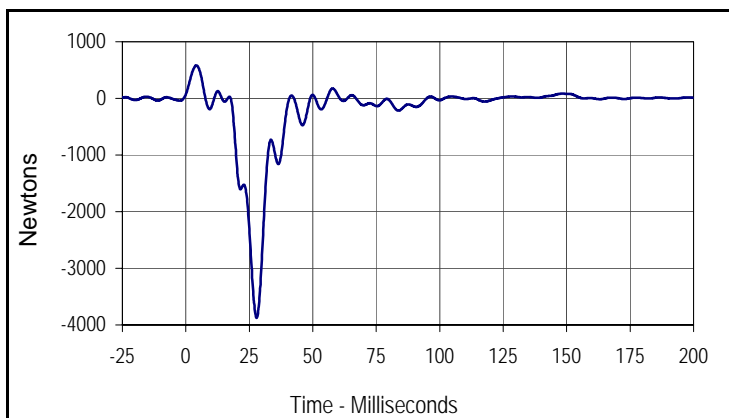
Curve Description			
Barrier Force A3			
CURNO	Type	SAE Class	Units
100	FIL	60	Newtons
Max	Time	Min	Time
876.3	1.9	-24456.5	43.9



Curve Description			
Barrier Force B3			
CURNO	Type	SAE Class	Units
109	FIL	60	Newtons
Max	Time	Min	Time
1119.0	2.5	-81257.0	18.4



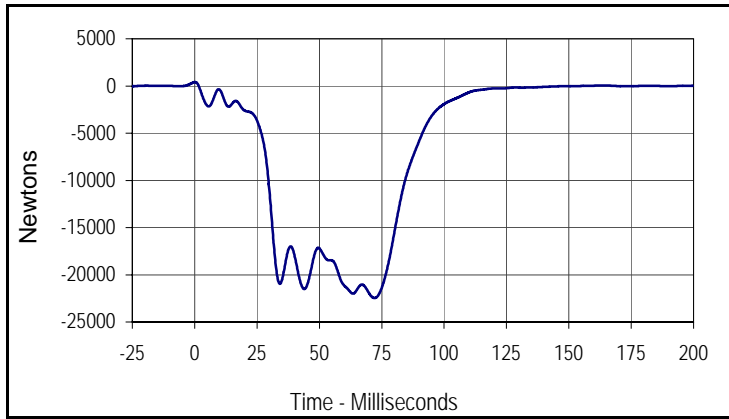
Curve Description			
Barrier Force C3			
CURNO	Type	SAE Class	Units
118	FIL	60	Newtons
Max	Time	Min	Time
762.6	2.7	-40998.8	29.0



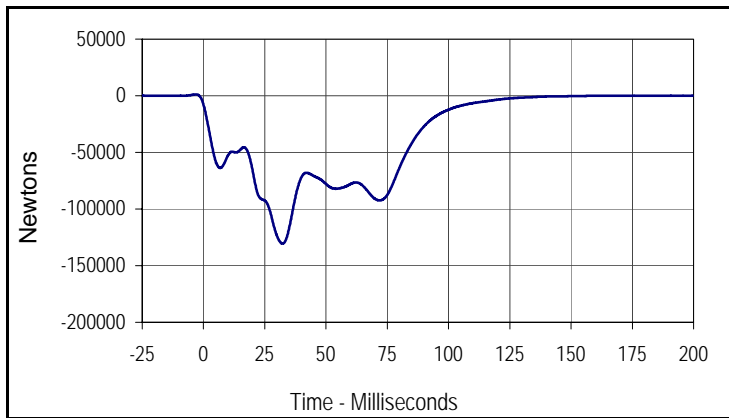
Curve Description			
Barrier Force D3			
CURNO	Type	SAE Class	Units
127	FIL	60	Newtons
Max	Time	Min	Time
580.9	4.1	-3874.6	27.9

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

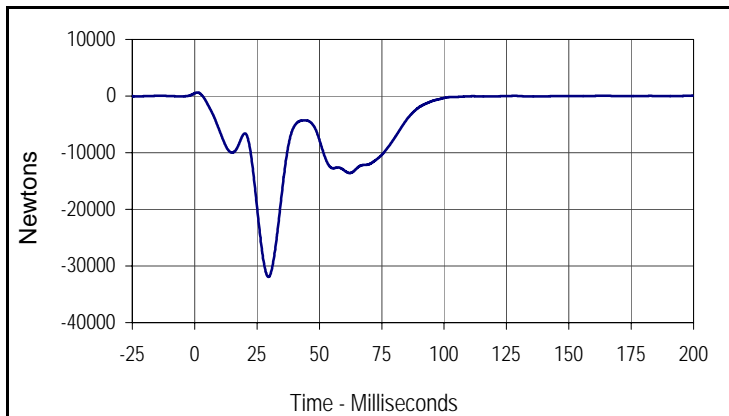
Test Date: 10/28/04  
 NHTSA No.: H55300



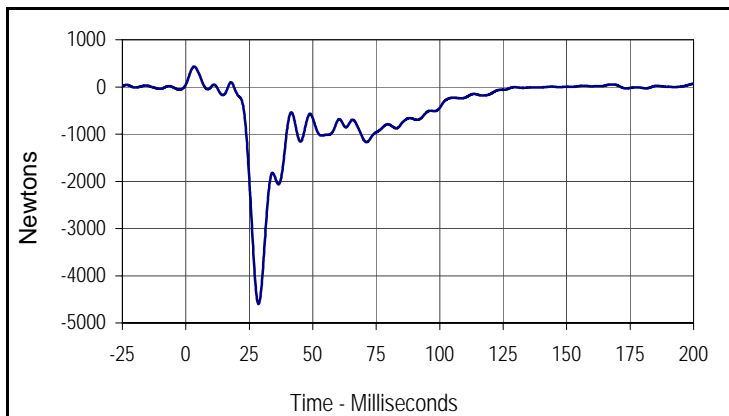
Curve Description			
Barrier Force A4			
CURNO	Type	SAE Class	Units
101	FIL	60	Newtons
Max	Time	Min	Time
414.6	0.1	-22469.7	72.1



Curve Description			
Barrier Force B4			
CURNO	Type	SAE Class	Units
110	FIL	60	Newtons
Max	Time	Min	Time
55.6	192.6	-130553.5	32.3



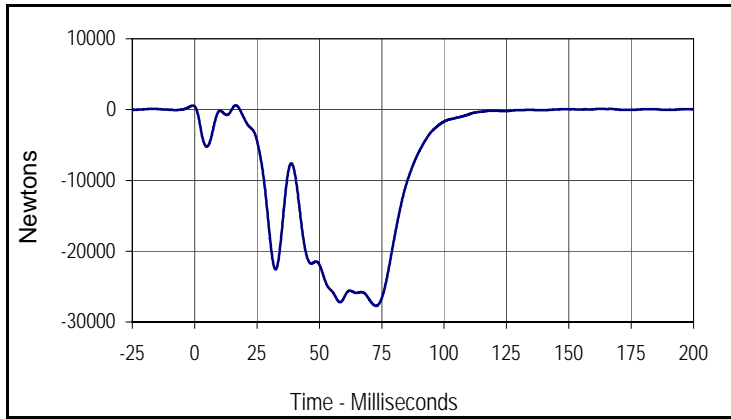
Curve Description			
Barrier Force C4			
CURNO	Type	SAE Class	Units
119	FIL	60	Newtons
Max	Time	Min	Time
632.5	1.0	-31948.0	29.6



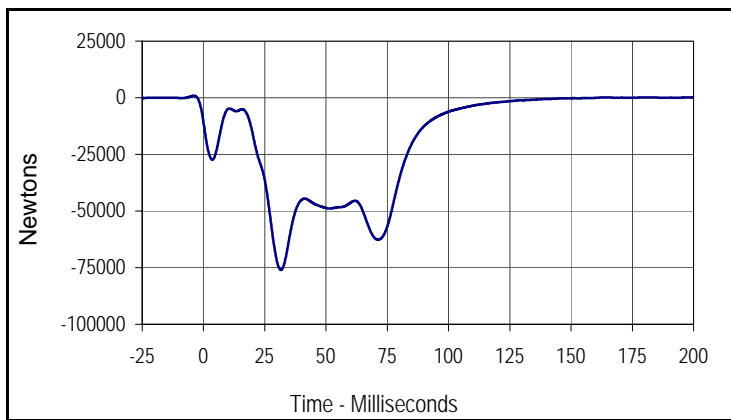
Curve Description			
Barrier Force D4			
CURNO	Type	SAE Class	Units
128	FIL	60	Newtons
Max	Time	Min	Time
429.4	3.3	-4596.8	28.6

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

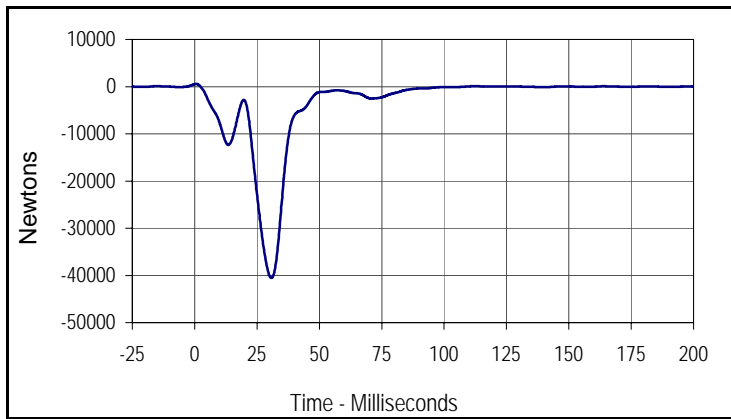
Test Date: 10/28/04  
 NHTSA No.: H55300



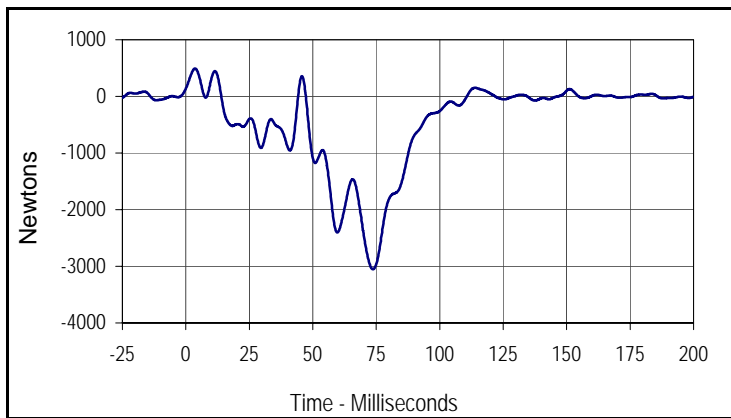
Curve Description			
Barrier Force A5			
CURNO	Type	SAE Class	Units
102	FIL	60	Newtons
Max	Time	Min	Time
595.3	16.5	-27732.7	72.7



Curve Description			
Barrier Force B5			
CURNO	Type	SAE Class	Units
111	FIL	60	Newtons
Max	Time	Min	Time
153.5	182.7	-76020.1	31.6



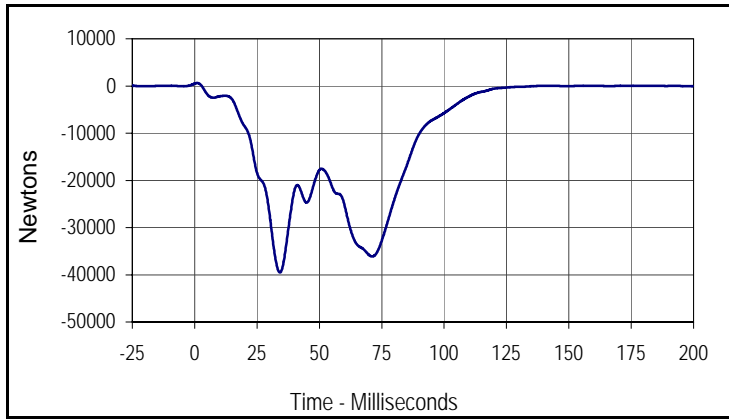
Curve Description			
Barrier Force C5			
CURNO	Type	SAE Class	Units
120	FIL	60	Newtons
Max	Time	Min	Time
571.0	0.6	-40537.1	30.8



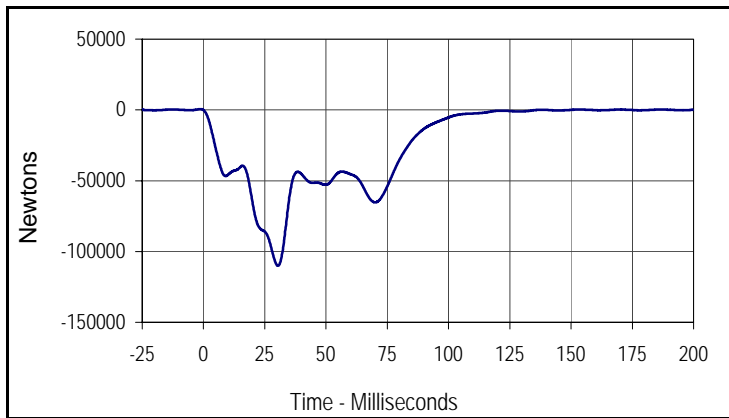
Curve Description			
Barrier Force D5			
CURNO	Type	SAE Class	Units
129	FIL	60	Newtons
Max	Time	Min	Time
490.7	3.6	-3053.3	73.7

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

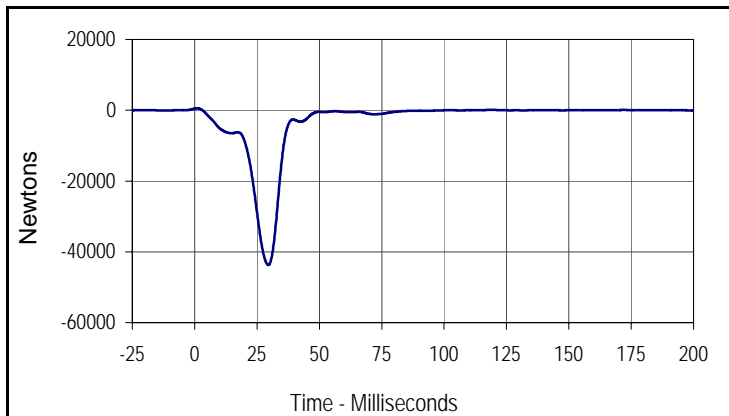
Test Date: 10/28/04  
 NHTSA No.: H55300



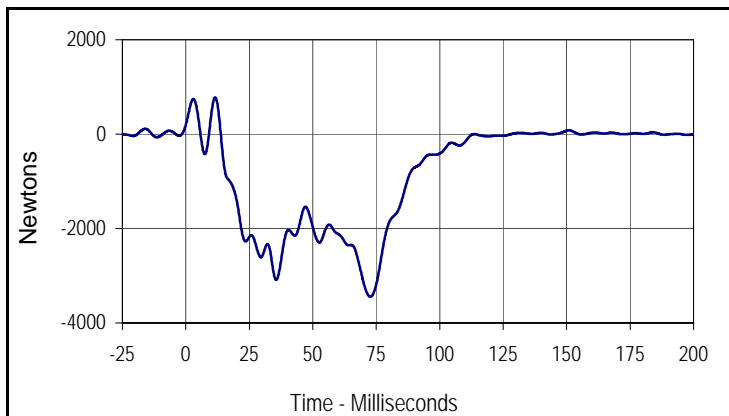
Curve Description			
Barrier Force A6			
CURNO	Type	SAE Class	Units
103	FIL	60	Newtons
Max	Time	Min	Time
637.2	1.0	-39515.9	34.2



Curve Description			
Barrier Force B6			
CURNO	Type	SAE Class	Units
112	FIL	60	Newtons
Max	Time	Min	Time
285.4	152.9	-110069.9	30.4



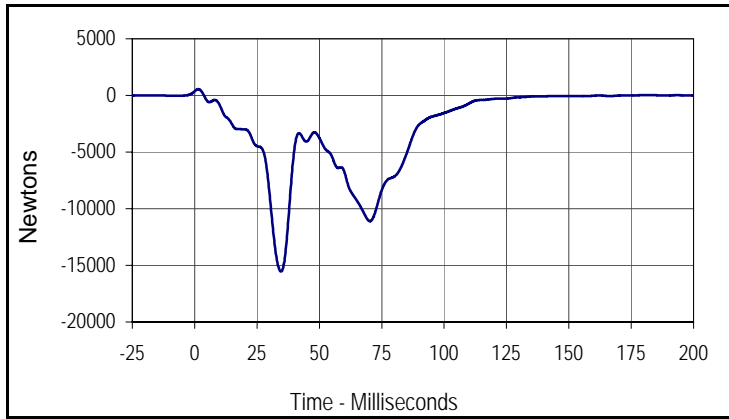
Curve Description			
Barrier Force C6			
CURNO	Type	SAE Class	Units
121	FIL	60	Newtons
Max	Time	Min	Time
558.0	1.0	-43691.7	29.5



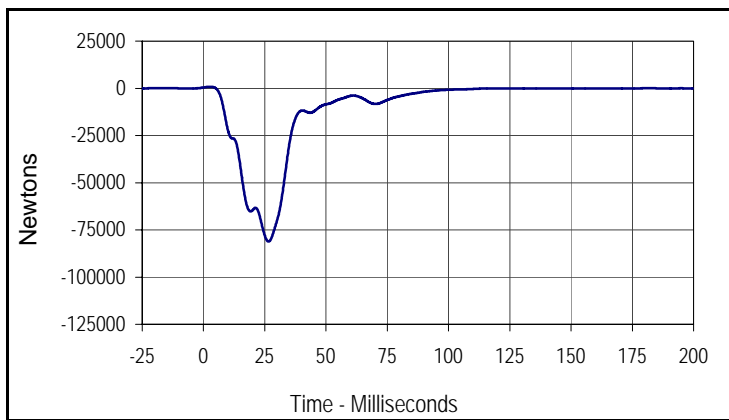
Curve Description			
Barrier Force D6			
CURNO	Type	SAE Class	Units
130	FIL	60	Newtons
Max	Time	Min	Time
778.7	11.5	-3447.3	72.7

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

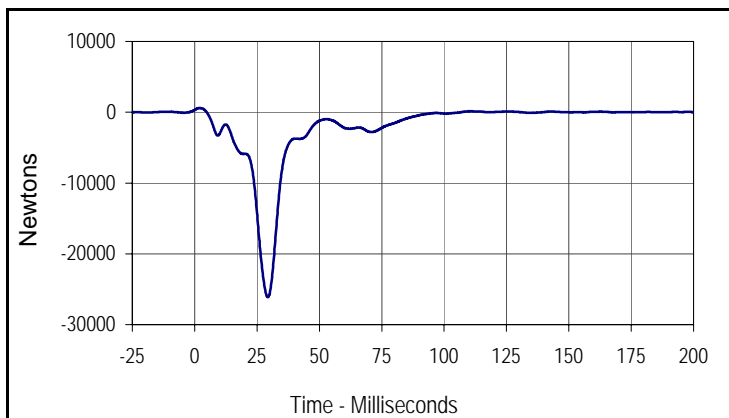
Test Date: 10/28/04  
 NHTSA No.: H55300



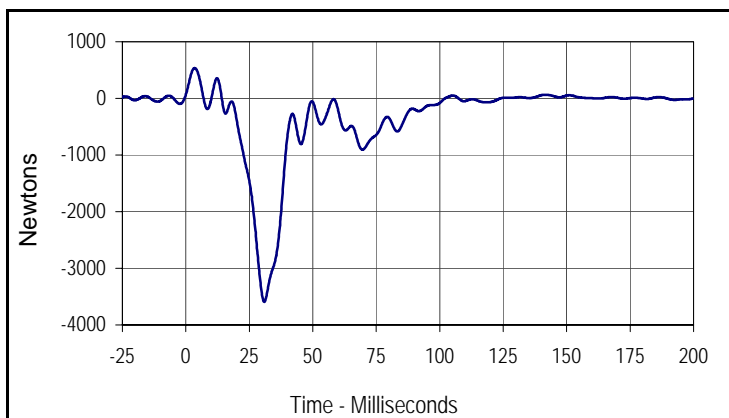
Curve Description			
Barrier Force A7			
CURNO	Type	SAE Class	Units
104	FIL	60	Newtons
Max	Time	Min	Time
552.0	1.5	-15541.1	34.6



Curve Description			
Barrier Force B7			
CURNO	Type	SAE Class	Units
113	FIL	60	Newtons
Max	Time	Min	Time
823.1	2.8	-81137.3	26.5



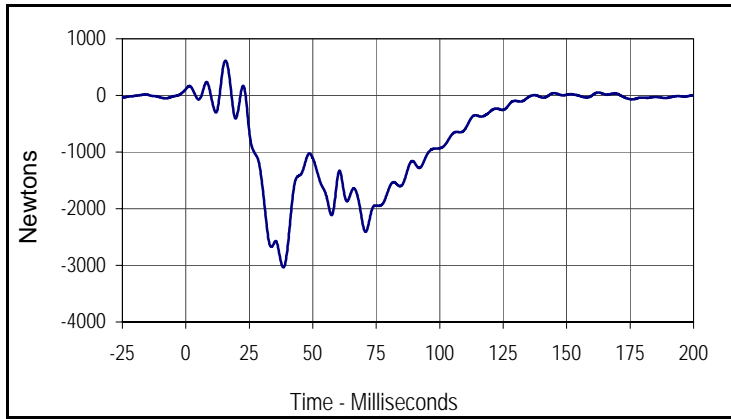
Curve Description			
Barrier Force C7			
CURNO	Type	SAE Class	Units
122	FIL	60	Newtons
Max	Time	Min	Time
591.5	2.0	-26132.0	29.3



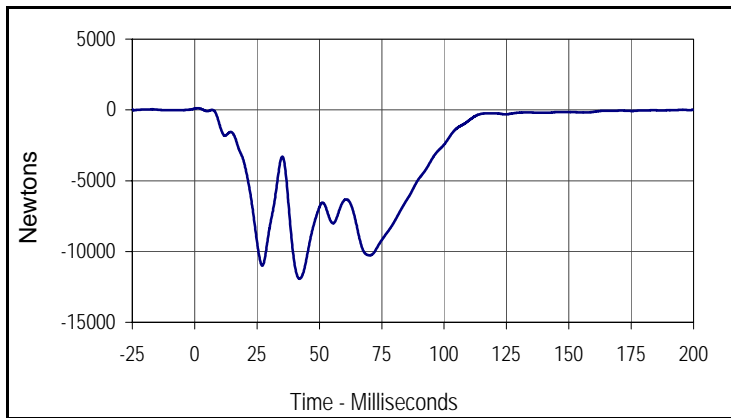
Curve Description			
Barrier Force D7			
CURNO	Type	SAE Class	Units
131	FIL	60	Newtons
Max	Time	Min	Time
534.2	3.4	-3593.0	30.9

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

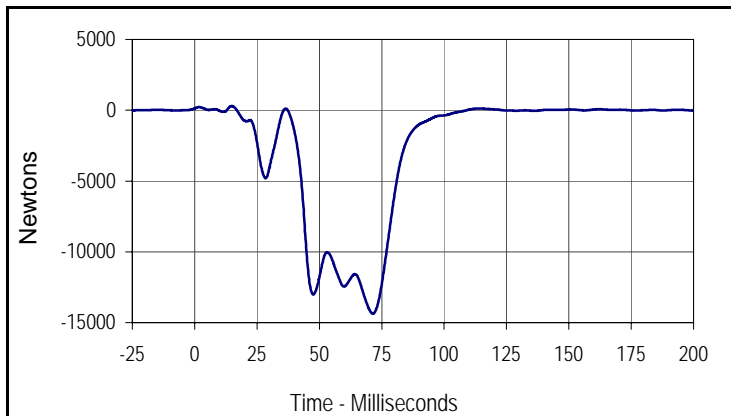
Test Date: 10/28/04  
 NHTSA No.: H55300



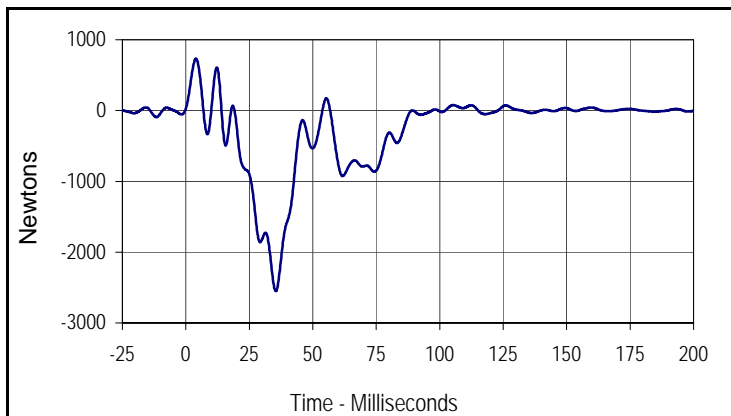
Curve Description			
Barrier Force A8			
CURNO	Type	SAE Class	Units
105	FIL	60	Newtons
Max	Time	Min	Time
612.5	15.6	-3036.3	38.4



Curve Description			
Barrier Force B8			
CURNO	Type	SAE Class	Units
114	FIL	60	Newtons
Max	Time	Min	Time
129.3	1.3	-11921.2	42.0



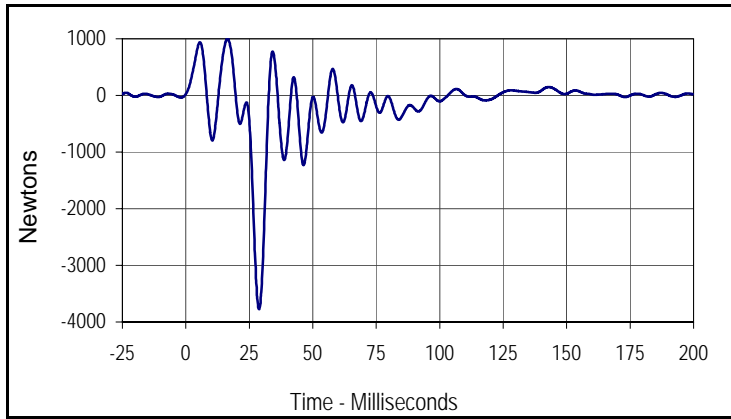
Curve Description			
Barrier Force C8			
CURNO	Type	SAE Class	Units
123	FIL	60	Newtons
Max	Time	Min	Time
296.8	14.9	-14364.4	71.4



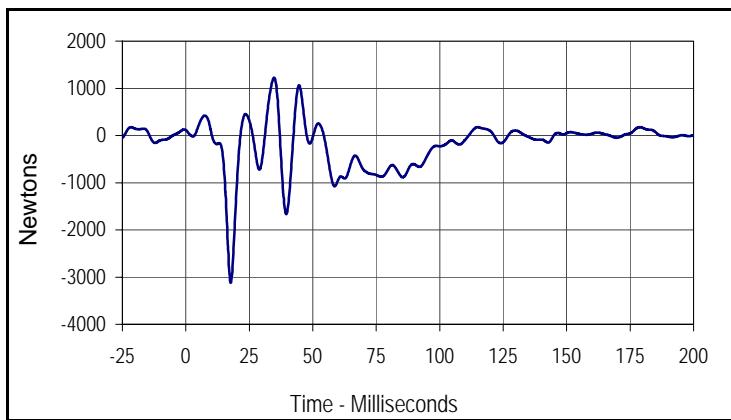
Curve Description			
Barrier Force D8			
CURNO	Type	SAE Class	Units
132	FIL	60	Newtons
Max	Time	Min	Time
731.7	4.0	-2549.5	35.4

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

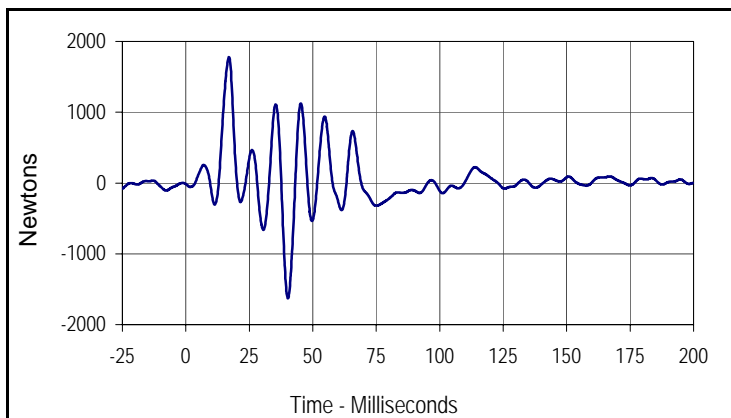
Test Date: 10/28/04  
 NHTSA No.: H55300



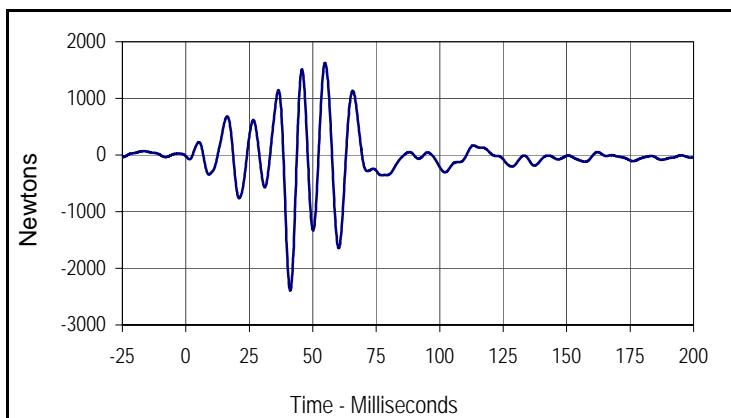
Curve Description			
Barrier Force A9			
CURNO	Type	SAE Class	Units
106	FIL	60	Newtons
Max	Time	Min	Time
996.5	16.4	-3772.3	28.8



Curve Description			
Barrier Force B9			
CURNO	Type	SAE Class	Units
115	FIL	60	Newtons
Max	Time	Min	Time
1226.7	34.8	-3119.2	17.7



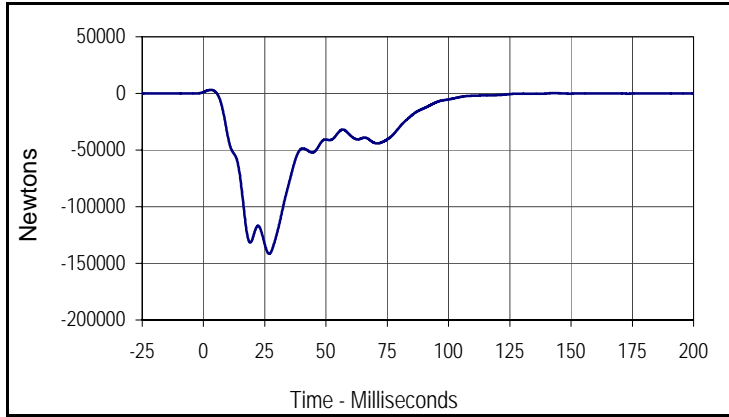
Curve Description			
Barrier Force C9			
CURNO	Type	SAE Class	Units
124	FIL	60	Newtons
Max	Time	Min	Time
1779.5	17.0	-1627.5	40.2



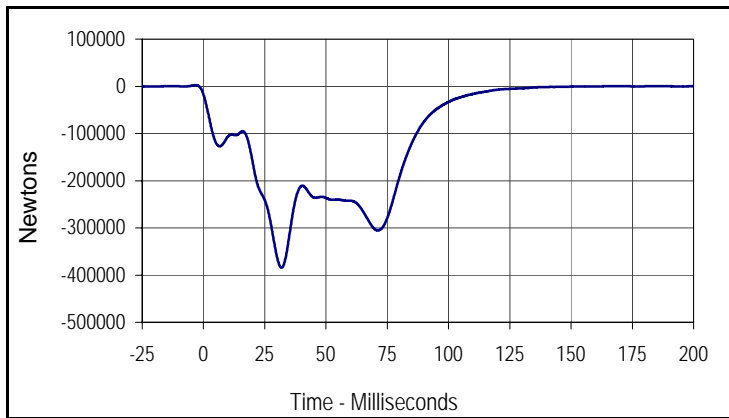
Curve Description			
Barrier Force D9			
CURNO	Type	SAE Class	Units
133	FIL	60	Newtons
Max	Time	Min	Time
1627.7	54.8	-2393.6	41.1

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

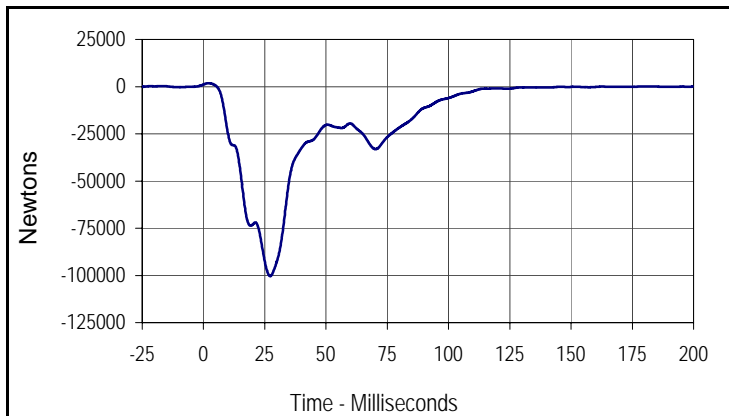
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Barrier Force Sum Group 1			
CURNO	Type	SAE Class	Units
001	SUM	60	Newtons
Max	Time	Min	Time
3136.6	3.0	-141623.5	26.8



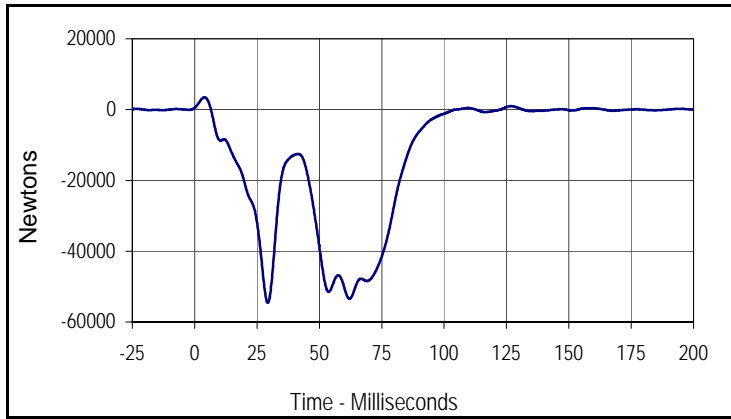
Curve Description			
Barrier Force Sum Group 2			
CURNO	Type	SAE Class	Units
002	SUM	60	Newtons
Max	Time	Min	Time
393.3	184.8	-384405.5	31.8



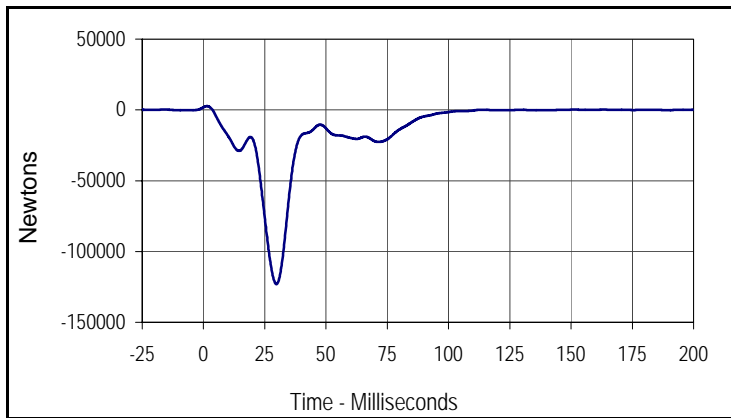
Curve Description			
Barrier Force Sum Group 3			
CURNO	Type	SAE Class	Units
003	SUM	60	Newtons
Max	Time	Min	Time
1836.9	2.0	-100360.3	27.2

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

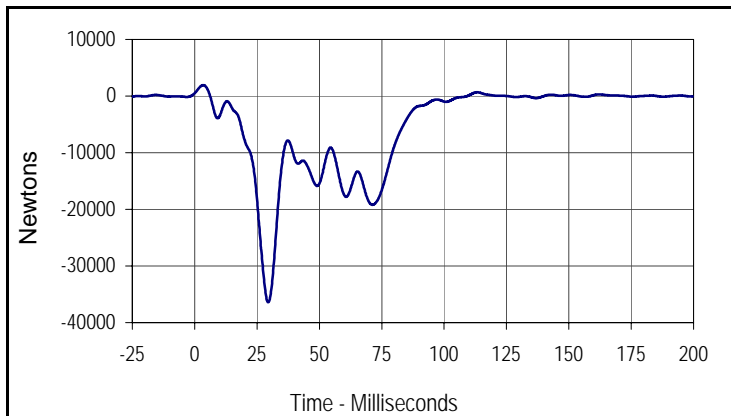
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Barrier Force Sum Group 4			
CURNO	Type	SAE Class	Units
004	SUM	60	Newtons
Max	Time	Min	Time
3478.3	4.0	-54599.1	29.3



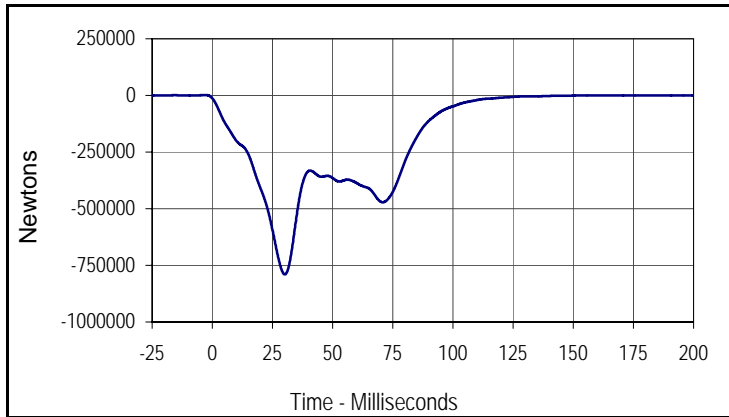
Curve Description			
Barrier Force Sum Group 5			
CURNO	Type	SAE Class	Units
005	SUM	60	Newtons
Max	Time	Min	Time
2678.9	1.4	-123049.5	29.8



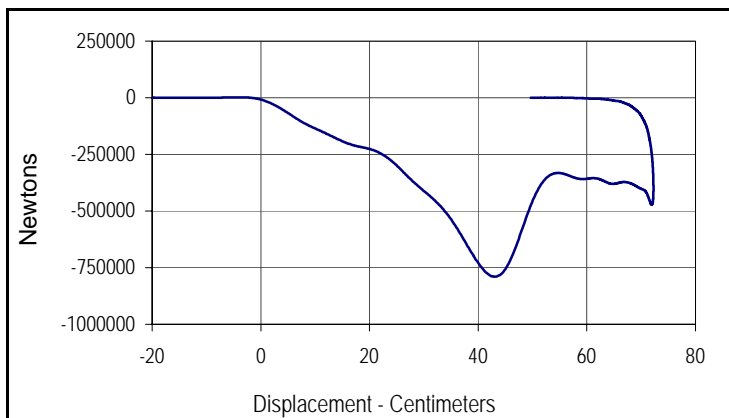
Curve Description			
Barrier Force Sum Group 6			
CURNO	Type	SAE Class	Units
006	SUM	60	Newtons
Max	Time	Min	Time
1927.4	3.4	-36405.1	29.5

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Barrier Force Total Sum			
CURNO	Type	SAE Class	Units
007	SUM	60	Newtons
Max	Time	Min	Time
631.8	162.3	-789894.0	30.1



Curve Description			
Barrier Force Total Sum vs. Displ.			
CURNO	Type	SAE Class	Units
001	XVY	60	Newtons
Max	CM	Min	CM
631.8	55.3	-789894.0	43.0

## BARRIER LOAD CELL SUMMARY DATA

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

Location	Units	Max	Time	Min	Time
Barrier Force A1	Newtons	2521.8	33.5	-1581.1	38.1
Barrier Force A2	Newtons	413.7	2.9	-5107.5	70.9
Barrier Force A3	Newtons	876.3	1.9	-24456.5	43.9
Barrier Force A4	Newtons	414.6	0.1	-22469.7	72.1
Barrier Force A5	Newtons	595.3	16.5	-27732.7	72.7
Barrier Force A6	Newtons	637.2	1.0	-39515.9	34.2
Barrier Force A7	Newtons	552.0	1.5	-15541.1	34.6
Barrier Force A8	Newtons	612.5	15.6	-3036.3	38.4
Barrier Force A9	Newtons	996.5	16.4	-3772.3	28.8
Barrier Force B1	Newtons	845.7	16.7	-10056.3	28.5
Barrier Force B2	Newtons	475.2	3.6	-57122.4	25.9
Barrier Force B3	Newtons	1119.0	2.5	-81257.0	18.4
Barrier Force B4	Newtons	55.6	192.6	-130553.5	32.3
Barrier Force B5	Newtons	153.5	182.7	-76020.1	31.6
Barrier Force B6	Newtons	285.4	152.9	-110069.9	30.4
Barrier Force B7	Newtons	823.1	2.8	-81137.3	26.5
Barrier Force B8	Newtons	129.3	1.3	-11921.2	42.0
Barrier Force B9	Newtons	1226.7	34.8	-3119.2	17.7
Barrier Force C1	Newtons	620.8	33.9	-4782.4	62.3
Barrier Force C2	Newtons	458.4	3.1	-13233.3	51.7
Barrier Force C3	Newtons	762.6	2.7	-40998.8	29.0
Barrier Force C4	Newtons	632.5	1.0	-31948.0	29.6
Barrier Force C5	Newtons	571.0	0.6	-40537.1	30.8
Barrier Force C6	Newtons	558.0	1.0	-43691.7	29.5
Barrier Force C7	Newtons	591.5	2.0	-26132.0	29.3
Barrier Force C8	Newtons	296.8	14.9	-14364.4	71.4
Barrier Force C9	Newtons	1779.5	17.0	-1627.5	40.2
Barrier Force D1	Newtons	1298.4	25.2	-3475.0	62.0
Barrier Force D2	Newtons	720.4	4.6	-2123.7	40.3
Barrier Force D3	Newtons	580.9	4.1	-3874.6	27.9
Barrier Force D4	Newtons	429.4	3.3	-4596.8	28.6
Barrier Force D5	Newtons	490.7	3.6	-3053.3	73.7
Barrier Force D6	Newtons	778.7	11.5	-3447.3	72.7
Barrier Force D7	Newtons	534.2	3.4	-3593.0	30.9
Barrier Force D8	Newtons	731.7	4.0	-2549.5	35.4
Barrier Force D9	Newtons	1627.7	54.8	-2393.6	41.1
Barrier Force Sum Group 1	Newtons	3136.6	3.0	-141623.5	26.8
Barrier Force Sum Group 2	Newtons	393.3	184.8	-384405.5	31.8
Barrier Force Sum Group 3	Newtons	1836.9	2.0	-100360.3	27.2
Barrier Force Sum Group 4	Newtons	3478.3	4.0	-54599.1	29.3
Barrier Force Sum Group 5	Newtons	2678.9	1.4	-123049.5	29.8
Barrier Force Sum Group 6	Newtons	1927.4	3.4	-36405.1	29.5
Barrier Force Total Sum	Newtons	631.8	162.3	-789894.0	30.1

APPENDIX D

INSTRUMENTATION DATA CHANNEL ASSIGNMENTS

**2005 NHTSA 35mph NCAP  
Instrumentation Data Channel Assignments  
Driver A.T.D. Serial Number 35  
10/28/04  
2005 Acura RL 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

**2005 NHTSA 35mph NCAP  
Instrumentation Data Channel Assignments  
Driver A.T.D. Serial Number 35  
10/28/04  
2005 Acura RL 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

**2005 NHTSA 35mph NCAP  
Instrumentation Data Channel Assignments  
Passenger A.T.D. Serial Number 34  
10/28/04  
2005 Acura RL 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

**2005 NHTSA 35mph NCAP  
Instrumentation Data Channel Assignments  
Passenger A.T.D. Serial Number 34  
10/28/04  
2005 Acura RL 4-Door Sedan**

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

**2005 NHTSA 35mph NCAP  
Instrumentation Data Channel Assignments  
Vehicle Accelerometers  
10/28/04  
2005 Acura RL 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

**2005 NHTSA 35mph NCAP  
Instrumentation Data Channel Assignments  
Rigid Load Cell Barrier  
10/28/04  
2005 Acura RL 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

**2005 NHTSA 35mph NCAP  
Instrumentation Data Channel Assignments  
Rigid Load Cell Barrier  
10/28/04  
2005 Acura RL 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

**2005 NHTSA 35mph NCAP  
Instrumentation Data Channel Assignments  
Nine Accelerometer Array Head  
10/28/04  
2005 Acura RL 4-Door Sedan**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
176	DRIVER X-ARM	Y	GPAC012	Accel., 1/2 bridge	Endevco	7264-2000	G
177	DRIVER X-ARM	Z	GPAC001	Accel., 1/2 bridge	Endevco	7264-2000	G
178	DRIVER Y-ARM	X	GPAC036	Accel., 1/2 bridge	Endevco	7264-2000	G
179	DRIVER Y-ARM	Z	GPAC014	Accel., 1/2 bridge	Endevco	7264-2000	G
180	DRIVER Z-ARM	X	GPAC030	Accel., 1/2 bridge	Endevco	7264-2000	G
181	DRIVER Z-ARM	Y	GPAC037	Accel., 1/2 bridge	Endevco	7264-2000	G
182	PASS. X-ARM	Y	GPAC016	Accel., 1/2 bridge	Endevco	7264-2000	G
183	PASS. X-ARM	Z	GPAC015	Accel., 1/2 bridge	Endevco	7264-2000	G
184	PASS. Y-ARM	X	GPAC004	Accel., 1/2 bridge	Endevco	7264-2000	G
185	PASS. Y-ARM	Z	GPAC018	Accel., 1/2 bridge	Endevco	7264-2000	G
186	PASS. Z-ARM	X	GPAC006	Accel., 1/2 bridge	Endevco	7264-2000	G
187	PASS. Z-ARM	Y	GPAC007	Accel., 1/2 bridge	Endevco	7264-2000	G

APPENDIX E  
DUMMY CALIBRATION DATA

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

Test Date: 10/1/04

ATD Serial No.: 034

Test I.D.: LK11A , RK11A

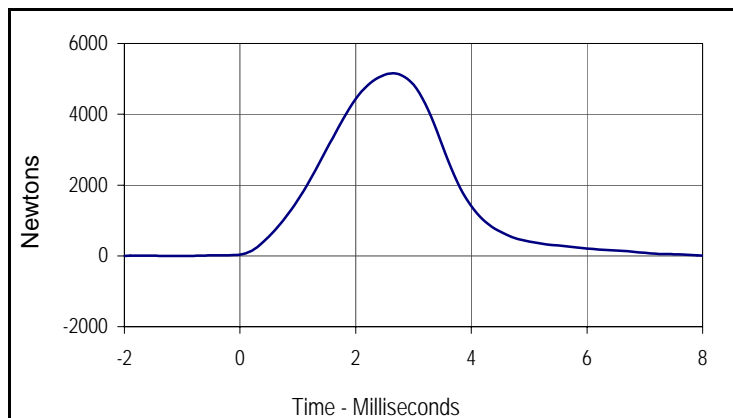


**Left Knee**

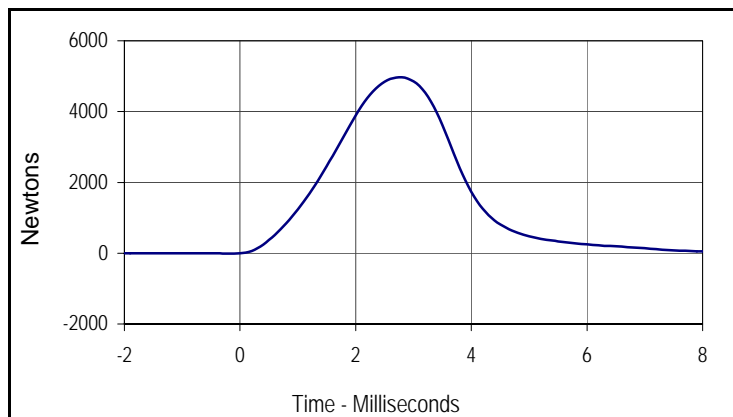
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.08	Pass
Peak Probe Force	Newtons	4715 to 5782	5149	Pass
Overall Test Results				Pass

**Right Knee**

Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.10	Pass
Peak Probe Force	Newtons	4715 to 5782	4968	Pass
Overall Test Results				Pass



Curve Description			
Left Knee Probe Force			
CURNO	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
5149.0	2.6	-29.6	8.9



Curve Description			
Right Knee Probe Force			
CURNO	Type	SAE Class	Units
002	FIL	600	Newtons
Max	Time	Min	Time
4968.0	2.8	-26.0	9.4

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

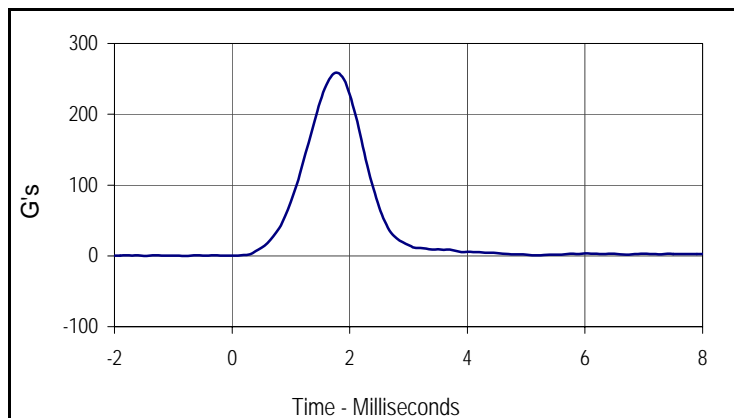
Test Date: 10/1/04

ATD Serial No.: 034

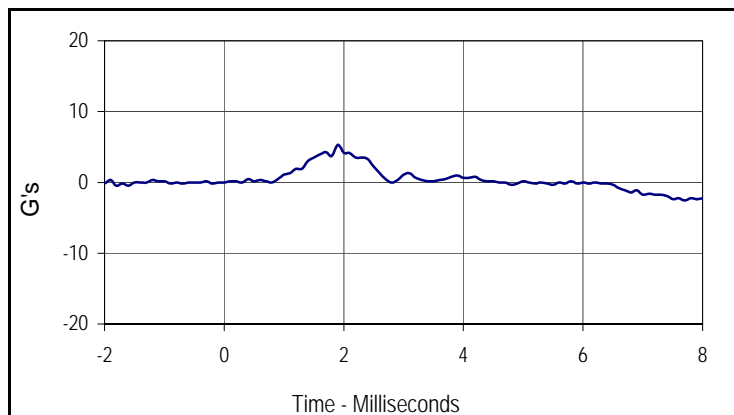
Test I.D.: HD11A



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	258.6	Pass
Peak Lateral Acceleration	G's	≤15.0	5.3	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results			Pass	



Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
258.6	1.8	0.0	-1.5



Curve Description			
Head Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
5.3	1.9	-0.5	-1.8

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

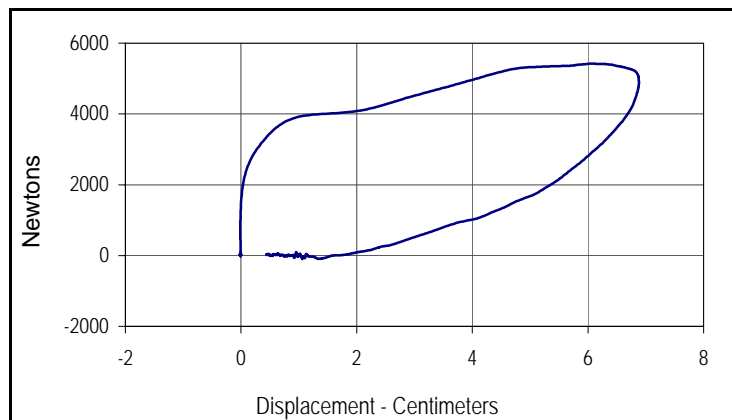
Test Date: 10/3/04

ATD Serial No.: 034

Test I.D.: CH11A



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	5419	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.88	Pass
Internal Hysteresis	%	69 to 85	75.4	Pass
Overall Test Results				Pass



Curve Description			
Probe Force vs. Chest Displacement			
CURNO	Type	SAE Class	Hysteresis
001	FIL	1000	75.4
Peak Probe Force		Peak Chest Displ.	
5419		6.88	

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

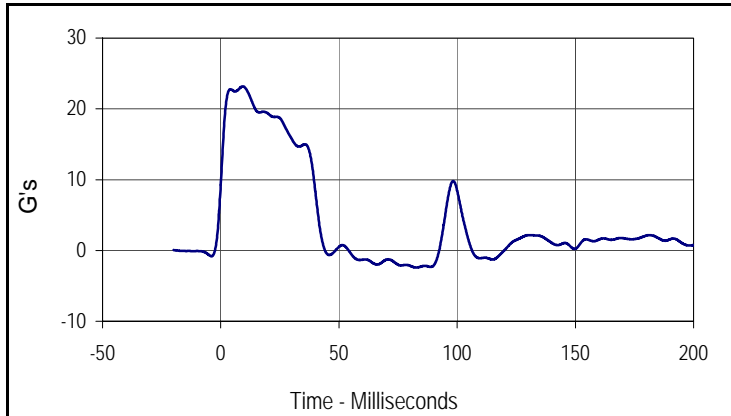
Test Date: 11/2/04

ATD Serial No.: 034

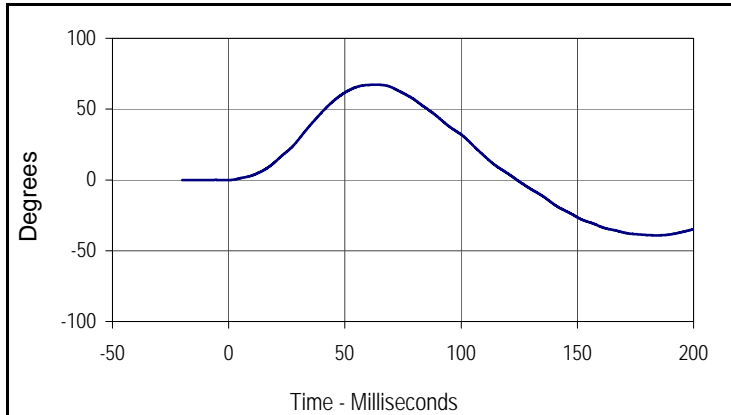
Test I.D.: NF11A



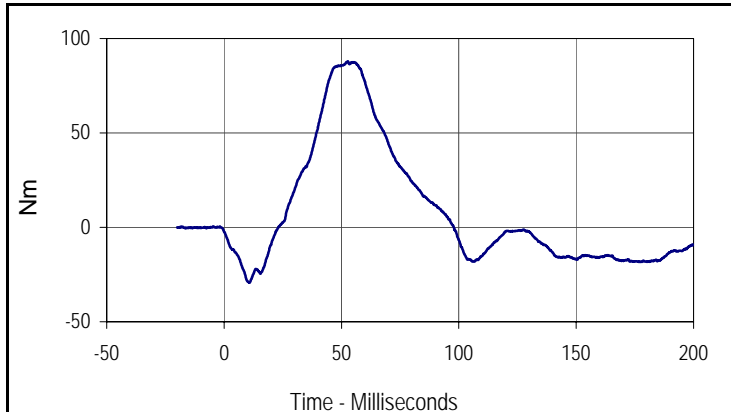
Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	30	Pass	
Pendulum Velocity	m/s	6.89 to 7.13	6.98	Pass	
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	23.1	Pass
	20 Msec.	G's	17.6 to 22.6	19.3	Pass
	30 Msec.	G's	12.5 to 18.5	15.8	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 29.0	15.8	Pass	
Deceleration Decay, Time to Cross 5 G's	Msec.	34.0 to 42.0	41.2	Pass	
Maximum "D" Plane Rotation	Max	Degrees	64.0 to 78.0	67.2	Pass
	Time	Msec.	57.0 to 64.0	63.3	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	113.0 to 128.0	124	Pass	
Moment About Occ. Condyle	Max	Nm	84.1 to 108.5	88.0	Pass
	Time	Msec.	47.0 to 58.0	52.7	Pass
Positive Moment Decay, Time To Zero Crossing	Msec.	97.0 to 107.0	97.9	Pass	
<b>Overall Test Results</b>				<b>Pass</b>	



Curve Description			
Pendulum Deceleration			
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
23.2	9.3	-2.4	82.7



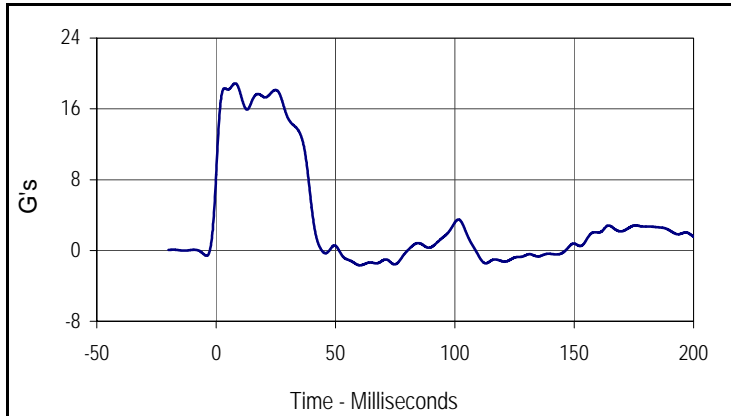
Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
67.2	63.3	-39.1	184.3



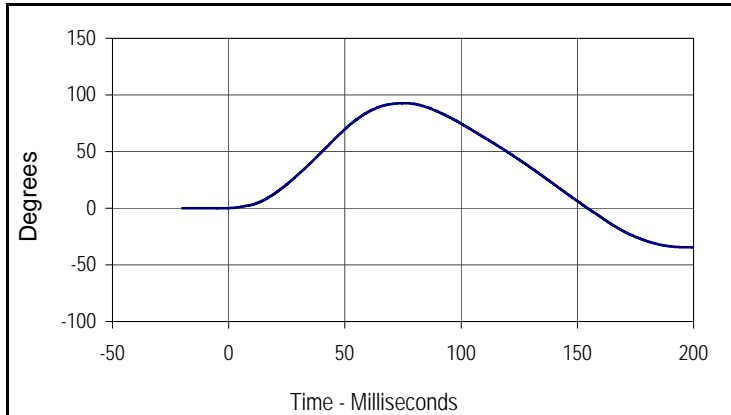
Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
88.0	52.7	-29.4	10.8



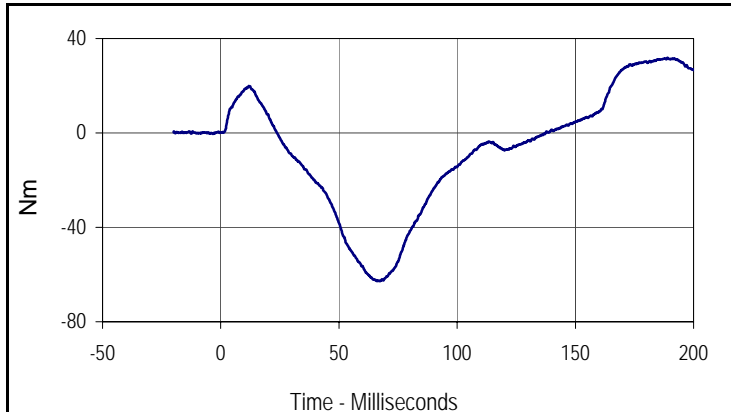
Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	30	Pass	
Pendulum Velocity	m/s	5.94 to 6.19	6.16	Pass	
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	17.9	Pass
	20 Msec.	G's	14.0 to 19.0	17.3	Pass
	30 Msec.	G's	11.0 to 16.0	15.0	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 22.0	15.0	Pass	
Deceleration Decay, Time to Cross 5 G's	Msec.	38.0 to 46.0	40.0	Pass	
Maximum "D" Plane Rotation	Max	Degrees	81.0 to 106.0	92.7	Pass
	Time	Msec.	72.0 to 82.0	74.9	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	147.0 to 174.0	154.4	Pass	
Moment About Occ. Condyle	Max	Nm	-52.9 to- 79.9	-62.8	Pass
	Time	Msec.	65.0 to 79.0	66.2	Pass
Positive Moment Decay, Time To Zero Crossing	Msec.	120.0 to 148.0	137.4	Pass	
<b>Overall Test Results</b>				<b>Pass</b>	



Curve Description			
Pendulum Deceleration			
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
18.9	8.0	-1.7	60.3



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
92.7	74.9	-34.5	197.7



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
31.8	189.0	-62.8	66.2

Test Program: Hybrid III 50th Percentile Male External Measurements Test Date: 10/3/04  
 ATD Serial No.: 034 Test I.D.: N/A



Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
A - Total sitting height	mm	879 to 889	886	Pass
B - Shoulder pivot height	mm	505 to 521	515	Pass
C - "H" point height	mm	84 to 89	86	Pass
D - "H" point from seat back	mm	135 to 140	137	Pass
E - Shoulder pivot from back	mm	84 to 94	90	Pass
F - Thigh clearance	mm	140 to 155	147	Pass
G - Elbow back to wrist pivot	mm	290 to 305	300	Pass
H - Skull cap to back line	mm	41 to 46	44	Pass
I - Shoulder to elbow length	mm	330 to 345	340	Pass
J - Elbow rest height	mm	190 to 211	200	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	490	Pass
N - Buttock popliteal length	mm	452 to 477	470	Pass
O - Chest depth	mm	213 to 229	225	Pass
P - Foot length	mm	251 to 267	255	Pass
V - Shoulder breadth	mm	422 to 437	435	Pass
W - Foot breadth	mm	91 to 107	100	Pass
Y - Chest circumference	mm	970 to 1001	985	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	228	Pass
Overall Test Results				Pass

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

Test Date: 10/1/04

ATD Serial No.: 035

Test I.D.: LK11B , RK11B



**Left Knee**

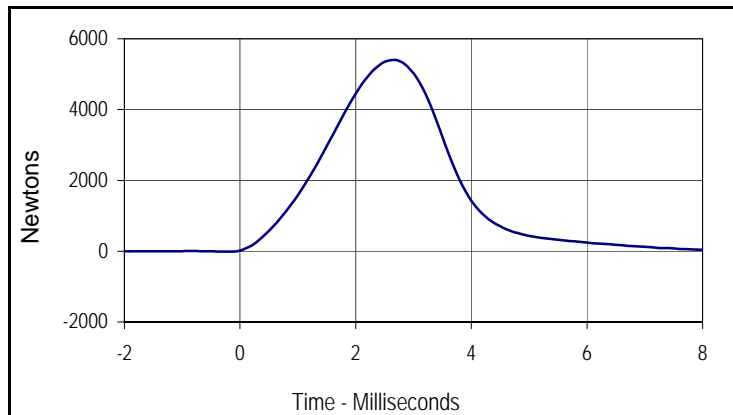
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.09	Pass
Peak Probe Force	Newtons	4715 to 5782	5542	Pass
Overall Test Results				Pass

**Right Knee**

Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.09	Pass
Peak Probe Force	Newtons	4715 to 5782	5399	Pass
Overall Test Results				Pass



Curve Description			
Left Knee Probe Force			
CURNO	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
5542.0	2.6	-20.4	9.3



Curve Description			
Right Knee Probe Force			
CURNO	Type	SAE Class	Units
002	FIL	600	Newtons
Max	Time	Min	Time
5399.0	2.7	-27.9	9.6

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

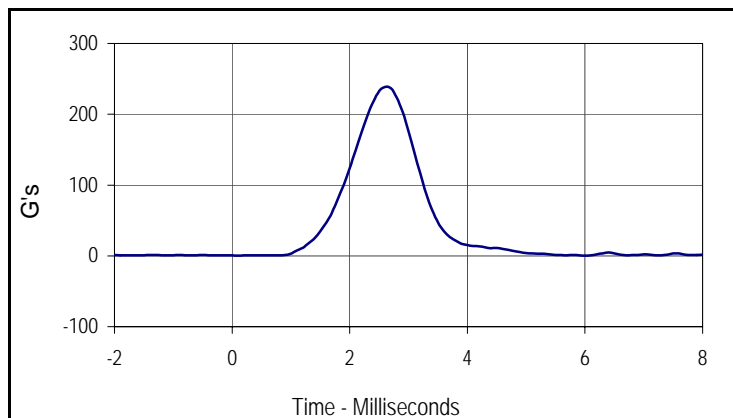
Test Date: 10/1/04

ATD Serial No.: 035

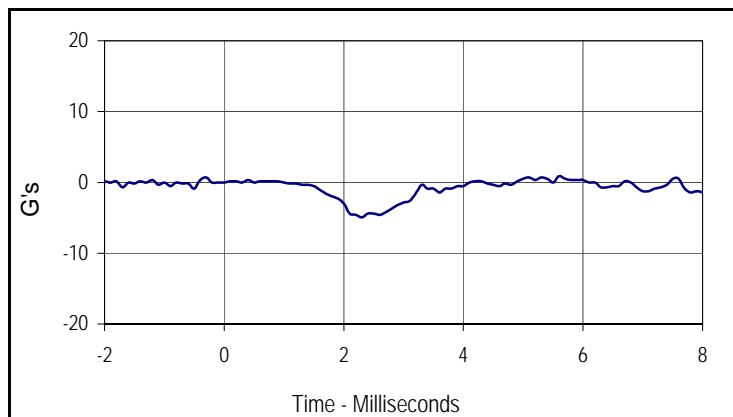
Test I.D.: HD11B



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	238.7	Pass
Peak Lateral Acceleration	G's	≤15.0	4.9	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results			Pass	



Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
238.7	2.6	0.4	0.1



Curve Description			
Head Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
0.9	5.6	-4.9	2.3

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

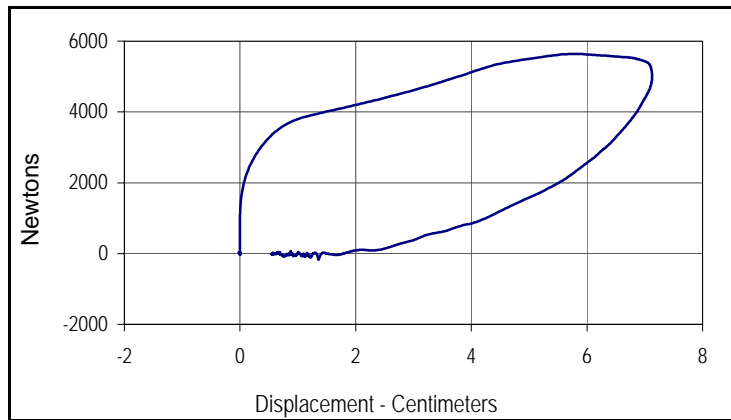
Test Date: 10/3/04

ATD Serial No.: 035

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	6.58 to 6.82	6.61	Pass
Peak Probe Force	Newtons	5159 to 5893	5639	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	7.13	Pass
Internal Hysteresis	%	69 to 85	76.3	Pass
Overall Test Results				Pass



Curve Description			
Probe Force vs. Chest Displacement			
CURNO	Type	SAE Class	Hysteresis
001	FIL	1000	76.3
Peak Probe Force		Peak Chest Displ.	
5639		7.13	

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

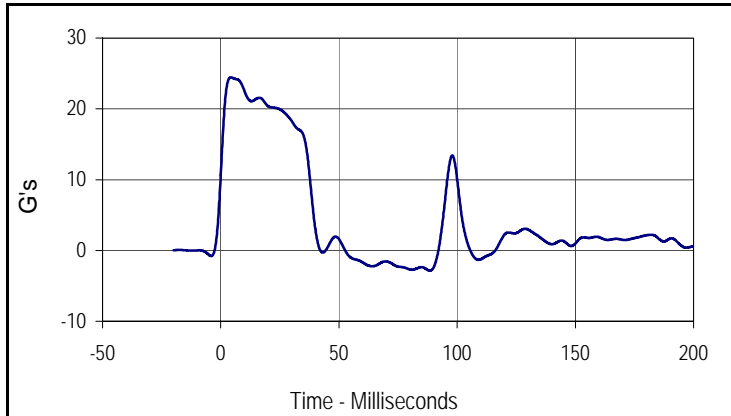
Test Date: 11/2/04

ATD Serial No.: 035

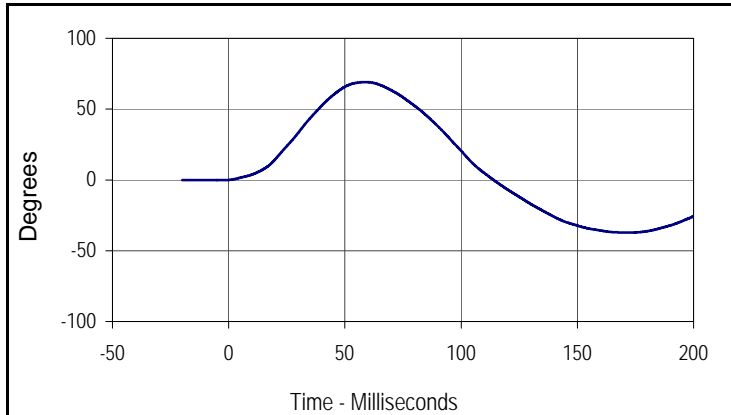
Test I.D.: NF11B



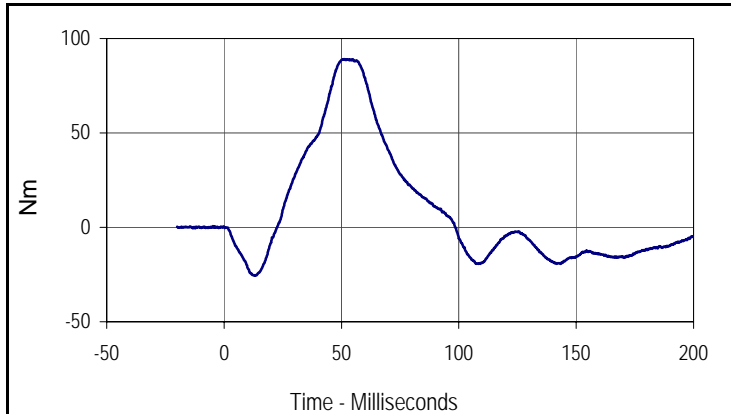
Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	30	Pass	
Pendulum Velocity	m/s	6.89 to 7.13	6.98	Pass	
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	22.5	Pass
	20 Msec.	G's	17.6 to 22.6	20.4	Pass
	30 Msec.	G's	12.5 to 18.5	18.3	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 29.0	18.3	Pass	
Deceleration Decay, Time to Cross 5 G's	Msec.	34.0 to 42.0	39.3	Pass	
Maximum "D" Plane Rotation	Max	Degrees	64.0 to 78.0	69.1	Pass
	Time	Msec.	57.0 to 64.0	58.6	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	113.0 to 128.0	114	Pass	
Moment About Occ. Condyle	Max	Nm	84.1 to 108.5	89.1	Pass
	Time	Msec.	47.0 to 58.0	51.1	Pass
Positive Moment Decay, Time To Zero Crossing	Msec.	97.0 to 107.0	98.5	Pass	
<b>Overall Test Results</b>				<b>Pass</b>	



Curve Description			
Pendulum Deceleration			
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
24.5	4.3	-2.9	88.5



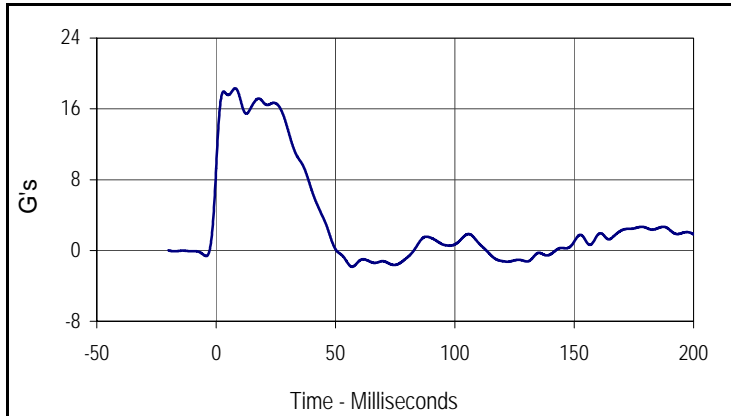
Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
69.1	58.6	-37.2	171.5



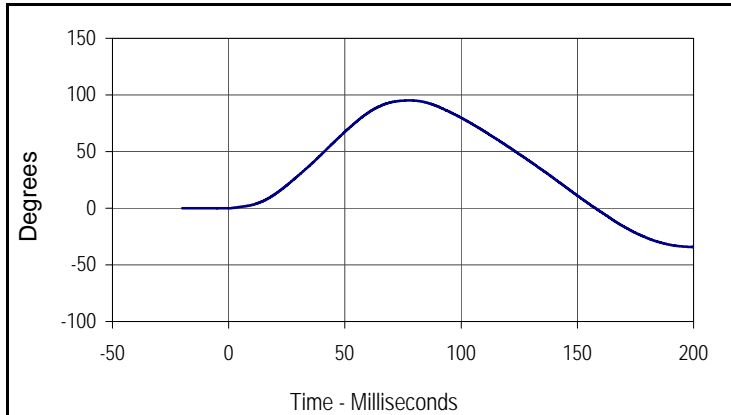
Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
89.1	51.1	-25.6	12.9



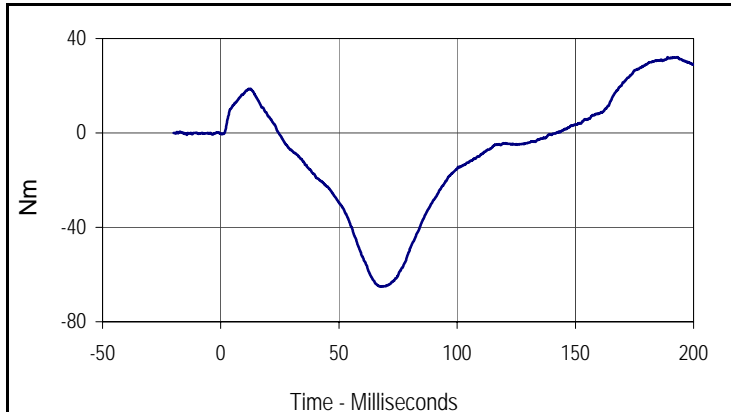
Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	30	Pass	
Pendulum Velocity	m/s	5.94 to 6.19	6.02	Pass	
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	17.2	Pass
	20 Msec.	G's	14.0 to 19.0	16.7	Pass
	30 Msec.	G's	11.0 to 16.0	13.7	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 22.0	13.7	Pass	
Deceleration Decay, Time to Cross 5 G's	Msec.	38.0 to 46.0	42.7	Pass	
Maximum "D" Plane Rotation	Max	Degrees	81.0 to 106.0	95.1	Pass
	Time	Msec.	72.0 to 82.0	77.7	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	147.0 to 174.0	157.8	Pass	
Moment About Occ. Condyle	Max	Nm	-52.9 to- 79.9	-65.1	Pass
	Time	Msec.	65.0 to 79.0	68.1	Pass
Positive Moment Decay, Time To Zero Crossing	Msec.	120.0 to 148.0	141.9	Pass	
<b>Overall Test Results</b>				<b>Pass</b>	



Curve Description			
Pendulum Deceleration			
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
18.3	8.0	-1.8	56.9



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
95.1	77.7	-34.2	200.0



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
32.1	193.0	-65.1	68.1

Test Program: Hybrid III 50th Percentile Male External Measurements Test Date: 10/3/04  
 ATD Serial No.: 035 Test I.D.: N/A



Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
A - Total sitting height	mm	879 to 889	880	Pass
B - Shoulder pivot height	mm	505 to 521	510	Pass
C - "H" point height	mm	84 to 89	87	Pass
D - "H" point from seat back	mm	135 to 140	138	Pass
E - Shoulder pivot from back	mm	84 to 94	86	Pass
F - Thigh clearance	mm	140 to 155	150	Pass
G - Elbow back to wrist pivot	mm	290 to 305	295	Pass
H - Skull cap to back line	mm	41 to 46	45	Pass
I - Shoulder to elbow length	mm	330 to 345	335	Pass
J - Elbow rest height	mm	190 to 211	210	Pass
K - Buttock to knee length	mm	579 to 604	595	Pass
L - Popliteal length	mm	429 to 455	450	Pass
M - Knee pivot height	mm	485 to 500	495	Pass
N - Buttock popliteal length	mm	452 to 477	465	Pass
O - Chest depth	mm	213 to 229	228	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	105	Pass
Y - Chest circumference	mm	970 to 1001	995	Pass
Z - Waist circumference	mm	836 to 866	860	Pass
AA - Location for chest circumference	mm	429 to 434	432	Pass
BB - Location for waist circumference	mm	226 to 231	230	Pass
Overall Test Results				Pass

APPENDIX F  
CHILD RESTRAINT SYSTEM

**REPORT NUMBER TR-P24144-01-NC**

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

**HONDA MOTOR CORPORATION LTD  
2005 ACURA RL  
4-DOOR SEDAN**

**NHTSA NUMBER: H55300**

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



**OCTOBER 28, 2004**

**FINAL REPORT**

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

This final test report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, in response to Contract Number DTNH22-01-D-02005.

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Date of Acceptance

**Technical Report Documentation Page**

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<b>4. Title and Subtitle</b> Final Report of a Graco Hi-Back Turbo Booster CRS NHTSA NO. H55300				<b>5. Report Date</b> October 28, 2004	
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<b>7. Authors</b> Mr. Biren J. Patel, Project Engineer, Karco Mr. Frank Richardson, Program Manager, Karco				<b>8. Performing Organization Report No.</b> TR-P24144-01-NC	
<b>9. Performing Organization Name and Address</b> Karco Engineering, LLC 9270 Holly Rd. Adelanto, CA, 92301				<b>10. Work Unit No.</b>	
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<b>15. Supplementary Notes</b>					
<b>16. Abstract</b>  A frontal test was conducted on the subject Graco Hi-Back Turbo Booster CRS in conjunction with frontal NCAP testing on a 2005 Acura RL 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 October 28, 2004					
<b>Measurement Description</b>		<b>Units</b>		<b>Left Rear</b>	<b>Right Rear</b>
Head Injury Criteria (HIC) 36		N/A			1335.7
Head Injury Criteria (HIC) 15		N/A			950.9
3 msec. Chest Clip		G's			49.4
Peak Chest Displacement		mm			-25.9
<b>17. Key Words</b> 56.3 km/h NCAP Frontal Barrier Impact Test New Car Assessment Program (NCAP) Final Report of a Graco Hi-Back Turbo Booster CRS NHTSA NO. H55300				<b>18. Distribution of Statement</b> 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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Form DOT F1700.7 (8-72)

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## SECTION F-1

### PURPOSE AND SUMMARY OF TEST H55300

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

The 56.33 km/h NCAP frontal impact test was conducted in accordance with the Office of Crashworthiness Standards (OCS) NCAP Laboratory Test Procedure.

### SUMMARY

One ten year old child Hybrid III dummy was instrumented with head, chest, and pelvic triaxial accelerometers, a chest displacement potentiometer, six axis upper neck, lumbar, clavicle, ASIS and femur load cells. In addition a triaxial accelerometer was installed on the car seat and car seat seatback. Seat belt load cells were placed on the shoulder and lap belts, also shoulder belt spool-out and elongation was measured.

The right rear (Position 3) child dummy (Serial No. 011) was calibrated prior to this test. Child dummy certification information is found in Section F-5.

#### CHILD DUMMY VALUES

Location	HIC 36 Values	HIC 15 Values	3 Msec. Chest Clip	Peak Chest Disp.
Right Rear Child	1335.7	950.9	49.4	-25.9
Left Rear Child				

**DATA SHEET NO.1  
CRASH TEST SUMMARY**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**CHILD RESTRAINT SYSTEM INFORMATION**

Description	Position #3 CRS	Position #4 CRS
Manufacturer	Graco	
Model Name	TurboBooster	
Serial No.	JJ 0614041131542	
Type	Hi-Back Booster	
Forward/Rearward	Forward	

**VISIBLE DUMMY CONTACT POINTS**

Description	Position #3 CRS	Position #4 CRS
Head Contact	C-Pillar, Roof	
Chest Contact	None	
Abdomen Contact	None	
Left Knee Contact	None	
Right Knee Contact	Front seatback	
Left Toe Contact	Front seatback	
Right Toe Contact	Front seatback	

**POST-TEST DOOR OPENINGS**

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

**POST-TEST SEAT DATA**

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

**CAMERA COVERAGE**

High Speed	2
Real Time	0
Total	2

**DATA CHANNELS**

Child Sensors	28
Belt Senosrs	4
Car Seat Sensors	6
Total	38

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

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**RETAINING CLIP INFORMATION**

Description	Position #3 CRS	Position #4 CRS
Ret. Clip Movement	N/A	

**CHILD HARNESS STRETCH**

Description	Position #3 CRS	Position #4 CRS
Harness Stretch	N/A	

**TEST VEHICLE WEIGHTS**

	Units	As Delivered Weights (UVW)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	531	392		552	465	
Right	kg	533	364		556	438	
Ratio	%	58.5	41.5		55.1	44.9	
Totals	kg	1064	756	1820	1108	904	2011

**TARGET TEST WEIGHT CALCULATION**

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1820
Weight of 2 P572 ATD's	kg	152
Rated Cargo/Luggage Wt. (RCLW)	kg	45
Calculated Vehicle Target Wt. (TVTWTW)	kg	2017

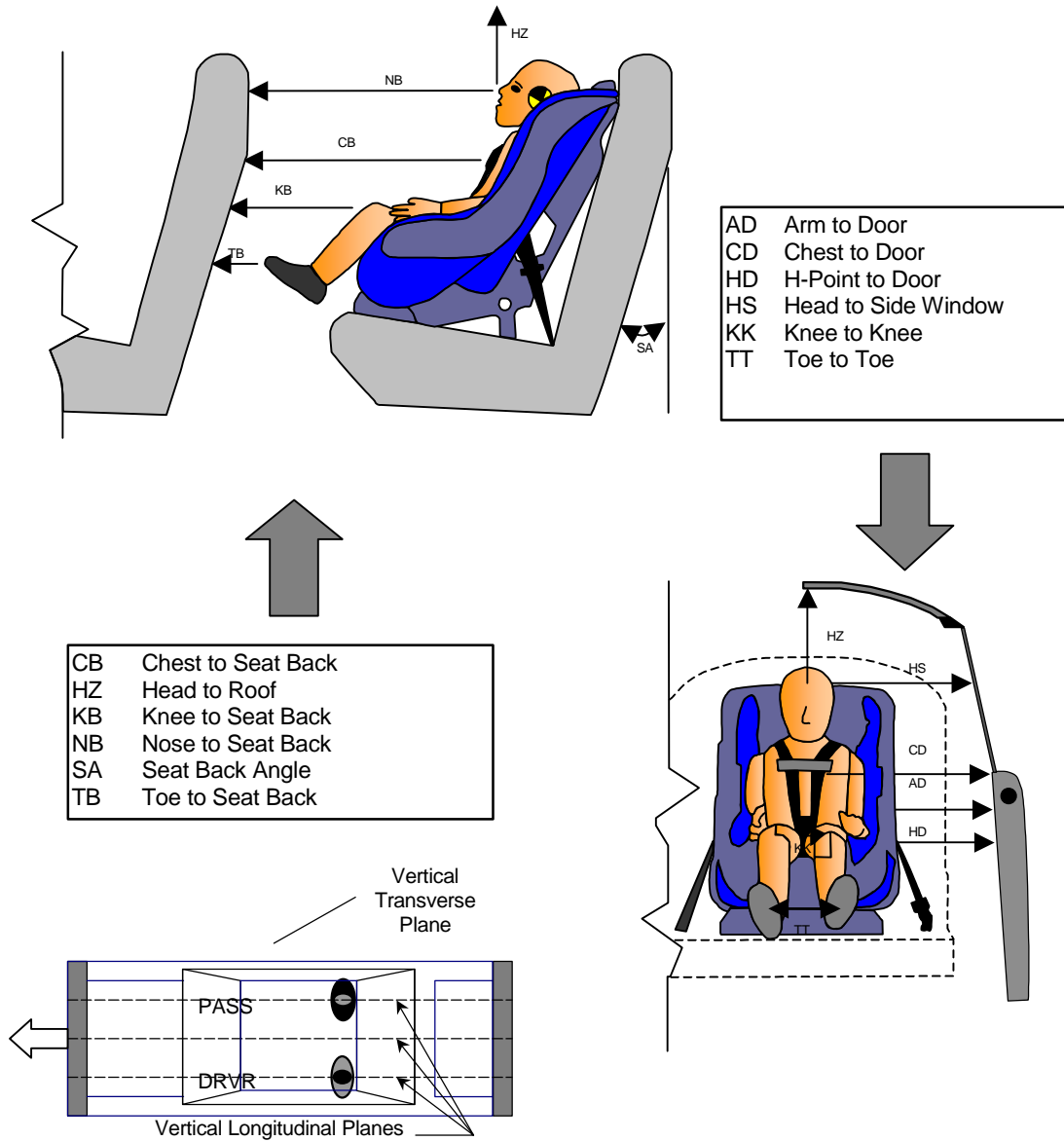
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**CHILD DUMMY POSITIONING IN VEHICLE**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program 2005 NHTSA 35mph NCAP

Test Date: 10/28/04



**DUMMY MEASUREMENTS FOR REAR SEAT OCCUPANTS**

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

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**CHILD DUMMY POSITION MEASUREMENTS**

Code	Measurement	Units	P3 CRS Serial No. 011					
			Pre-Test	Post-Test	Diff.			
SA	Seat Back Angle	deg.	29.0	33.5	4.5			
HZ	Head to Roof (Z)	mm	185	180	-5			
CD	Chest to Dash	mm	420	390	-30			
KK	Knee to Knee (Y)	mm	180	190	10			
HS	Head to Side Window	mm	290	265	-25			
HD	H-Point to Door (Y)	mm	300	260	-40			
AD	Arm to Door	mm	250	100	-150			
NB	Nose to Seat Back	mm	620	655	35			
CB	Chest to Seat Back	mm	600	610	10			
FF	Foot to Foot	mm	215	230	15			
KB-Left	Knee to Seat Back	mm	320	305	-15			
KB-Right	Knee to Seat Back	mm	315	330	15			
TB-Left	Toe to Seat Back	mm	135	190	55			
TB-Right	Toe to Seat Back	mm	115	200	85			

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

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**HEAD PEAK ACCELERATIONS**

Location	Axis	Units	Right Rear (10 Yr.)			
			Max	Time	Min	Time
Head CG	X	G's	0.8	187.8	-53.6	111.5
Head CG	Y	G's	13.2	109.8	-2.6	118.7
Head CG	Z	G's	80.9	89.9	-1.4	31.6
Head CG Resultant	N/A	G's	90.6	90.1		

**HEAD INJURY CRITERIA (HIC)**

Location	Right Rear (10 Yr.)			
	HIC	T <sup>1</sup>	T <sup>2</sup>	Avg G
Head CG Primary (HIC36)	1335.7	77.4	113.4	67.2
Head CG Primary (HIC15)	950.9	84.1	99.1	83.2

**CHEST PEAK ACCELERATIONS**

Location	Axis	Units	Right Rear (10 Yr.)			
			Max	Time	Min	Time
Chest CG	X	G's	3.4	155.0	-47.1	73.8
Chest CG	Y	G's	16.7	84.0	-1.4	140.5
Chest CG	Z	G's	10.8	111.1	-17.7	82.3
Chest CG Resultant	N/A	G's	50.3	74.1		

**CHEST CLIP (3MSEC)**

Location	Right Rear (10 Yr.)		
	CLIP	T <sup>1</sup>	T <sup>2</sup>
Chest CG Primary	49.4	72.3	75.3

**CHEST PEAK DISPLACEMENTS**

Location	Axis	Units	Right Rear (10 Yr.)			
			Max	Time	Min	Time
Chest	X	MM	3.0	31.2	-25.9	111.0

**PELVIC PEAK ACCELERATIONS**

Location	Axis	Units	Right Rear (10 Yr.)			
			Max	Time	Min	Time
Pelvis	X	G's	5.9	184.7	-49.9	70.7
Pelvis	Y	G's	9.8	78.6	-9.3	88.9
Pelvis	Z	G's	6.3	112.5	-50.0	81.1
Pelvis Resultant	N/A	G's	62.9	70.7		

**DATA SHEET NO. 4...(CONTINUED)**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**UPPER NECK PEAK FORCES AND MOMENTS**

Location	Axis	Units	Right Rear (10 Yr.)			
			Max	Time	Min	Time
Neck Force	X	Newtons	13.2	21.9	-1403.8	92.7
Neck Force	Y	Newtons	458.5	104.1	-30.8	54.5
Neck Force	Z	Newtons	3098.3	94.4	-66.1	24.6
Neck Force Resultant	N/A	Newtons	3398.0	94.3		
Neck Moment	X	Nm	8.0	92.2	-11.6	105.9
Neck Moment	Y	Nm	18.9	107.6	-54.8	91.0
Neck Moment	Z	Nm	7.8	108.5	-0.4	35.3
Neck Moment Resultant	N/A	Nm	55.5	91.0		

**CHILD SEAT BELT SENSOR PEAK VALUES**

Location	Axis	Units	Right Rear (10 Yr.)			
			Max	Time	Min	Time
Lap Belt Force	N/A	Newtons	4206.6	70.6	-22.6	26.3
Shoulder Belt Force	N/A	Newtons	6565.2	84.4	-2.1	18.1
Shoulder Belt Pullout	N/A	MM	9.9	111.9	-31.6	187.5
Shoulder Belt Elongation	N/A	MM/CM	0.2	61.1	0.0	74.2

1.) Channel failed at 70.2 msec.

**CHILD SEAT ACCELEROMETER PEAK VALUES**

Location	Axis	Units	Right Rear (10 Yr.)			
			Max	Time	Min	Time
Car Seat	X	G's	8.9	145.0	-63.7	50.8
Car Seat	Y	G's	24.3	50.5	-10.8	69.5
Car Seat	Z	G's	19.3	53.5	-16.7	67.8
Car Seat Resultant	N/A	G's	69.6	51.0		
Car Seat Seatback	X	G's	32.4	156.5	-59.0	86.1
Car Seat Seatback	Y	G's	39.0	81.9	-17.9	56.6
Car Seat Seatback	Z	G's	12.7	194.8	-17.9	81.0
Car Seat Seatback Res.	N/A	G's	68.5	85.9		

**FEMUR PEAK FORCES**

Location	Axis	Units	Right Rear (10 Yr.)			
			Max	Time	Min	Time
Left Femur	Z	Newtons	1588.1	62.9	-440.2	180.1
Right Femur	Z	Newtons	1921.5	64.0	-75.0	121.5

**DATA SHEET NO. 4...(CONTINUED)**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**LUMBAR PEAK FORCES AND MOMENTS**

Location	Axis	Units	Right Rear (10 Yr.)			
			Max	Time	Min	Time
Lumbar Force	X	Newtons	1803.1	94.5	-604.0	61.7
Lumbar Force	Y	Newtons	693.7	64.7	-135.0	117.0
Lumbar Force	Z	Newtons	2243.7	93.6	-872.6	72.8
Lumbar Force Resultant	N/A	Newtons	2912.1	93.6		
Lumbar Moment	X	Nm	106.9	68.1	-12.4	175.7
Lumbar Moment	Y	Nm	32.2	130.3	-32.1	200.0
Lumbar Moment	Z	Nm	5.2	175.6	-28.5	90.0
Lumbar Moment Resultant	N/A	Nm	110.7	84.1		

**CLAVICLE PEAK FORCES**

Location	Axis	Units	Right Rear (10 Yr.)			
			Max	Time	Min	Time
Left Clavicle	X	Newtons	238.7	93.3	-69.8	61.9
Left Clavicle	Z	Newtons	272.4	88.5	-53.6	151.7
Right Clavicle	X	Newtons	4168.5	87.9	-16.6	189.8
Right Clavicle	Z	Newtons	1751.4	83.5	-72.7	116.9

**ASIS PEAK FORCES**

Location	Axis	Units	Right Rear (10 Yr.)			
			Max	Time	Min	Time
Left Upper	N/A	Newtons	1037.5	91.5	-2.5	12.9
Left Lower	N/A	Newtons	540.1	63.0	-692.3	92.3
Right Upper	N/A	Newtons	592.4	69.6	-51.2	112.8
Right Lower	N/A	Newtons	479.6	63.8	-3.3	24.3

**DATA SHEET NO.5**  
**CRS PERFORMANCE DATA**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**CRS PERFORMANCE DATA**

Location	P3 CRS Serial No. 011			
	Damage	Post-Test		
Upper Tether Strap	No	N/A		
Upper Tether Buckle	No	N/A		
Upper Tether Hook	No	N/A		
Veh. Upper Tether Anchor	No	N/A		
Lower Anchor Strap	No	N/A		
Lower Anchor Buckle	No	N/A		
Lower Anchor Hooks	No	N/A		
Veh. Lower CRS Anchors	No	N/A		
5 Point Harness Connections	No	N/A		
Cracks on CRS	No	None		
Fabric Tears on CRS	No	None		
Vehicle Seat Structure	No	None		
Vehicle Seat Fabric Tears	No	None		

**DATA SHEET NO.6**  
**CRS CAMERA DATA**

Test Vehicle: 2005 Acura RL 4-Door Sedan

NHTSA No.: H55300

Test Program 2005 NHTSA 35mph NCAP

Test Date: 10/28/04

**CAMERA LOCATIONS**

No.	Camera View	Location(mm)			Angle (Deg.)	Film Plane to Head (mm)	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Right Rear Dummy Onboard	-3251	-660	991	0	1000.8	12	1000
2	Extra Camera View DSP-03	-2480	-280	-1430	-20	1090	12	1000

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

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PHOTOGRAPHS

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retiradas. Envíe su nombre, dirección y el número de modelo y la fecha de fabricación del asiento a Graco Children's Products Inc., 150 Oakland  
Exton, PA 19341 EE.UU. o llame al 1-800-345-4109.  
Para información sobre retiradas, llame a la línea de información sobre  
seguridad automotriz del gobierno de EE.UU. al 1-800-424-9393  
(202-366-0123 en el Distrito de Columbia). LAPB00

MODEL 8498TCI      NAME: TurboBooster  
SERIAL JJ 0614041131542  
Manufactured in 061404  
GRACO CHILDREN'S PRODUCTS, INC.  
EXTON, PA 19341 1-888-224-6549  
Made in China

LAPZ0004B

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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



Figure F2-16: Pre-Test Position 3 Right Side View Through Window



Figure F2-16: Pre-Test Position 3 Right Side View Through Window



Figure F2-18: Post-Test Position 3 Dummy Legs Contact Points

SECTION F-3

CHILD DUMMY RESPONSE AND CRS DATA TRACES

## LIST OF DATA PLOTS #4

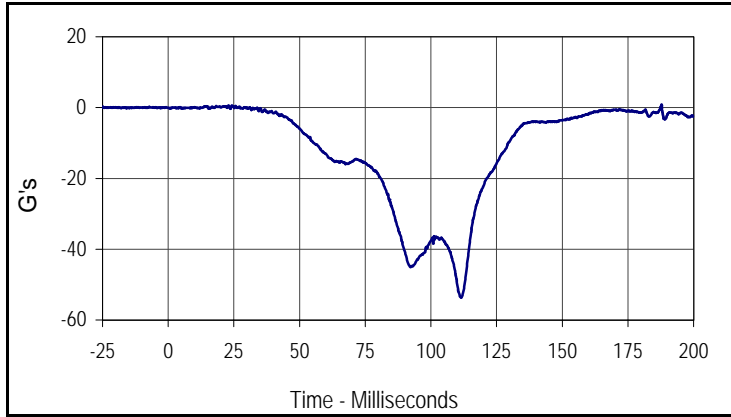
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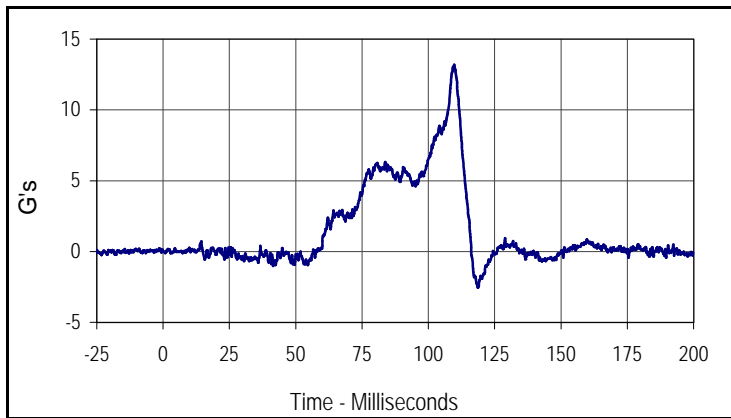
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Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

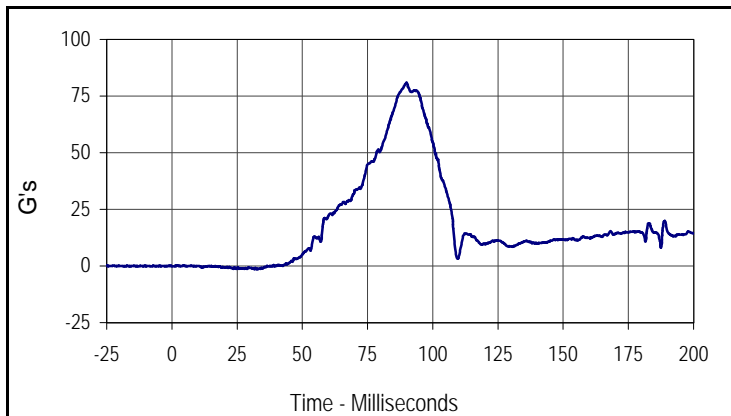
Test Date: 10/28/04  
 NHTSA No.: H55300



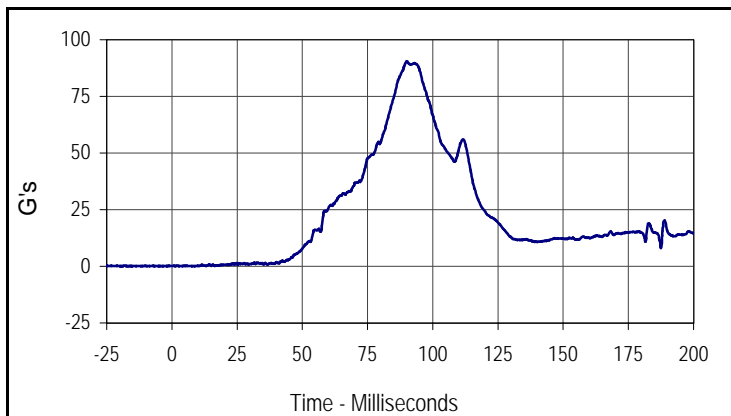
Curve Description			
Right Rear (10 Yr.) Head X			
CURNO	Type	SAE Class	Units
134	FIL	1000	G's
Max	Time	Min	Time
0.8	187.8	-53.6	111.5



Curve Description			
Right Rear (10 Yr.) Head Y			
CURNO	Type	SAE Class	Units
135	FIL	1000	G's
Max	Time	Min	Time
13.2	109.8	-2.6	118.7



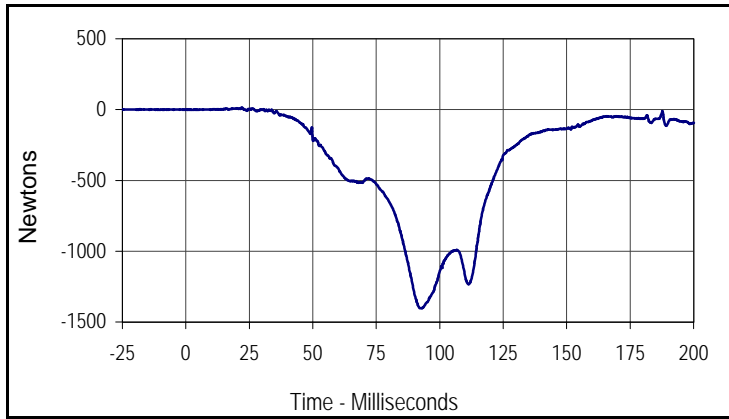
Curve Description			
Right Rear (10 Yr.) Head Z			
CURNO	Type	SAE Class	Units
136	FIL	1000	G's
Max	Time	Min	Time
80.9	89.9	-1.4	31.6



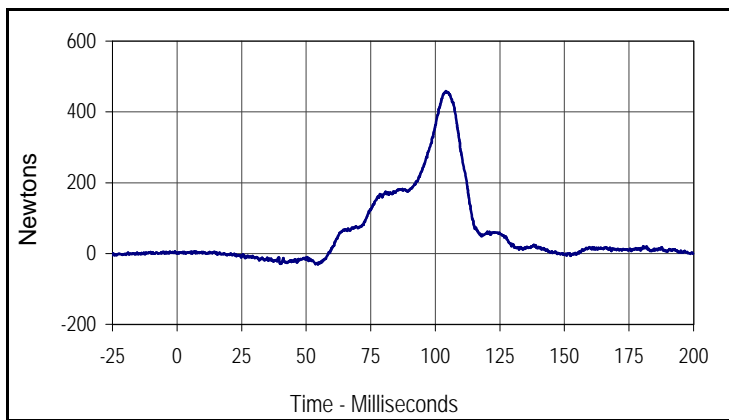
Curve Description			
Right Rear (10 Yr.) Head Resultant			
CURNO	Type	SAE Class	Units
134	RES	1000	G's
Max	Time	Min	Time
90.6	90.1	0.0	4.1

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

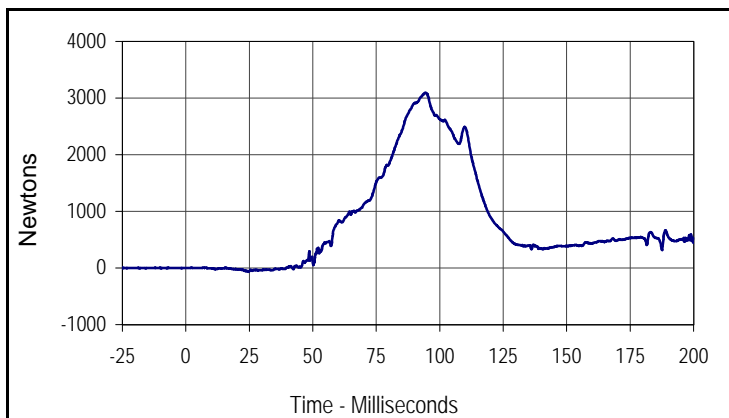
Test Date: 10/28/04  
 NHTSA No.: H55300



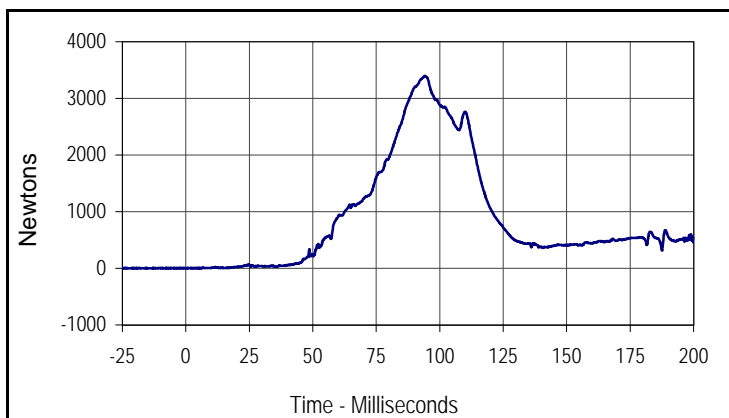
Curve Description			
Right Rear (10 Yr.) Upper Neck Force X			
CURNO	Type	SAE Class	Units
137	FIL	1000	Newtons
Max	Time	Min	Time
13.2	21.9	-1403.8	92.7



Curve Description			
Right Rear (10 Yr.) Upper Neck Force Y			
CURNO	Type	SAE Class	Units
138	FIL	1000	Newtons
Max	Time	Min	Time
458.5	104.1	-30.8	54.5



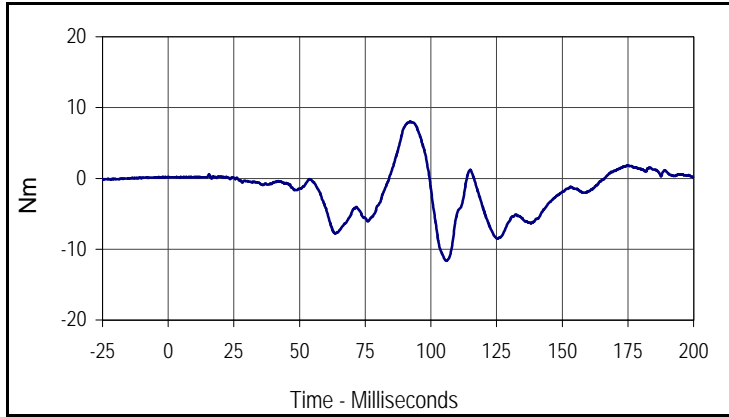
Curve Description			
Right Rear (10 Yr.) Upper Neck Force Z			
CURNO	Type	SAE Class	Units
139	FIL	1000	Newtons
Max	Time	Min	Time
3098.3	94.4	-66.1	24.6



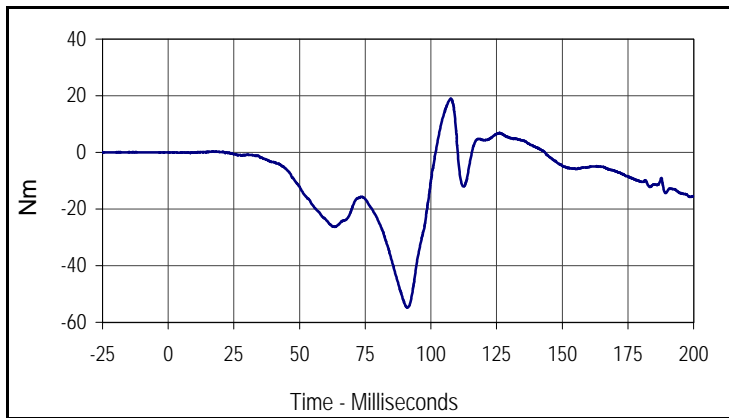
Curve Description			
Right Rear (10 Yr.) Upper Neck Force Res.			
CURNO	Type	SAE Class	Units
137	RES	1000	Newtons
Max	Time	Min	Time
3398.0	94.3	0.5	3.4

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

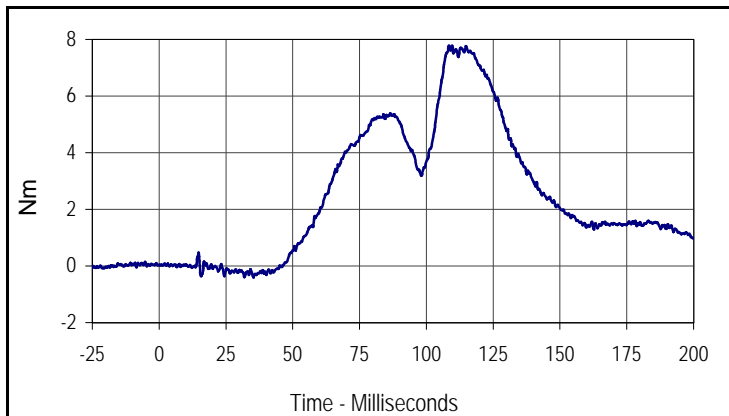
Test Date: 10/28/04  
 NHTSA No.: H55300



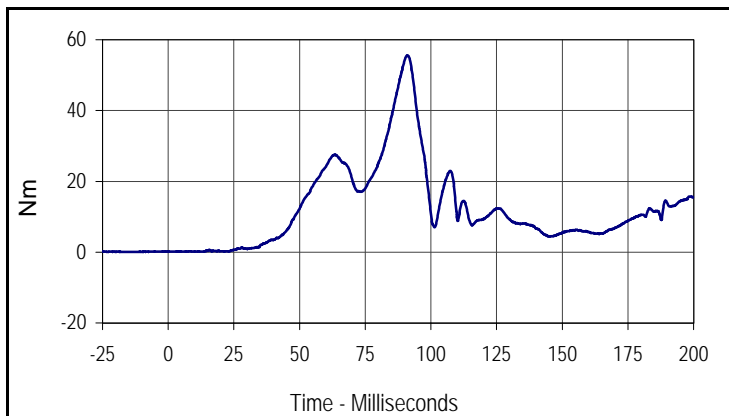
Curve Description			
Right Rear (10 Yr.) Upper Neck Moment X			
CURNO	Type	SAE Class	Units
140	FIL	600	Nm
Max	Time	Min	Time
8.0	92.2	-11.6	105.9



Curve Description			
Right Rear (10 Yr.) Upper Neck Moment Y			
CURNO	Type	SAE Class	Units
141	FIL	600	Nm
Max	Time	Min	Time
18.9	107.6	-54.8	91.0



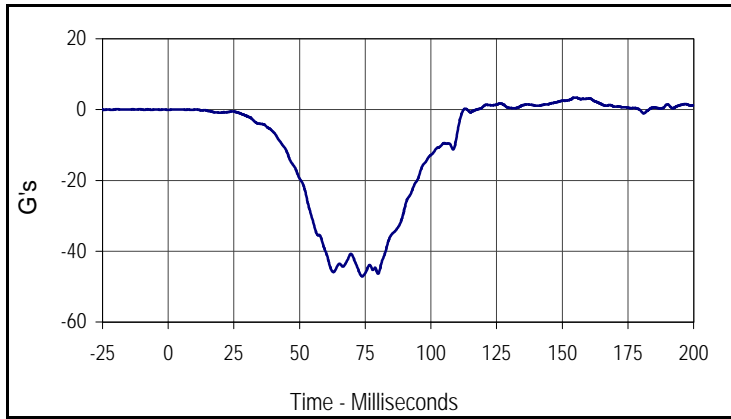
Curve Description			
Right Rear (10 Yr.) Upper Neck Moment Z			
CURNO	Type	SAE Class	Units
142	FIL	600	Nm
Max	Time	Min	Time
7.8	108.5	-0.4	35.3



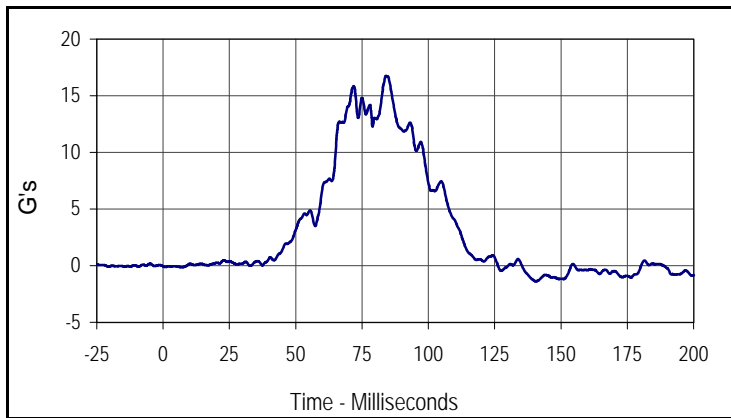
Curve Description			
Right Rear (10 Yr.) Upper Neck Moment Res.			
CURNO	Type	SAE Class	Units
140	RES	600	Nm
Max	Time	Min	Time
55.5	91.0	0.1	13.3

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

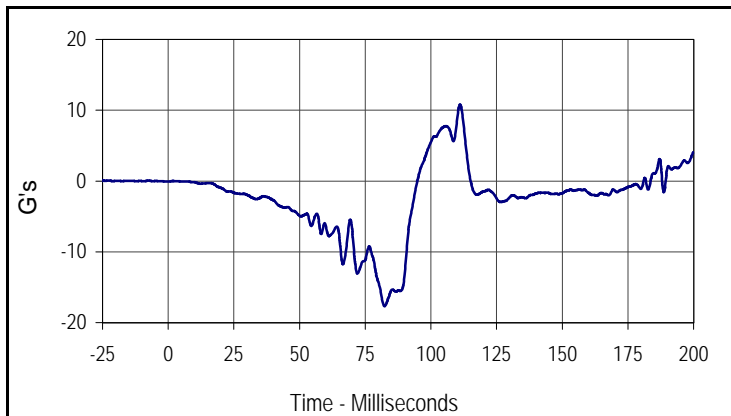
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 NHTSA No.: H55300



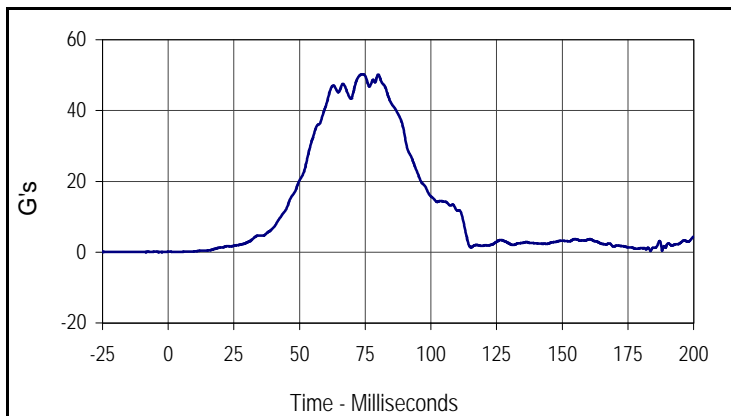
Curve Description			
Right Rear (10 Yr.) Chest X			
CURNO	Type	SAE Class	Units
143	FIL	180	G's
Max	Time	Min	Time
3.4	155.0	-47.1	73.8



Curve Description			
Right Rear (10 Yr.) Chest Y			
CURNO	Type	SAE Class	Units
144	FIL	180	G's
Max	Time	Min	Time
16.7	84.0	-1.4	140.5



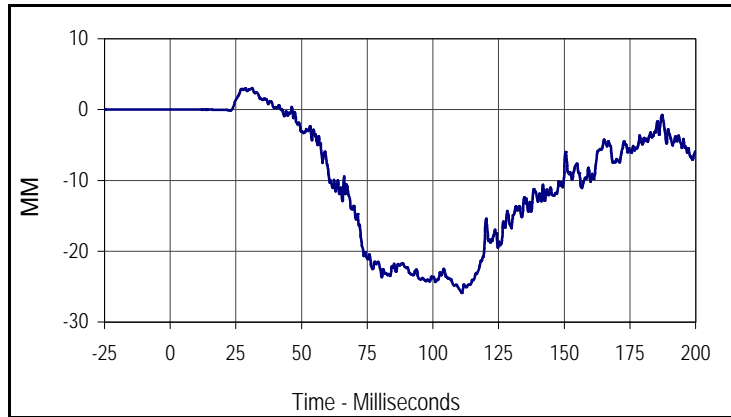
Curve Description			
Right Rear (10 Yr.) Chest Z			
CURNO	Type	SAE Class	Units
145	FIL	180	G's
Max	Time	Min	Time
10.8	111.1	-17.7	82.3



Curve Description			
Right Rear (10 Yr.) Chest Resultant			
CURNO	Type	SAE Class	Units
143	RES	180	G's
Max	Time	Min	Time
50.3	74.1	0.1	3.9

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

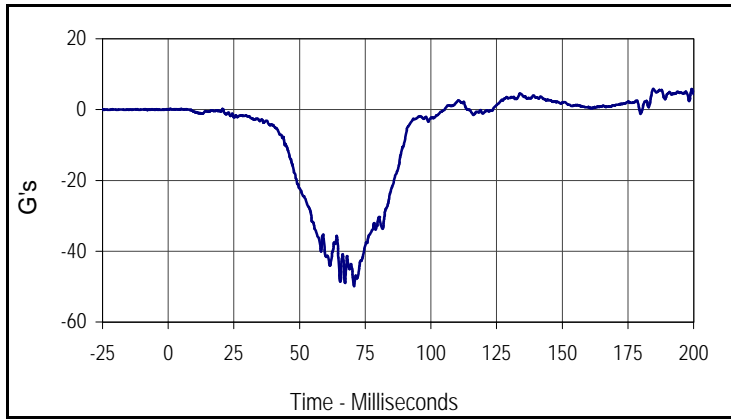
Test Date: 10/28/04  
 NHTSA No.: H55300



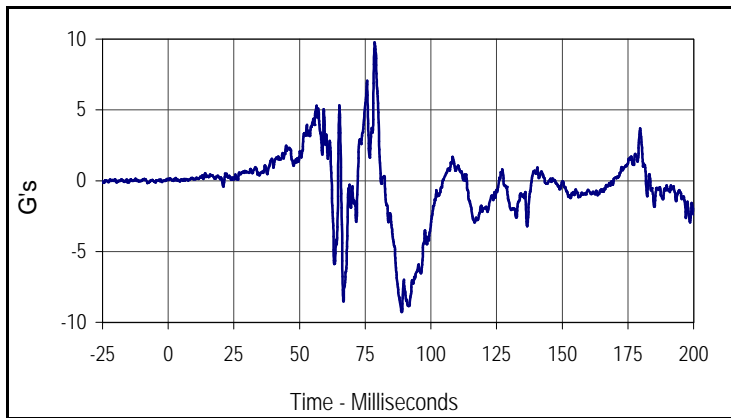
Curve Description			
Right Rear (10 Yr.) Chest Deflection			
CURNO	Type	SAE Class	Units
146	FIL	600	MM
Max	Time	Min	Time
3.0	31.2	-25.9	111.0

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

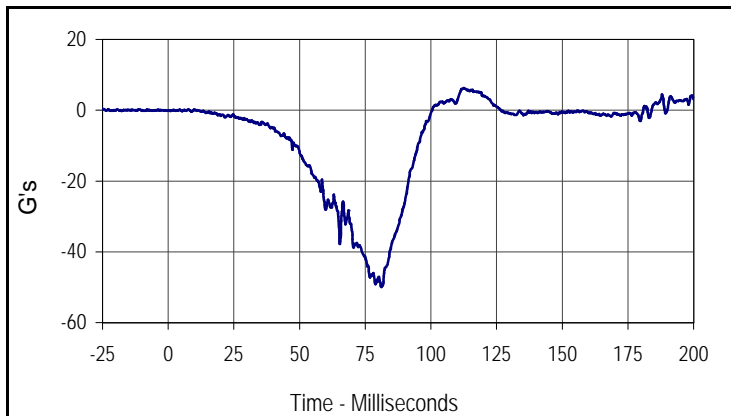
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 NHTSA No.: H55300



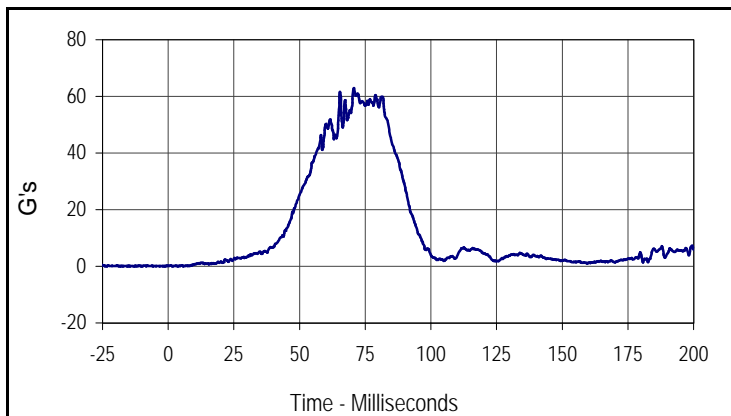
Curve Description			
Right Rear (10 Yr.) Pelvis X			
CURNO	Type	SAE Class	Units
147	FIL	1000	G's
Max	Time	Min	Time
5.9	184.7	-49.9	70.7



Curve Description			
Right Rear (10 Yr.) Pelvis Y			
CURNO	Type	SAE Class	Units
148	FIL	1000	G's
Max	Time	Min	Time
9.8	78.6	-9.3	88.9



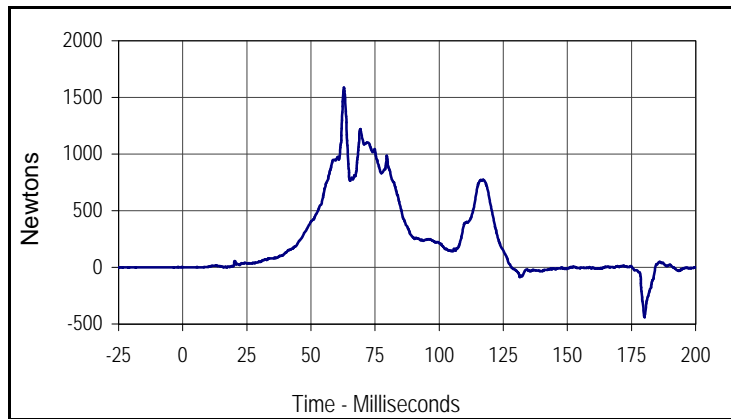
Curve Description			
Right Rear (10 Yr.) Pelvis Z			
CURNO	Type	SAE Class	Units
149	FIL	1000	G's
Max	Time	Min	Time
6.3	112.5	-50.0	81.1



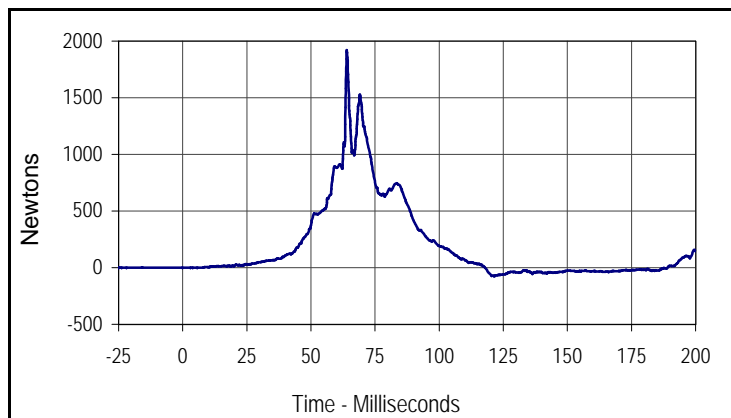
Curve Description			
Right Rear (10 Yr.) Pelvis Resultant			
CURNO	Type	SAE Class	Units
147	RES	1000	G's
Max	Time	Min	Time
62.9	70.7	0.0	1.8

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 10/28/04  
 NHTSA No.: H55300



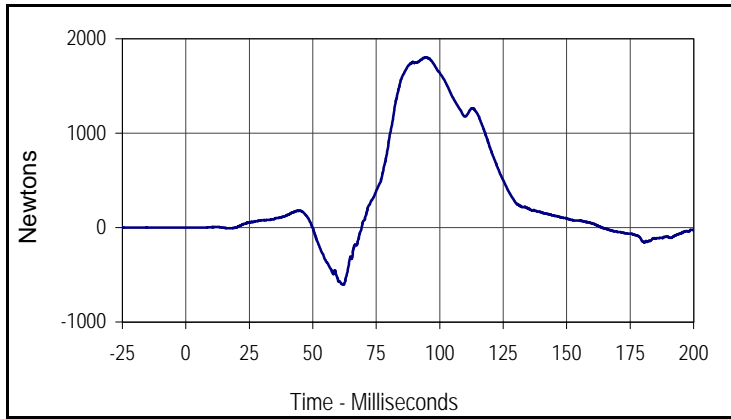
Curve Description			
Right Rear (10 Yr.) Left Femur Force			
CURNO	Type	SAE Class	Units
150	FIL	600	Newtons
Max	Time	Min	Time
1588.1	62.9	-440.2	180.1



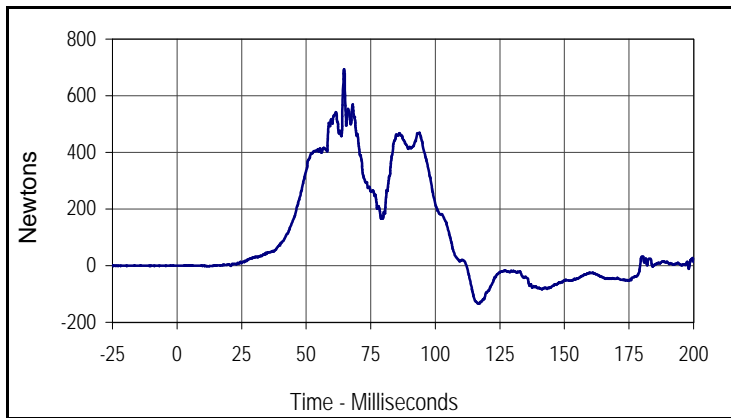
Curve Description			
Right Rear (10 Yr.) Right Femur Force			
CURNO	Type	SAE Class	Units
151	FIL	600	Newtons
Max	Time	Min	Time
1921.5	64.0	-75.0	121.5

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

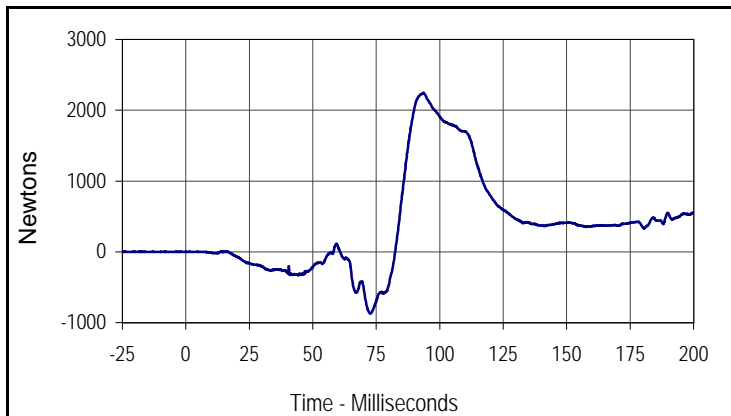
Test Date: 10/28/04  
 NHTSA No.: H55300



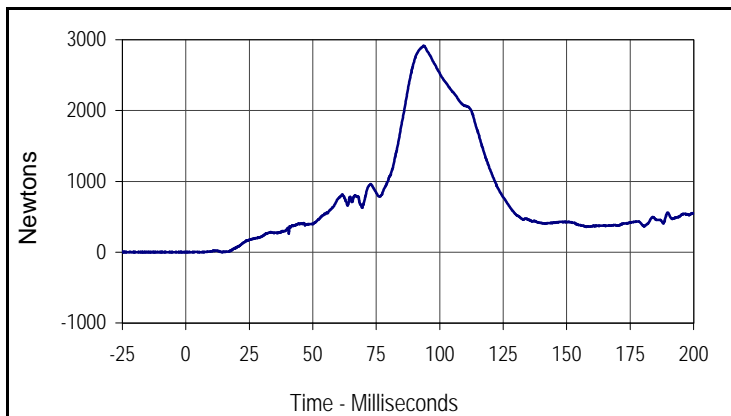
Curve Description			
Right Rear (10 Yr.) Lumbar Force X			
CURNO	Type	SAE Class	Units
152	FIL	1000	Newtons
Max	Time	Min	Time
1803.1	94.5	-604.0	61.7



Curve Description			
Right Rear (10 Yr.) Lumbar Force Y			
CURNO	Type	SAE Class	Units
153	FIL	1000	Newtons
Max	Time	Min	Time
693.7	64.7	-135.0	117.0



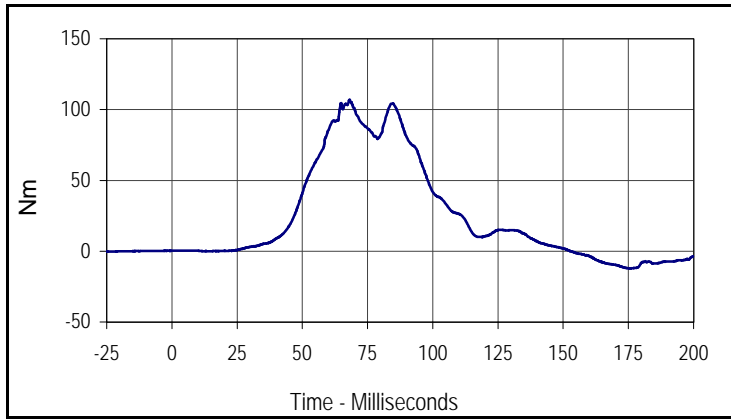
Curve Description			
Right Rear (10 Yr.) Lumbar Force Z			
CURNO	Type	SAE Class	Units
154	FIL	1000	Newtons
Max	Time	Min	Time
2243.7	93.6	-872.6	72.8



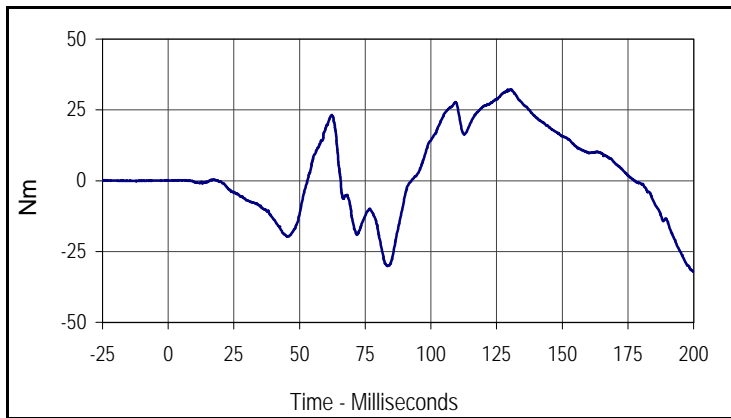
Curve Description			
Right Rear (10 Yr.) Lumbar Force Resultant			
CURNO	Type	SAE Class	Units
152	RES	1000	Newtons
Max	Time	Min	Time
2912.1	93.6	0.2	2.5

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

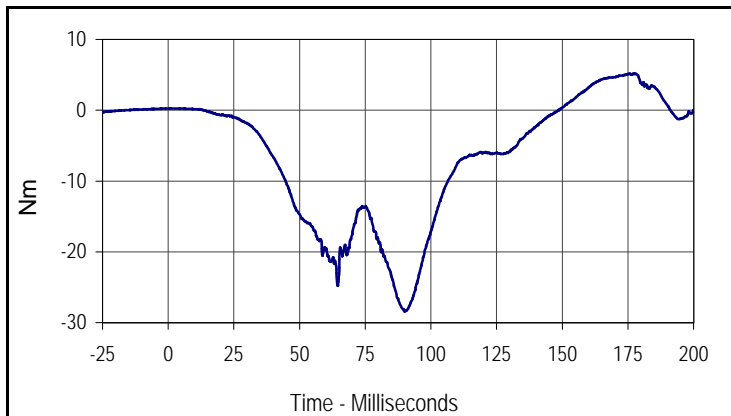
Test Date: 10/28/04  
 NHTSA No.: H55300



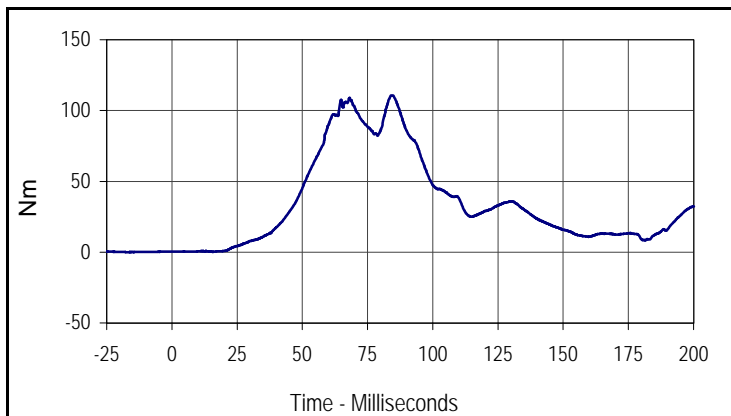
Curve Description			
Right Rear (10 Yr.) Lumbar Moment X			
CURNO	Type	SAE Class	Units
155	FIL	1000	Nm
Max	Time	Min	Time
106.9	68.1	-12.4	175.7



Curve Description			
Right Rear (10 Yr.) Lumbar Moment Y			
CURNO	Type	SAE Class	Units
156	FIL	1000	Nm
Max	Time	Min	Time
32.2	130.3	-32.1	200.0



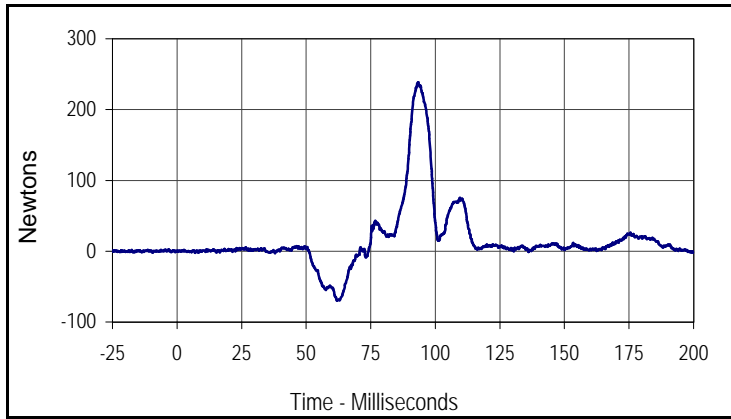
Curve Description			
Right Rear (10 Yr.) Lumbar Moment Z			
CURNO	Type	SAE Class	Units
157	FIL	1000	Nm
Max	Time	Min	Time
5.2	175.6	-28.5	90.0



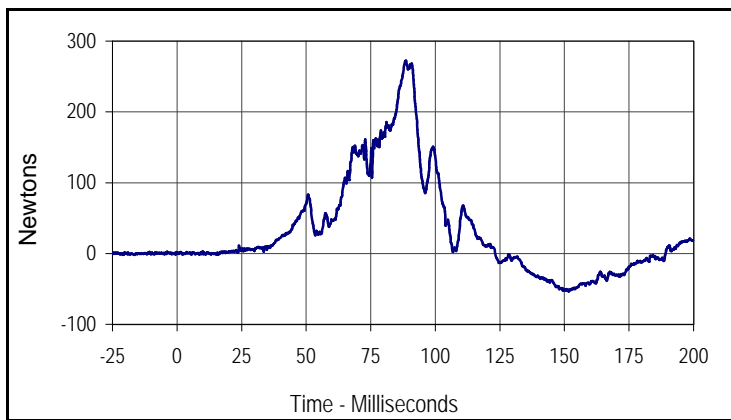
Curve Description			
Right Rear (10 Yr.) Lumbar Moment Resultant			
CURNO	Type	SAE Class	Units
155	RES	1000	Nm
Max	Time	Min	Time
110.7	84.1	0.2	15.6

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

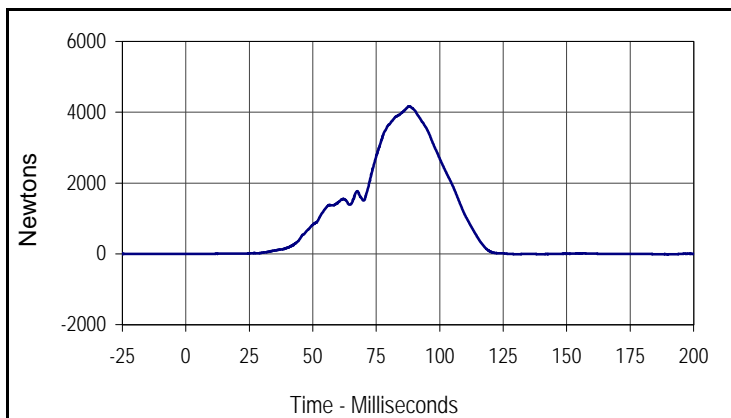
Test Date: 10/28/04  
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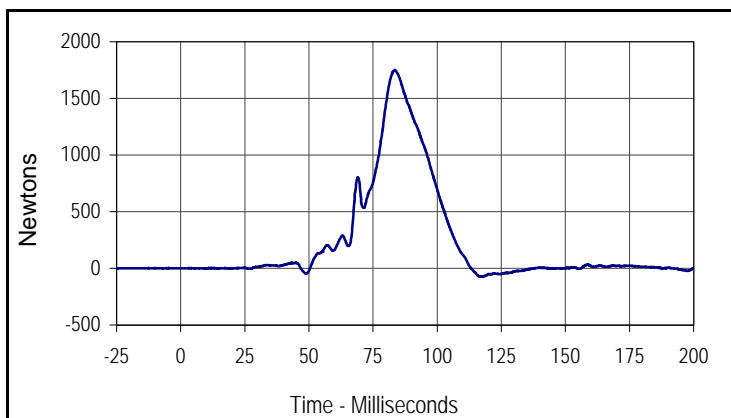
Curve Description			
Right Rear (10 Yr.) Left Clavicle Force X			
CURNO	Type	SAE Class	Units
158	FIL	1000	Newtons
Max	Time	Min	Time
238.7	93.3	-69.8	61.9



Curve Description			
Right Rear (10 Yr.) Left Clavicle Force Z			
CURNO	Type	SAE Class	Units
159	FIL	1000	Newtons
Max	Time	Min	Time
272.4	88.5	-53.6	151.7



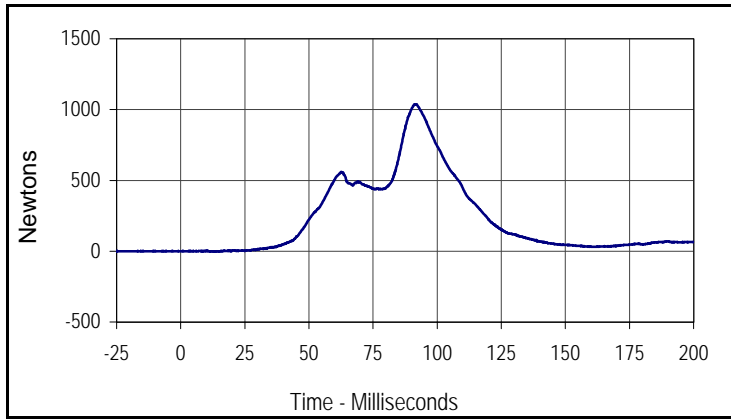
Curve Description			
Right Rear (10 Yr.) Right Clavicle Force X			
CURNO	Type	SAE Class	Units
160	FIL	1000	Newtons
Max	Time	Min	Time
4168.5	87.9	-16.6	189.8



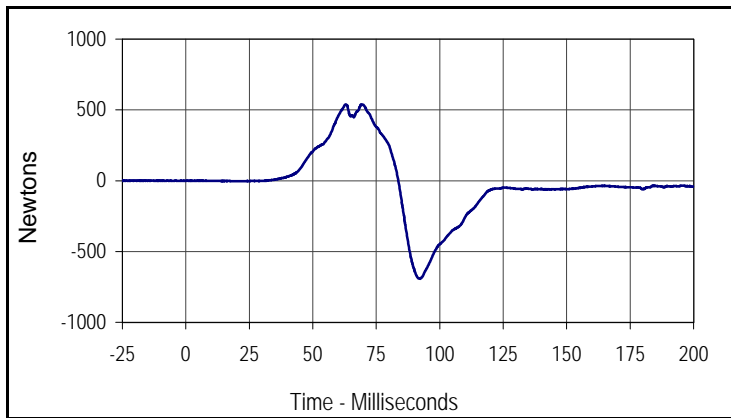
Curve Description			
Right Rear (10 Yr.) Right Clavicle Force Z			
CURNO	Type	SAE Class	Units
161	FIL	1000	Newtons
Max	Time	Min	Time
1751.4	83.5	-72.7	116.9

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

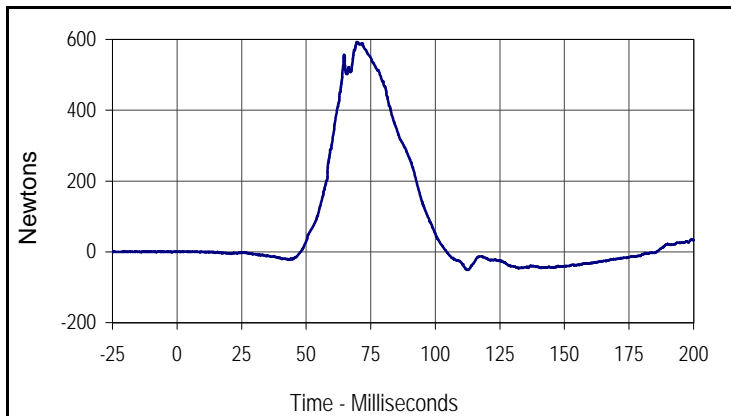
Test Date: 10/28/04  
 NHTSA No.: H55300



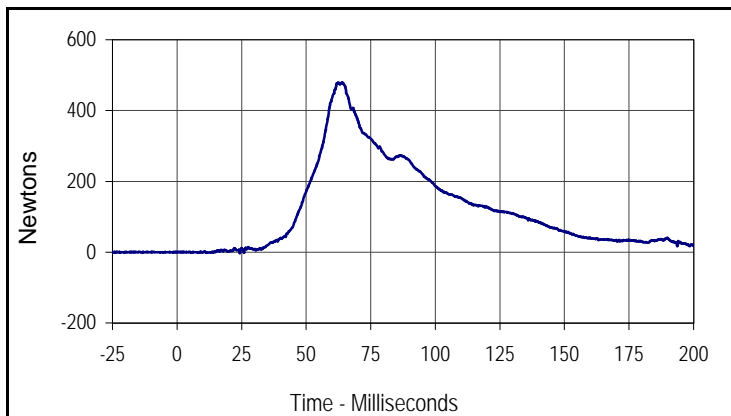
Curve Description			
Right Rear (10 Yr.) Left Upper ASIS Force			
CURNO	Type	SAE Class	Units
162	FIL	1000	Newtons
Max	Time	Min	Time
1037.5	91.5	-2.5	12.9



Curve Description			
Right Rear (10 Yr.) Left Lower ASIS Force			
CURNO	Type	SAE Class	Units
163	FIL	1000	Newtons
Max	Time	Min	Time
540.1	63.0	-692.3	92.3



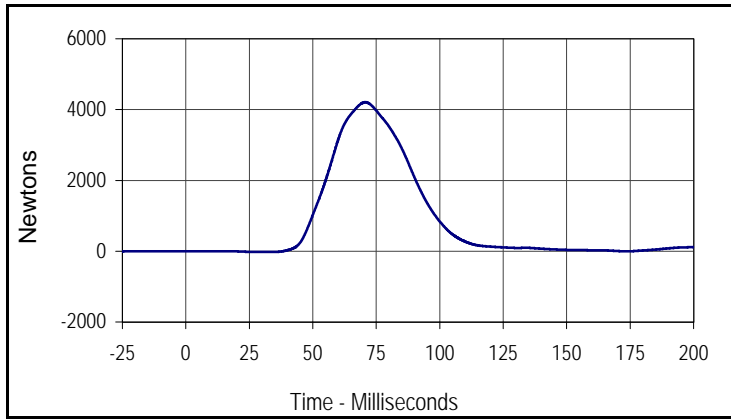
Curve Description			
Right Rear (10 Yr.) Right Upper ASIS Force			
CURNO	Type	SAE Class	Units
164	FIL	1000	Newtons
Max	Time	Min	Time
592.4	69.6	-51.2	112.8



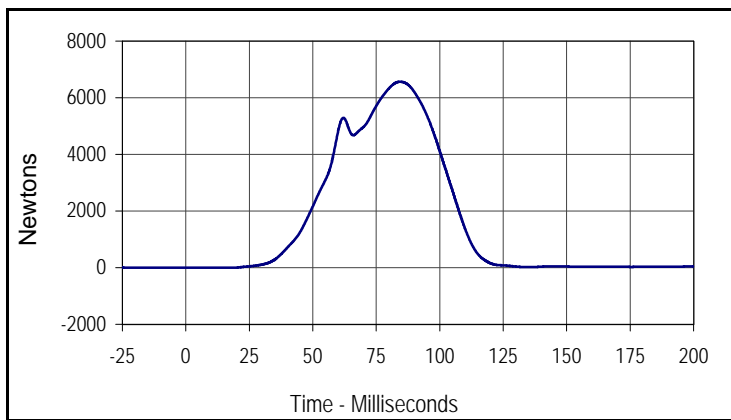
Curve Description			
Right Rear (10 Yr.) Right Lower ASIS Force			
CURNO	Type	SAE Class	Units
165	FIL	1000	Newtons
Max	Time	Min	Time
479.6	63.8	-3.3	24.3

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

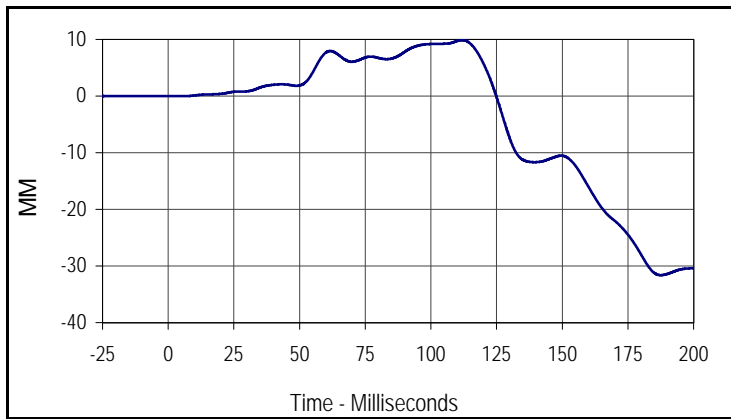
Test Date: 10/28/04  
 NHTSA No.: H55300



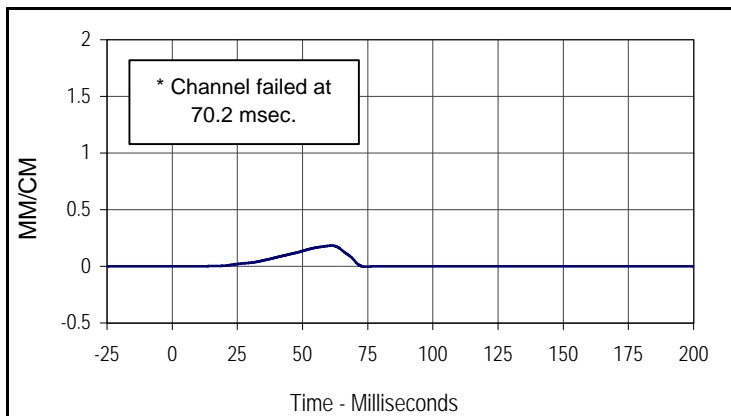
Curve Description			
Right Rear (10 Yr.) Lap Belt Force			
CURNO	Type	SAE Class	Units
166	FIL	60	Newtons
Max	Time	Min	Time
4206.6	70.6	-22.6	26.3



Curve Description			
Right Rear (10 Yr.) Shoulder Belt Force			
CURNO	Type	SAE Class	Units
167	FIL	60	Newtons
Max	Time	Min	Time
6565.2	84.4	-2.1	18.1



Curve Description			
Right Rear (10 Yr.) Shoulder Belt Pullout			
CURNO	Type	SAE Class	Units
168	FIL	60	MM
Max	Time	Min	Time
9.9	111.9	-31.6	187.5

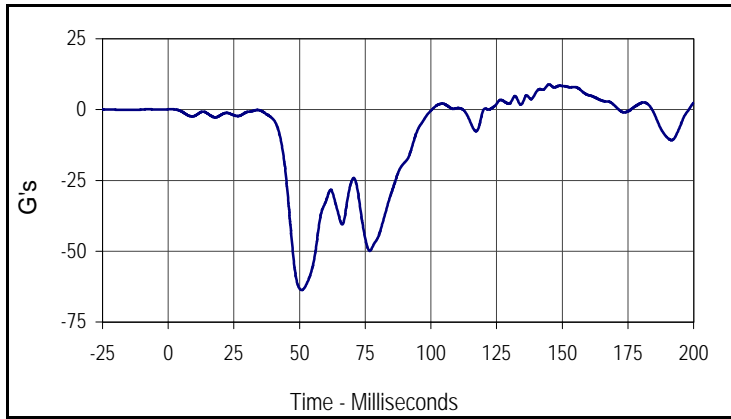


Curve Description			
Right Rear (10 Yr.) Shoulder Belt Elongation			
CURNO	Type	SAE Class	Units
169	FIL	60	MM/CM
Max	Time	Min	Time
0.18	61.1	0.00	74.2

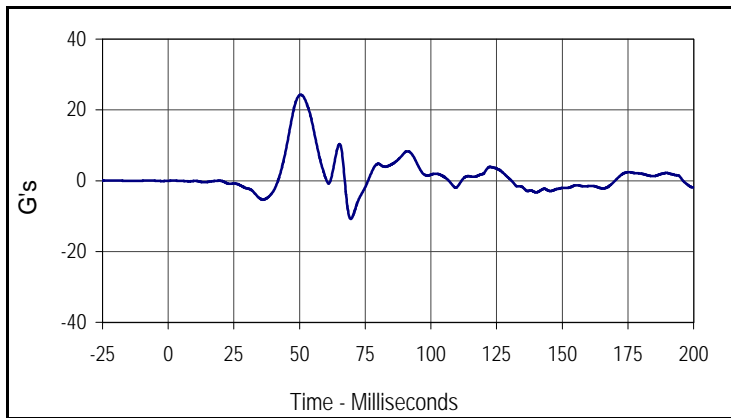
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Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

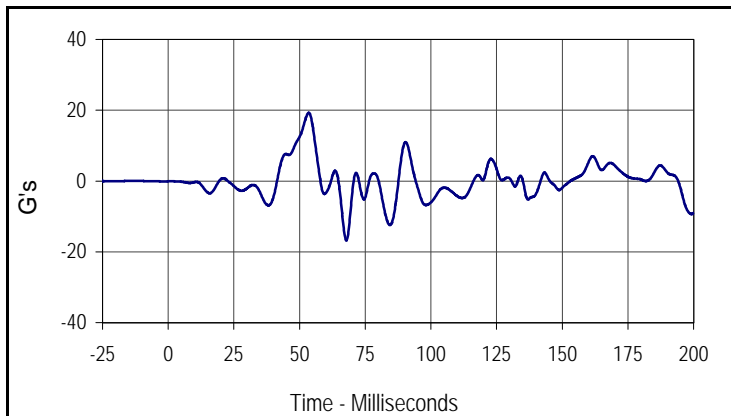
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 NHTSA No.: H55300



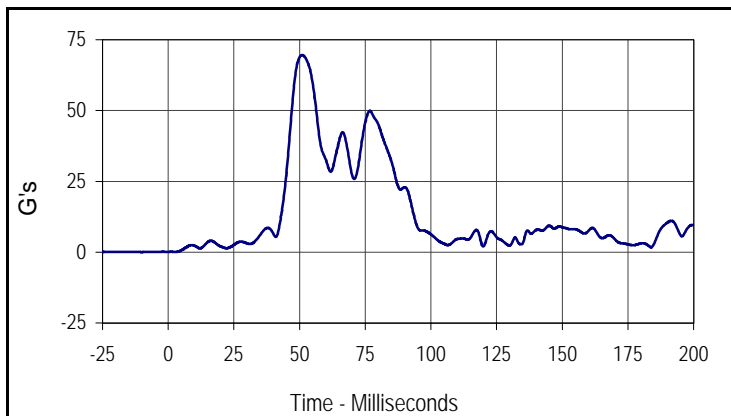
Curve Description			
Right Rear (10 Yr.) Car Seat X			
CURNO	Type	SAE Class	Units
170	FIL	60	G's
Max	Time	Min	Time
8.9	145.0	-63.7	50.8



Curve Description			
Right Rear (10 Yr.) Car Seat Y			
CURNO	Type	SAE Class	Units
171	FIL	60	G's
Max	Time	Min	Time
24.3	50.5	-10.8	69.5



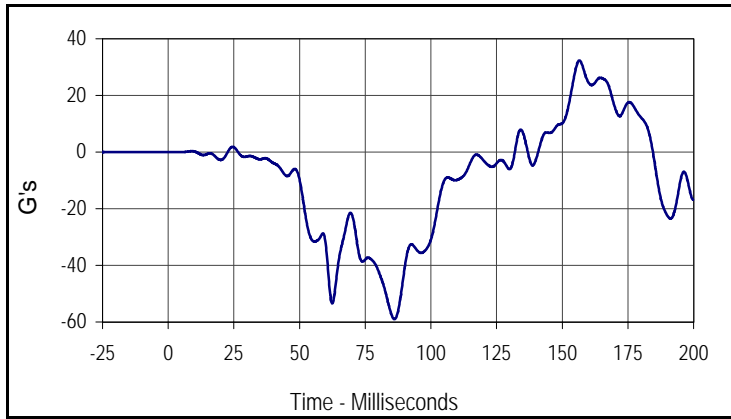
Curve Description			
Right Rear (10 Yr.) Car Seat Z			
CURNO	Type	SAE Class	Units
172	FIL	60	G's
Max	Time	Min	Time
19.3	53.5	-16.7	67.8



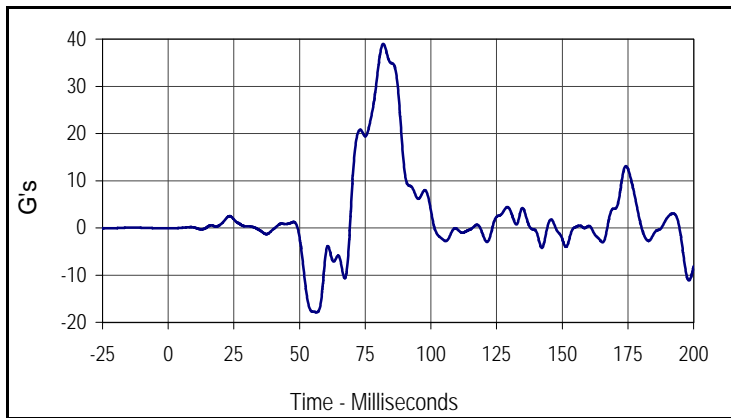
Curve Description			
Right Rear (10 Yr.) Car Seat Resultant			
CURNO	Type	SAE Class	Units
170	RES	60	G's
Max	Time	Min	Time
69.6	51.0	0.1	2.9

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

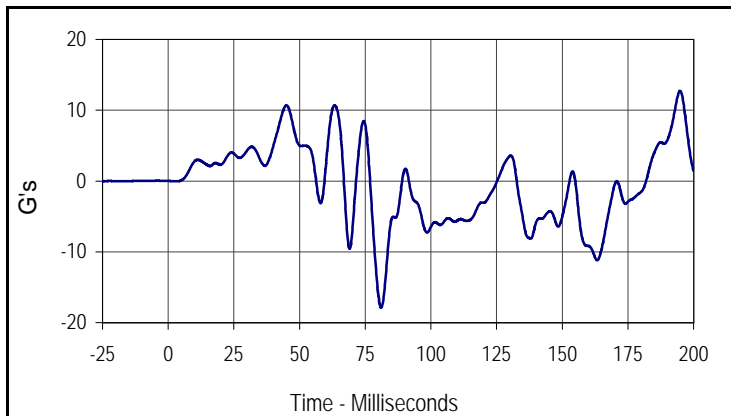
Test Date: 10/28/04  
 NHTSA No.: H55300



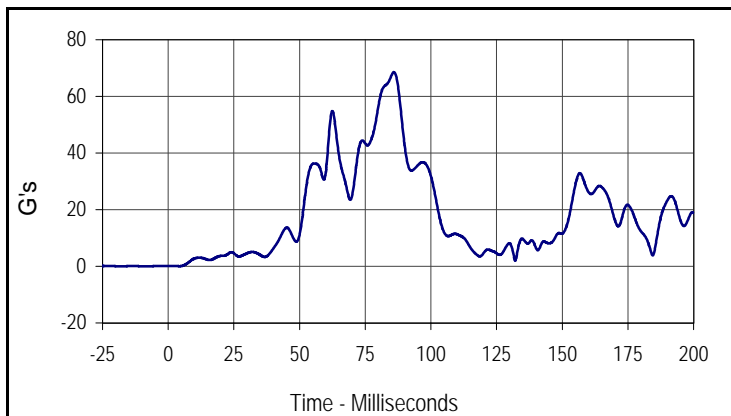
Curve Description			
Right Rear (10 Yr.) Car Seat Seatback X			
CURNO	Type	SAE Class	Units
173	FIL	60	G's
Max	Time	Min	Time
32.4	156.5	-59.0	86.1



Curve Description			
Right Rear (10 Yr.) Car Seat Seatback Y			
CURNO	Type	SAE Class	Units
174	FIL	60	G's
Max	Time	Min	Time
39.0	81.9	-17.9	56.6



Curve Description			
Right Rear (10 Yr.) Car Seat Seatback Z			
CURNO	Type	SAE Class	Units
175	FIL	60	G's
Max	Time	Min	Time
12.7	194.8	-17.9	81.0



Curve Description			
Right Rear (10 Yr.) Car Seat Seatback Resultant			
CURNO	Type	SAE Class	Units
173	RES	60	G's
Max	Time	Min	Time
68.5	85.9	0.0	4.4

SECTION F-4

CHILD DUMMY INSTRUMENTATION INFORMATION

**2005 NHTSA 35mph NCAP  
Instrumentation Data Channel Assignments  
Right Rear Child A.T.D. Serial Number 011 (10 Yr.)  
10/28/04  
2005 Acura RL 4-Door Sedan**

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

E4-1

TR-P24144-01-NC

**2005 NHTSA 35mph NCAP  
Instrumentation Data Channel Assignments  
Right Rear Child A.T.D. Serial Number 011 (10 Yr.)  
10/28/04  
2005 Acura RL 4-Door Sedan**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
158	CLAVICLE FORCE	X	CLFX	Load cell, Clavicle	R.A. Denton	5400J	N
159	CLAVICLE FORCE	Z	CLFY	Load cell, Clavicle	R.A. Denton	5400J	N
160	CLAVICLE FORCE	X	CLRFX	Load cell, Clavicle	R.A. Denton	5410J	N
161	CLAVICLE FORCE	Z	CLRFZ	Load cell, Clavicle	R.A. Denton	5410J	N
162	LEFT ASIS UPPER	X	10LUASIS	Load cell, ASIS	R.A. Denton	3475	N
163	LEFT ASIS LOWER	X	10LLASIS	Load cell, ASIS	R.A. Denton	3475	N
164	RIGHT ASIS UPPER	X	10RUASIS	Load cell, ASIS	R.A. Denton	3476	N
165	RIGHT ASIS LOWER	X	10RLASIS	Load cell, ASIS	R.A. Denton	3476	N
166	LAP BELT FORCE	X	BL168	Load cell, Seat belt	First Tech	IF-964	N
167	SHOULDER BELT FORCE	X	BL169	Load cell, Seat belt	First Tech	IF-964	N
168	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	MM
169	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM
170	CAR SEAT	X	KETX4A	Accel.,1/2 bridge	Endevco	7264-200	G
171	CAR SEAT	Y	KETX4B	Accel.,1/2 bridge	Endevco	7264-200	G
172	CAR SEAT	Z	KETX4C	Accel.,1/2 bridge	Endevco	7264-200	G
173	CAR SEAT SEATBACK	X	KETX4A	Accel.,1/2 bridge	Endevco	7264-200	G
174	CAR SEAT SEATBACK	Y	KETX4B	Accel.,1/2 bridge	Endevco	7264-200	G
175	CAR SEAT SEATBACK	Z	KETX4C	Accel.,1/2 bridge	Endevco	7264-200	G

SECTION F-5

CHILD DUMMY CALIBRATION INFORMATION

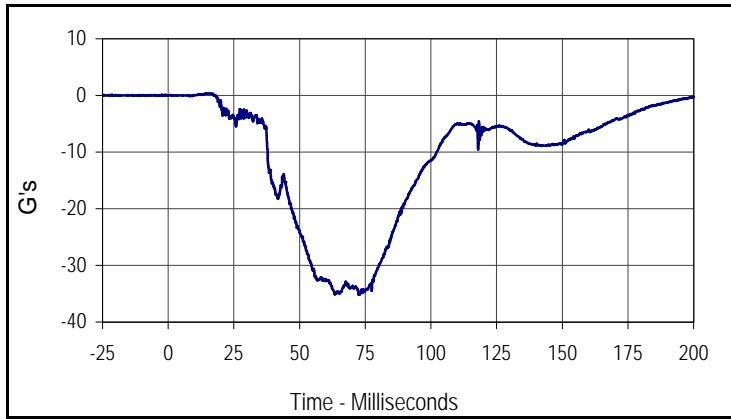
**HYBRID III 10 YEAR OLD S/N 011 CALIBRATED BY VRTC PRIOR TO TEST PROGRAM**

APPENDIX G

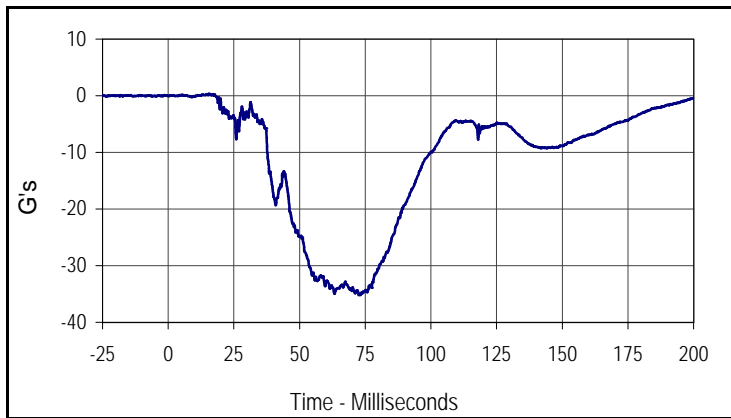
NAAH DATA

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

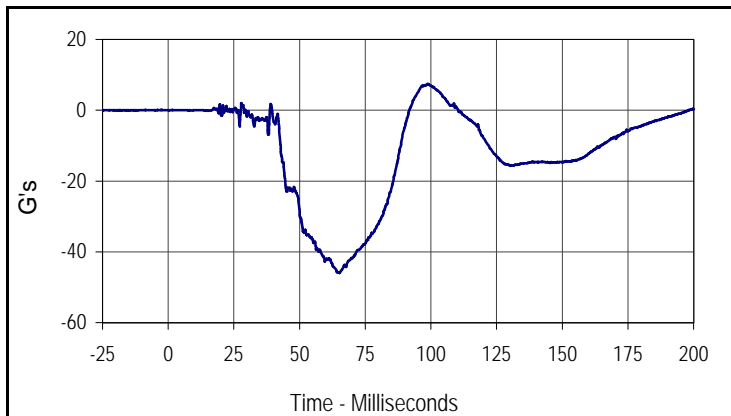
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Driver Head Primary X			
CURNO	Type	SAE Class	Units
045	FIL	1000	G's
Max	Time	Min	Time
0.4	14.6	-35.2	72.6



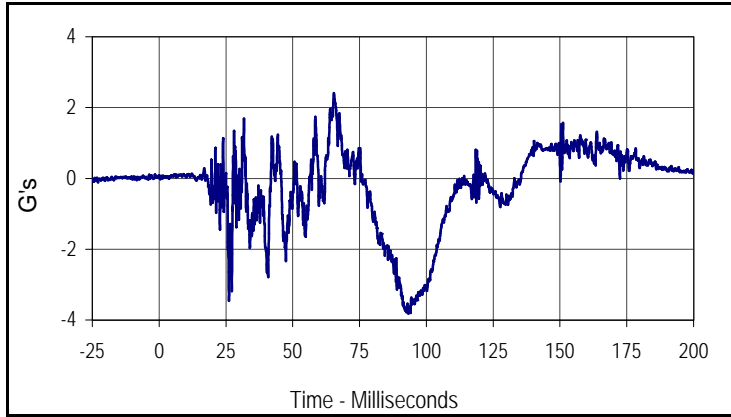
Curve Description			
Driver NAAH Yarm-X			
CURNO	Type	SAE Class	Units
178	FIL	1000	G's
Max	Time	Min	Time
0.4	15.5	-35.2	72.6



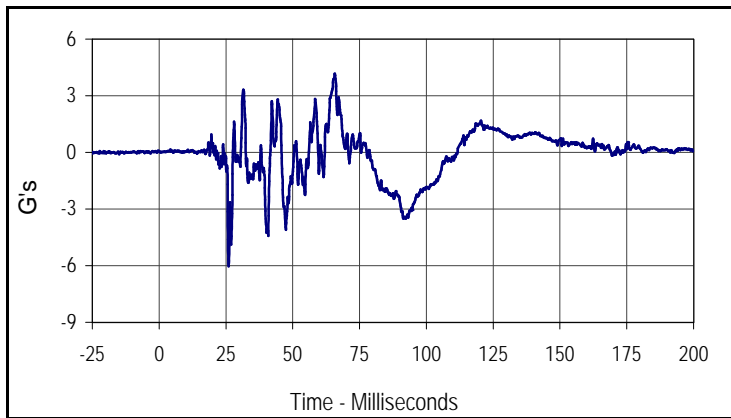
Curve Description			
Driver NAAH Zarm-X			
CURNO	Type	SAE Class	Units
180	FIL	1000	G's
Max	Time	Min	Time
7.4	98.8	-45.9	65.2

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

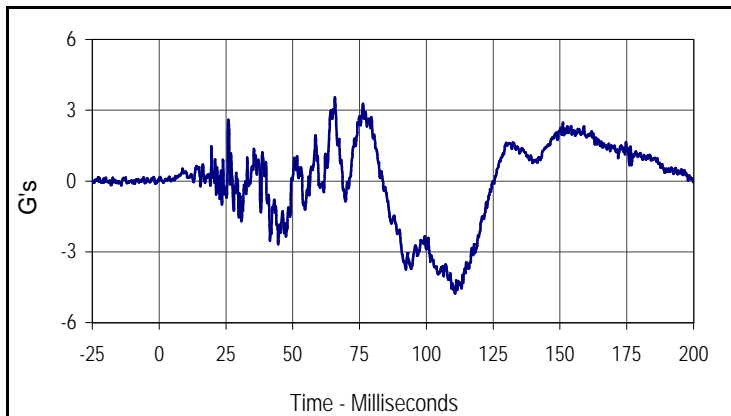
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Driver Head Primary Y			
CURNO	Type	SAE Class	Units
046	FIL	1000	G's
Max	Time	Min	Time
2.4	65.4	-3.8	93.3



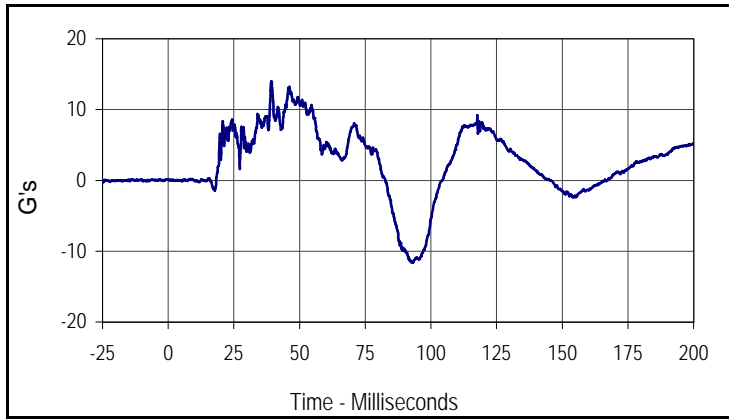
Curve Description			
Driver NAAH Xarm-Y			
CURNO	Type	SAE Class	Units
176	FIL	1000	G's
Max	Time	Min	Time
4.2	65.8	-6.0	26.0



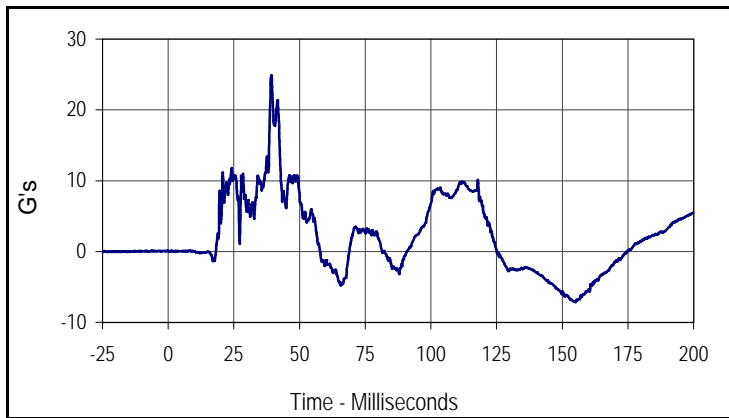
Curve Description			
Driver NAAH Zarm-Y			
CURNO	Type	SAE Class	Units
181	FIL	1000	G's
Max	Time	Min	Time
3.5	65.8	-4.8	110.8

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

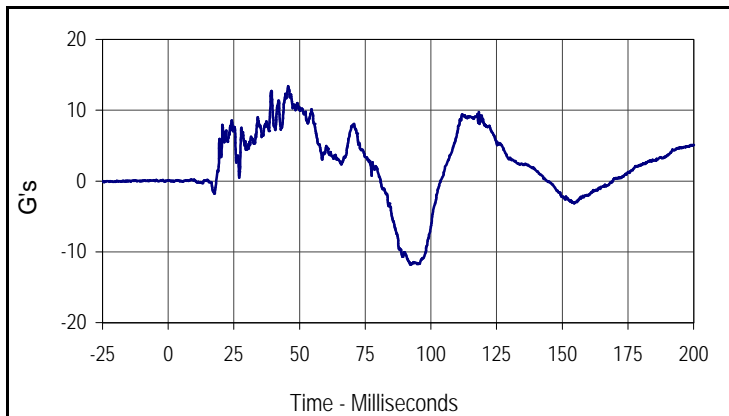
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Driver Head Primary Z			
CURNO	Type	SAE Class	Units
047	FIL	1000	G's
Max	Time	Min	Time
14.0	39.3	-11.6	93.3



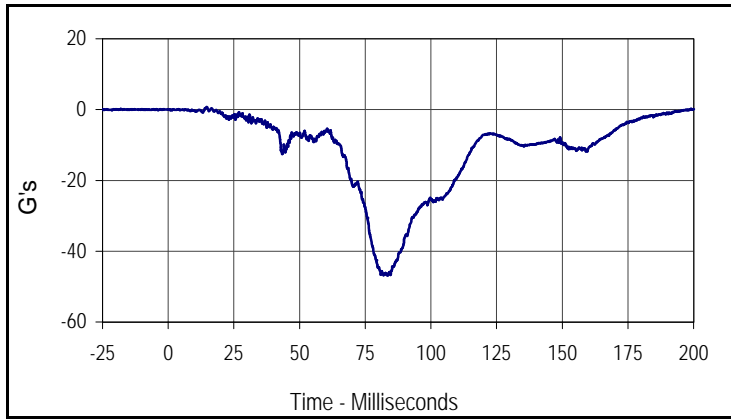
Curve Description			
Driver NAAH Xarm-Z			
CURNO	Type	SAE Class	Units
177	FIL	1000	G's
Max	Time	Min	Time
24.9	39.3	-7.2	155.1



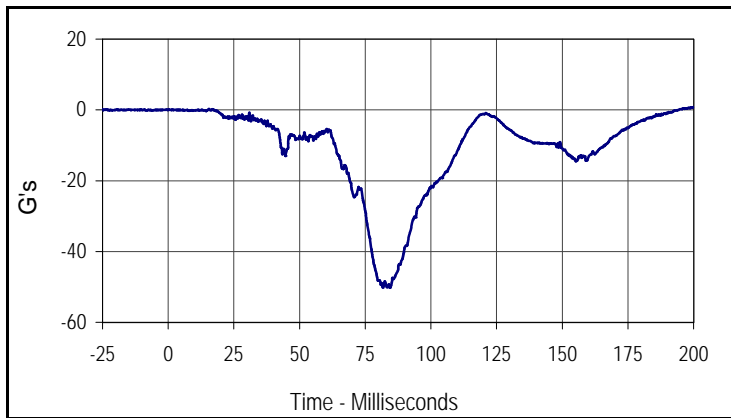
Curve Description			
Driver NAAH Yarm-Z			
CURNO	Type	SAE Class	Units
179	FIL	1000	G's
Max	Time	Min	Time
13.4	45.7	-11.8	92.2

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

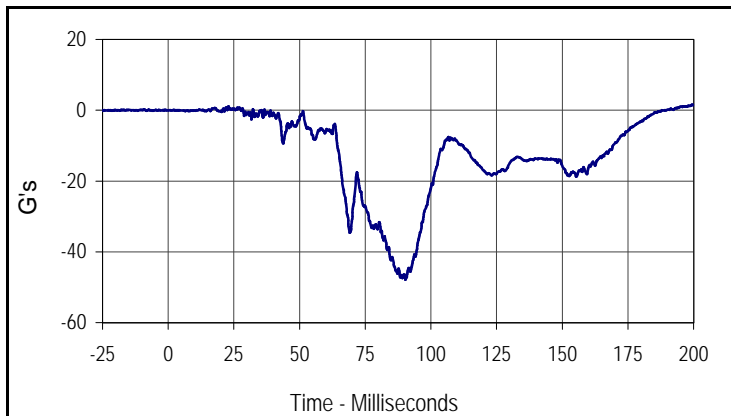
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Passenger Head Primary X			
CURNO	Type	SAE Class	Units
045	FIL	1000	G's
Max	Time	Min	Time
0.7	14.6	-46.9	83.6



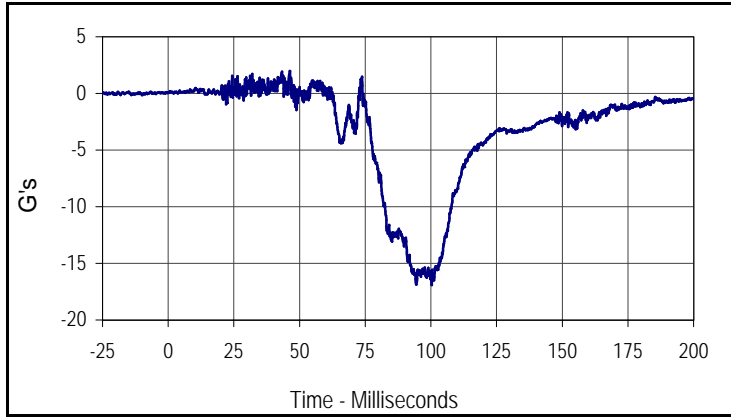
Curve Description			
Passenger NAAH Yarm-X			
CURNO	Type	SAE Class	Units
184	FIL	1000	G's
Max	Time	Min	Time
0.8	200.0	-50.3	84.5



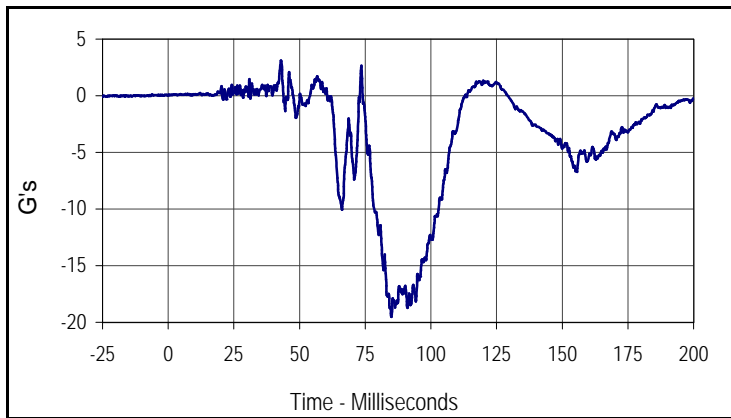
Curve Description			
Passenger NAAH Zarm-X			
CURNO	Type	SAE Class	Units
186	FIL	1000	G's
Max	Time	Min	Time
1.5	199.5	-47.9	90.3

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

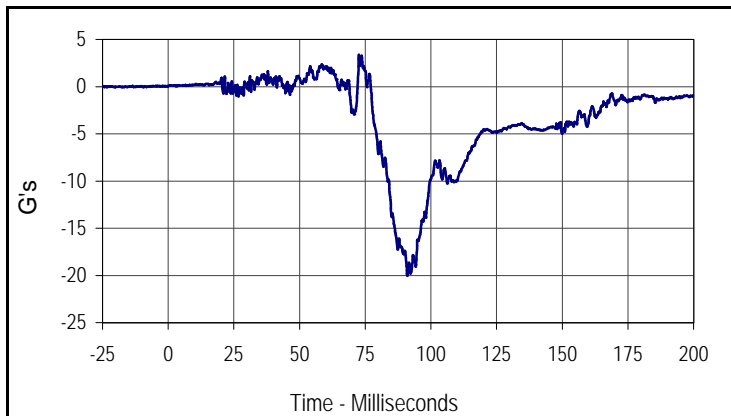
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Passenger Head Primary Y			
CURNO	Type	SAE Class	Units
046	FIL	1000	G's
Max	Time	Min	Time
2.0	46.3	-16.9	100.3



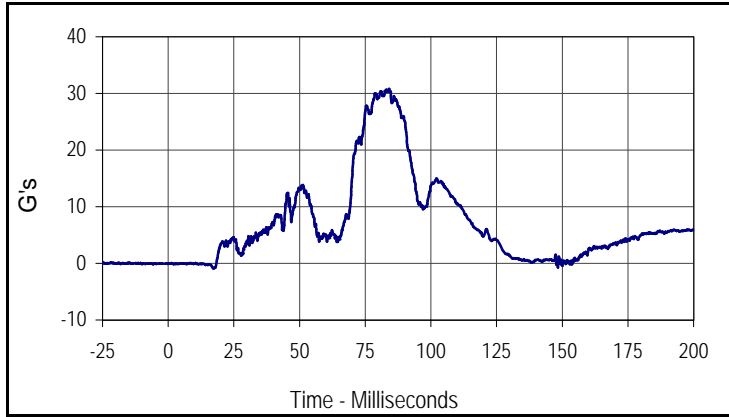
Curve Description			
Passenger NAAH Xarm-Y			
CURNO	Type	SAE Class	Units
182	FIL	1000	G's
Max	Time	Min	Time
3.1	43.0	-19.5	85.0



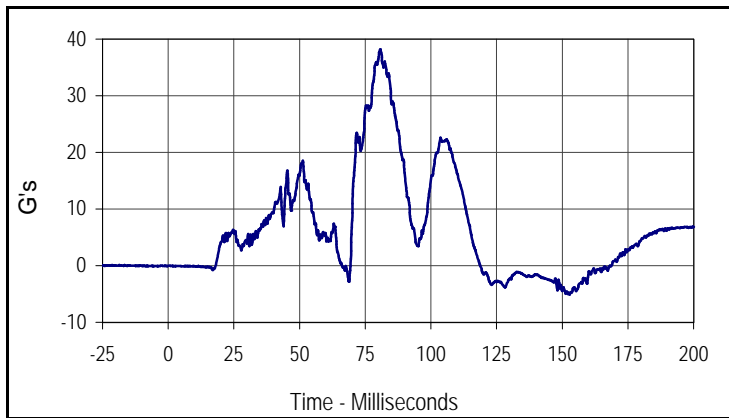
Curve Description			
Passenger NAAH Zarm-Y			
CURNO	Type	SAE Class	Units
187	FIL	1000	G's
Max	Time	Min	Time
3.4	72.6	-20.0	91.1

Test Vehicle: 2005 Acura RL 4-Door Sedan  
 Test Program: 2005 NHTSA 35mph NCAP

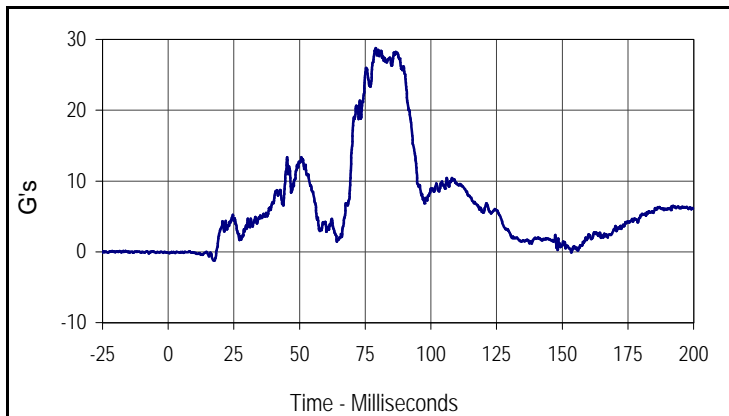
Test Date: 10/28/04  
 NHTSA No.: H55300



Curve Description			
Passenger Head Primary Z			
CURNO	Type	SAE Class	Units
047	FIL	1000	G's
Max	Time	Min	Time
30.8	84.1	-0.9	17.3



Curve Description			
Passenger NAAH Xarm-Z			
CURNO	Type	SAE Class	Units
183	FIL	1000	G's
Max	Time	Min	Time
38.2	80.7	-5.1	152.7



Curve Description			
Passenger NAAH Yarm-Z			
CURNO	Type	SAE Class	Units
185	FIL	1000	G's
Max	Time	Min	Time
28.8	79.0	-1.2	17.5