

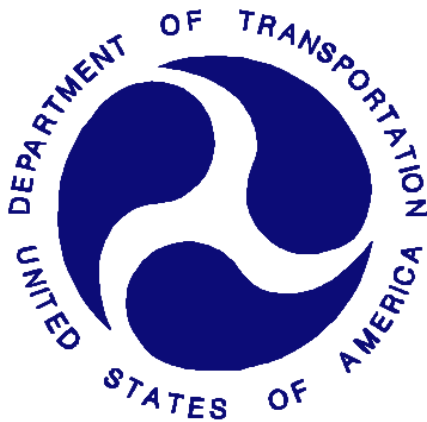
REPORT NUMBER TR-P25001-16-NC

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

**VOLKSWAGEN OF AMERICA, INC.
2005 VOLKSWAGEN NEW JETTA 2.5 4-DOOR SEDAN**

NHTSA NUMBER: M55800

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



APRIL 5, 2005

FINAL REPORT

**PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
RULEMAKING
OFFICE OF CRASHWORTHINESS STANDARDS
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400 SEVENTH STREET, SW, ROOM 5311
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Technical Report Documentation Page

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16. Abstract A 35 mph (56.3 km/h) frontal barrier impact was conducted on a 2005 Volkswagen Jetta 2.5 4-Door Sedan at Karco Engineering, LLC on April 5, 2005. This test was conducted to obtain data indicant of FMVSS 208, 212, 219 (partial), 301, and footwell intrusion performance. The impact velocity was 55.90 km/h. The ambient temperature at the barrier face at the time of impact was 21.1 degrees Celcius. The vehicle's maximum post-test static crush was 425 mm near the center of the vehicle. The test vehicle was equipped with a 3-point continuous belt system and second generation supplemental airbags in both front outboard seating positions. With respect to FMVSS 208 "Occupant Crash Protection", the occupant injury criteria summary is as follows:																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%;">Measurement Description</th> <th style="width: 15%;">Units</th> <th style="width: 15%;">Threshold</th> <th style="width: 15%;">Driver ATD</th> <th style="width: 20%;">Passenger ATD</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₃₆)</td> <td>N/A</td> <td>1000</td> <td style="background-color: yellow;">543.6</td> <td style="background-color: yellow;">524.7</td> </tr> <tr> <td>Max. Chest Accel. (3 msec Clip)</td> <td>G's</td> <td>60</td> <td style="background-color: yellow;">53.5</td> <td style="background-color: yellow;">55.1</td> </tr> <tr> <td>Left Femur Force</td> <td>Newtons</td> <td>10008</td> <td style="background-color: yellow;">-3146.0</td> <td style="background-color: yellow;">-3720.0</td> </tr> <tr> <td>Right Femur Force</td> <td>Newtons</td> <td>10008</td> <td style="background-color: yellow;">-4663.3</td> <td style="background-color: yellow;">-1281.2</td> </tr> </tbody> </table>				Measurement Description	Units	Threshold	Driver ATD	Passenger ATD	Head Injury Criteria (HIC ₃₆)	N/A	1000	543.6	524.7	Max. Chest Accel. (3 msec Clip)	G's	60	53.5	55.1	Left Femur Force	Newtons	10008	-3146.0	-3720.0	Right Femur Force	Newtons	10008	-4663.3	-1281.2
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SECTION 1

PURPOSE AND SUMMARY OF TEST M55800

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 Volkswagen New Jetta 2.5 4-Door Sedan at a velocity of 55.90 km/h. The test was performed at Karco Engineering, LLC on April 5, 2005.

Three (3) real-time and fourteen (14) high-speed cameras were used to document the frontal barrier impact event. Camera locations and other pertinent camera information can be found in Data Sheet number 15 (page number: 27) of this report.

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

Both ATDs were fully instrumented with head (primary and redundant), chest (primary and redundant) and pelvic tri-axial accelerometers, chest displacement potentiometers, six-axis upper neck transducers, right/left femur load cells, and lower leg instrumentation. Seat belt load cells were also placed on the driver's and passenger's lap and shoulder belts to measure dummy torso and pelvic section loading. Also, shoulder belt spool-off was measured for the driver and passenger dummy. The driver (position 1) ATD (Serial No. 34) and the right-front passenger (position 2) ATD (Serial No. 35) were calibrated prior to this test.

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

There was 100 percent windshield retention and no intrusion into the protected zone of the windshield during the impact event. There was no Stoddard solvent leakage after the event or during any phase of the static rollover.

The maximum static crush of the vehicle was 425 mm and both the driver and the passenger side doors remained closed during the impact event and were operable after the impact.

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

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

Occupant injury data is contained in table below.

OCCUPANT DATA SUMMARY

ATD Position	HIC ₃₆	Clip (g)	Chest Defl. (mm)	Left Femur (N)	Right Femur (N)	Belt Spool (mm)
Driver	543.6	53.5	-27.2	-3146.0	-4663.3	36.5
Passenger	524.7	55.1	-26.8	-3720.0	-1281.2	428.4

SECTION 2
OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

CONVERSION FACTORS USED IN THIS REPORT*

Quantity	Typical Application	Std Units	Metric Unit	Multiply By
Mass	Vehicle Weight	lb	kg	0.4536
Linear Velocity	Impact Velocity	mile/h	km/h	1.609
Length or Distance	Measurements	in	mm	25.4
Volume	Fuel Systems	gal	liter	3.785
Volume	Small Fluids	oz	mL	29.573
Pressure	Tire Pressures	lbf/in ²	kPa	7.0
Volume	Liquid	gal	liter	3.785
Temperature	General Use	°F	°C	$=(tf - 32)/1.8$
Force	Dynamic Forces	lbf	N	4.448
Moment	Torque	lbf-ft	Nm	1.355

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

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

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

PRIMARY IMPACT DATA

Measured Parameter	Units	Value
Velocity at Impact	km/h	55.90
Test Weight	kg	1719
Impact Angle	degrees	0
Average Rebound	mm	2267
Maximum Static Crush	mm	425

DOOR OPENING AND SEAT TRACK INFORMATION

Description	Driver	Passenger
Front Door Opening	Remained closed, opened w/o tools	Remained closed, opened w/o tools
Rear Door Opening	Remained closed, opened w/o tools	Remained closed, opened w/o tools
Seat Track Shift (mm)	0	0
Seat Back Failure	No	No

TEST DUMMY INFORMATION

Description	Driver	Passenger
Dummy Type/ Serial No.	50% Male Hybrid III No. 34	50% Male Hybrid III No. 35
Head Contact	Airbag	Airbag
Chest Contact	Airbag	Airbag
Abdomen Contact	Airbag	Airbag
Left Knee Contact	Knee Bolster	Glove Box
Right Knee Contact	Knee Bolster	Glove Box

MOVIE COVERAGE

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

DATA CHANNELS

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

**DATA SHEET NO. 2
GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	M55800
Make	Volkswagen
Model	Jetta 2.5
Body Style	4-Door Sedan
Vin No.	3VWSG71K55M606750
Color	Black
Delivery Date	3/22/2005
Odometer	115
Dealer	Antelope Valley Volkswagen
Transmission	6-Speed Automatic
Final Drive	Front
Type/No. Cyl.	5 (In-line)
Engine Disp. (L)	2.5
Engine Placement	Transverse
Roof Rack	No
Sunroof/T-Top	Yes
Tinted Glass	No
Traction Control	Yes
Power Brakes	Yes
Front Disc	Yes
Rear Disc	Yes

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

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

No

DATA FROM CERTIFICATION LABEL

Manufactured By	Volkswagen De Mexico
Date of Manufacture	Feb-05

GVWR (kg)	1970
GAWR Front (kg)	1060
GAWR Rear (kg)	960

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bucket		
Number of Occupants	2	3		5
Capacity Weight (VCW) (kg)				441
Cargo Weight (RCLW) (kg)				101

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

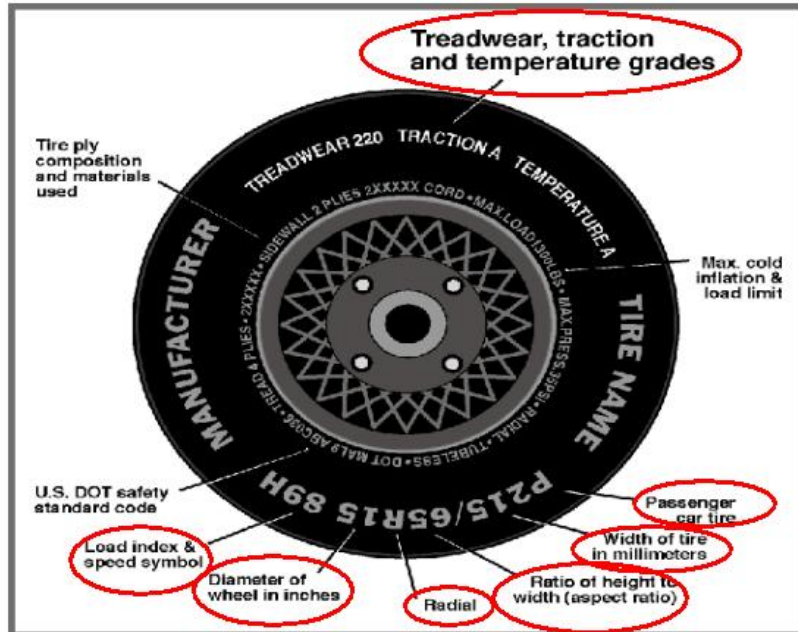
Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

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



TIRE INFORMATION

Measured Parameter	Front	Rear
Max. Tire Pressure (kpa)	357	357
Cold Pressure (kpa)	230	230
Recommended Tire Size	P205/55R16	P205/55R16
Tire Size on Vehicle	P205/55R16	P205/55R16
Tire Manufacturer	Michelin	Michelin
Treadwear	440	440
Traction	A	A
Temperature Grades	A	A
Tire Plies Sidewall	2 Polyester	2 Polyester
Tire Plies Body	2 Polyester + 1 Polyamide + 2 Steel	2 Polyester + 1 Polyamide + 2 Steel
Load Index/Speed Symbol	91H	91H
Tire Material	Polyester + Polyamide+Steel	Polyester + Polyamide+Steel
DOT Safety Code Right	B9WC H5TX 0305	B9WC H5TX 0305
DOT Safety Code Left	B9WC H5TX 0305	B9WC H5TX 0305

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

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

TEST VEHICLE WEIGHTS

	Units	As Delivered Weights (UVW)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	450	306		477	371	
Right	kg	416	301		486	385	
Ratio	%	58.8	41.2		56.0	44.0	
Totals	kg	866	607	1473	963	756	1719

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1473
Weight of 2 P572 ATD's	kg	152
Rated Cargo/Luggage Wt. (RCLW)	kg	101
Calculated Vehicle Target Wt. (TVTW)	kg	1726

TEST VEHICLE ATTITUDE AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	692	685	697	697	1062
As Tested	mm	681	671	656	656	1133

Vehicle Wheel Base (mm) 2578

Weight of Ballast Secured in cargo area (kg) 0

Weight of Items Removed (kg) 83

Vehicle Components Removed Rear bumper, trunk lid, exhaust, spare tire and tools

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

FUEL SYSTEM DATA

Fuel System Capacity From Owners Manual (L) 54.9

Test Volume Range - 92 to 94% of Usable Capacity (L) 50.5 to 51.6

Actual Test Volume of Stoddard Solvent Filled (L) 26.5

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 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

SPEED TRAP DATA

Measured Parameter	Units	Requirement	Value
Trap No.1 Velocity (Primary)	km/h	55.51 to 57.12	55.90
Trap No. 1 Entry Distance	mm	<1524	1524
Trap No.1 Exit Distance	mm	<1524	305
Trap No.2 Velocity (Redun.)	km/h	55.51 to 57.12	55.80
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	4383	4098	-285
Center	mm	4546	4132	-414
Right Side	mm	4377	4061	-316

VEHICLE REBOUND FROM BARRIER

Measured Parameter	Units	Value
Left Side	mm	2340
Center	mm	2240
Right Side	mm	2220
Average	mm	2267

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

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

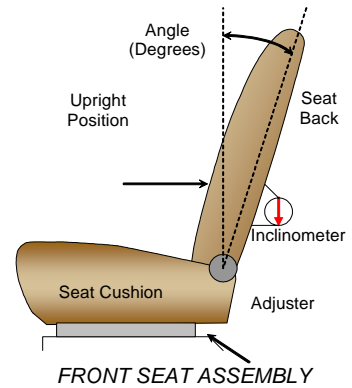
NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

NOMINAL DESIGN RIDING POSITION

The driver and passenger seat backs are positioned to the manufacturers designated angle. The procedure is as follows:
Seat back angle was measured at the headrest of the seat back using a digital inclinometer.



SEAT BACK ANGLES

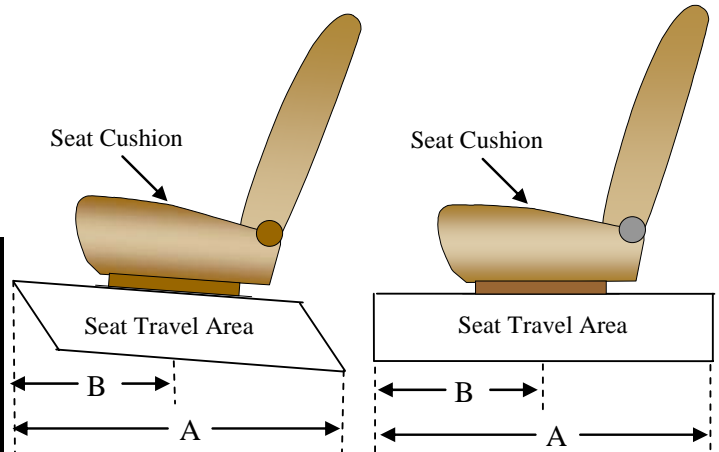
	Deg.
Driver w/seated Dummy	3.5
Passenger w/seated Dummy	4.6

SEAT FORE/AFT POSITIONS

The total seat travel was measured from forward most position to rearmost position, irrespective of vertical seat height in those positions. The seat was set at the longitudinal mid position with the vertical adjustment at the lowest position obtainable for the driver and passenger.

SEAT FORE/AFT POSITIONING

	Total Fore/Aft Travel (Detent)	Placed in Position (Detent)
Driver Seat	36	19
Passenger Seat	36	19



SEAT BELT UPPER ANCHORAGE

Position number one (1) is the uppermost position.

SEAT BELT UPPER ANCHORAGE

	Total # of Positions	Placed in Position #
Driver Seat	5	1
Passenger Seat	5	1

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

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

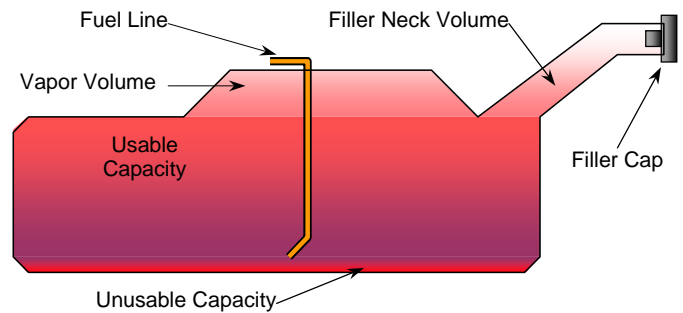
Test Program: 2005 NHTSA 35mph NCAP

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FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard Tank"	54.9
Usable Capacity of "Optional" Tank	
Usable Capacity used for FMVSS 301	50.5 to 51.6
Actual Amount of Solvent used	26.5
1/3 of Usable Capacity	

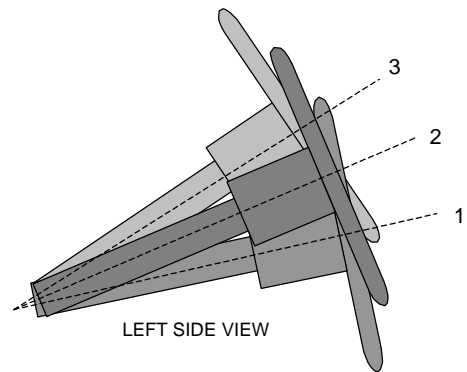
The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the right rear fender. The standard fuel tank occupies 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	22.5
Geometric center position No. 2	30	24.5
Uppermost position No. 3	60	26.5

DATA SHEET NO. 5
DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

TEST DUMMY POSITION MEASUREMENTS

Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (deg)	Length (mm)	Angle (deg)
WA	Windshield Angle		26.2		
SWA	Steering Wheel Angle		65.5		
SCA	Steering Column Angle		24.5		
SA	Seat Back Angle		3.5		4.6
HZ	Head to Roof (Z)	205	90.0	205	90.0
HH	Head to Header	420		425	
HW	Head to Windshield	720		745	
HR	Head to Side Header (Y)	300		290	
NR	Nose to Rim	430	6.4		
CD	Chest to Dash	575		590	
CS	Chest to Steering Hub	350			
RA	Rim to Abdomen	240			
KDL	Left Knee to Dash	215	15.6	210	
KDR	Right Knee to Dash	220		275	7.6
PA	Pelvic Angle		24.6		23.6
TA	Tibia Angle		39.2		42.6
KK	Knee to Knee (Y)	330		275	
SK	Striker to Knee	560	11.0	580	15.3
ST	Striker to Head	420	82.2	460	82.7
SH	Striker to H-Point	270	58.0	270	61.7
SHY	Striker to H-Point (Y)	235		230	
HS	Head to Side Window	370		380	
HD	H-Point to Door (Y)	150		155	
AD	Arm to Door (Y)	120		65	

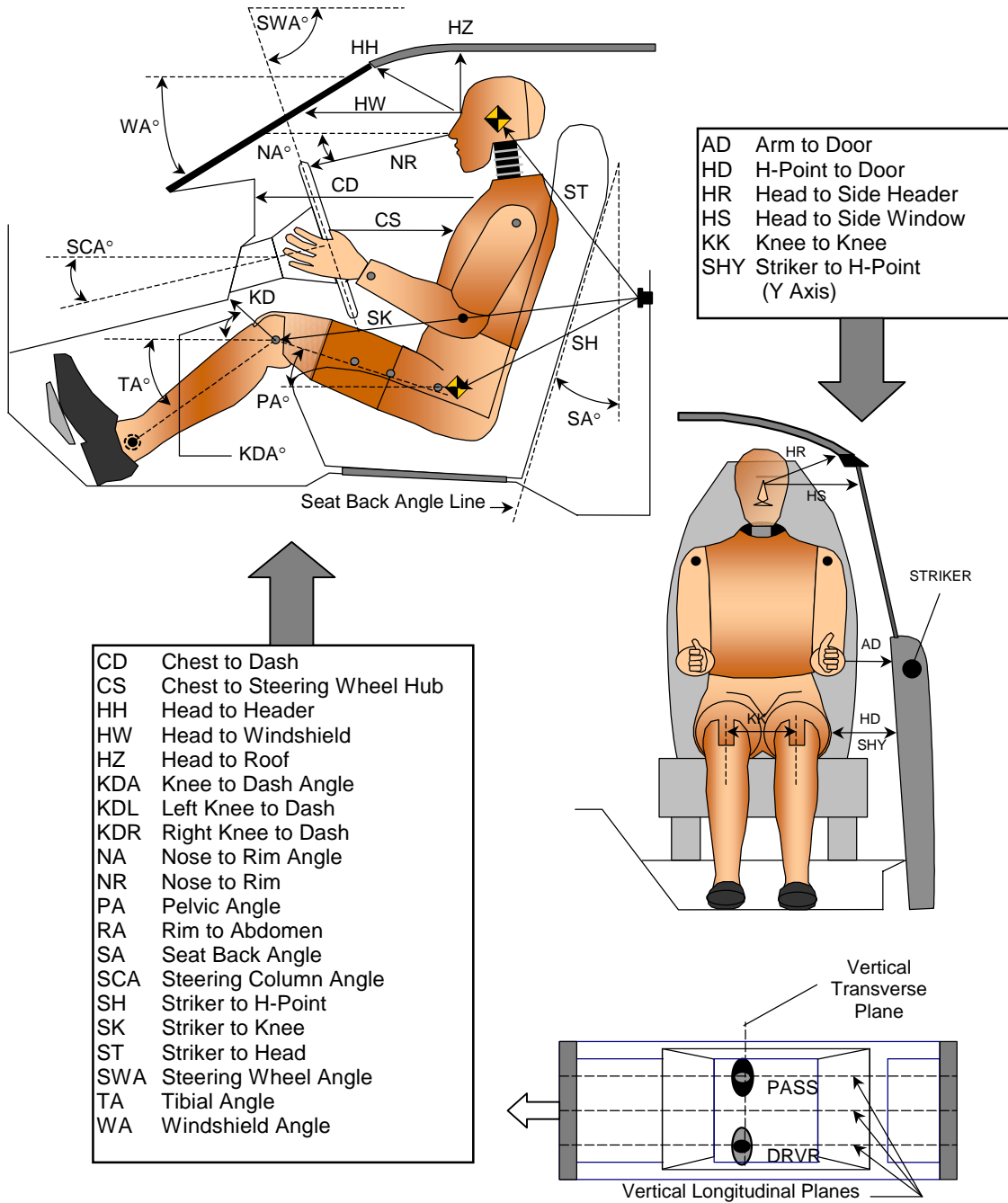
DATA SHEET NO. 5...(CONTINUED)
DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

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DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS

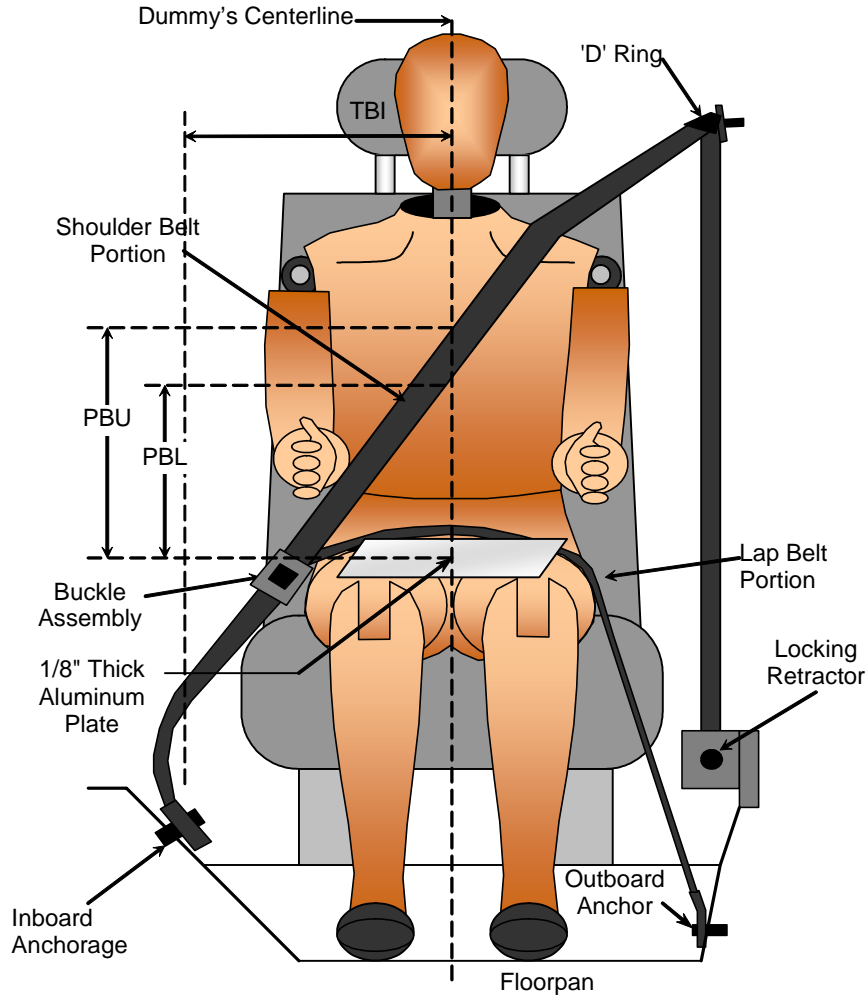
DATA SHEET NO. 6
SEAT BELT POSITIONING DATA

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05



SEAT BELT POSITIONING MEASUREMENTS

Measured Parameter	Units	Driver	Passenger
TBI -Dummy C/L to Lap/Shoulder Belt Intersect	mm	200	190
PBU - Top Surface of reference to belt upper edge	mm	335	285
PBL - Top Surface of reference to belt lower edge	mm	265	205
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 Volkswagen new Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

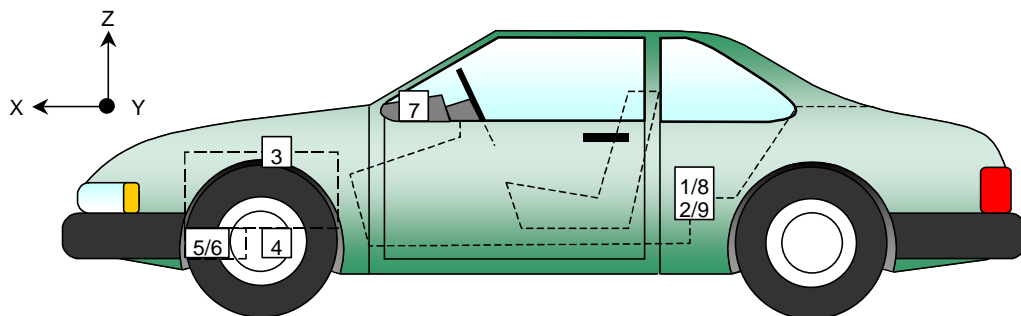
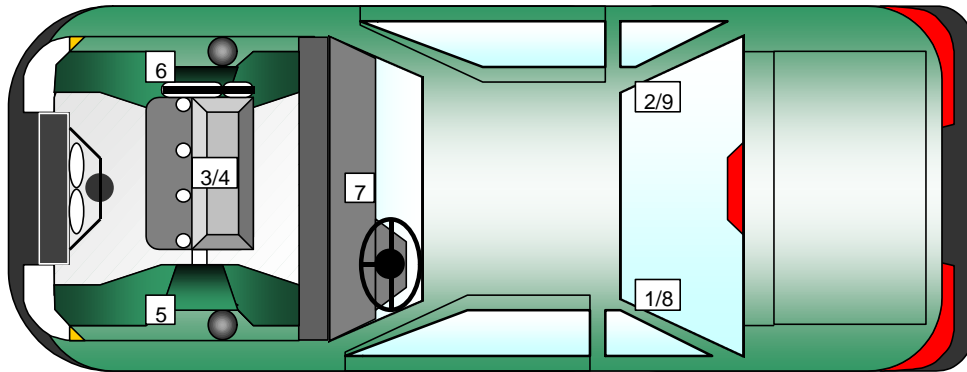
Test Date: 4/5/05

VEHICLE ACCELEROMETER PEAK DATA AND PRE-TEST LOCATIONS

No.	Accelerometer Location	Measurements (mm)			Peak Values				
		X	Y	Z	Units	Max	Time	Min	Time
1	Left Rear X-Member	1930	-700	400	G's	2.1	114.8	-55.2	39.6
2	Right Rear X-Member	1930	700	400	G's	2.4	112.5	-49.6	49.5
3	Engine Top	3950	60	810	G's	140.6	30.9	-174.8	22.4
4	Engine Bottom	3890	-150	190	G's	31.9	33.1	-121.9	22.3
5	Left Brake Caliper	3800	-850	230	G's	79.7	53.8	-135.9	33.5
6	Right Brake Caliper	3800	850	230	G's	31.1	42.4	-160.6	36.3 ¹
7	Instrument Panel	3030	50	1000	G's	61.9	30.0	-87.2	42.6 ²
8	Left Rear X-Member (Z-Axis)	1790	-670	360	G's	8.9	54.1	-9.3	49.3
9	Right Rear X-Member (Z-Axis)	1790	670	360	G's	9.8	49.4	-10.5	32.0

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

- 1.) Channel failed at 45.5 msec.
- 2.) Channel failed at 54.5 msec.



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

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	16.9	195.4	-49.9	66.5	1.8	199.0	-56.6	76.9
Head CG	Y	G's	5.2	61.8	-12.4	92.8	5.9	87.8	-8.2	61.1
Head CG	Z	G's	27.6	48.6	-26.4	85.5	31.3	62.3	-2.7	69.7
Head CG Resultant	N/A	G's	53.7	61.3			57.2	76.9		

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	1.7	137.8	-55.0	75.0	2.5	172.3	-56.3	68.9
Chest CG	Y	G's	8.5	87.3	-2.7	27.5	6.6	57.7	-8.4	91.1
Chest CG	Z	G's	17.1	47.3	-10.4	89.2	19.0	48.6	-8.0	86.1
Chest CG Resultant	N/A	G's	55.3	75.0			56.5	69.0		

FEMUR PEAK FORCES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Femur	Z	Newtons	1463.3	48.4	-3146.0	58.2	1787.3	50.5	-3720.0	58.3
Right Femur	Z	Newtons	1475.2	47.2	-4663.3	57.1	1653.1	52.9	-1281.2	58.1

SEAT BELT SENSOR PEAK VALUES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Shoulder Belt Pullout	N/A	MM	36.5	65.9	-84.0	200.0	428.4	103.9	-24.5	35.4
Shoulder Belt Stretch	N/A	MM/CM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lap Belt Force	N/A	Newtons	10665.2	57.7	-0.9	0.0	9795.3	59.1	-8.3	200.4
Shoulder Belt Force	N/A	Newtons	4782.1	74.8	-36.6	167.6	5922.8	45.5	-29.5	184.2

1.) Not used with pre-tensioners

PRIMARY HEAD INJURY CRITERIA (HIC36)

Location	Driver				Passenger			
	HIC	T ¹	T ²	Avg G	HIC	T ¹	T ²	Avg G
Head CG Primary	543.6	56.1	92.1	46.9	524.7	58.3	94.3	46.2

PRIMARY CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Primary	53.5	72.6	75.6	55.1	67.8	70.8

DATA SHEET NO. 8...(CONTINUED)

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	8.5	74.7	-94.1	58.1	7.7	84.5	-68.0	58.5
Pelvis	Y	G's	16.3	70.5	-11.0	55.4	14.8	47.1	-12.4	76.8
Pelvis	Z	G's	1.6	35.4	-40.2	71.4	2.0	108.9	-35.7	67.6
Pelvis Resultant	N/A	G's	98.7	58.1			73.3	58.5		

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	787.1	68.8	-239.0	127.1	591.5	67.3	-510.1	119.5
Neck Force	Y	Newtons	240.1	63.4	-237.1	94.4	250.7	86.5	-259.4	128.5
Neck Force	Z	Newtons	1933.5	59.8	-376.8	85.6	1454.6	62.4	-40.7	13.7
Neck Force Resultant	N/A	Newtons	2020.5	59.8			1507.5	62.5		
Neck Moment	X	Nm	19.0	80.6	-16.1	110.0	16.7	97.7	-15.2	123.7
Neck Moment	Y	Nm	39.6	64.1	-31.0	83.8	45.4	107.9	-26.4	90.7
Neck Moment	Z	Nm	11.2	101.8	-5.3	148.8	7.3	104.1	-4.0	175.4
Neck Moment Resultant	N/A	Nm	40.1	64.1			46.0	107.9		

FOOT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Foot Aft	X	G's	32.9	85.7	-52.5	34.6	38.9	64.7	-165.5	46.6
Left Foot Aft	Z	G's	6.9	88.5	-55.3	35.4	17.2	64.9	-72.3	48.5
Left Foot Fore	Z	G's	19.3	89.7	-73.6	35.8	93.6	40.9	-185.5	47.1
Right Foot Aft	X	G's	54.0	83.2	-100.4	35.5	21.5	68.5	-81.8	39.7
Right Foot Aft	Z	G's	10.0	53.9	-73.1	34.4	30.2	53.1	-60.0	76.3
Right Foot Fore	Z	G's	35.0	28.2	-135.1	30.6	36.2	37.4	-150.5	41.4

1.) Driver channel failed at 40.0 msec.

UPPER AND LOWER TIBIA PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Upper Moment	X	Nm	31.8	52.8	-19.2	60.5	19.3	69.8	-64.4	50.7
Left Upper Moment	Y	Nm	37.9	91.8	-83.7	37.6	25.2	55.8	-186.3	47.3
Right Upper Moment	X	Nm	57.2	61.7	-21.1	40.5	104.3	40.2	-26.1	69.0
Right Upper Moment	Y	Nm	118.8	58.0	-116.1	35.6	19.3	200.0	-131.4	41.7
Left Lower Moment	X	Nm	11.5	52.8	-7.5	62.0	63.3	52.3	-37.7	48.2
Left Lower Moment	Y	Nm	115.0	88.2	-41.6	49.8	37.5	69.9	-77.2	46.8
Left Lower Force	Z	Newtons	49.7	163.5	-2590.9	34.7	97.5	125.0	-4508.4	47.2
Right Lower Moment	X	Nm	22.6	35.8	-64.8	39.8	56.8	39.2	-99.3	75.6
Right Lower Moment	Y	Nm	84.4	81.0	-25.0	40.3	52.9	74.7	-44.5	40.8
Right Lower Force	Z	Newtons	196.5	58.2	-4631.5	35.3	160.3	151.4	-3888.7	40.5

DATA SHEET NO. 8...(CONTINUED)

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

CHEST PEAK DEFLECTIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest	X	MM	0.0	1.4	-27.2	61.8	0.0	4.7	-26.8	63.7

HEAD REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	17.2	195.4	-50.0	63.9	1.7	200.0	-56.4	77.9
Head CG	Y	G's	5.5	62.2	-12.5	93.2	6.4	84.1	-8.5	61.1
Head CG	Z	G's	27.6	48.6	-26.5	85.0	30.7	62.2	-3.4	69.6
Head CG Resultant	N/A	G's	53.5	60.7			56.8	77.9		

CHEST REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	1.8	137.8	-54.9	73.0	2.4	172.4	-56.2	68.8
Chest CG	Y	G's	8.7	87.3	-3.1	27.4	6.6	57.8	-8.4	92.9
Chest CG	Z	G's	17.3	47.3	-10.3	84.0	0.0	0.0	0.0	0.0
Chest CG Resultant	N/A	G's	55.2	73.0			56.3	68.8		

1.) Passenger chest Z channel failed, no data

REDUNDANT HEAD INJURY CRITERIA (HIC36)

Location	Driver				Passenger			
	HIC	T ¹	T ²	Avg G	HIC	T ¹	T ²	Avg G
Head CG Redundant	546.5	56.0	92.0	47.0	527.4	58.2	94.2	46.3

REDUNDANT CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Redundant	53.3	72.5	75.5	54.9	67.7	70.7

1.) Passenger chest Z channel failed, no data

DATA SHEET NO. 9
SEAT BELT ASSESSMENT TEST DATA

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
Retractor Reel to "D" ring	mm	700	700
Shoulder Belt length as measured on ATD	mm	835	800
Lap Belt length as measured on ATD	mm	710	600
Remainder of belt on reel	mm	900	1050
Total belt length for continuous webbing systems	mm	3145	3150

SHOULDER BELT SPOOL-OFF DATA

Measurement Description	Units	Driver	Passenger
As determined mechanically	mm	260	295
As determined electronically	mm	37	428

BELT STRETCH DATA

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

* Not used with shoulder belt pre-tensioner systems

**DATA SHEET NO. 10
SUMMARY OF FMVSS 212 DATA**

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

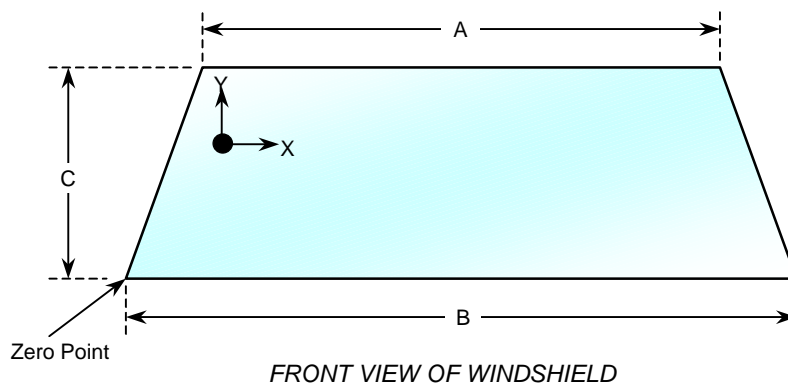
Windshield Mounting Details: Windshield glass is secured to the vehicle frame with a rubber type adhesive. No molding covers the windshield periphery at any point.

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

Temperature of windshield molding during test: 22.0 °C

WINDSHIELD PERIPHERY MEASUREMENTS

Measurement	Pre-Test(mm)	Post-Test(mm)	% of Retention
Left Side	2312	2312	100
Right Side	2312	2312	100
Total	4624	4624	100



FRONT VIEW OF WINDSHIELD

WINDSHIELD DIMENSIONS

Item	Units	Segment Length	Molding Width
A	mm	1200	0
B	mm	1880	0
C-Left	mm	772	0
C-Right	mm	772	0

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

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

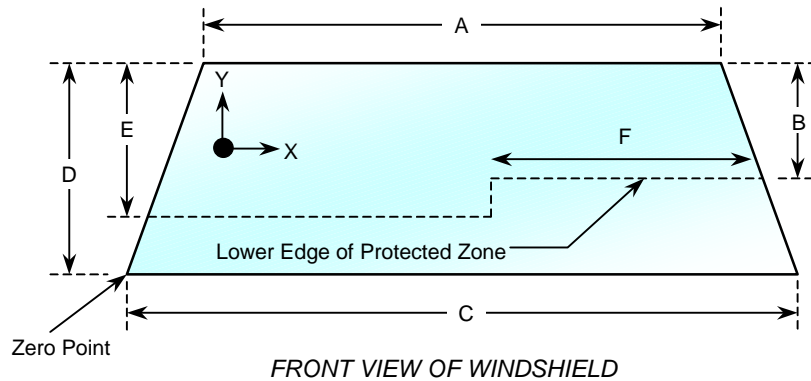
NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

**WINDSHIELD AND
PROTECTED ZONE**

Item	Units	Value
A	mm	1200
B	mm	462
C	mm	1880
D	mm	772
E	mm	438
F	mm	505



AREA OF PROTECTED ZONE FAILURES

A. Provide coordinates of the area that the protected zone was penetrated more than 0.25 in. by a vehicle component other than one that is normally in contact with the windshield.

X	Y

B. Provide coordinates of the area beneath the protected zone that the inner surface of the windshield was penetrated by a vehicle component.

X	Y

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

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan NHTSA No.: M55800
Test Program: 2005 NHTSA 35mph NCAP Test Date: 4/5/05

Test Time: 1:12 PM Temperature: 21.1 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

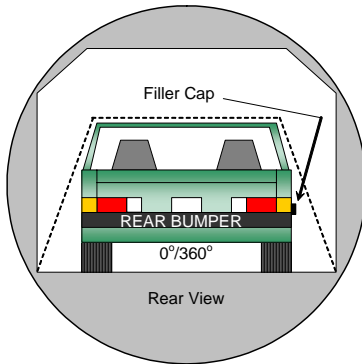
DATA SHEET NO. 13
FMVSS 301 STATIC ROLLOVER DATA

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

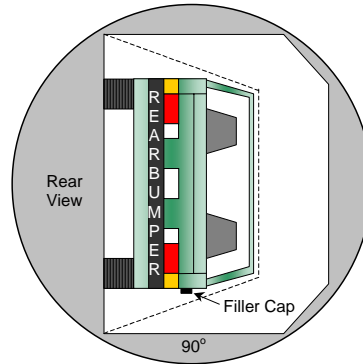
NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

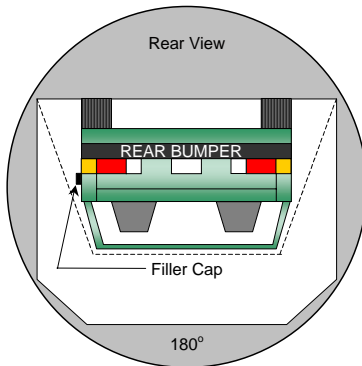
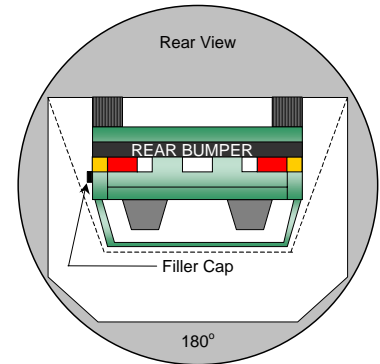
Test Date: 4/5/05



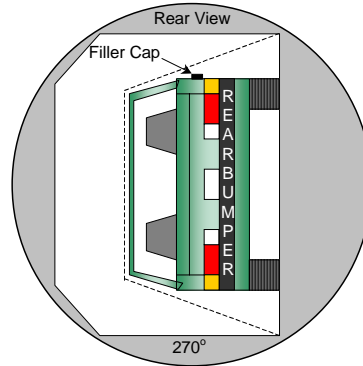
0° to 90°



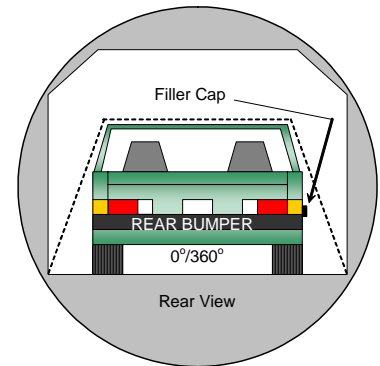
90° to 180°



180° to 270°



270° to 360°



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

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

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° to 90°	84	300	384
90° to 180°	83	300	383
180° to 270°	75	300	375
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 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

VEHICLE MEASUREMENT TABLE

No.	Measurement Description	Units	Pre-Test	Post-Test	Diff.
1	Total length of vehicle at centerline	mm	4546	4132	-414
2	RSOV to front of engine	mm	4190	3933	-257
3	RSOV to firewall centerline	mm	3612	3591	-21
4	RSOV to leading edge of right door	mm	3218	3222	4
5	RSOV to leading edge of left door	mm	3215	3226	11
6	RSOV to lower leading edge of right door	mm	3198	3192	-6
7	RSOV to lower leading edge of left door	mm	3191	3185	-6
8	RSOV to upper trailing edge of right door	mm	2145	2146	1
9	RSOV to upper trailing edge of left door	mm	2140	2146	6
10	RSOV to lower trailing edge of right door	mm	2161	2165	4
11	RSOV to lower trailing edge of left door	mm	2151	2146	-5
12	RSOV to bottom of right 'A' pillar	mm	3153	3139	-14
13	RSOV to bottom of left 'A' pillar	mm	3153	3131	-22
14	RSOV to firewall on right side	mm	3792	3526	-266
15	RSOV to firewall on left side	mm	3700	3546	-154
16	RSOV to steering column	mm	2759	2841	82
17	Center of steering column to left 'A' pillar	mm	401	390	-11
18	Center of steering column to headlining	mm	435	450	15
19	RSOV to right side of front bumper	mm	4377	4061	-316
20	RSOV to left side of front bumper	mm	4383	4098	-285
21	Length of engine block	mm	560	560	0
RD	RSOV to right side of dash panel	mm	2989	2971	-18
CD	RSOV to center of dash panel	mm	2945	2930	-15
LD	RSOV to left side of dash panel	mm	2984	2965	-19

All measurements are in millimeters

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

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

VEHICLE STRUCTURAL MEASUREMENT TABLE

No.	Measurement Description	Units	Pre-Test	Post-Test	Diff.
1	Total length	mm	4546	4132	-414
2	Total width	mm	1747	1746	-1
3	Bumper top height	mm	594	605	11
4	Bumper bottom height	mm	180	245	65
5	Longitudinal member top height	mm	532	532	0
6	Longitudinal member bottom height	mm	451	447	-4
7	Distance between longitudinal members	mm	850	862	12
8	Longitudinal member width	mm	130	163	33
9	Engine top height	mm	827	795	-32
10	Engine bottom height	mm	170	154	-16
11	Engine and gear box width	mm	819	819	0
12	Front bumper to engine distance	mm	355	240	-115
13	Front shock absorber height	mm	885	855	-30
14	Bonnet leading edge height	mm	710	800	90
15	Distance between front shock absorbers	mm	1162	1207	45
16	Front bumper to front axle distance	mm	890	540	-350
17	Front axle to 'A' pillar distance	mm	427	415	-12
18	'A' pillar to 'B' pillar distance	mm	1075	1064	-11
19	'B' pillar to rear axle distance	mm	1091	1087	-4
20	'B' pillar to 'C' pillar distance	mm	978	974	0
21	Roof sill bottom height	mm	1364	1340	-24
22	Roof sill top height	mm	1423	1395	-28
23	Floor sill bottom height	mm	225	220	-5
24	Floor sill top height	mm	296	295	-1

All measurements are in millimeters

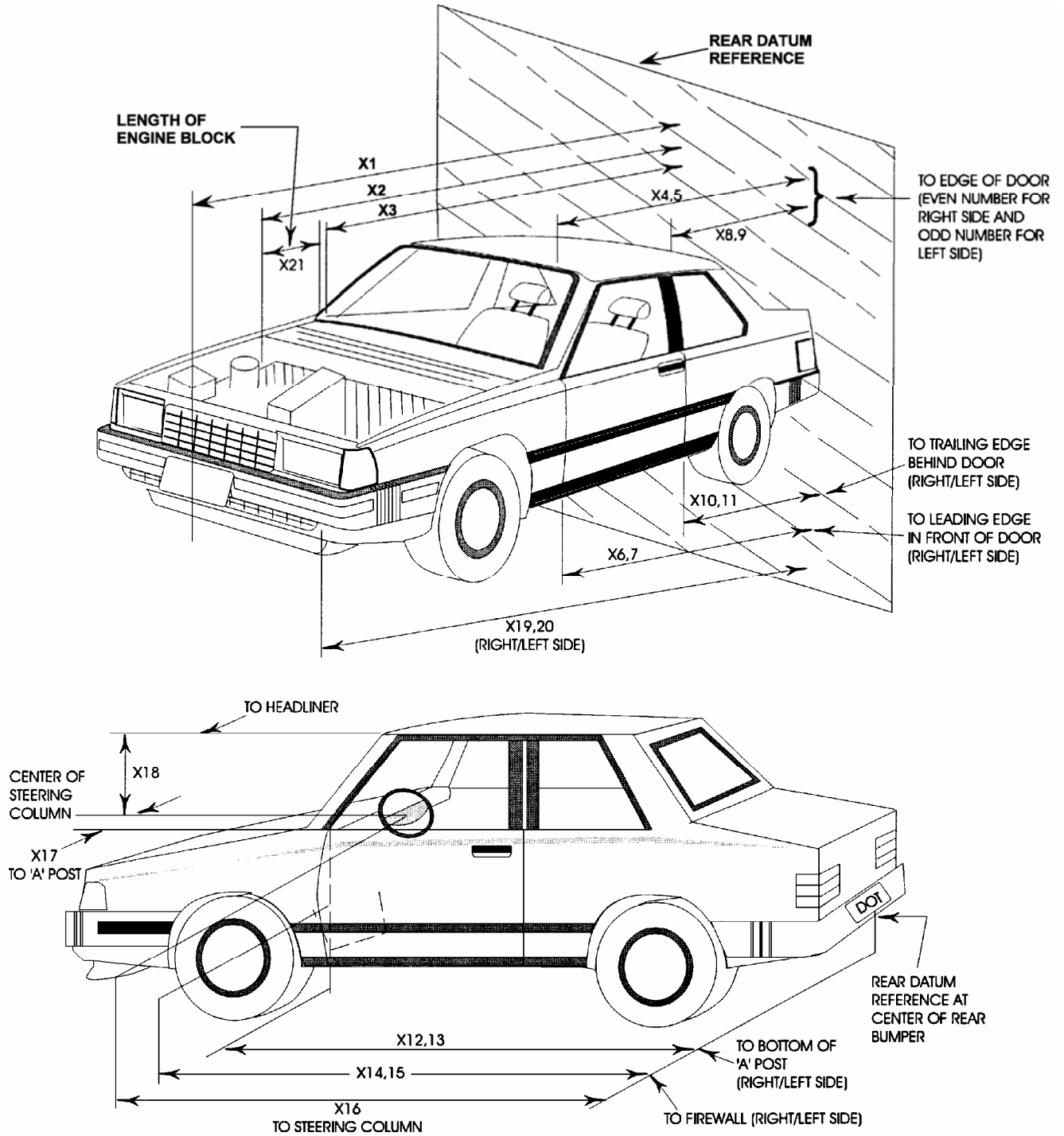
DATA SHEET NO. 14...(CONTINUED)
VEHICLE MEASUREMENTS

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05



**DATA SHEET NO. 15
CAMERA LOCATIONS**

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

VEHICLE CAMERA MEASUREMENT TABLE

No.	Camera View	Location (mm)			Angle (deg.)	Film Plane to Head	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Real-Time Camera (Panning)	-12192	-6096	-1651	-10		Zoom	30
2	Overall Left Side	-2489	-8280	-1143	-4	7799	24	1000
3	Left Side View	-1677	-7620	-1329	-4	7163	50	1000
4	Driver and Interior View	-6477	-10185	-4748	-13	11094	80	TBD
5	Steering Column (Bottom)	-2134	-8230	-2997	-16	7924	19	TBD
6	Steering Column (Top)	-2134	-8230	-3404	-20	8019	19	TBD
7	Overall Right Side	-2083	8230	-1270	-6	7748	13	TBD
8	Right Side View	-1677	7316	-1422	-4	6861	50	1000
9	Passenger and Interior View	-6781	9144	-2997	-9	9884	65	TBD
10	Right Side View	-1829	7316	-1422	-4	6848	28	1000
11	Windshield	-610	0	-5944	-90		13	TBD
12	Driver Front View	610	-432	-2667	-40		13	TBD
13	Passenger Front View	610	432	-2667	-40		13	TBD
14	Pit View of Engine	-914	0	1499	90		9	TBD
15	Pit View of Fuel Tank	-2438	0	1499	90		6	TBD

ADDITIONAL CAMERAS

1	Real-Time Camera	-1219	-8585	-1372	0	8173	Zoom	30
2	Real-Time Camera	-1067	7976	-991	0	7601	Zoom	30

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

DATA SHEET NO. 16
PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

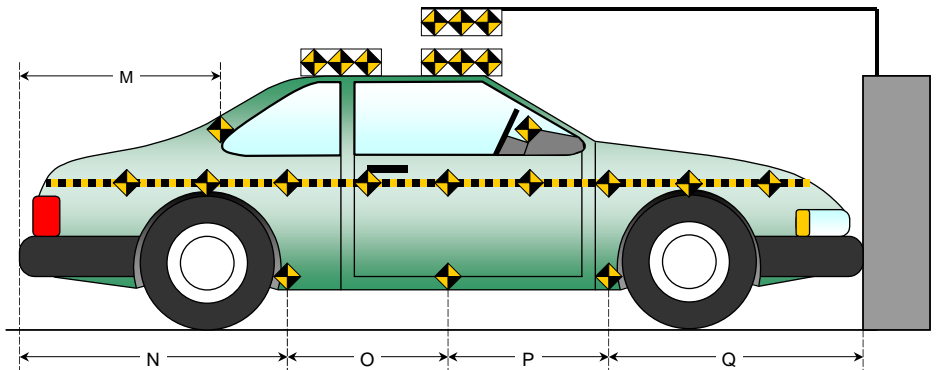
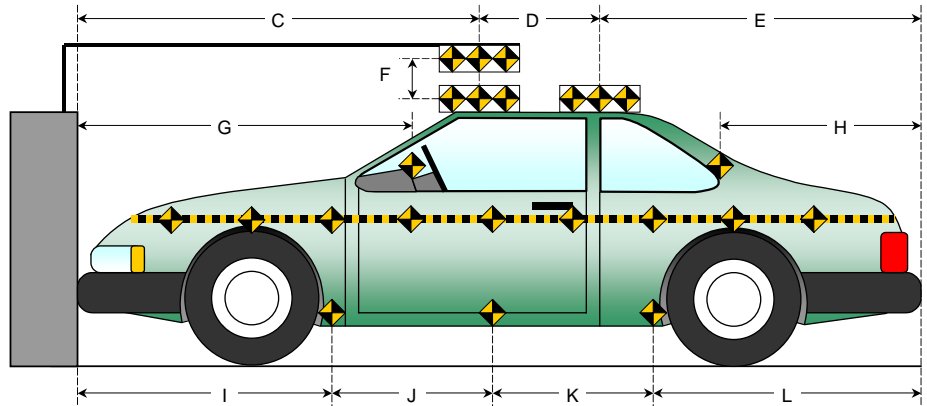
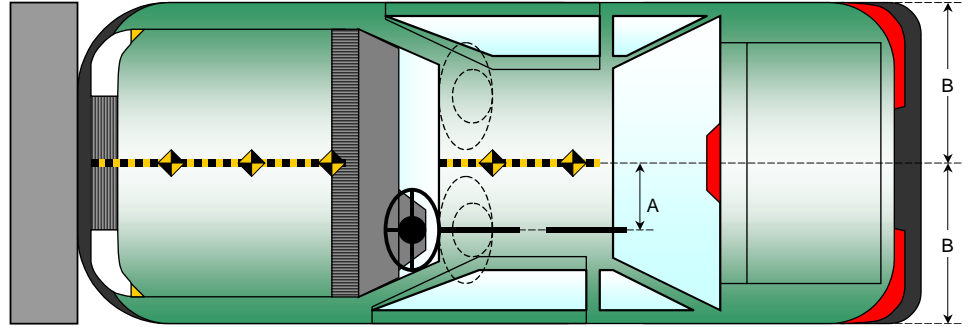
Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

All Dimensions in (mm)	
Item	Value
A*	
B	1747
C*	
D*	
E*	
F*	
G	1581
H	1130
I	1283
J	897
K	897
L	1474
M	1105
N	1474
O	897
P	897
Q	1283



* Roof markers were not installed due to sunroof

DATA SHEET NO. 17
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

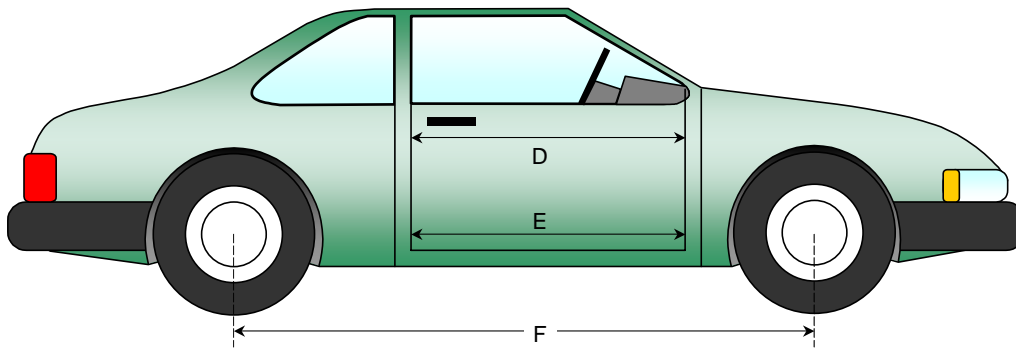
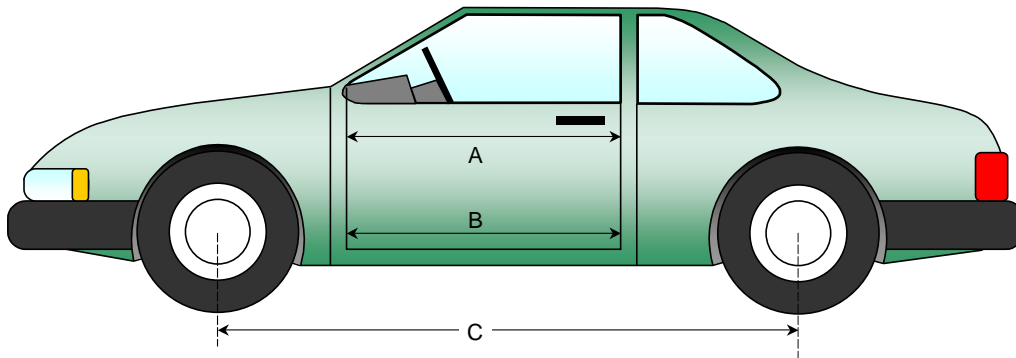
Test Date: 4/5/05

DOOR OPENING WIDTH TABLE

Item	Description	Units	Pre-Test	Post-Test	Diff.
A	Left Side Upper	mm	946	941	-5
B	Left Side Lower	mm	862	866	4
D	Right Side Upper	mm	942	941	-1
E	Right Side Lower	mm	866	856	-10

WHEELBASE MEASUREMENT TABLE

Item	Description	Units	Pre-Test	Post-Test	Diff.
C	Left Side Wheel Base	mm	2578	2540	-38
F	Right Side Wheel Base	mm	2578	2535	-43



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

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

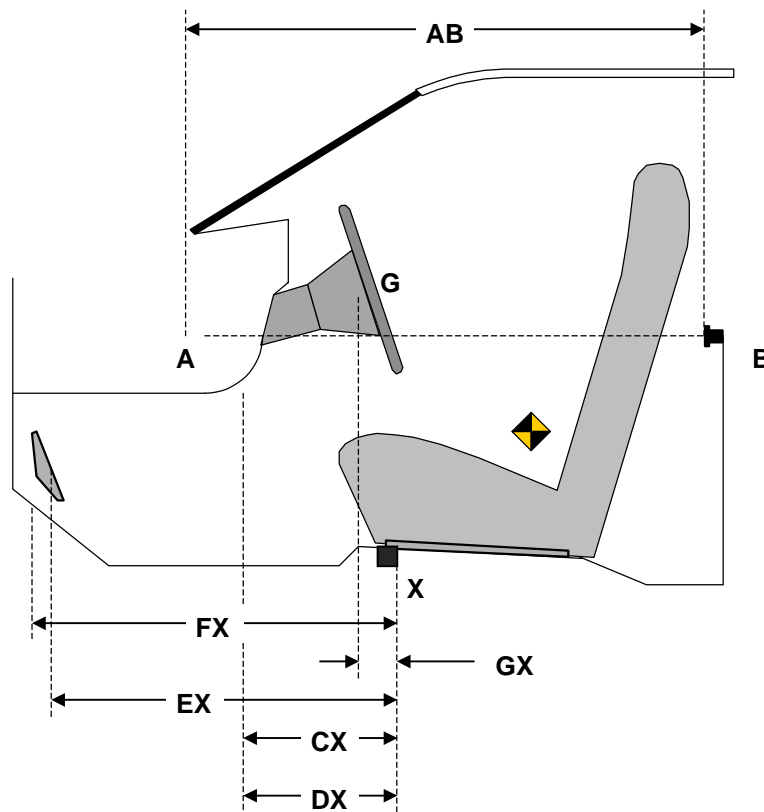
Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

DRIVER COMPARTMENT INTRUSION TABLE

Item	Description	Units	Pre-Test	Post-Test	Diff.
AB	Door Opening (Inside window jam)	mm	946	941	-5
CX	Left Knee Bolster to X	mm	257	285	28
DX	Right Knee Bolster to X	mm	256	290	34
EX	Brake Pedal to X	mm	524	479	-45
FX	Foot Rest to X	mm	575	536	-39
GX	Center of Steering Wheel Hub to X	mm	95	135	40

X = Left Front Seat Outboard Anchor Bolt Head



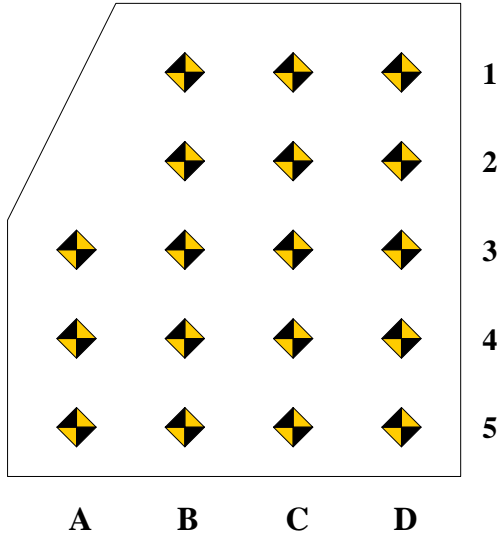
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VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05



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

Columns A through D are evenly spaced.

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

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

DRIVER FLOOR PAN X-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1		621	632	631		589	596	596		-33	-36	-35
2		541	544	547		524	523	518		-17	-21	-28
3	455	449	451	444	437	432	425	417	-18	-17	-26	-27
4	358	351	346	344	343	333	324	316	-15	-19	-22	-28
5	248	242	239	238	236	227	225	216	-12	-15	-15	-22

DRIVER FLOOR PAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1		40	60	62		25	50	52		-15	-10	-10
2		96	109	112		92	114	118		-4	5	6
3	111	113	113	119	105	117	124	128	-6	4	11	9
4	118	116	118	122	119	121	135	129	1	5	17	7
5	124	123	123	105	130	137	141	111	6	14	18	6

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

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

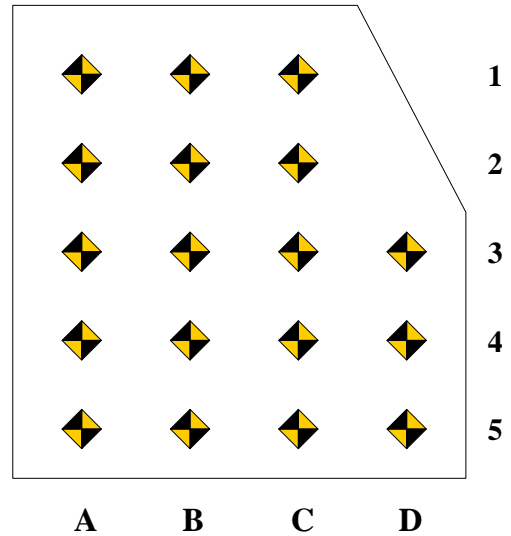
Test Date: 4/5/05

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

Columns A through D are evenly spaced.

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

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



PASSENGER FLOOR PAN X-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	623	614	607		588	591	595		-35	-23	-11	
2	532	529	518		498	504	508		-34	-25	-10	
3	433	431	423	418	401	406	412	418	-32	-25	-11	1
4	326	318	308	303	294	295	299	303	-32	-23	-10	1
5	233	227	223	216	198	204	212	216	-35	-23	-10	0

PASSENGER FLOOR PAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	69	71	67		71	72	69		3	1	2	
2	112	113	109		116	116	113		3	3	4	
3	115	115	112	116	119	119	118	118	4	5	6	2
4	120	121	118	125	124	126	124	129	4	5	6	5
5	100	124	122	125	104	129	128	127	5	5	6	2

DATA SHEET NO. 18
FIXED BARRIER LOAD CELL LOCATIONS

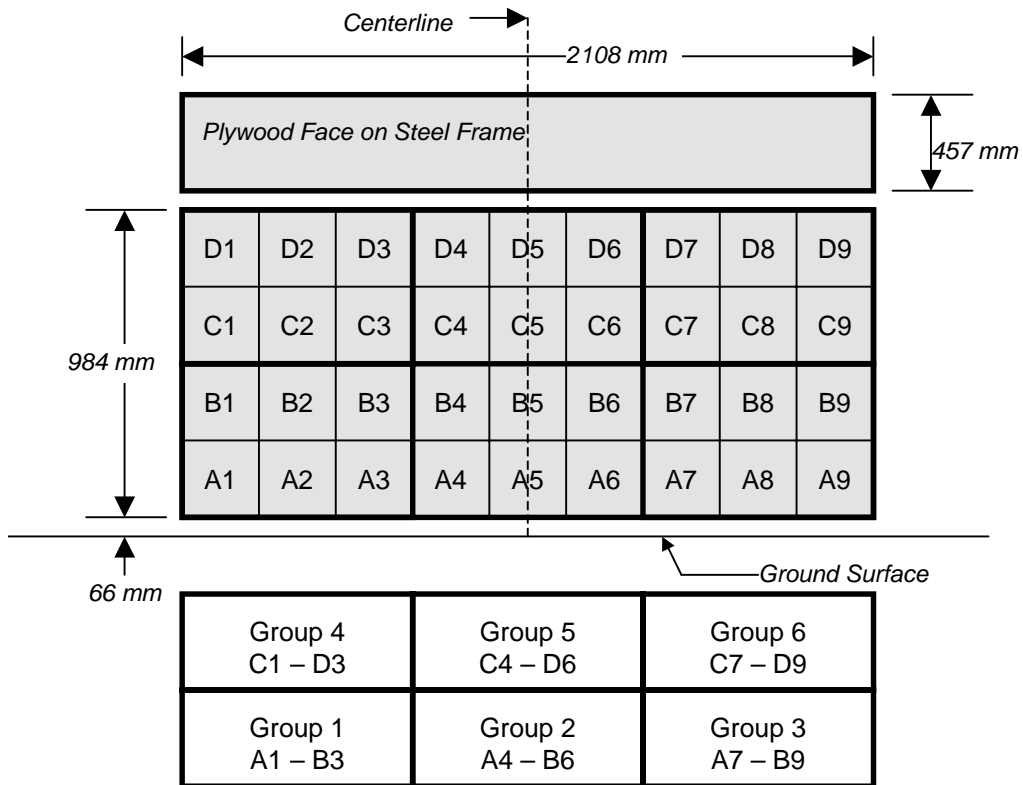
Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

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



6 Groups of 6 Load Cells Each

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

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

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

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

POST-TEST AIRBAG DATA

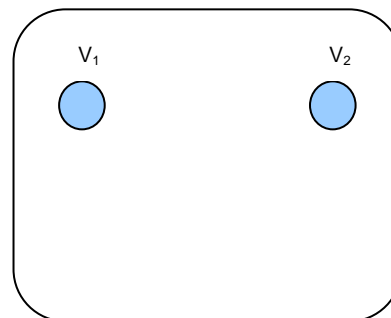
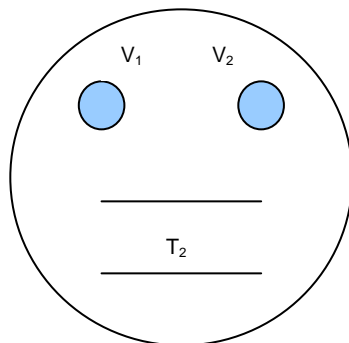
	DRIVER	PASSENGER
No. of vent holes	1	2
Size of vent holes (mm ²)	1962	2374
Total vent area (mm ²)	1962	4748

Deflated Airbag Length and Width Dimensions or, If Round, Diameter (mm)		
Length		760
Width		720
Depth or Diameter	600	420

Tethering Information		
Is the airbag tethered?	Yes	Yes
Record length of tether (mm)	220	480

Airbag Manufacturing Information		
Manufacturer	TRW	Autoliv Steering Wheels
Part No.	P603262600CC09	P603772900BB03
Gas Generator	NNL S18 3K AHE	VXCS1U97ALL

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 Volkswagen New Jetta 2.5 4-Door Sedan NHTSA No.: M55800
 Test Program: 2005 NHTSA 35mph NCAP Test Date: 4/5/05

VEHICLE INFORMATION

VIN: 3VW5G71K55M606750 Wheel base (mm): 2578
 Vehicle Size Category: 4-Door Sedan Test Weight (kg): 1719

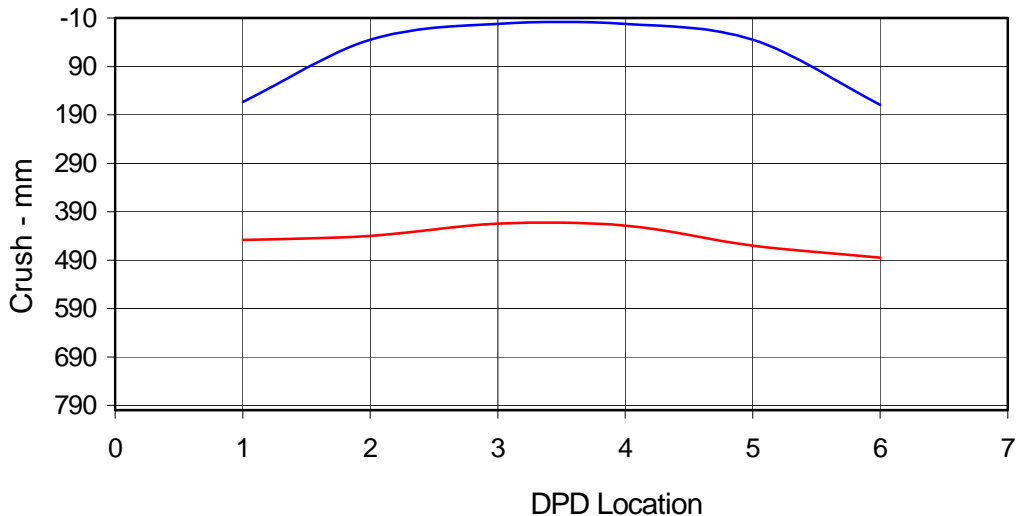
ACCELEROMETER DATA

Accelerometer Location: Left rear sill
 Cal. Procedure/Interval: 6 months / drop test
 Integration Algorithm: NHTSA Standard Linearity: Good
 Impact Velocity (km/h): 55.90
 Velocity Change (km/h): 63.48 Time of Separation (msec): 60.3

CRUSH PROFILE

Collision Deformation Classification: 12FDEW6 Midpoint of Damage: Vehicle Centerline
 Damage Region Length (mm): 1330 Impact Mode: Full Frontal

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	163	448	-285
C2	Crush zone 2 on left side	mm	35	440	-405
C3	Crush zone 3 on left side	mm	2	415	-413
C4	Crush zone 4 on right side	mm	2	419	-417
C5	Crush zone 5 on right side	mm	35	460	-425
C6	Crush zone 6 at right side	mm	169	485	-316



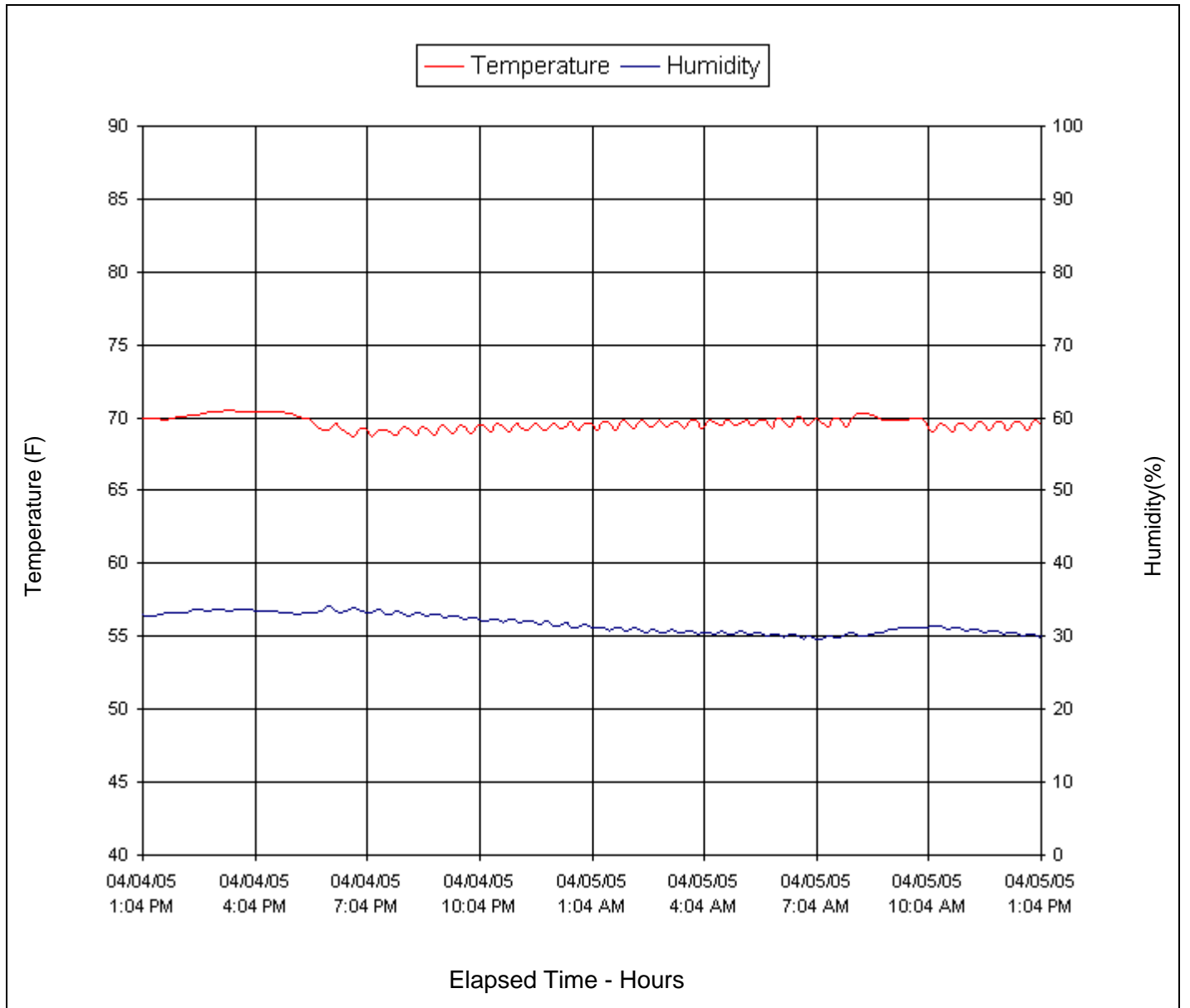
DATA SHEET NO. 21
DUMMY/VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05



APPENDIX A
PHOTOGRAPHS

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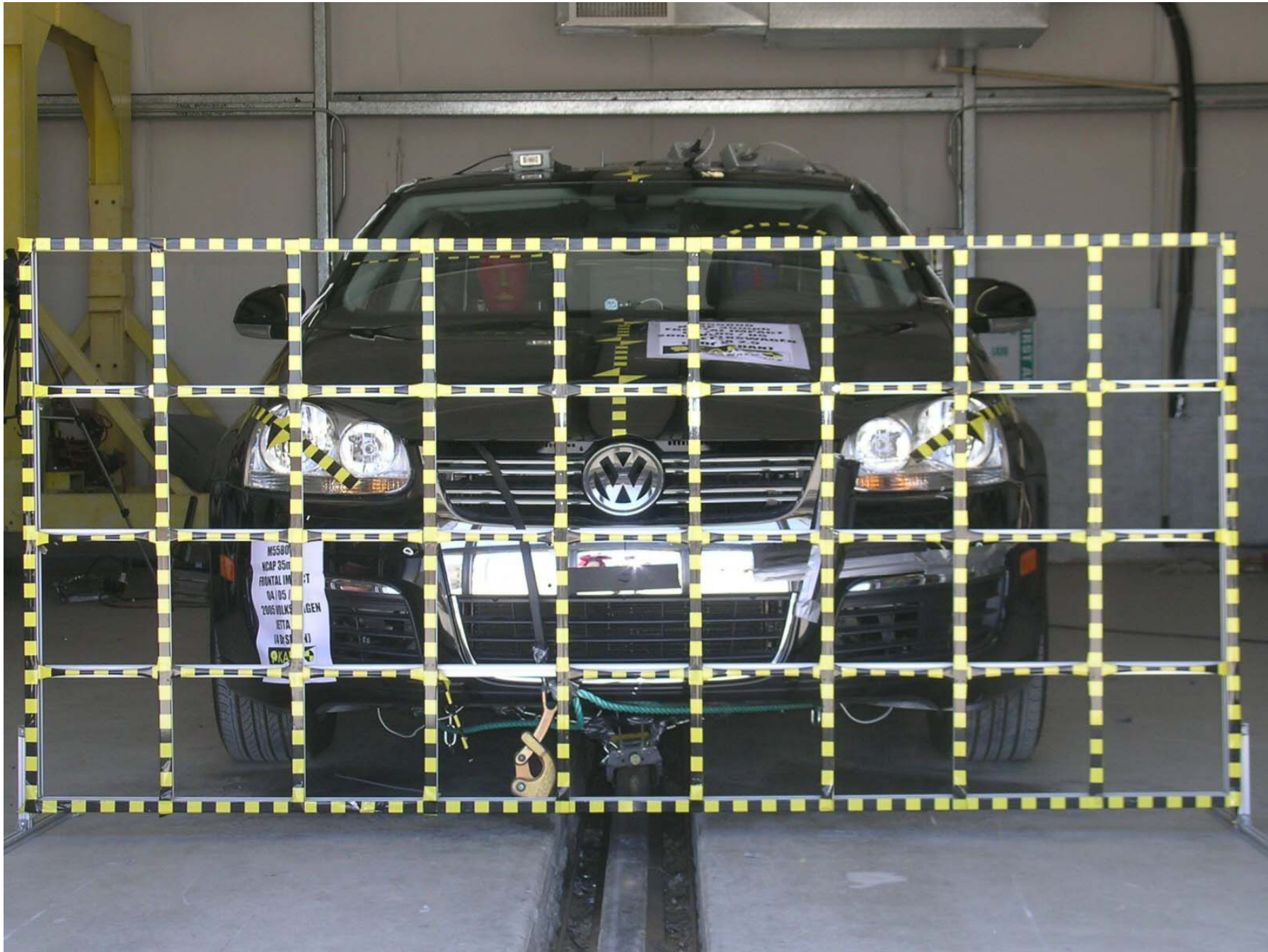
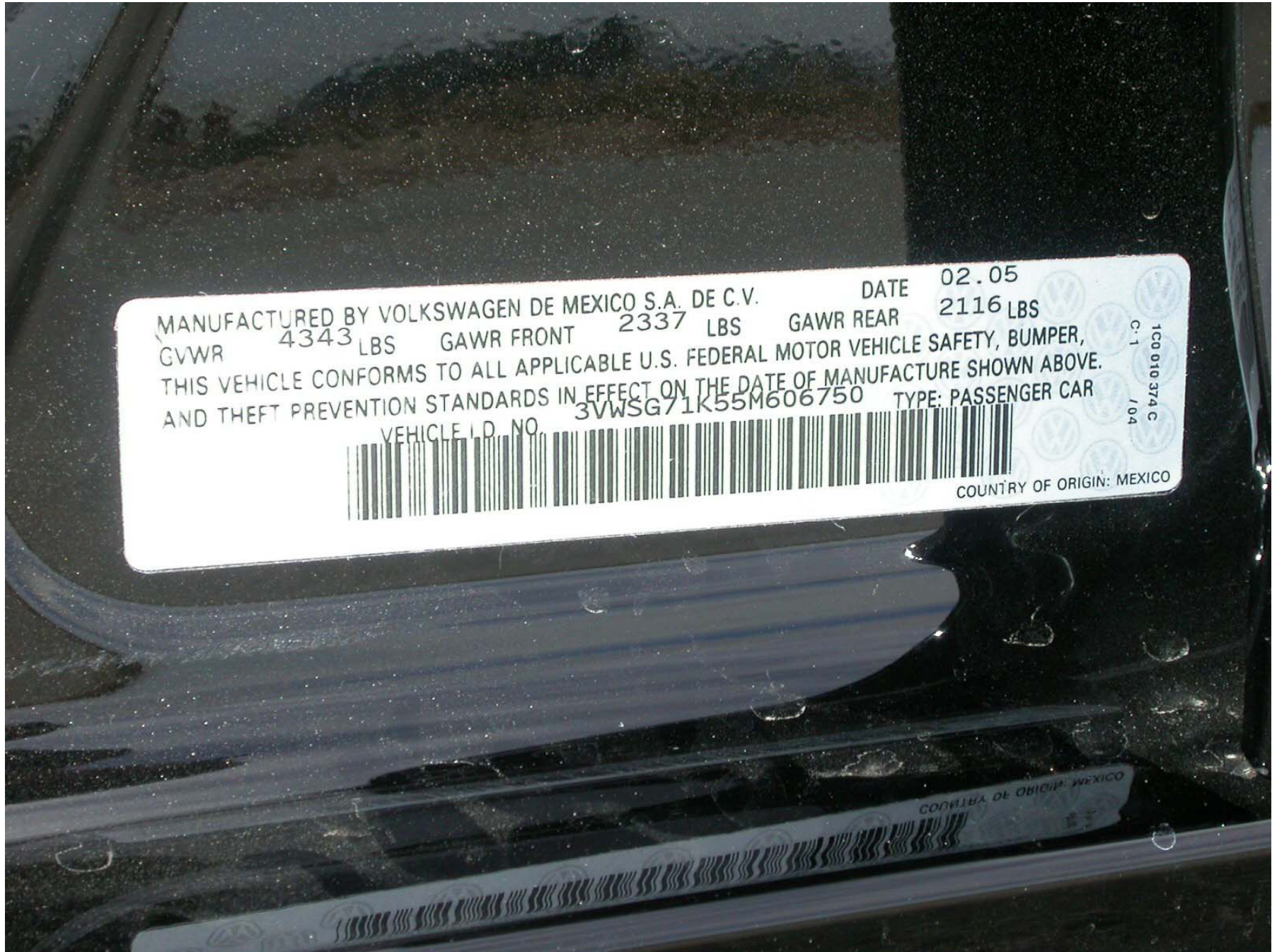


Figure A-1: Load Cell Location

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MANUFACTURED BY VOLKSWAGEN DE MEXICO S.A. DE C.V. DATE 02.05
 GVWR 4343 LBS GAWR FRONT 2337 LBS GAWR REAR 2116 LBS
 THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR VEHICLE SAFETY, BUMPER,
 AND THEFT PREVENTION STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.

VEHICLE I.D. NO. 3VW5G71K55M606750 TYPE: PASSENGER CAR

COUNTRY OF ORIGIN: MEXICO

C-1
104
1C0 010 374 C

A-2

TR-P25001-16-NC

Figure A-2: Manufacturer's Label



TIRE AND LOADING INFORMATION

SEATING CAPACITY | TOTAL 5 | FRONT 2 | REAR 3

THE COMBINED WEIGHT OF OCCUPANTS AND CARGO SHOULD NEVER EXCEED 441 KG OR 972 LBS

ORIGINAL SIZE	COLD TIRE INFLATION PRESSURE	
205/55 R16 91H	FRONT	230 KPA, 33 PSI
	REAR	230 KPA, 33 PSI
SPARE TIRE	COLD TIRE INFLATION PRESSURE	
205/55 R16 91H	230 KPA, 33 PSI	

**SEE OWNER'S
MANUAL FOR
ADDITIONAL
INFORMATION**

C: 2

/04



1K0 010423 H

Figure A-3: Tire Placard



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



A-5

TR-P25001-16-NC

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



Figure A-6: Pre-Test Front View

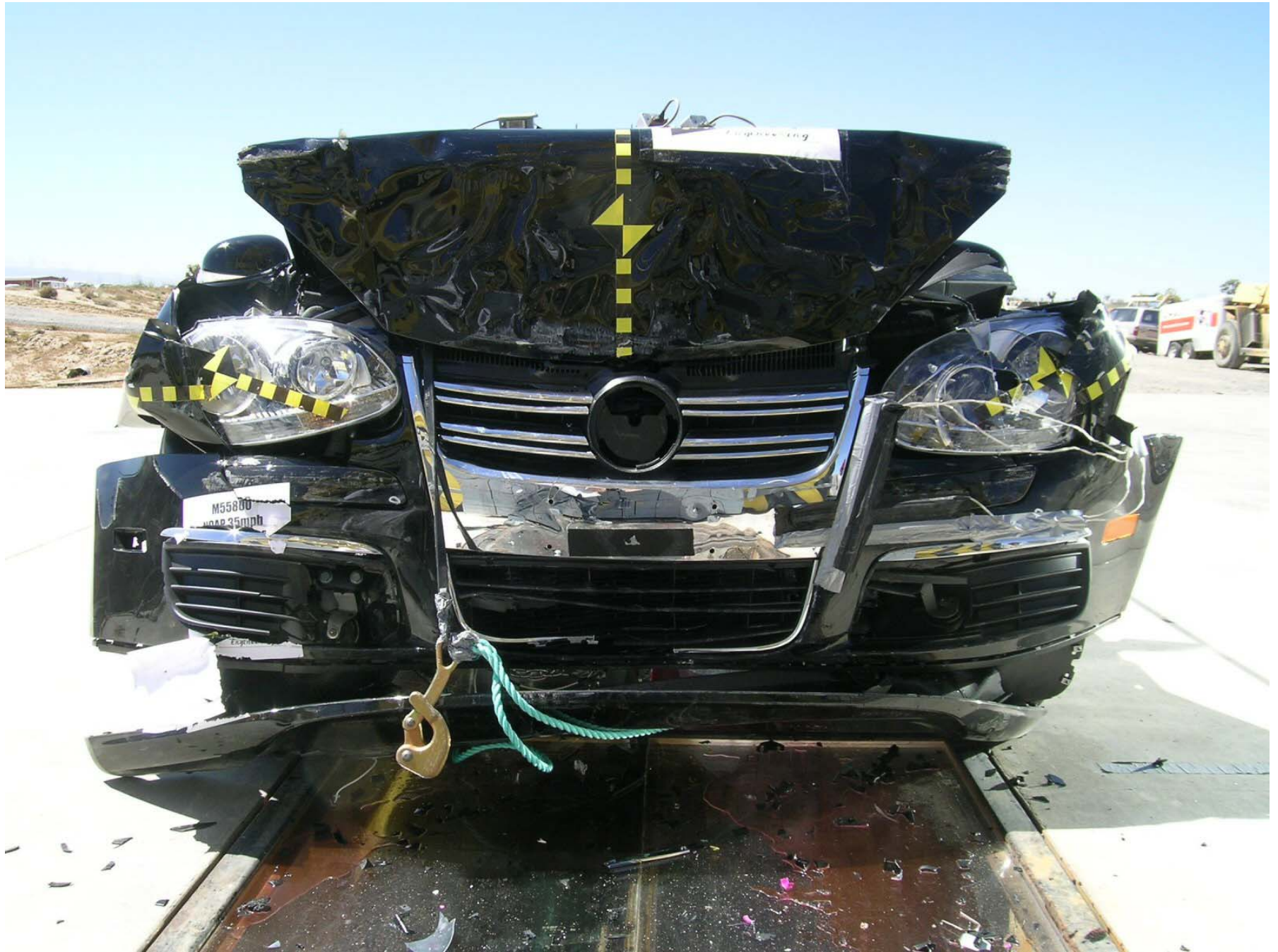


Figure A-7: Post-Test Front View



Figure A-8: Pre-Test Left Side View



Figure A-9: Post-Test Left Side View



Figure A-10: Pre-Test Right Side View



Figure A-11: Post-Test Right Side View



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



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



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



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

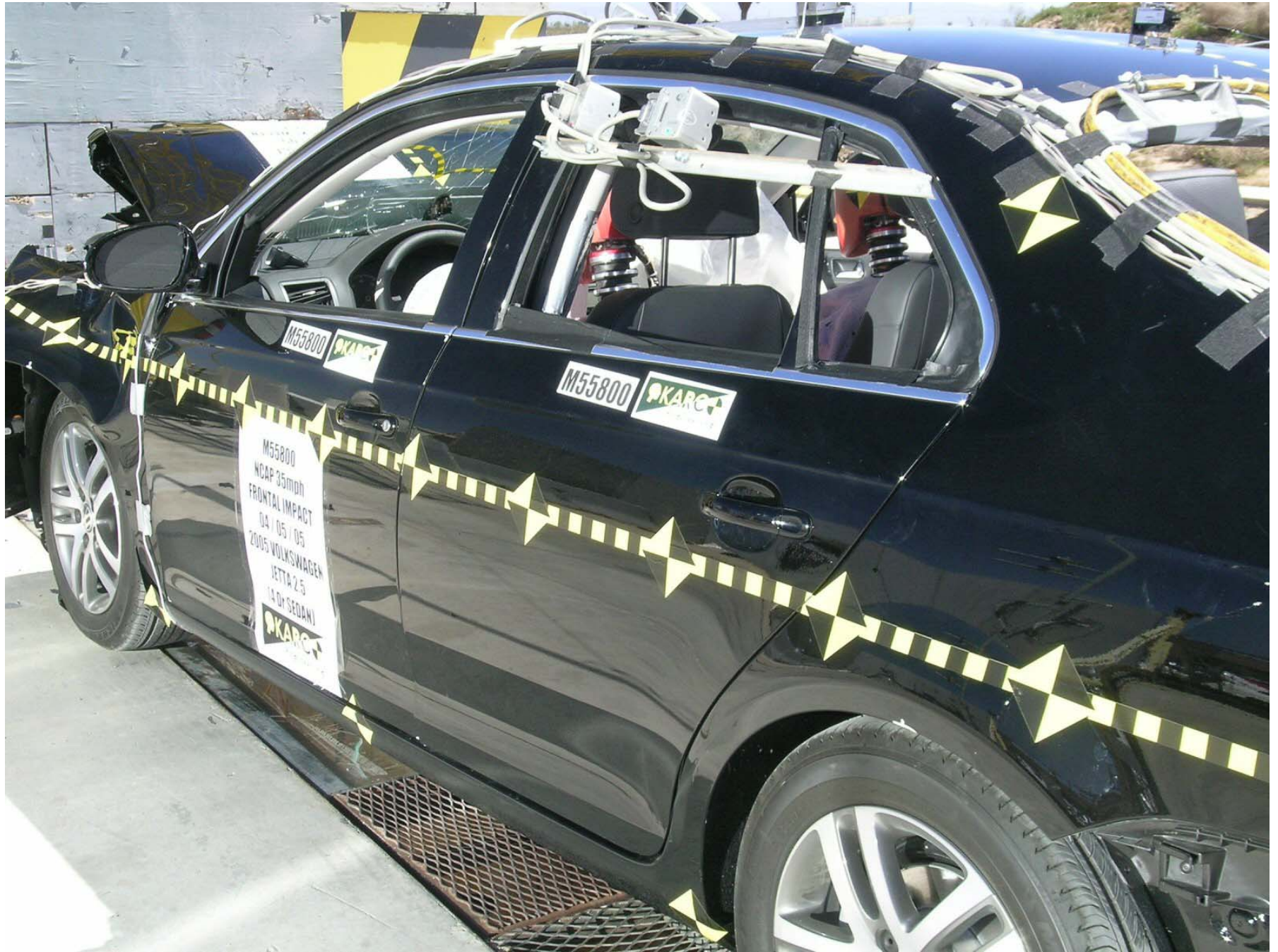


Figure A-16: Post-Test Left Side ¾ View of Doors After Impact



Figure A-17: Post-Test Right Side ¾ View of Doors After Impact

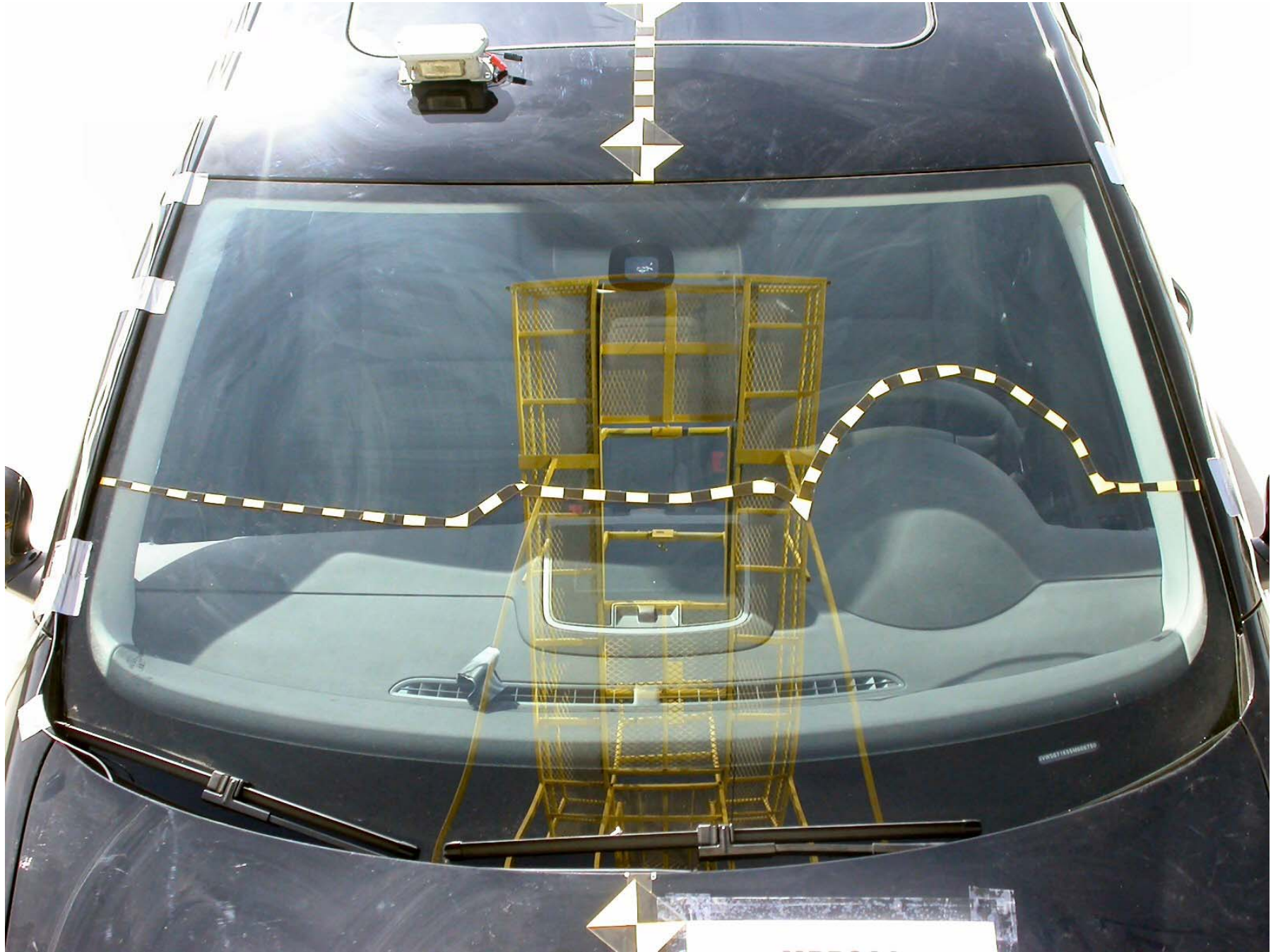


Figure A-18: Pre-Test Windshield



A-19

TR-P25001-16-NC

Figure A-19: Post-Test Windshield



Figure A-20: Pre-Test Engine Compartment

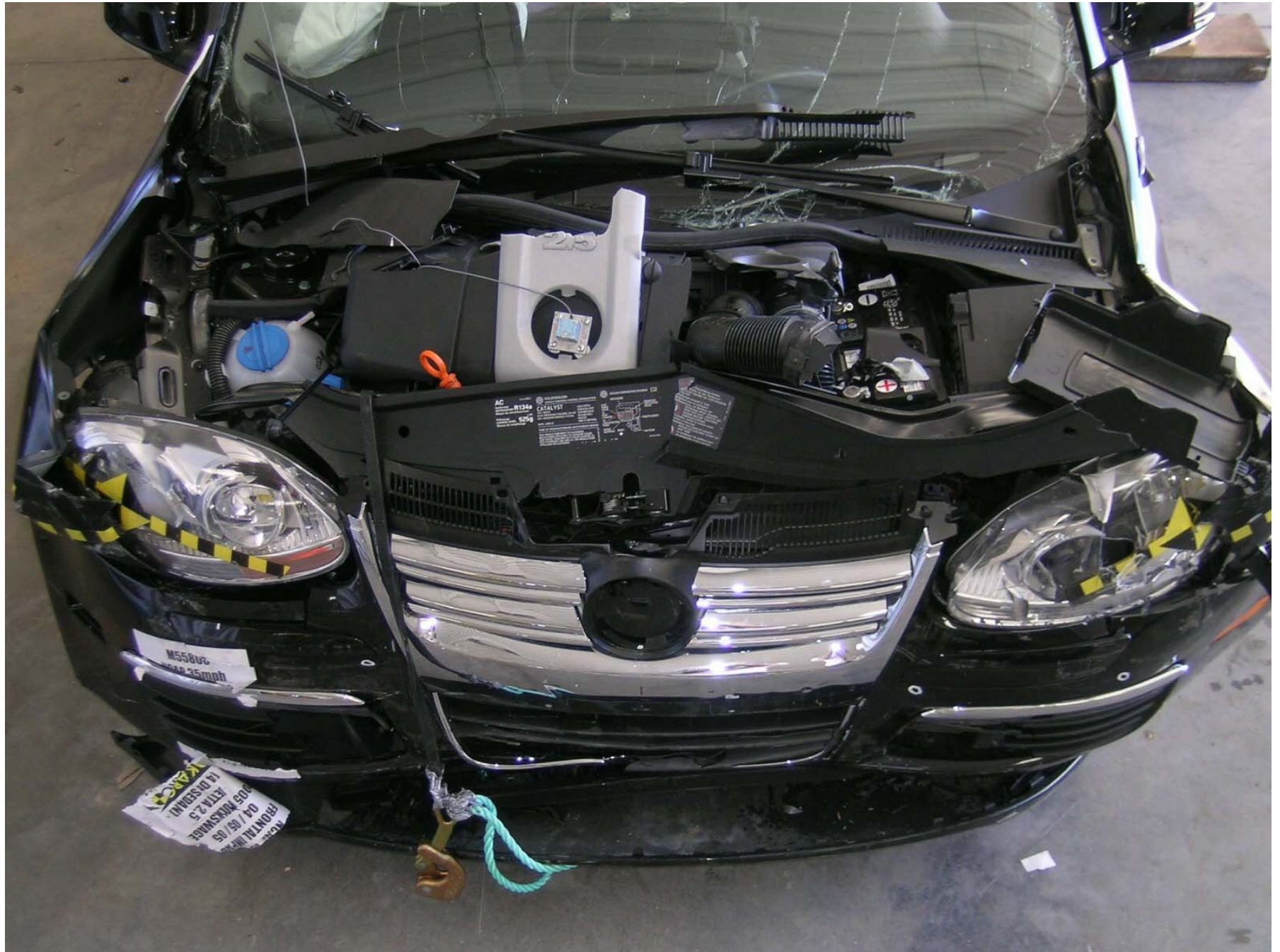


Figure A-21: Post-Test Engine Compartment (Vehicle Moved)

2005 VOLKSWAGEN JETTA 2.5
M55800
STODDARD SOLVENT ADDED
7 GALLONS
26.5 (LITERS)



KARCO
Engineering



Figure A-22: Pre-Test Fuel Cap

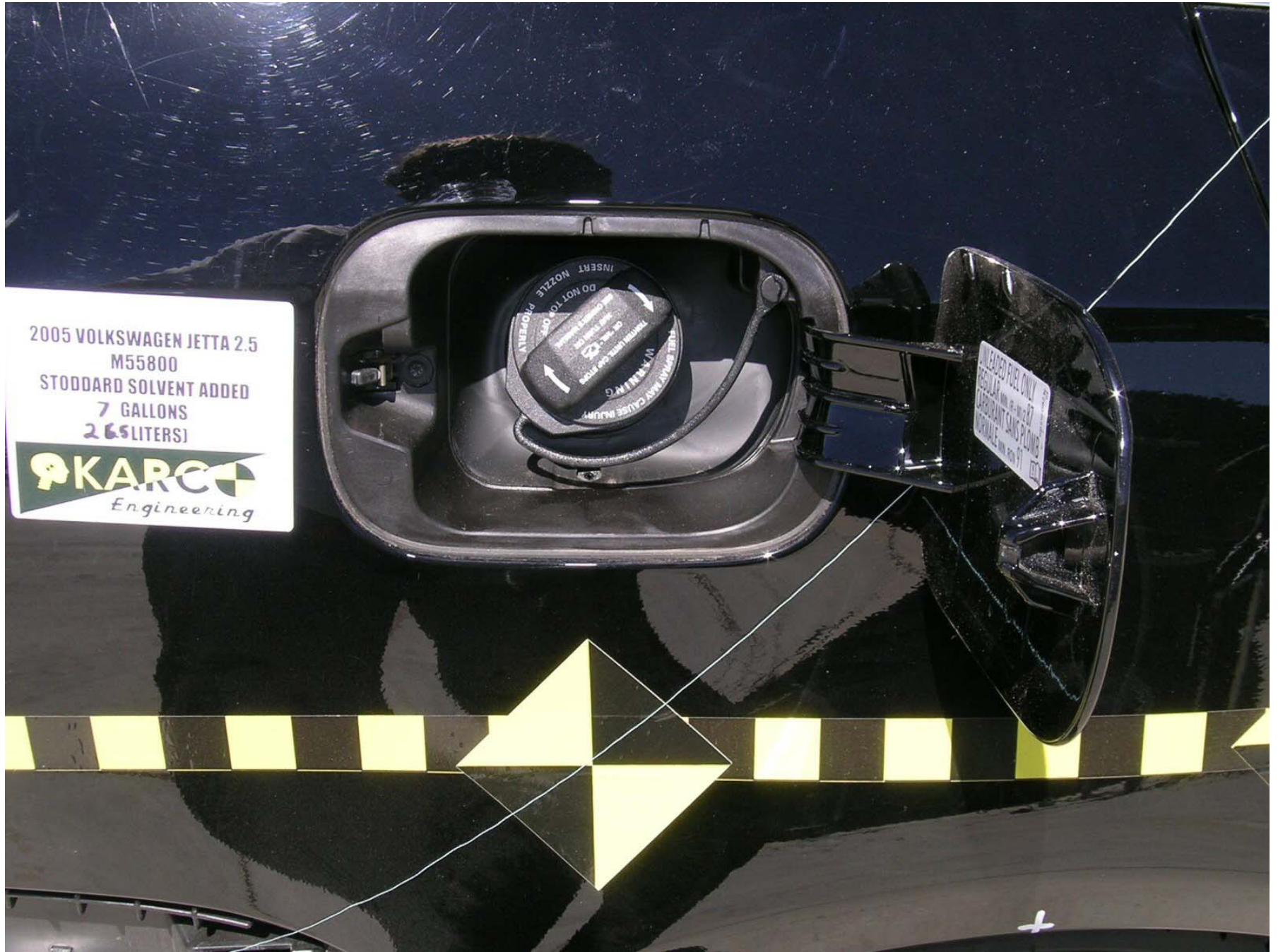


Figure A-23: Post-Test Fuel Cap



Figure A-24: Pre-Test Front Underbody

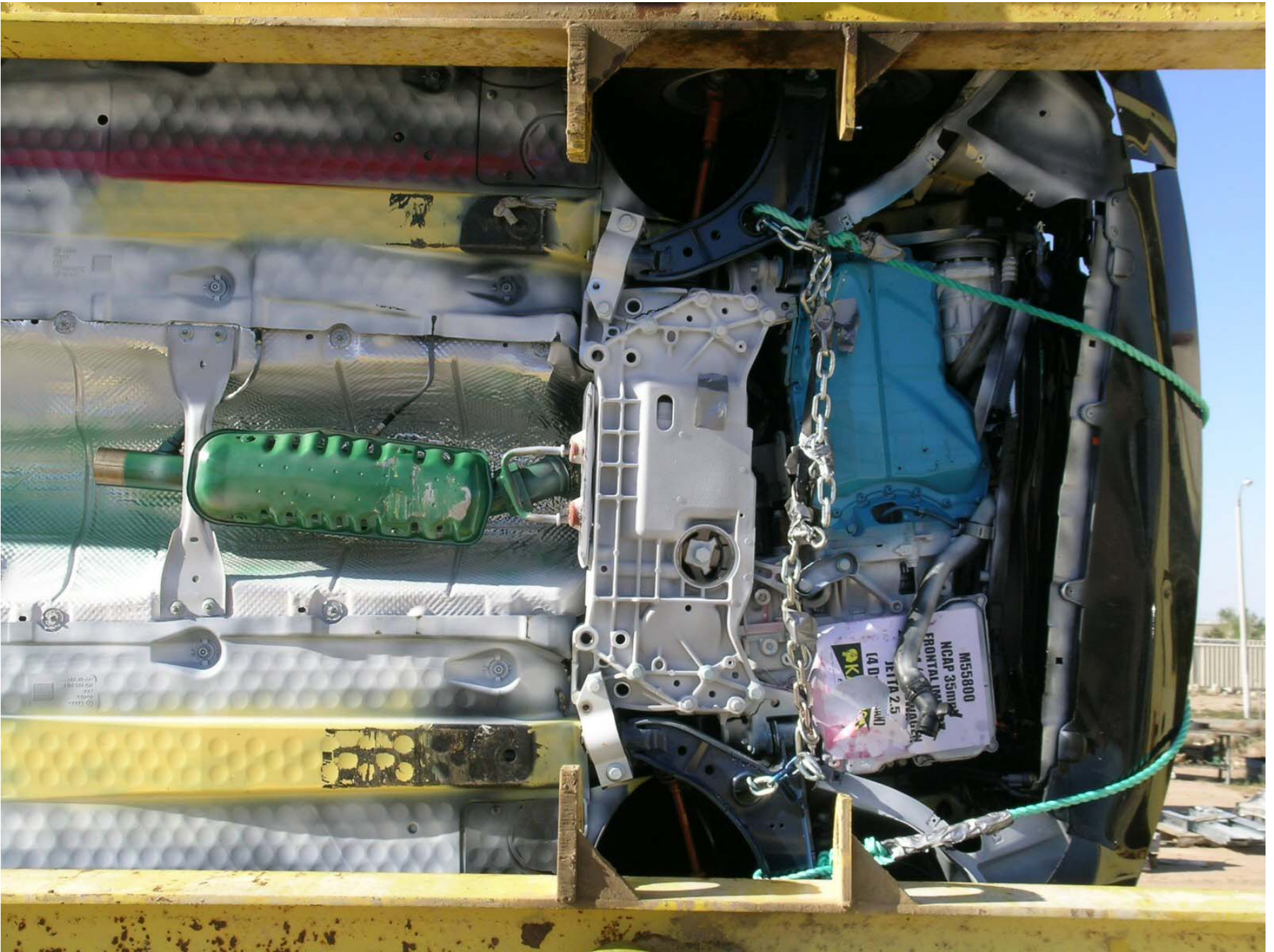
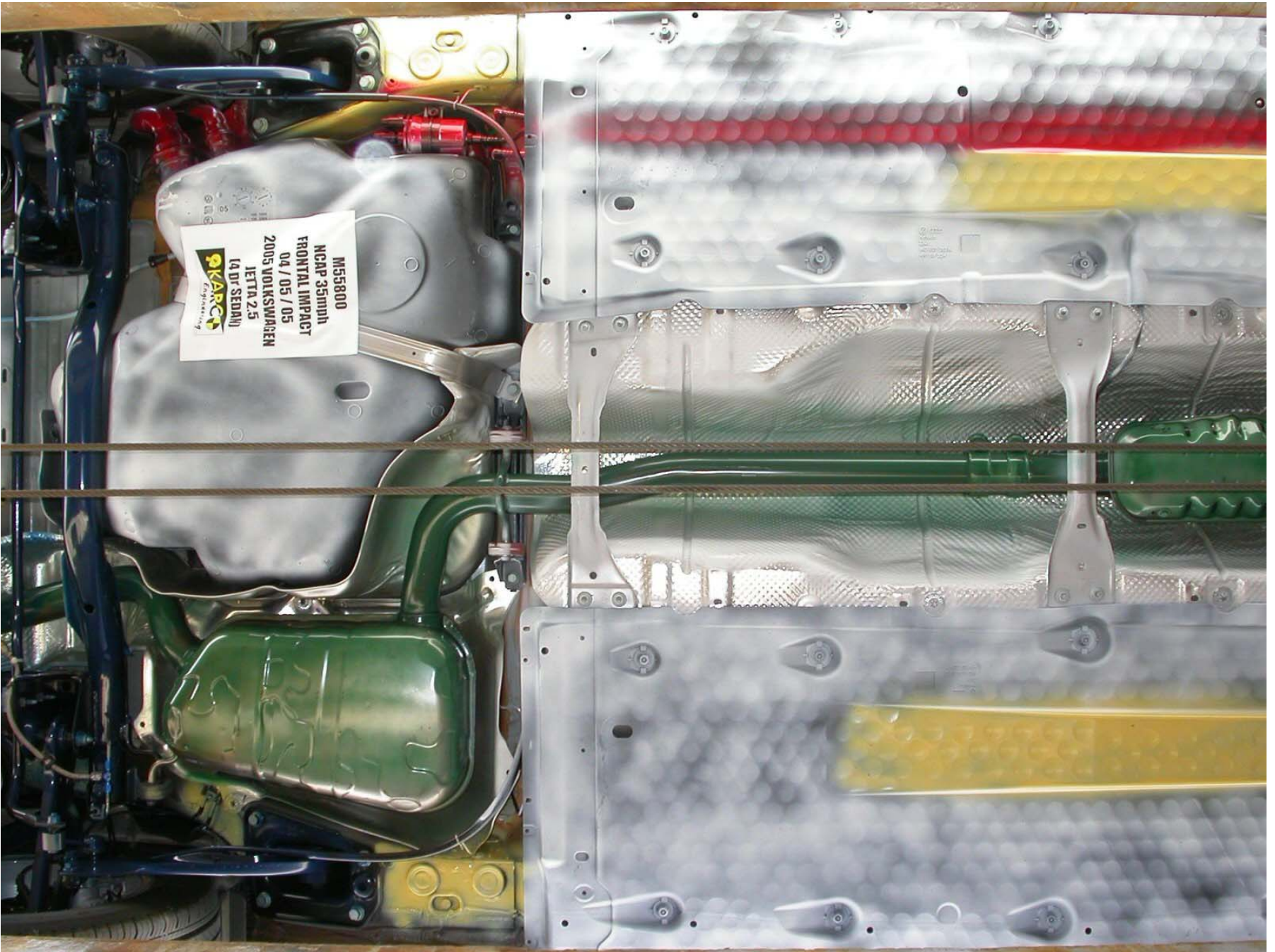


Figure A-25: Post-Test Front Underbody



M55800
NCAP 35mph
FRONTAL IMPACT
04 / 05 / 05
2005 VOLKSWAGEN
JETTA 2.5
I4 DI (SEDAH)
KARCA
Engineering

Figure A-26: Pre-Test Mid Underbody



Figure A-27: Post-Test Mid Underbody

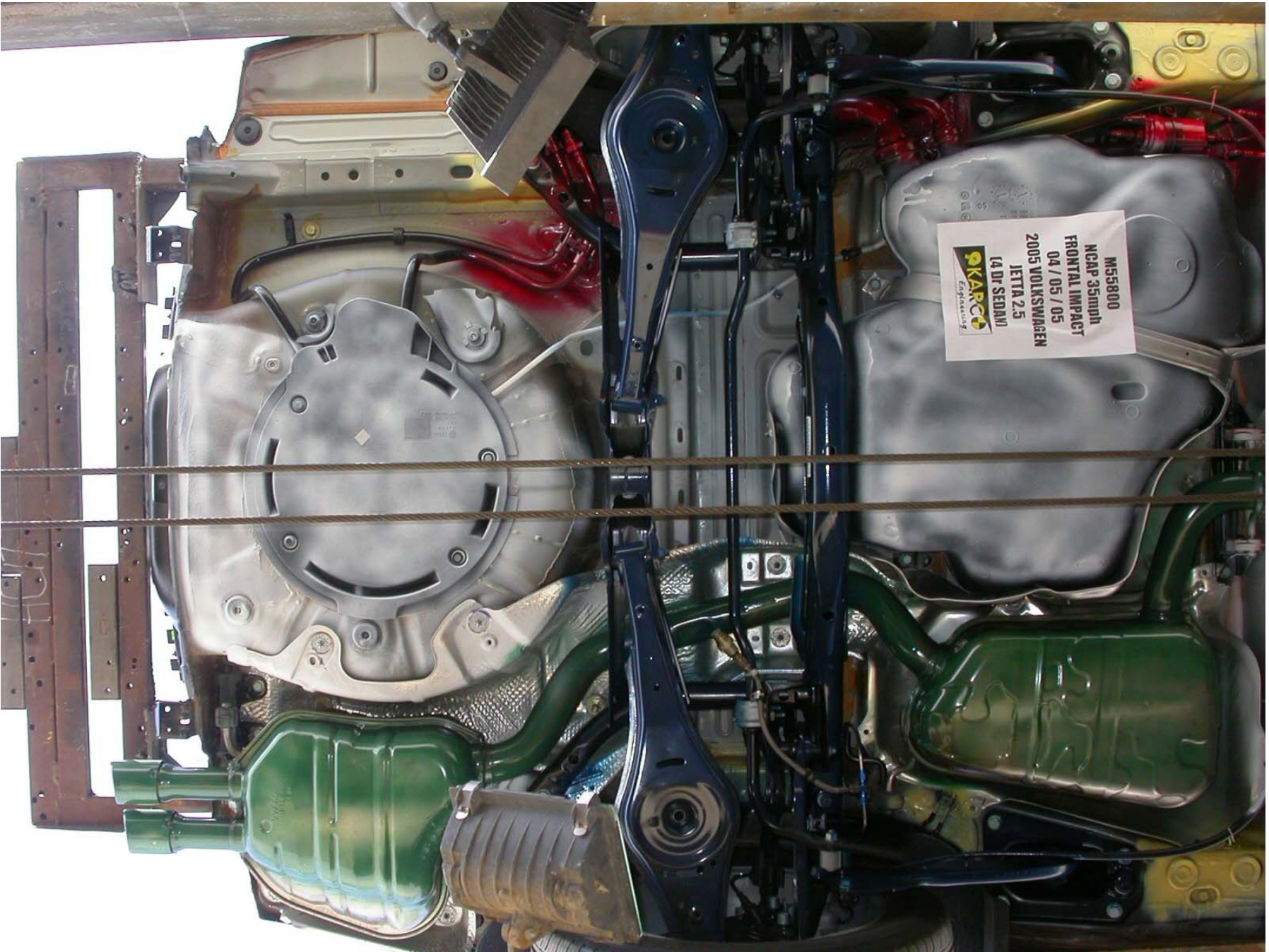


Figure A-28: Pre-Test Rear Underbody

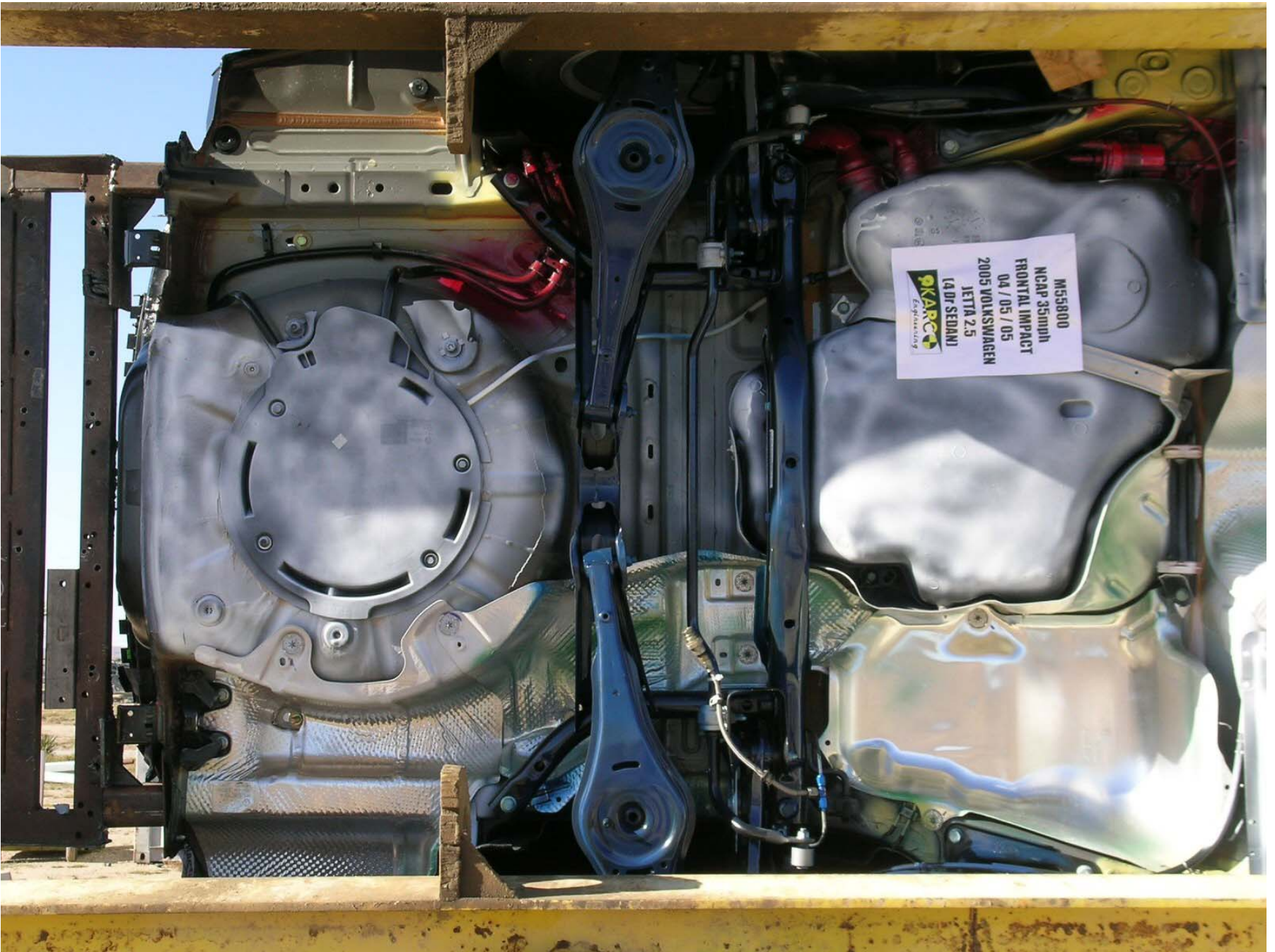


Figure A-29: Post-Test Rear Underbody



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



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



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



Figure A-33: Post-Test Driver Dummy (Through Window)



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



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



Figure A-36: Pre-Test Driver Dummy Feet



Figure A-37: Post-Test Driver Dummy Feet



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



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



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

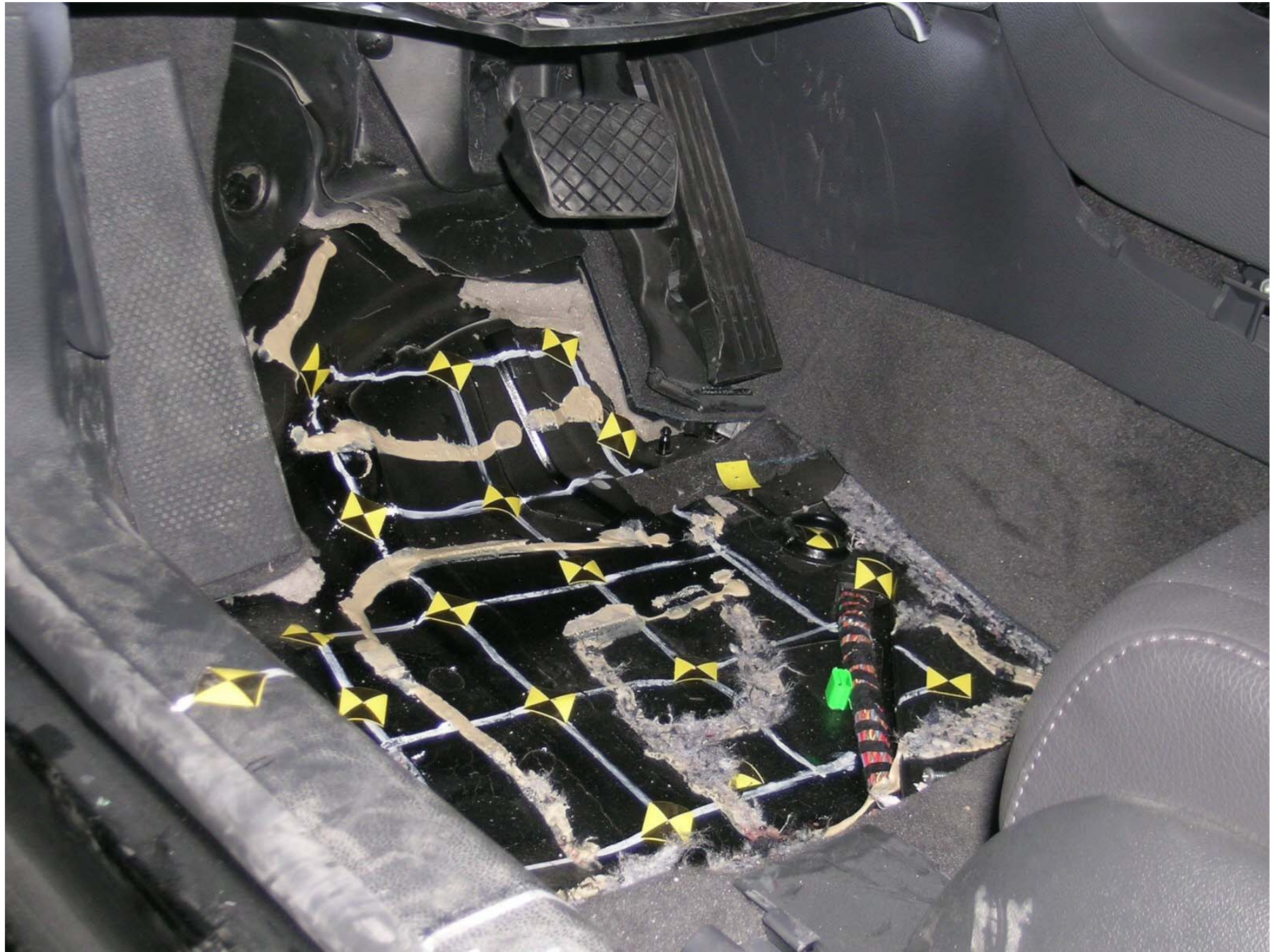


Figure A-41: Post-Test Driver Side Floor Pan



Figure A-42: Post-Test Driver Dummy Head



Figure A-43: Post-Test Driver Dummy Airbag Contact



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



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



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



A-47

TR-P25001-16-NC

Figure A-47: Post-Test Passenger Dummy (Through Window)



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



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



Figure A-50: Pre-Test Passenger Dummy Feet



Figure A-51: Post-Test Passenger Dummy Feet



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



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

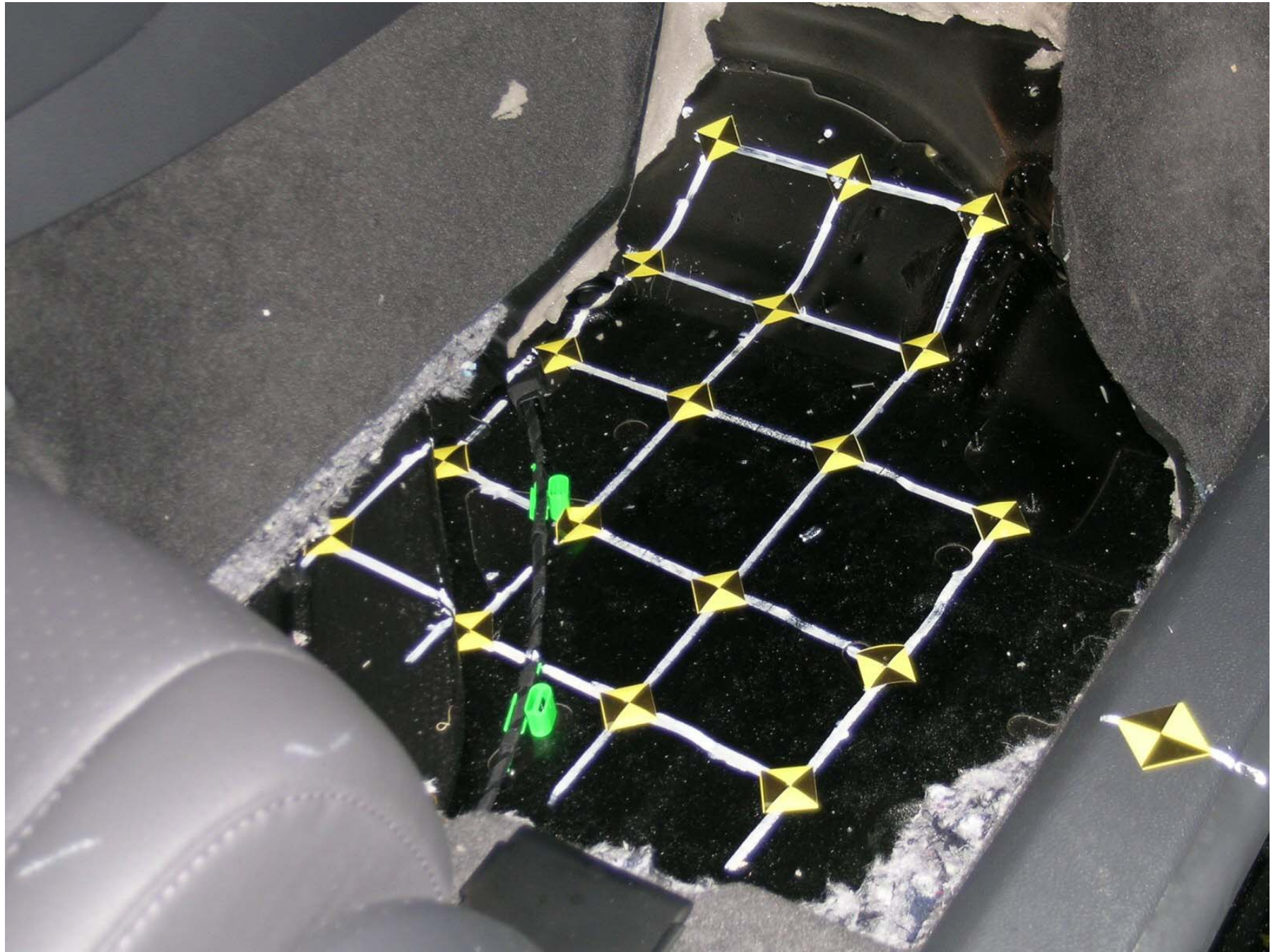


Figure A-54: Pre-Test Passenger Side Floor Pan



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



Figure A-56: Post-Test Passenger Dummy Head

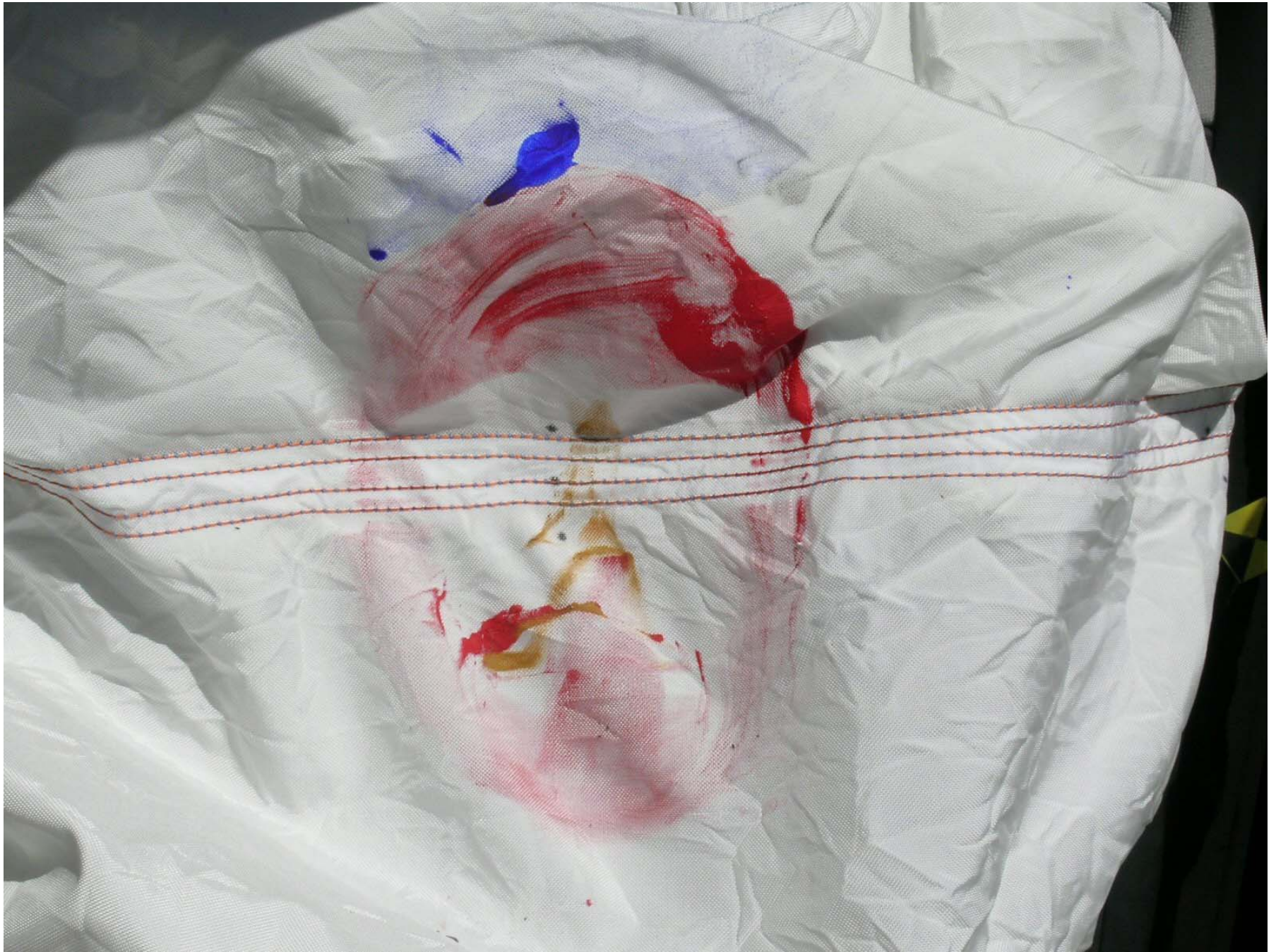


Figure A-57: Post-Test Passenger Dummy Airbag Contact



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



Figure A-59: Vehicle on Rollover Device (90°)



Figure A-60: Vehicle on Rollover Device (180°)



Figure A-61: Vehicle on Rollover Device (270°)



Figure A-62: Vehicle Impact

APPENDIX B

DATA PLOTS

LIST OF DATA PLOTS

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	Driver Head Primary Y	B-1
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	Driver Head Primary X Displacement	B-2
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	Driver Upper Neck Force Y	B-5
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	Driver Upper Neck Force Resultant	B-5
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LIST OF DATA PLOTS...(CONTINUED)

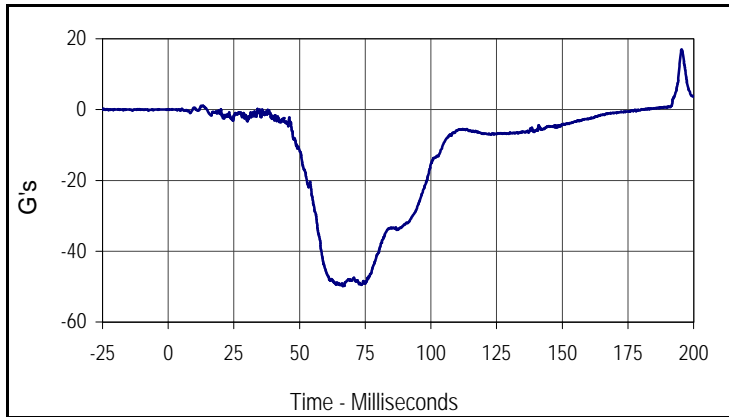
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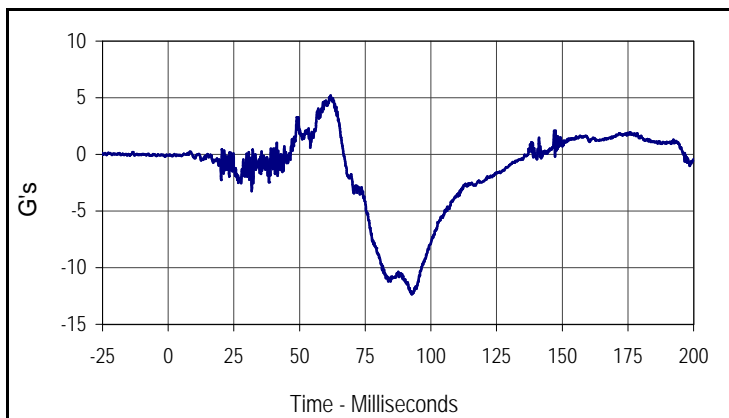
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Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

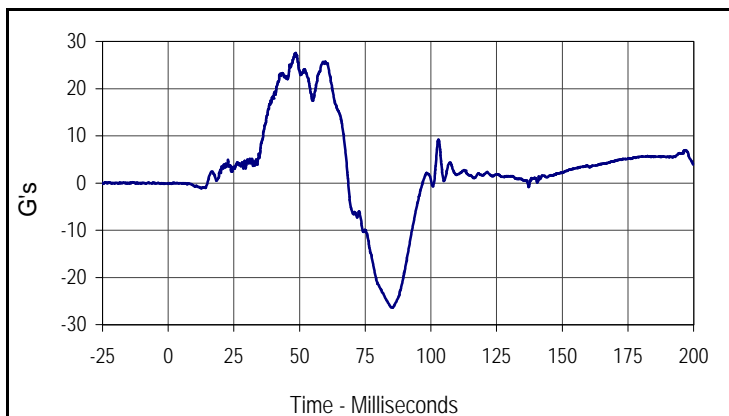
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 NHTSA No.: M55800



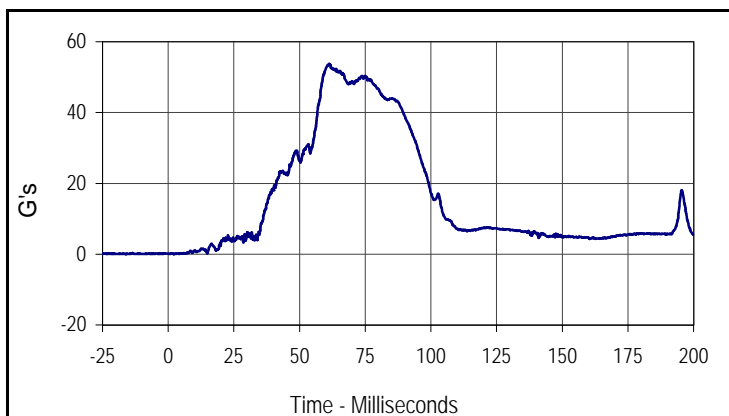
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Driver Head Primary X			
CURNO	Type	SAE Class	Units
001	FIL	1000	G's
Max	Time	Min	Time
16.9	195.4	-49.9	66.5



Curve Description			
Driver Head Primary Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
5.2	61.8	-12.4	92.8



Curve Description			
Driver Head Primary Z			
CURNO	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
27.6	48.6	-26.4	85.5



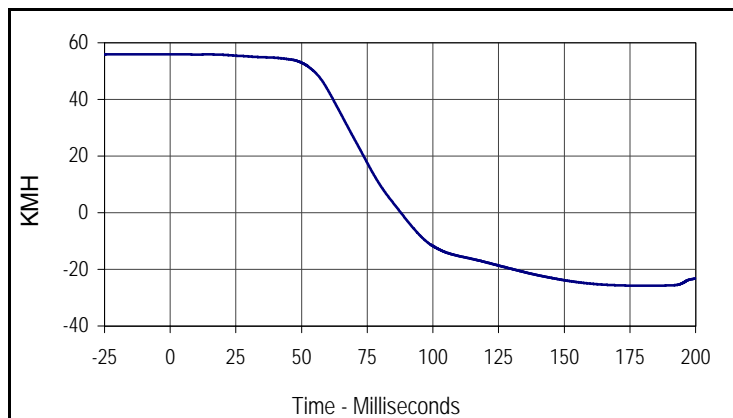
Curve Description			
Driver Head Resultant Primary			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
53.7	61.3	0.0	2.2

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan

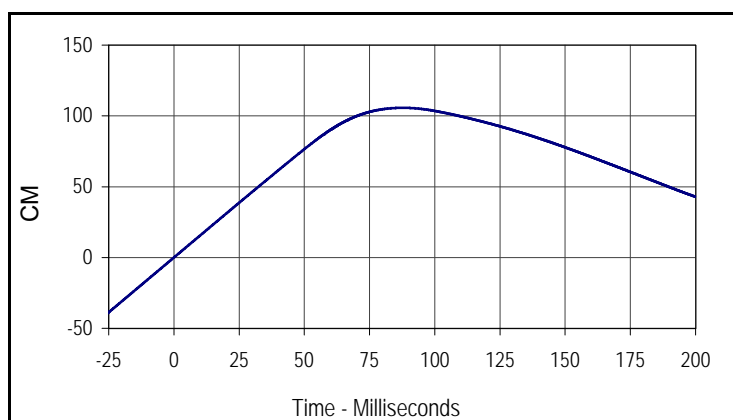
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Test Program: 2005 NHTSA 35mph NCAP

NHTSA No.: M55800



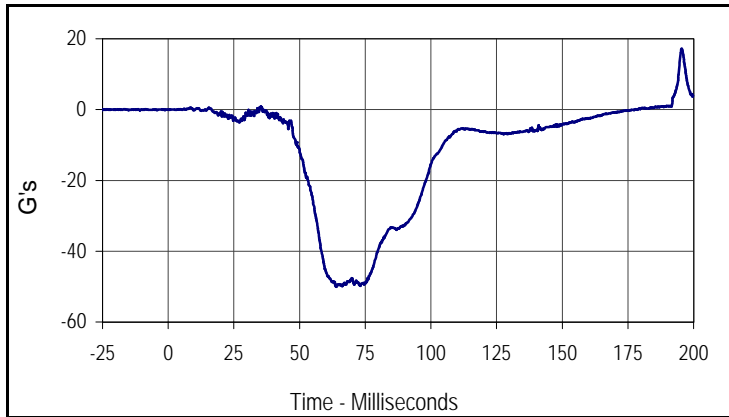
Curve Description			
Driver Head Primary X Velocity			
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001	IN1	180	KMH
Max	Time	Min	Time
55.9	14.6	-25.8	180.3



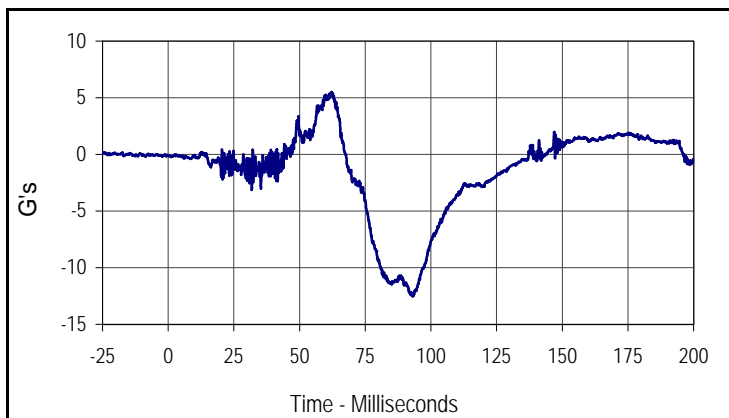
Curve Description			
Driver Head Primary X Displacement			
CURNO	Type	SAE Class	Units
001	IN2	180	CM
Max	Time	Min	Time
105.7	87.8	0.0	0.0

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

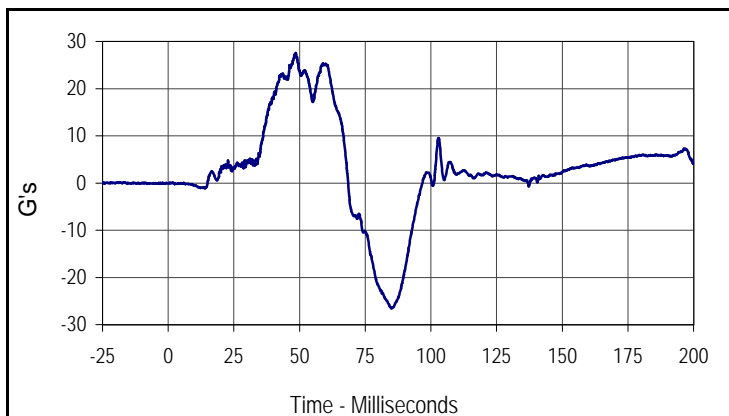
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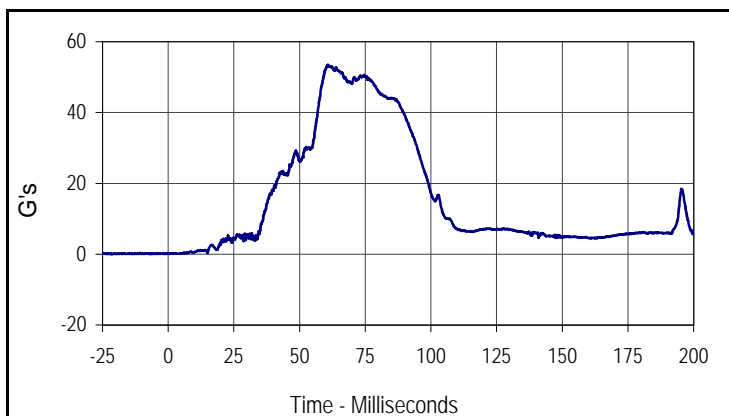
Curve Description			
Driver Head Redundant X			
CURNO	Type	SAE Class	Units
004	FIL	1000	G's
Max	Time	Min	Time
17.2	195.4	-50.0	63.9



Curve Description			
Driver Head Redundant Y			
CURNO	Type	SAE Class	Units
005	FIL	1000	G's
Max	Time	Min	Time
5.5	62.2	-12.5	93.2



Curve Description			
Driver Head Redundant Z			
CURNO	Type	SAE Class	Units
006	FIL	1000	G's
Max	Time	Min	Time
27.6	48.6	-26.5	85.0



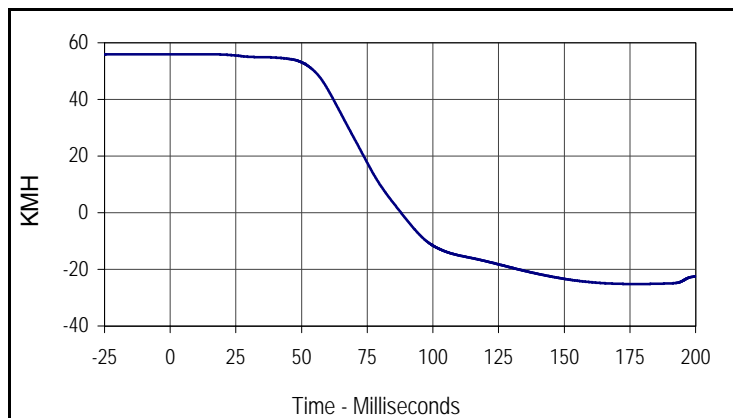
Curve Description			
Driver Head Resultant Redundant			
CURNO	Type	SAE Class	Units
004	RES	1000	G's
Max	Time	Min	Time
53.5	60.7	0.1	0.5

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan

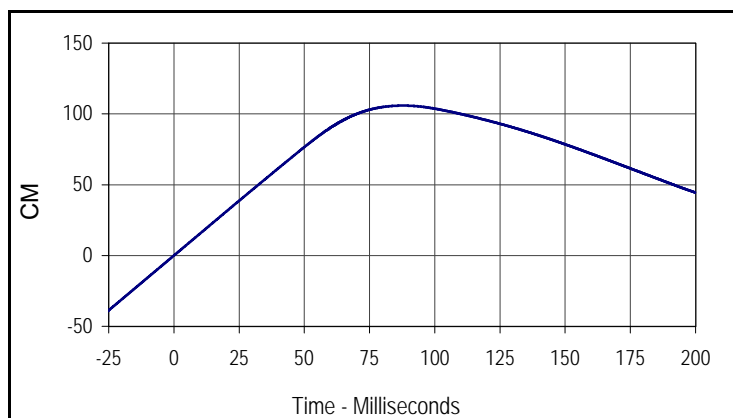
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Test Program: 2005 NHTSA 35mph NCAP

NHTSA No.: M55800



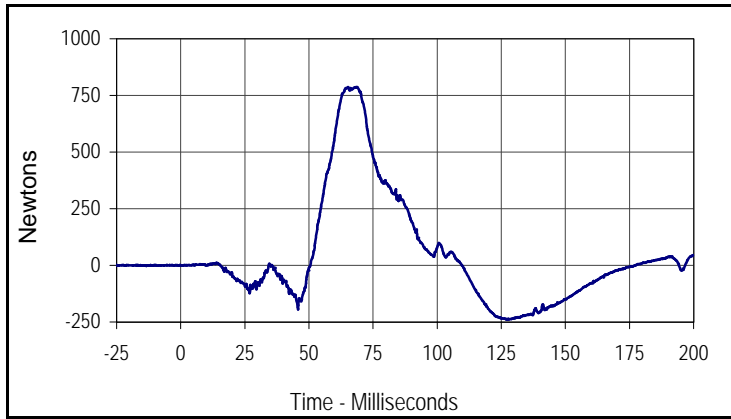
Curve Description			
Driver Head Redundant X Velocity			
CURNO	Type	SAE Class	Units
004	IN1	180	KMH
Max	Time	Min	Time
55.9	16.5	-25.2	177.7



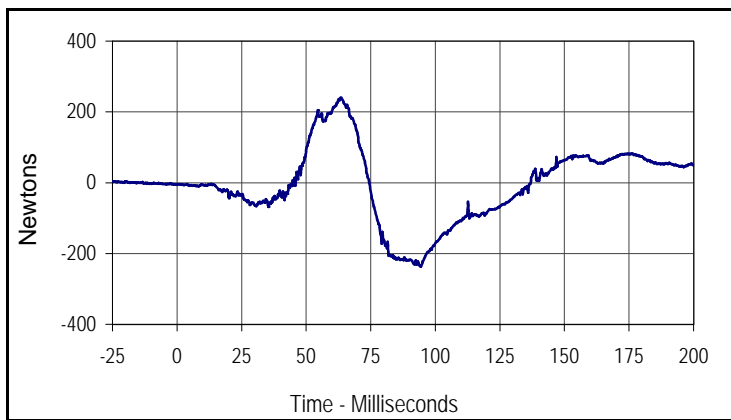
Curve Description			
Driver Head Redundant X Displacement			
CURNO	Type	SAE Class	Units
004	IN2	180	CM
Max	Time	Min	Time
105.9	87.9	0.0	0.0

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

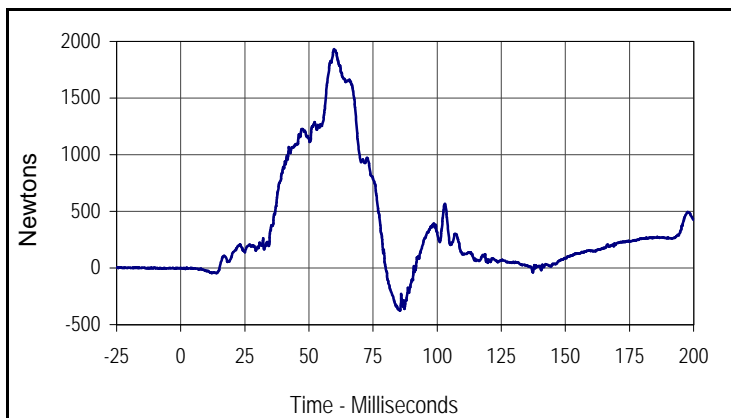
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 NHTSA No.: M55800



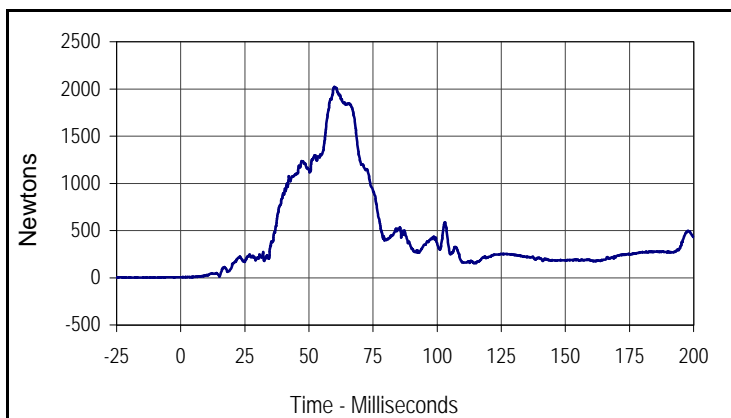
Curve Description			
Driver Upper Neck Force X			
CURNO	Type	SAE Class	Units
007	FIL	1000	Newtons
Max	Time	Min	Time
787.1	68.8	-239.0	127.1



Curve Description			
Driver Upper Neck Force Y			
CURNO	Type	SAE Class	Units
008	FIL	1000	Newtons
Max	Time	Min	Time
240.1	63.4	-237.1	94.4



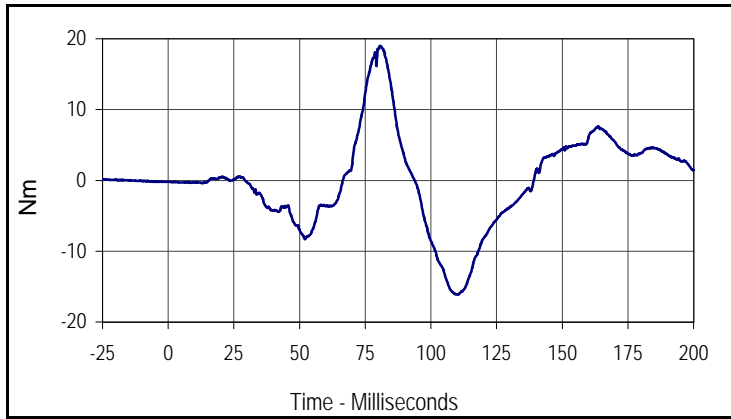
Curve Description			
Driver Upper Neck Force Z			
CURNO	Type	SAE Class	Units
009	FIL	1000	Newtons
Max	Time	Min	Time
1933.5	59.8	-376.8	85.6



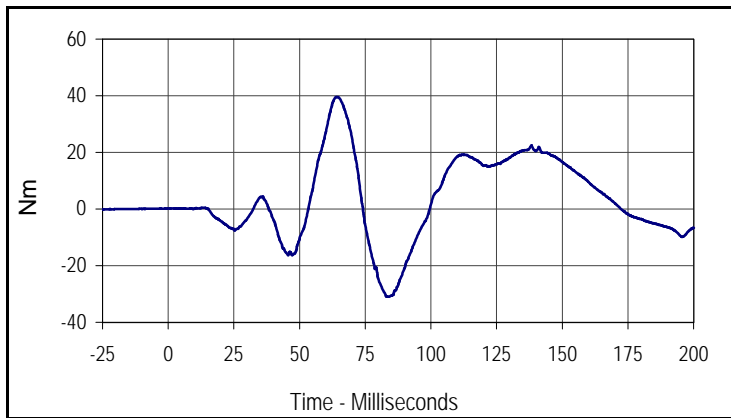
Curve Description			
Driver Upper Neck Force Res.			
CURNO	Type	SAE Class	Units
007	RES	1000	Newtons
Max	Time	Min	Time
2020.5	59.8	4.3	0.5

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

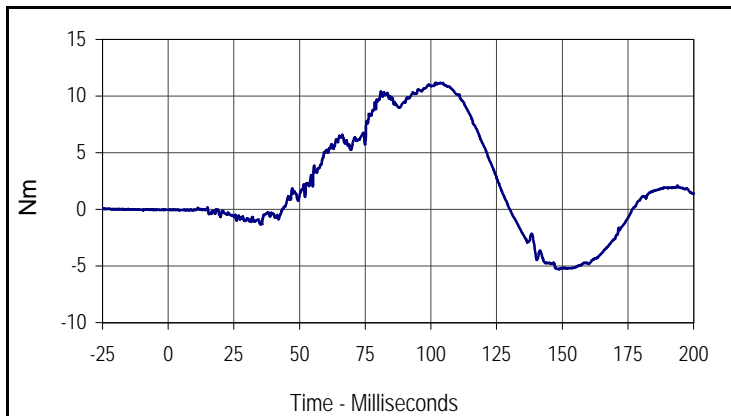
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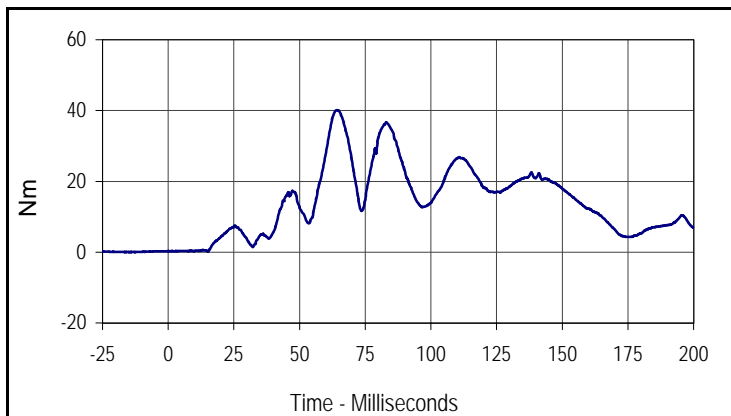
Curve Description			
Driver Upper Neck Moment X			
CURNO	Type	SAE Class	Units
010	FIL	600	Nm
Max	Time	Min	Time
19.0	80.6	-16.1	110.0



Curve Description			
Driver Upper Neck Moment Y			
CURNO	Type	SAE Class	Units
011	FIL	600	Nm
Max	Time	Min	Time
39.6	64.1	-31.0	83.8



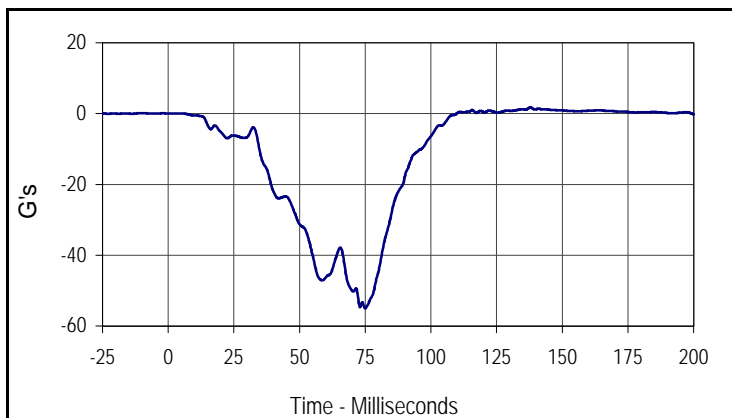
Curve Description			
Driver Upper Neck Moment Z			
CURNO	Type	SAE Class	Units
012	FIL	600	Nm
Max	Time	Min	Time
11.2	101.8	-5.3	148.8



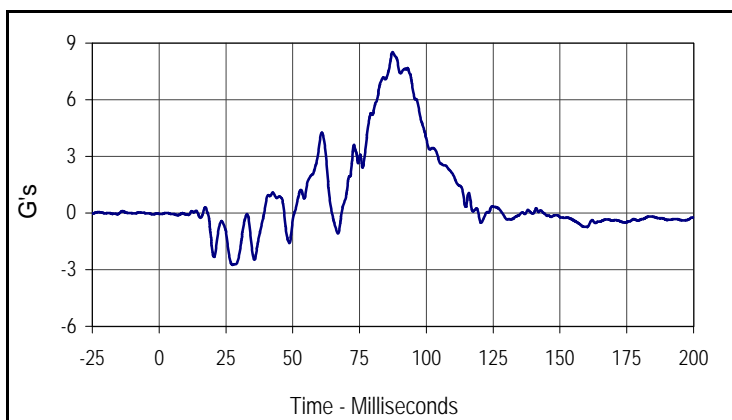
Curve Description			
Driver Upper Neck Moment Res.			
CURNO	Type	SAE Class	Units
010	RES	600	Nm
Max	Time	Min	Time
40.1	64.1	0.1	15.2

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

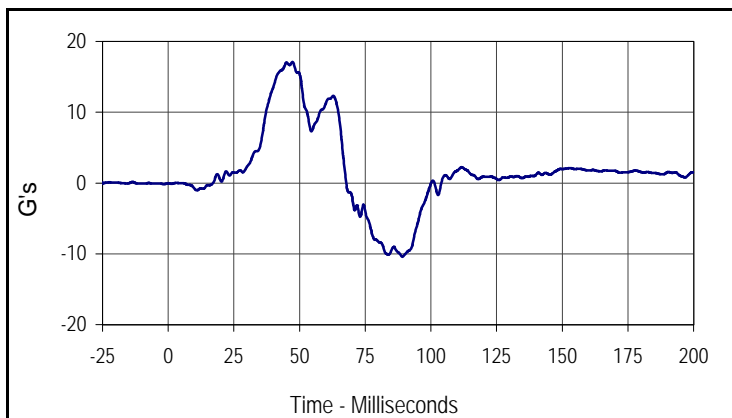
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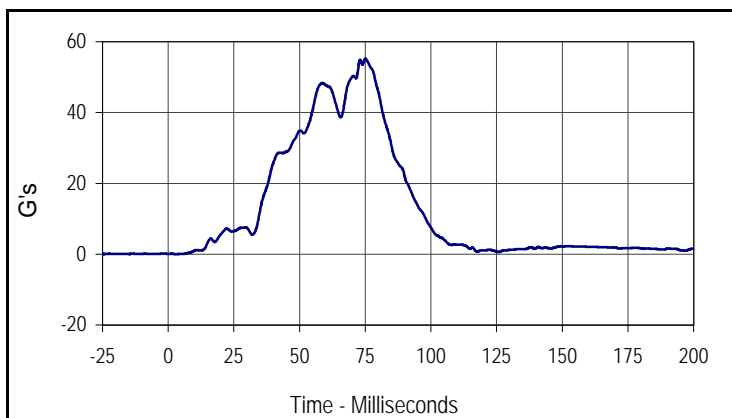
Curve Description			
Driver Chest Primary X			
CURNO	Type	SAE Class	Units
013	FIL	180	G's
Max	Time	Min	Time
1.7	137.8	-55.0	75.0



Curve Description			
Driver Chest Primary Y			
CURNO	Type	SAE Class	Units
014	FIL	180	G's
Max	Time	Min	Time
8.5	87.3	-2.7	27.5



Curve Description			
Driver Chest Primary Z			
CURNO	Type	SAE Class	Units
015	FIL	180	G's
Max	Time	Min	Time
17.1	47.3	-10.4	89.2



Curve Description			
Driver Chest Resultant Primary			
CURNO	Type	SAE Class	Units
013	RES	180	G's
Max	Time	Min	Time
55.3	75.0	0.0	2.6

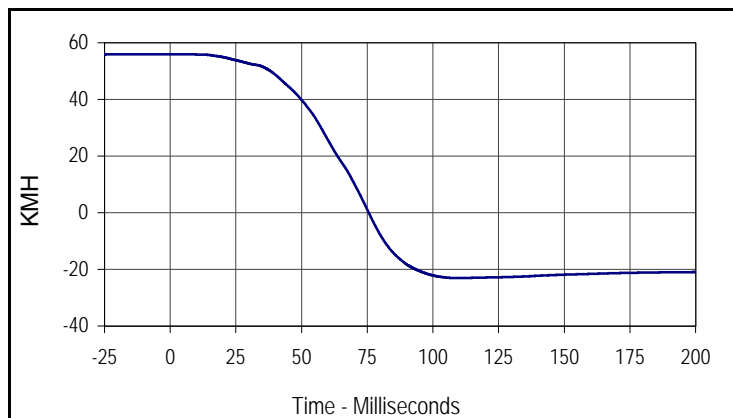
Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan

Test Date: 4/5/05

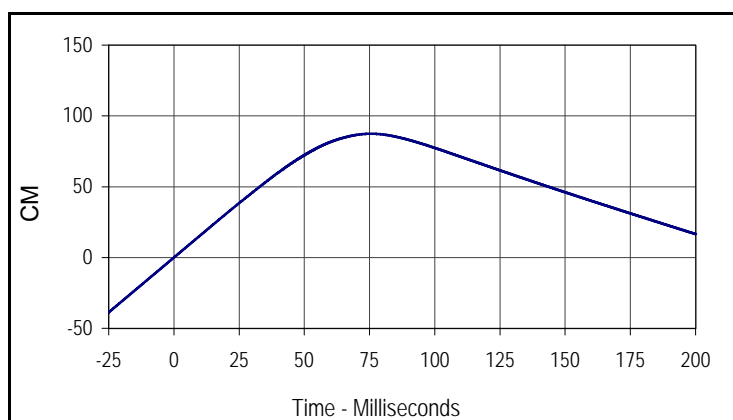


Test Program: 2005 NHTSA 35mph NCAP

NHTSA No.: M55800



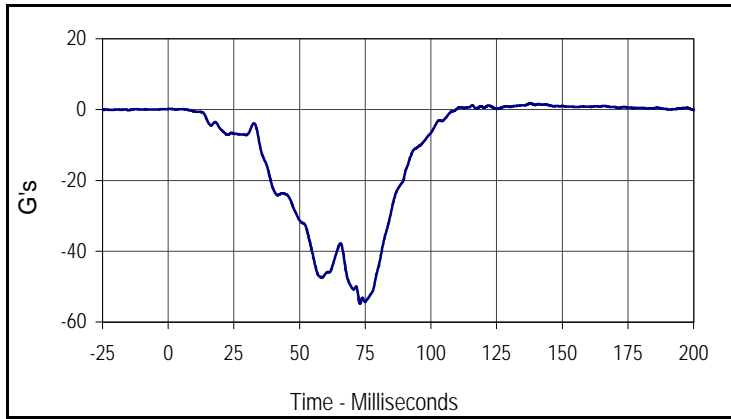
Curve Description			
Driver Chest Primary X Velocity			
CURNO	Type	SAE Class	Units
013	IN1	180	KMH
Max	Time	Min	Time
55.9	5.9	-23.1	109.7



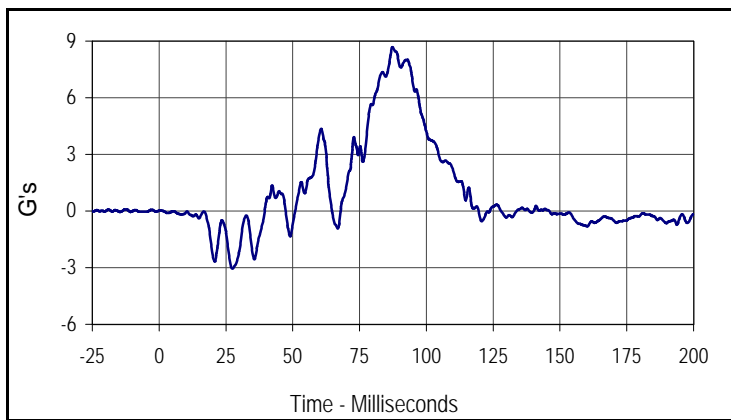
Curve Description			
Driver Chest Primary X Displacement			
CURNO	Type	SAE Class	Units
013	IN2	180	CM
Max	Time	Min	Time
87.4	75.6	0.0	0.0

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

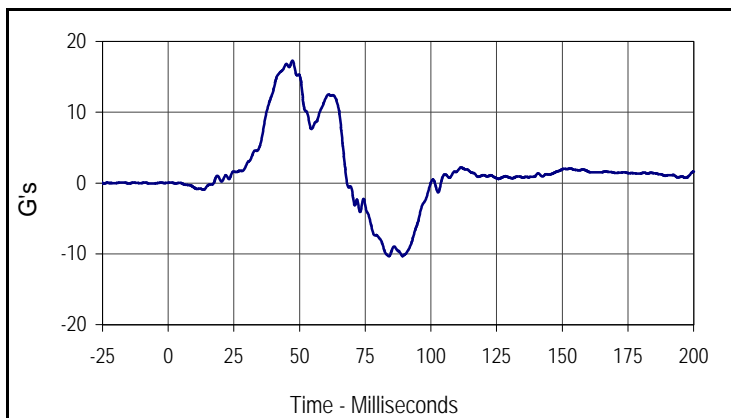
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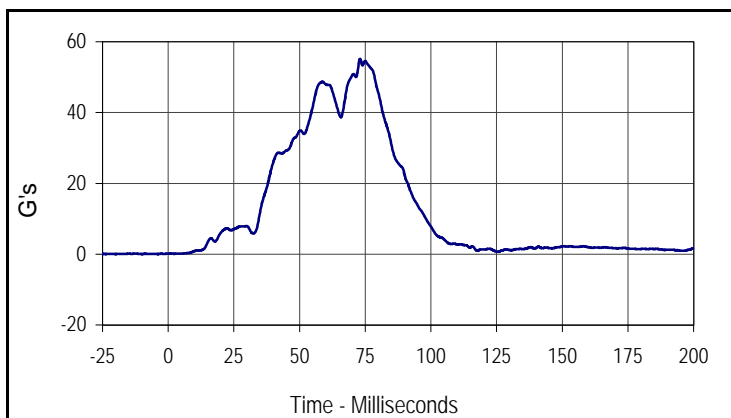
Curve Description			
Driver Chest Redundant X			
CURNO	Type	SAE Class	Units
016	FIL	180	G's
Max	Time	Min	Time
1.8	137.8	-54.9	73.0



Curve Description			
Driver Chest Redundant Y			
CURNO	Type	SAE Class	Units
017	FIL	180	G's
Max	Time	Min	Time
8.7	87.3	-3.1	27.4



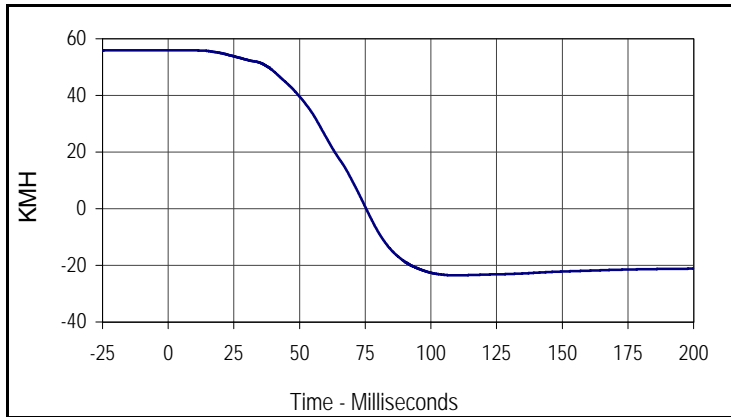
Curve Description			
Driver Chest Redundant Z			
CURNO	Type	SAE Class	Units
018	FIL	180	G's
Max	Time	Min	Time
17.3	47.3	-10.3	84.0



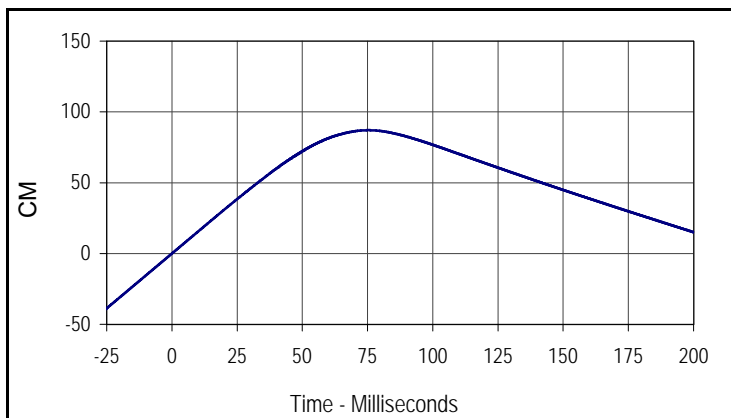
Curve Description			
Driver Chest Resultant Redundant			
CURNO	Type	SAE Class	Units
016	RES	180	G's
Max	Time	Min	Time
55.2	73.0	0.1	2.3

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Driver Chest Redundant X Velocity			
CURNO	Type	SAE Class	Units
016	IN1	180	KMH
Max	Time	Min	Time
55.9	6.9	-23.5	109.6



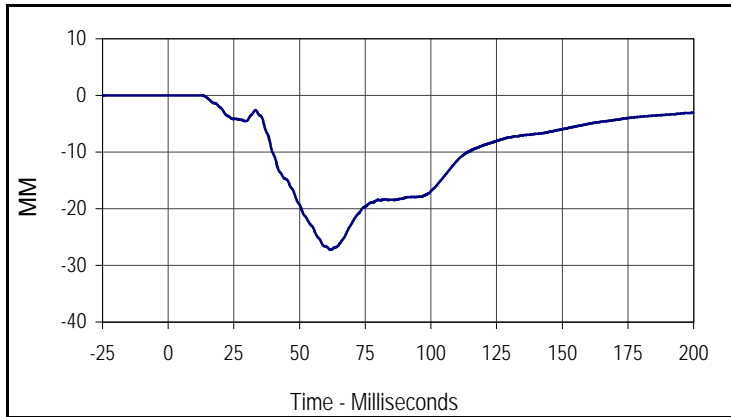
Curve Description			
Driver Chest Redundant X Displacement			
CURNO	Type	SAE Class	Units
016	IN2	180	CM
Max	Time	Min	Time
87.1	75.3	0.0	0.0

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan

Test Date: 4/5/05

Test Program: 2005 NHTSA 35mph NCAP

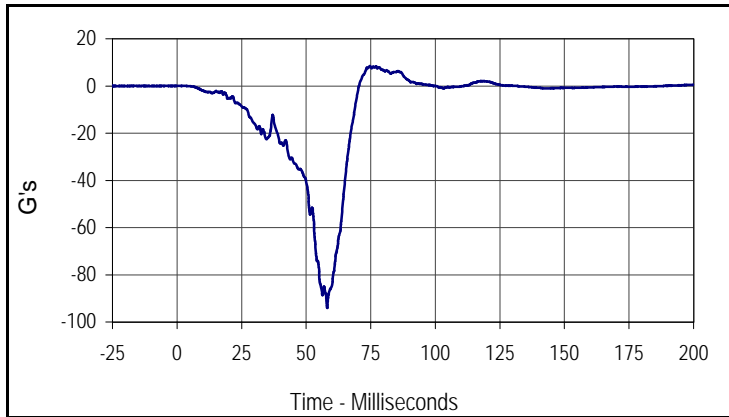
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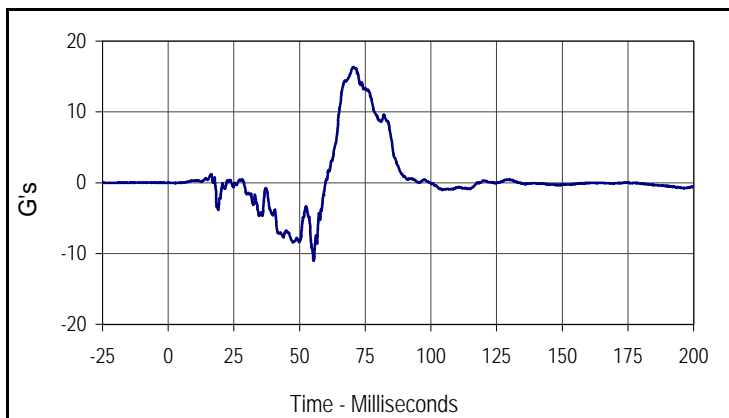
Curve Description			
Driver Chest Deflection			
CURNO	Type	SAE Class	Units
019	FIL	600	MM
Max	Time	Min	Time
0.0	1.4	-27.2	61.8

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

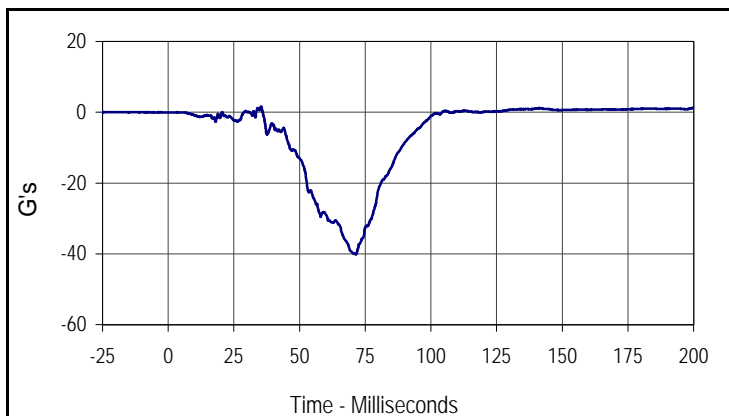
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 NHTSA No.: M55800



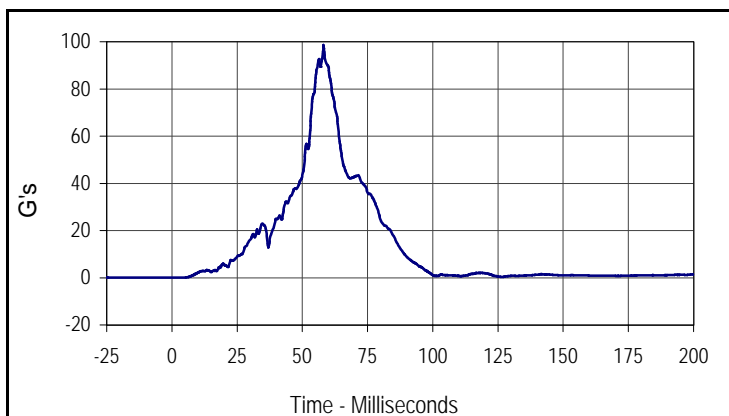
Curve Description			
Driver Pelvis X			
CURNO	Type	SAE Class	Units
020	FIL	1000	G's
Max	Time	Min	Time
8.5	74.7	-94.1	58.1



Curve Description			
Driver Pelvis Y			
CURNO	Type	SAE Class	Units
021	FIL	1000	G's
Max	Time	Min	Time
16.3	70.5	-11.0	55.4



Curve Description			
Driver Pelvis Z			
CURNO	Type	SAE Class	Units
022	FIL	1000	G's
Max	Time	Min	Time
1.6	35.4	-40.2	71.4



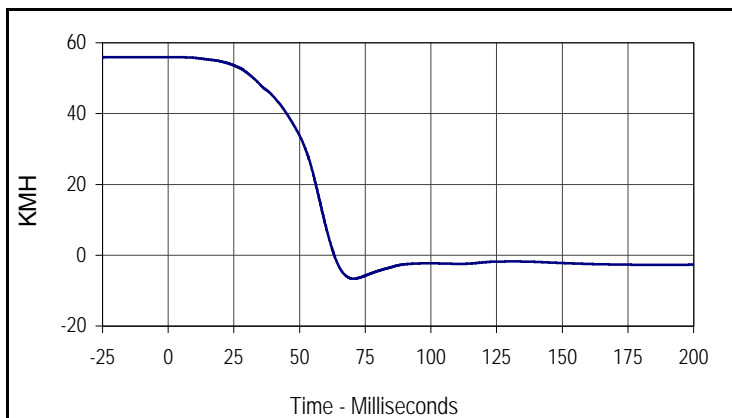
Curve Description			
Driver Pelvis Resultant			
CURNO	Type	SAE Class	Units
020	RES	1000	G's
Max	Time	Min	Time
98.7	58.1	0.0	4.2

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan

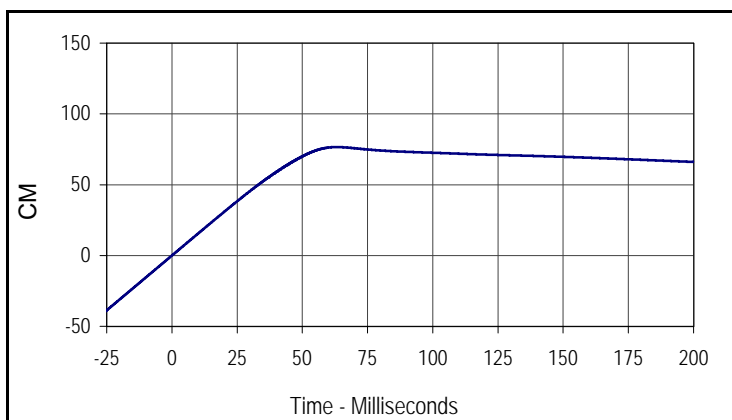
Test Date: 4/5/05

Test Program: 2005 NHTSA 35mph NCAP

NHTSA No.: M55800



Curve Description			
Driver Pelvis X Velocity			
CURNO	Type	SAE Class	Units
020	IN1	180	KMH
Max	Time	Min	Time
55.9	3.9	-6.6	70.5



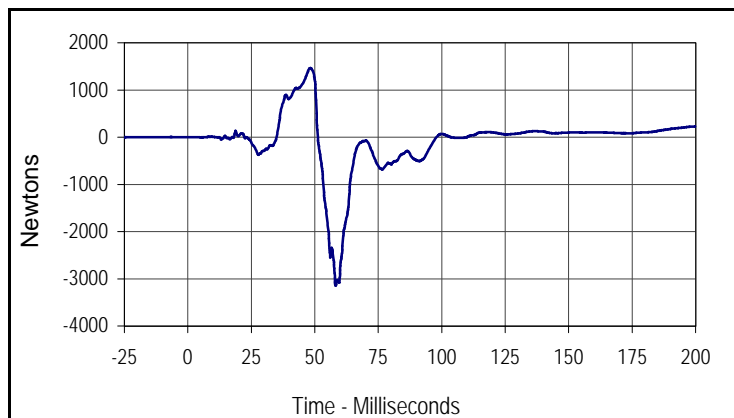
Curve Description			
Driver Pelvis X Displacement			
CURNO	Type	SAE Class	Units
020	IN2	180	CM
Max	Time	Min	Time
76.6	63.2	0.0	0.0

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan

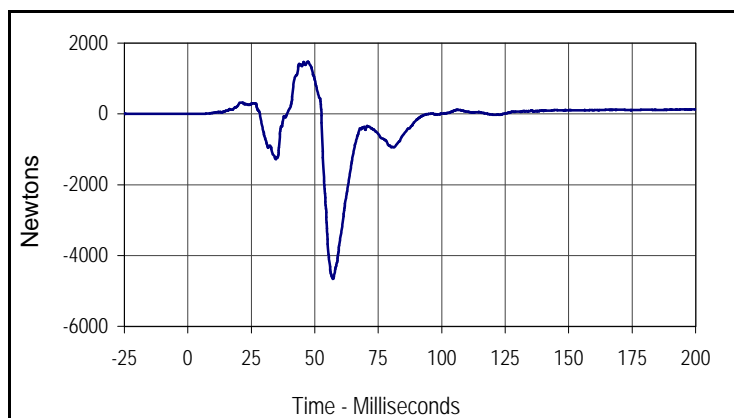
Test Date: 4/5/05

Test Program: 2005 NHTSA 35mph NCAP

NHTSA No.: M55800



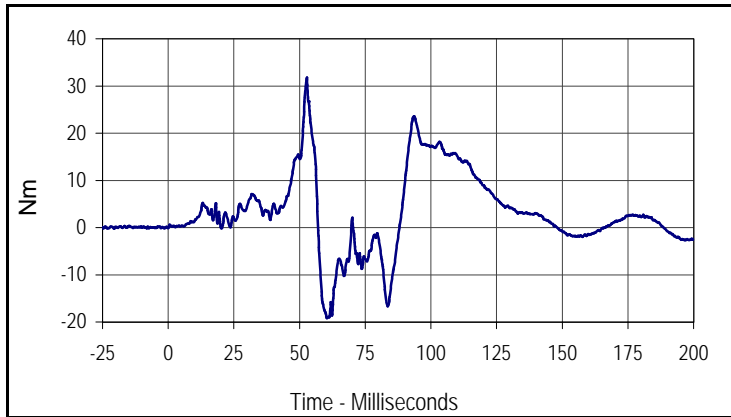
Curve Description			
Driver Left Femur Force			
CURNO	Type	SAE Class	Units
023	FIL	600	Newtons
Max	Time	Min	Time
1463.3	48.4	-3146.0	58.2



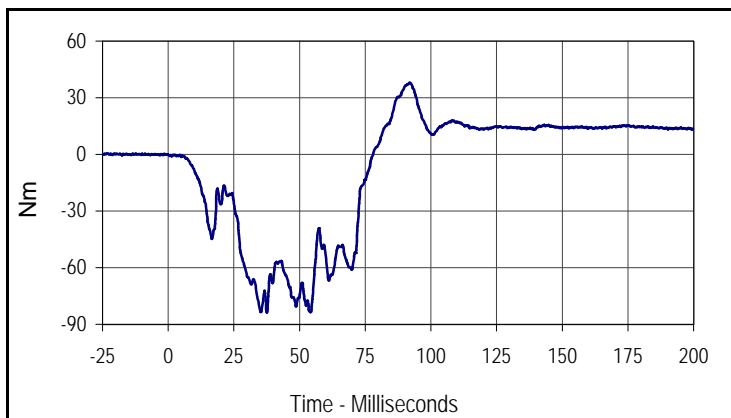
Curve Description			
Driver Right Femur Force			
CURNO	Type	SAE Class	Units
024	FIL	600	Newtons
Max	Time	Min	Time
1475.2	47.2	-4663.3	57.1

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

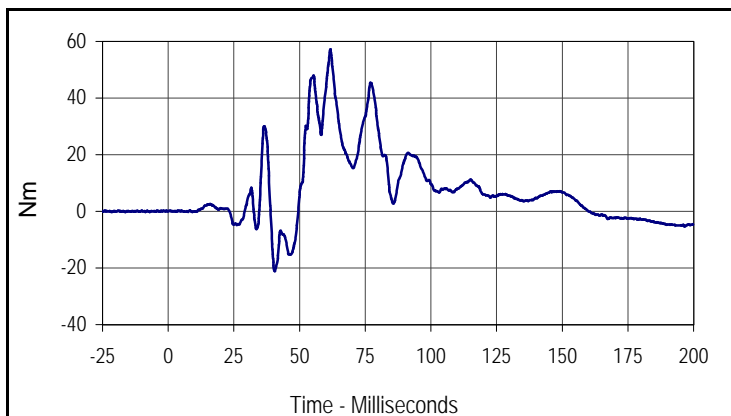
Test Date: 4/5/05
 NHTSA No.: M55800



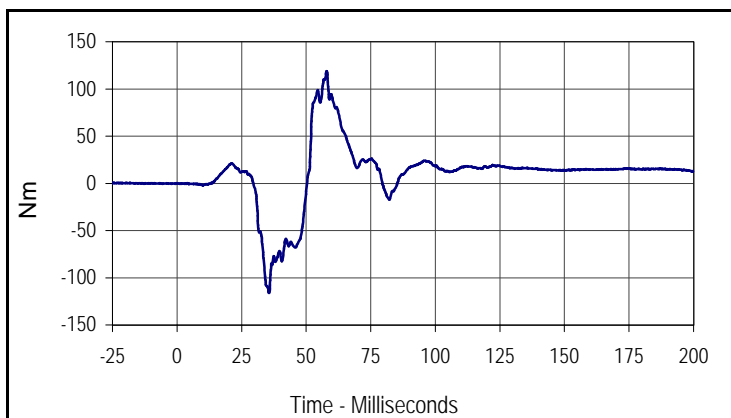
Curve Description			
Driver Left Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
025	FIL	600	Nm
Max	Time	Min	Time
31.8	52.8	-19.2	60.5



Curve Description			
Driver Left Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
026	FIL	600	Nm
Max	Time	Min	Time
37.9	91.8	-83.7	37.6



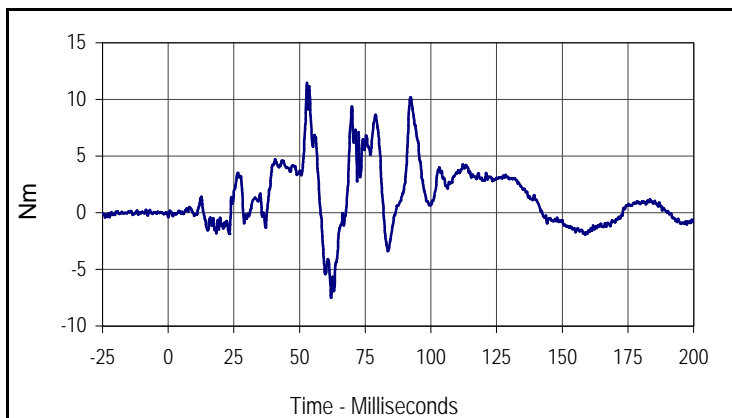
Curve Description			
Driver Right Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
027	FIL	600	Nm
Max	Time	Min	Time
57.2	61.7	-21.1	40.5



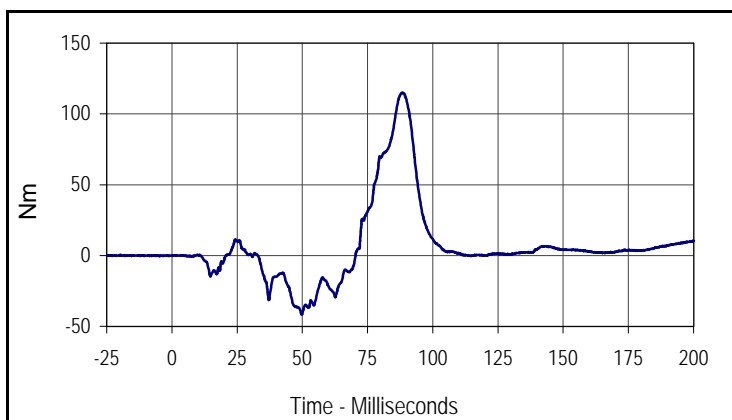
Curve Description			
Driver Right Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
028	FIL	600	Nm
Max	Time	Min	Time
118.8	58.0	-116.1	35.6

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

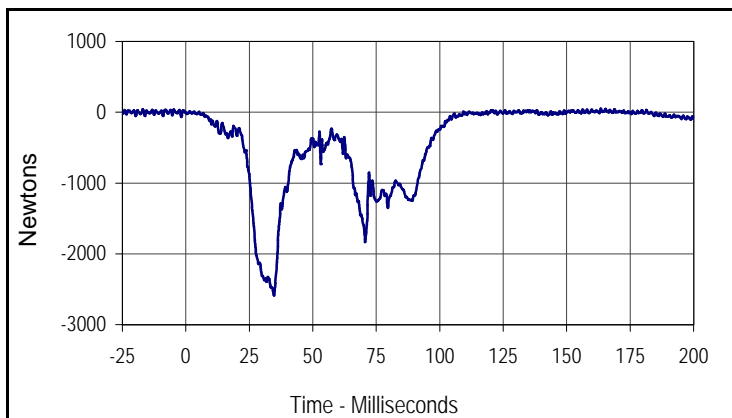
Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Driver Left Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
029	FIL	600	Nm
Max	Time	Min	Time
11.5	52.8	-7.5	62.0



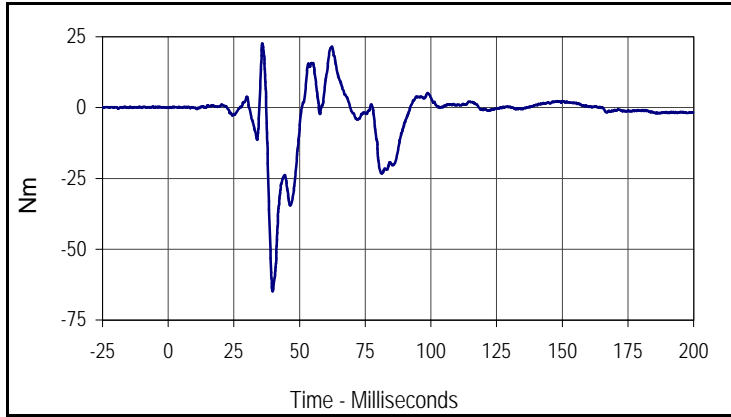
Curve Description			
Driver Left Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
030	FIL	600	Nm
Max	Time	Min	Time
115.0	88.2	-41.6	49.8



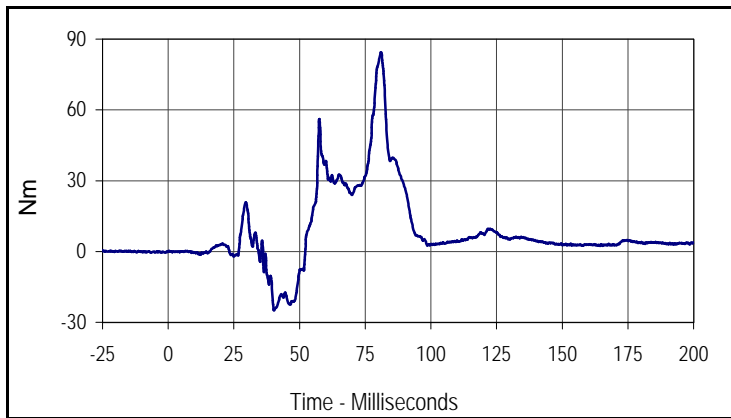
Curve Description			
Driver Left Lower Tibia Force Z			
CURNO	Type	SAE Class	Units
031	FIL	600	Newtons
Max	Time	Min	Time
49.7	163.5	-2590.9	34.7

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

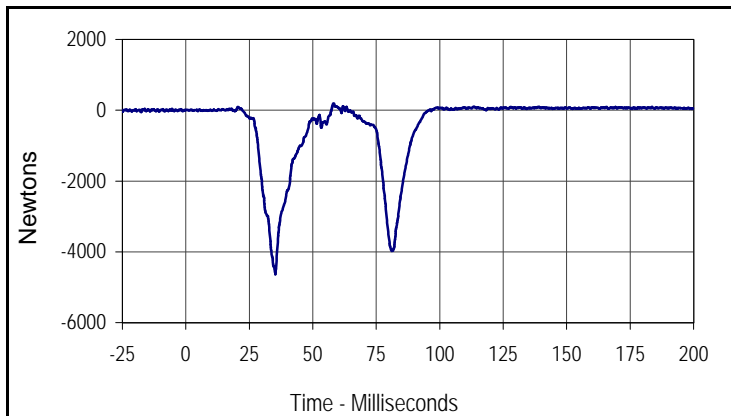
Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Driver Right Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
032	FIL	600	Nm
Max	Time	Min	Time
22.6	35.8	-64.8	39.8



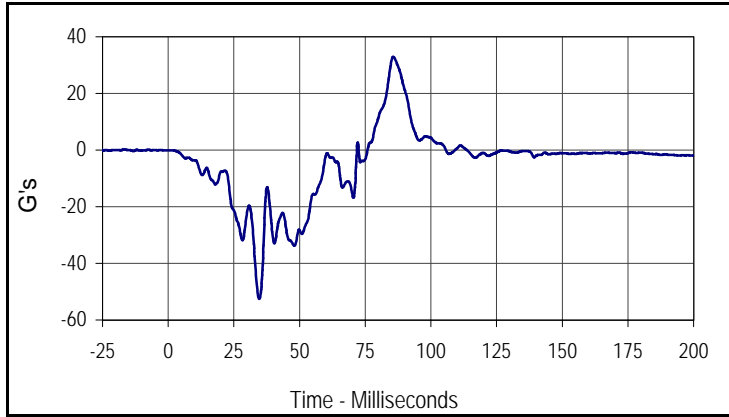
Curve Description			
Driver Right Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
033	FIL	600	Nm
Max	Time	Min	Time
84.4	81.0	-25.0	40.3



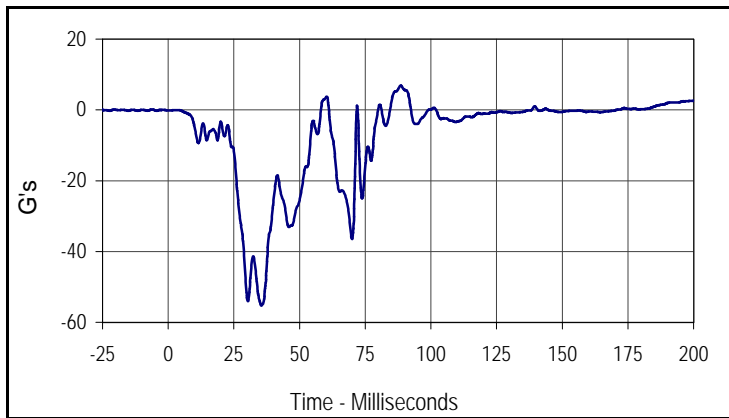
Curve Description			
Driver Right Lower Tibia Force Z			
CURNO	Type	SAE Class	Units
034	FIL	600	Newtons
Max	Time	Min	Time
196.5	58.2	-4631.5	35.3

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

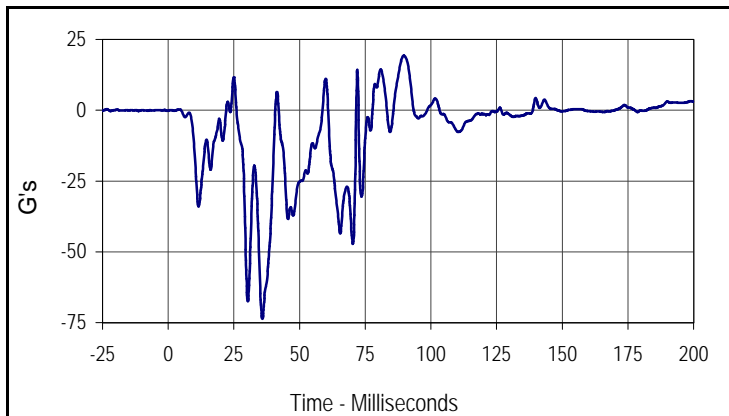
Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Driver Left Foot Aft X			
CURNO	Type	SAE Class	Units
035	FIL	180	G's
Max	Time	Min	Time
32.9	85.7	-52.5	34.6



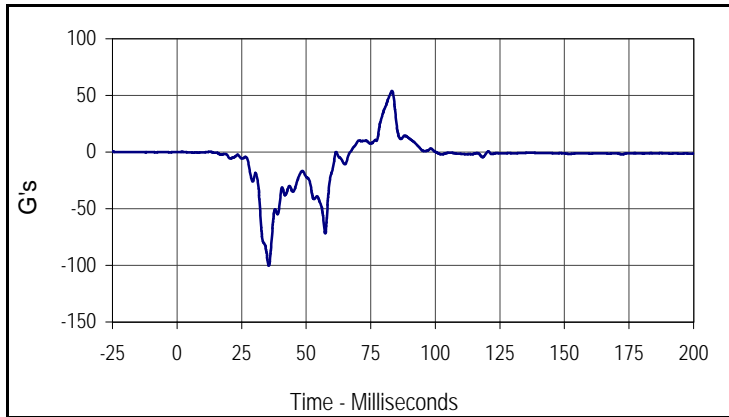
Curve Description			
Driver Left Foot Aft Z			
CURNO	Type	SAE Class	Units
036	FIL	180	G's
Max	Time	Min	Time
6.9	88.5	-55.3	35.4



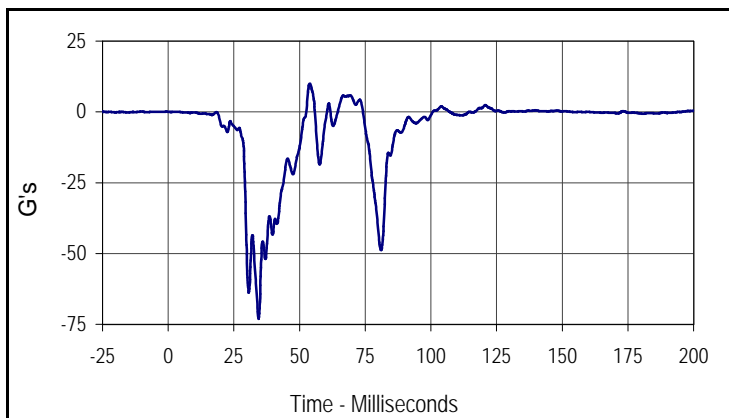
Curve Description			
Driver Left Foot Fore Z			
CURNO	Type	SAE Class	Units
037	FIL	180	G's
Max	Time	Min	Time
19.3	89.7	-73.6	35.8

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

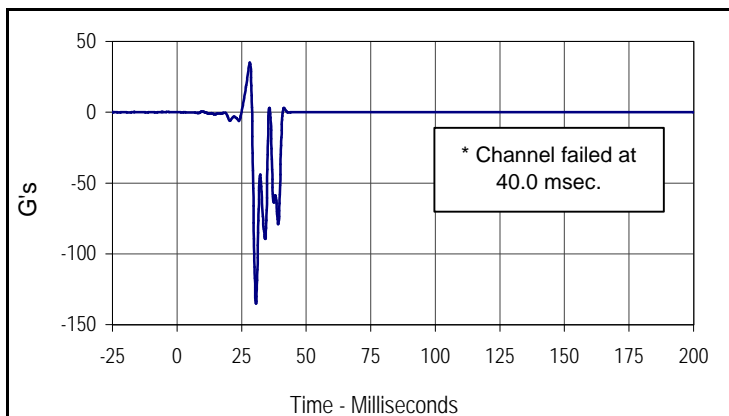
Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Driver Right Foot Aft X			
CURNO	Type	SAE Class	Units
038	FIL	180	G's
Max	Time	Min	Time
54.0	83.2	-100.4	35.5



Curve Description			
Driver Right Foot Aft Z			
CURNO	Type	SAE Class	Units
039	FIL	180	G's
Max	Time	Min	Time
10.0	53.9	-73.1	34.4

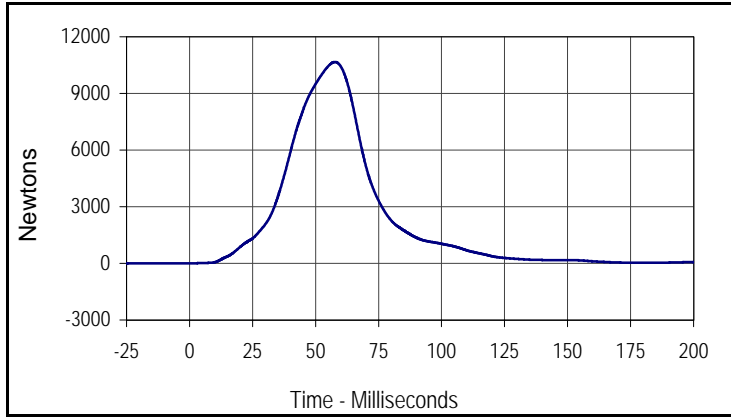


Curve Description			
Driver Right Foot Fore Z			
CURNO	Type	SAE Class	Units
040	FIL	180	G's
Max	Time	Min	Time
35.0	28.2	-135.1	30.6

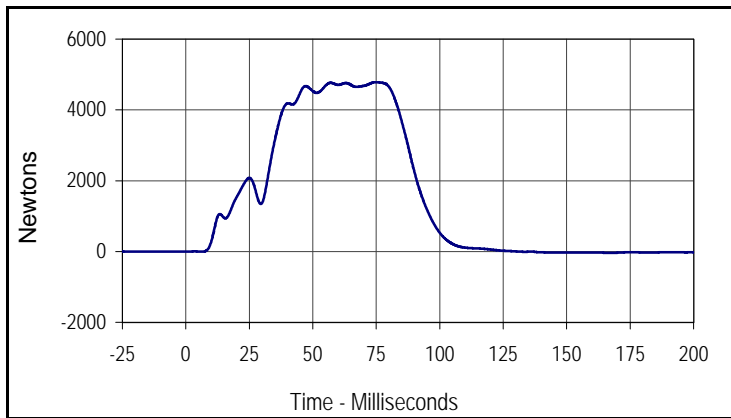
* Channel failed at 40.0 msec.

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

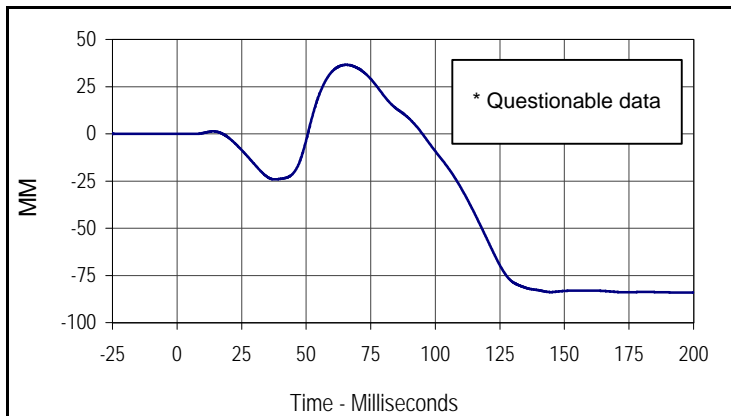
Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Driver Lap Belt Force			
CURNO	Type	SAE Class	Units
041	FIL	60	Newtons
Max	Time	Min	Time
10665.2	57.7	-0.9	0.0

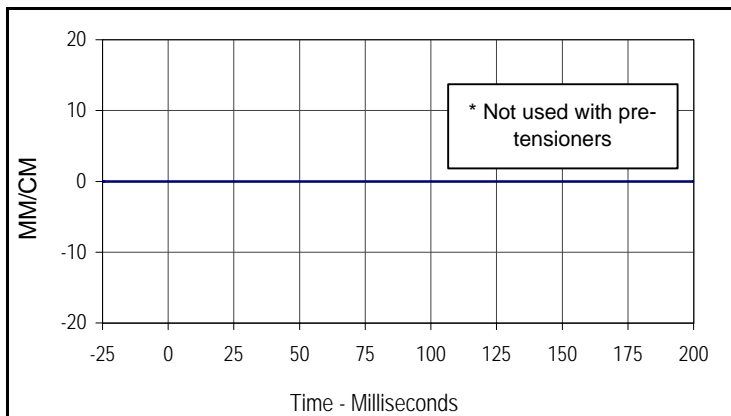


Curve Description			
Driver Shoulder Belt Force			
CURNO	Type	SAE Class	Units
042	FIL	60	Newtons
Max	Time	Min	Time
4782.1	74.8	-36.6	167.6



Curve Description			
Driver Shoulder Belt Pullout			
CURNO	Type	SAE Class	Units
043	FIL	60	MM
Max	Time	Min	Time
36.5	65.9	-84.0	200.0

* Questionable data

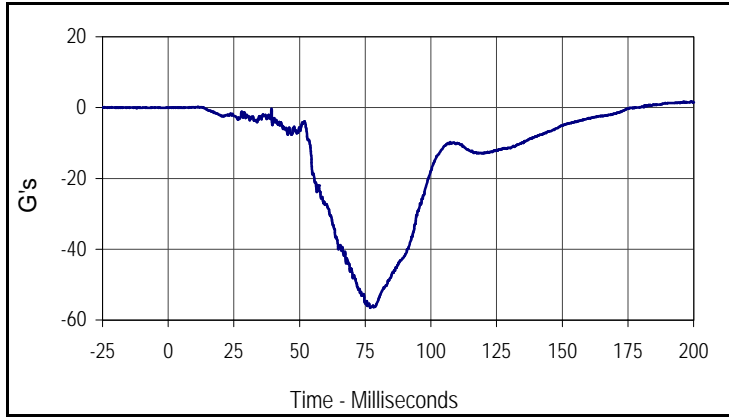


Curve Description			
Driver Shoulder Belt Elongation			
CURNO	Type	SAE Class	Units
044	FIL	60	MM/CM
Max	Time	Min	Time
0.0	0.0	0.0	0.0

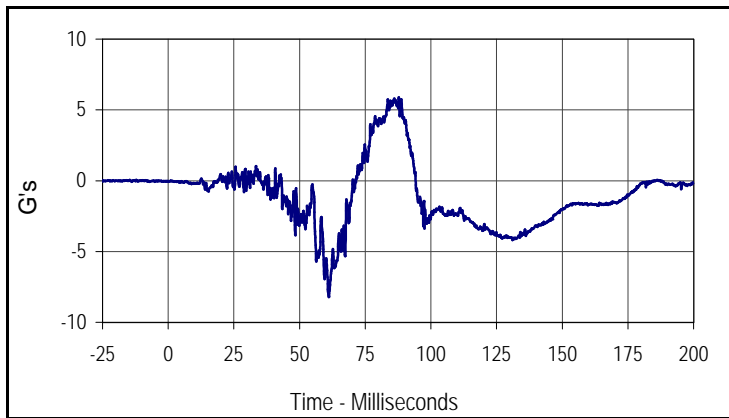
* Not used with pre-tensioners

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

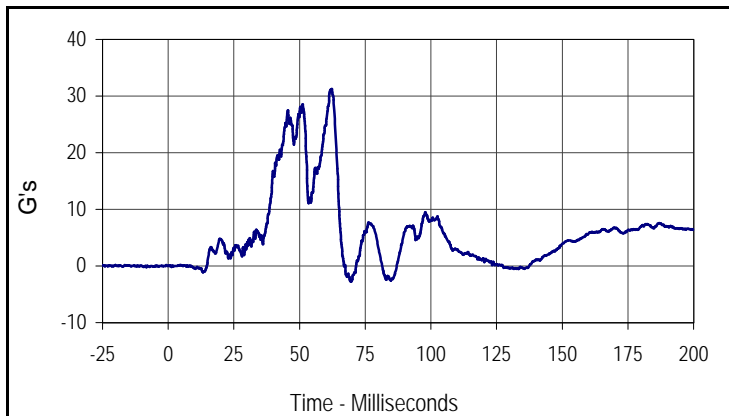
Test Date: 4/5/05
 NHTSA No.: M55800



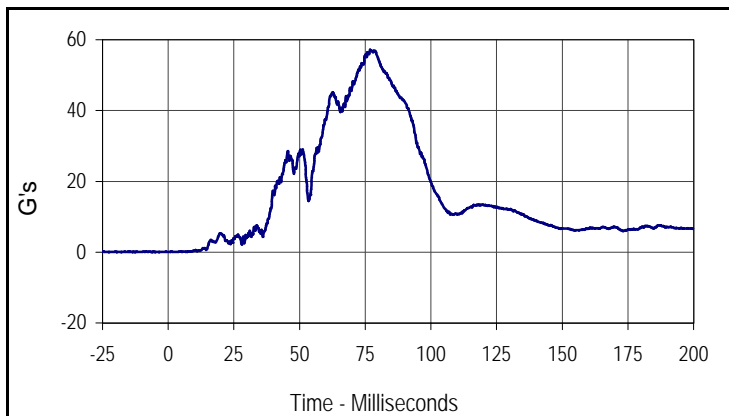
Curve Description			
Passenger Head Primary X			
CURNO	Type	SAE Class	Units
045	FIL	1000	G's
Max	Time	Min	Time
1.8	199.0	-56.6	76.9



Curve Description			
Passenger Head Primary Y			
CURNO	Type	SAE Class	Units
046	FIL	1000	G's
Max	Time	Min	Time
5.9	87.8	-8.2	61.1



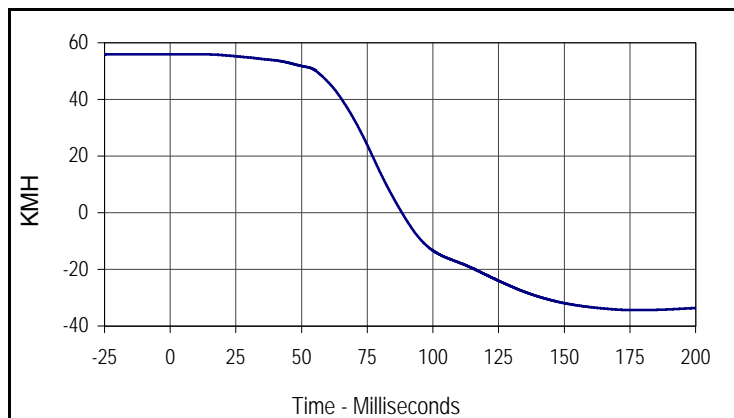
Curve Description			
Passenger Head Primary Z			
CURNO	Type	SAE Class	Units
047	FIL	1000	G's
Max	Time	Min	Time
31.3	62.3	-2.7	69.7



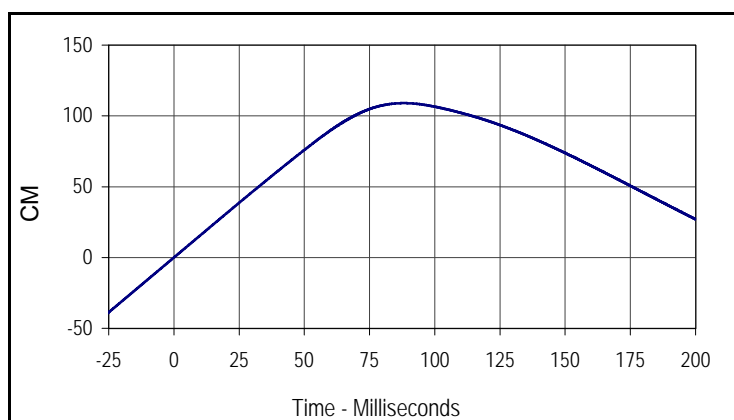
Curve Description			
Passenger Head Resultant Primary			
CURNO	Type	SAE Class	Units
045	RES	1000	G's
Max	Time	Min	Time
57.2	76.9	0.0	1.5

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05
 NHTSA No.: M55800



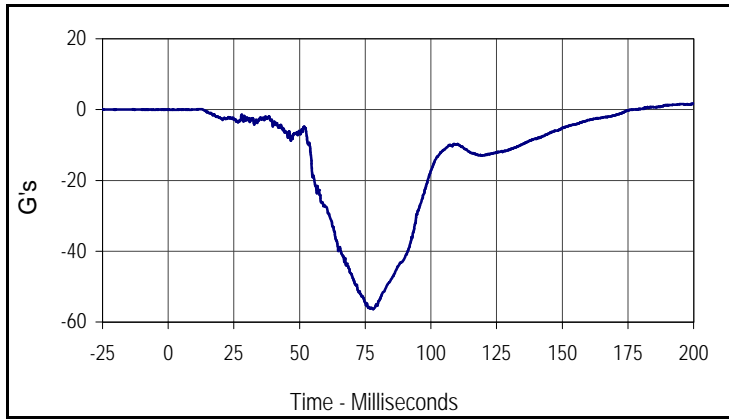
Curve Description			
Passenger Head Primary X Velocity			
CURNO	Type	SAE Class	Units
045	IN1	180	KMH
Max	Time	Min	Time
55.9	13.2	-34.4	178.3



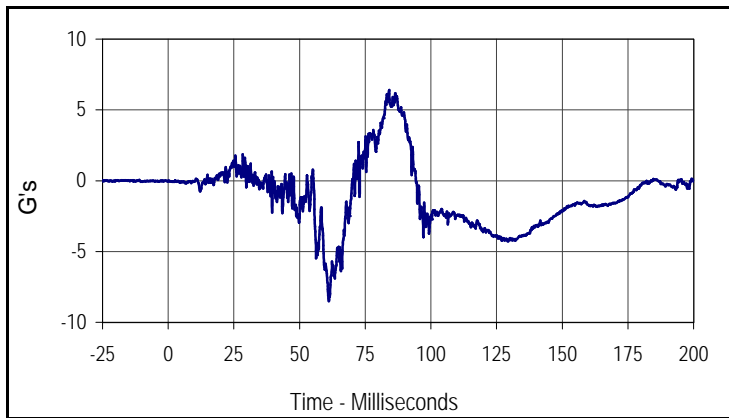
Curve Description			
Passenger Head Primary X Displacement			
CURNO	Type	SAE Class	Units
045	IN2	180	CM
Max	Time	Min	Time
109.0	88.2	0.0	0.0

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

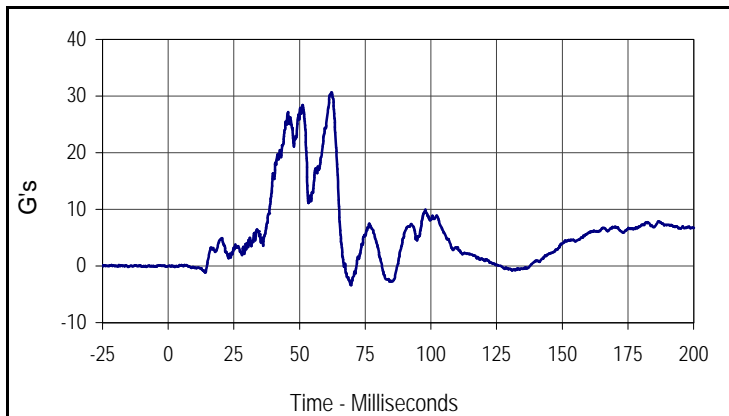
Test Date: 4/5/05
 NHTSA No.: M55800



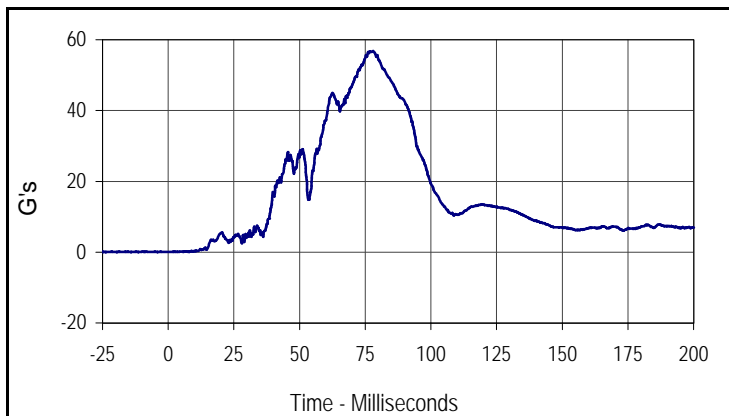
Curve Description			
Passenger Head Redundant X			
CURNO	Type	SAE Class	Units
048	FIL	1000	G's
Max	Time	Min	Time
1.7	200.0	-56.4	77.9



Curve Description			
Passenger Head Redundant Y			
CURNO	Type	SAE Class	Units
049	FIL	1000	G's
Max	Time	Min	Time
6.4	84.1	-8.5	61.1



Curve Description			
Passenger Head Redundant Z			
CURNO	Type	SAE Class	Units
050	FIL	1000	G's
Max	Time	Min	Time
30.7	62.2	-3.4	69.6



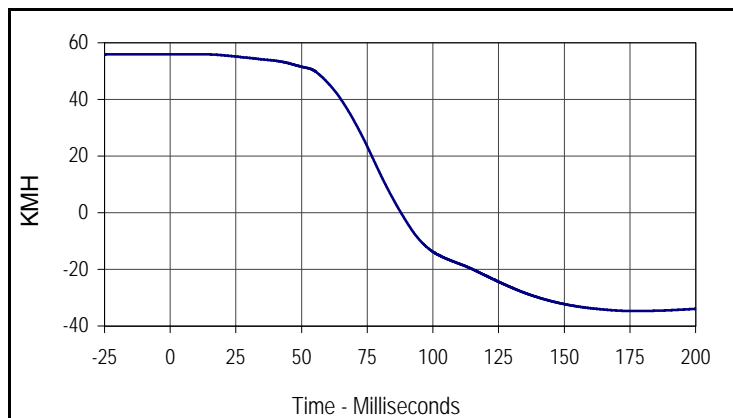
Curve Description			
Passenger Head Resultant Redundant			
CURNO	Type	SAE Class	Units
048	RES	1000	G's
Max	Time	Min	Time
56.8	77.9	0.0	0.1

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan

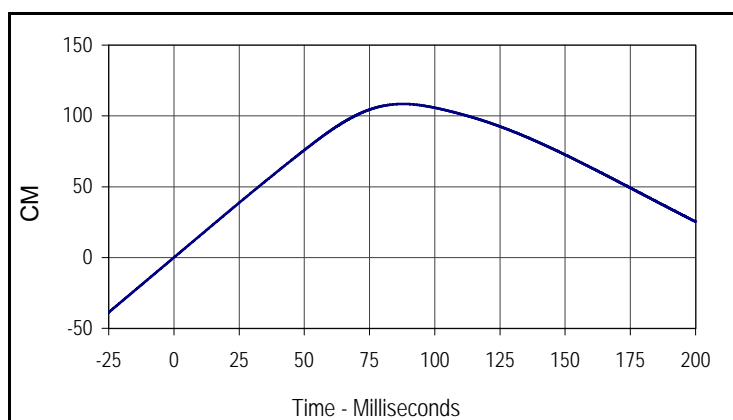
Test Date: 4/5/05

Test Program: 2005 NHTSA 35mph NCAP

NHTSA No.: M55800



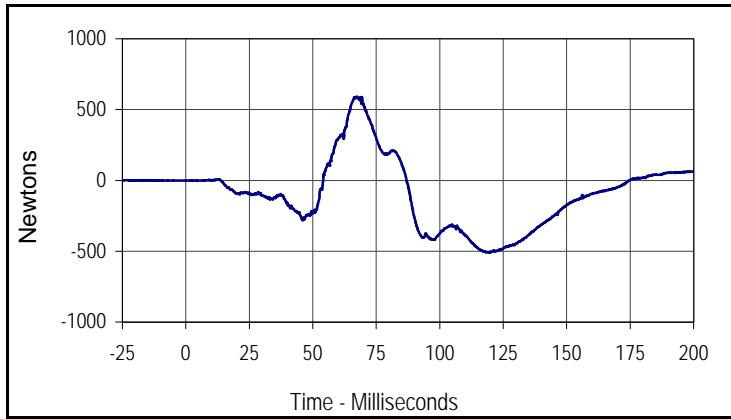
Curve Description			
Passenger Head Redundant X Velocity			
CURNO	Type	SAE Class	Units
048	IN1	180	KMH
Max	Time	Min	Time
55.9	13.1	-34.7	177.0



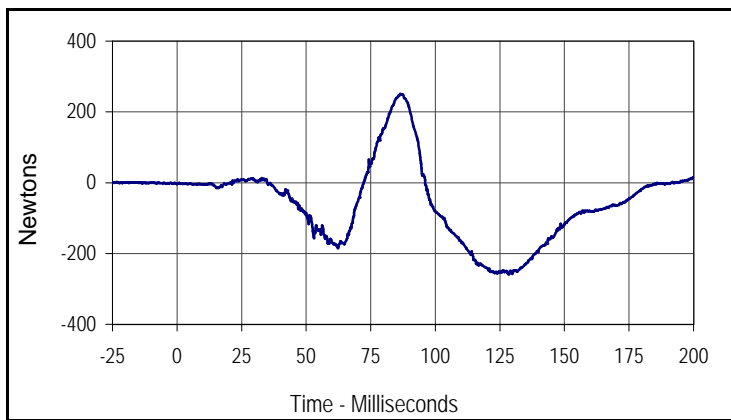
Curve Description			
Passenger Head Redundant X Displacement			
CURNO	Type	SAE Class	Units
048	IN2	180	CM
Max	Time	Min	Time
108.4	87.8	0.0	0.0

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

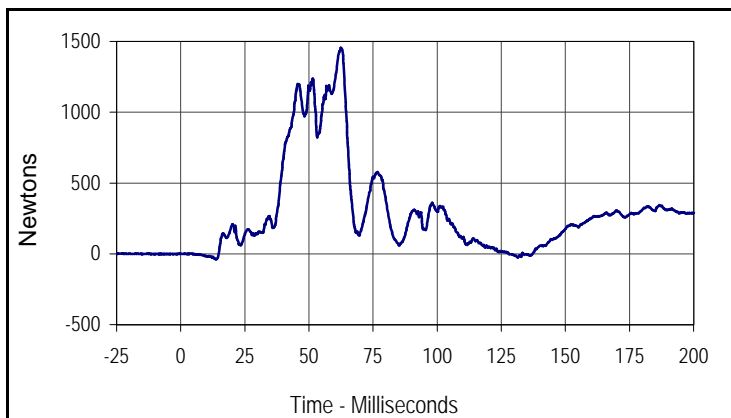
Test Date: 4/5/05
 NHTSA No.: M55800



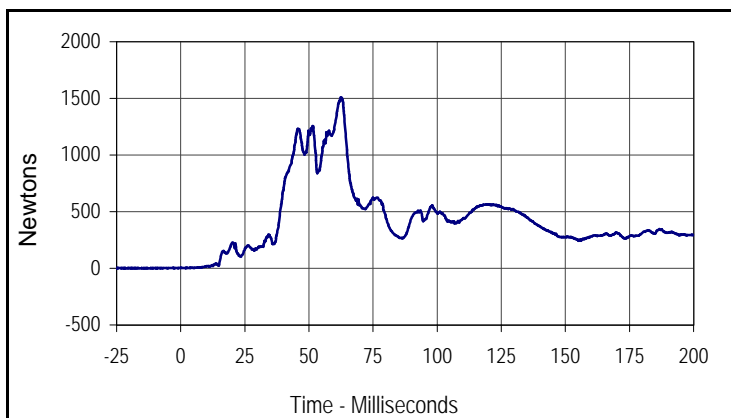
Curve Description			
Passenger Upper Neck Force X			
CURNO	Type	SAE Class	Units
051	FIL	1000	Newtons
Max	Time	Min	Time
591.5	67.3	-510.1	119.5



Curve Description			
Passenger Upper Neck Force Y			
CURNO	Type	SAE Class	Units
052	FIL	1000	Newtons
Max	Time	Min	Time
250.7	86.5	-259.4	128.5



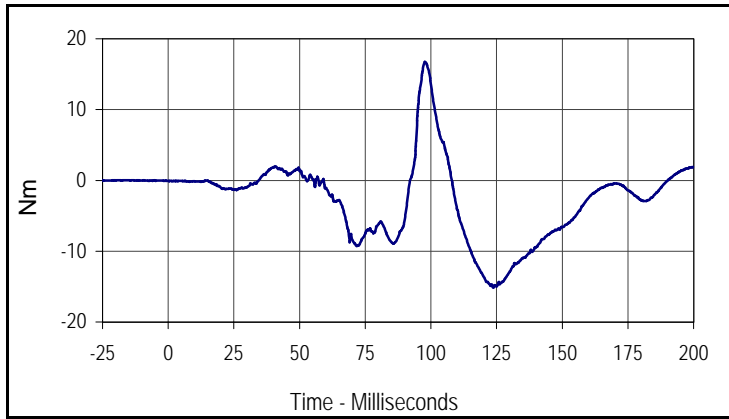
Curve Description			
Passenger Upper Neck Force Z			
CURNO	Type	SAE Class	Units
053	FIL	1000	Newtons
Max	Time	Min	Time
1454.6	62.4	-40.7	13.7



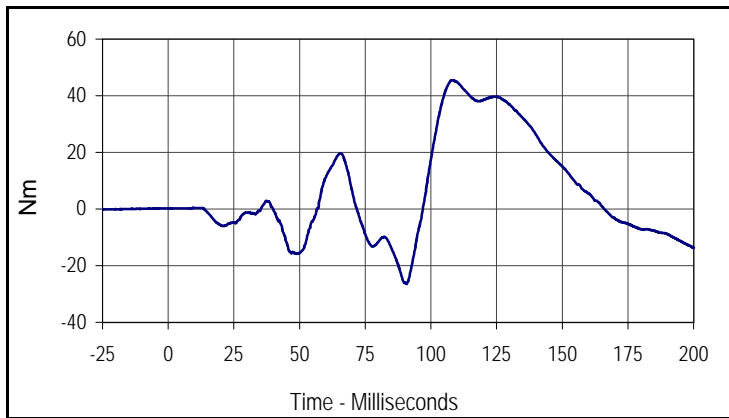
Curve Description			
Passenger Upper Neck Force Res.			
CURNO	Type	SAE Class	Units
051	RES	1000	Newtons
Max	Time	Min	Time
1507.5	62.5	1.1	1.9

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

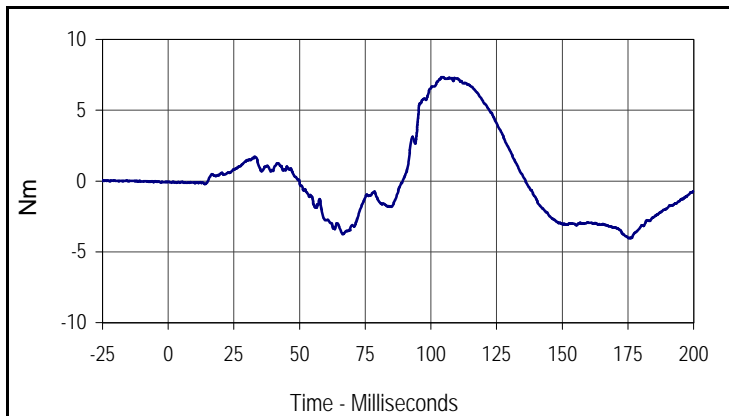
Test Date: 4/5/05
 NHTSA No.: M55800



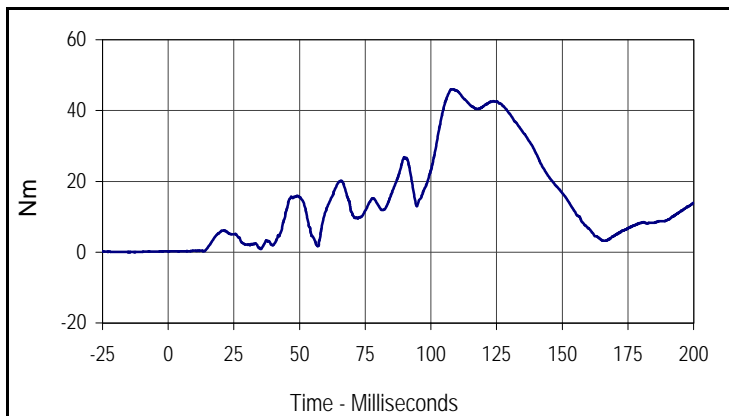
Curve Description			
Passenger Upper Neck Moment X			
CURNO	Type	SAE Class	Units
054	FIL	600	Nm
Max	Time	Min	Time
16.7	97.7	-15.2	123.7



Curve Description			
Passenger Upper Neck Moment Y			
CURNO	Type	SAE Class	Units
055	FIL	600	Nm
Max	Time	Min	Time
45.4	107.9	-26.4	90.7



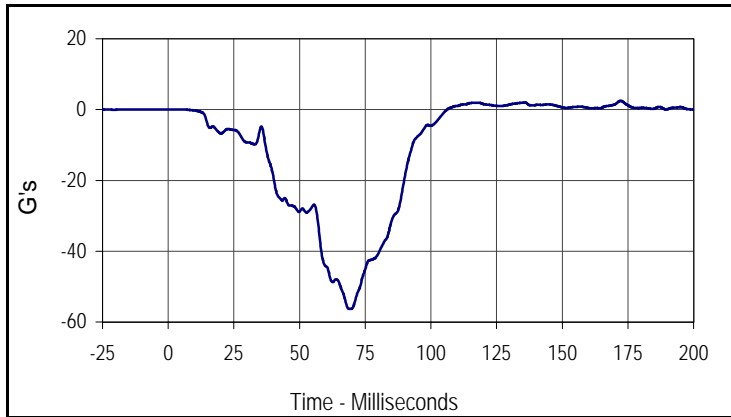
Curve Description			
Passenger Upper Neck Moment Z			
CURNO	Type	SAE Class	Units
056	FIL	600	Nm
Max	Time	Min	Time
7.3	104.1	-4.0	175.4



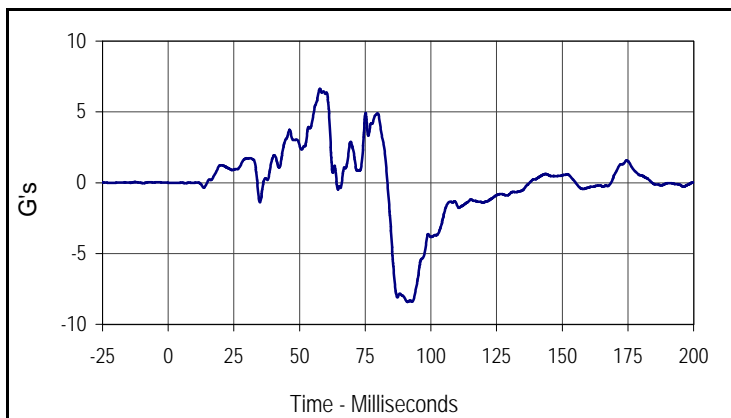
Curve Description			
Passenger Upper Neck Moment Res.			
CURNO	Type	SAE Class	Units
054	RES	600	Nm
Max	Time	Min	Time
46.0	107.9	0.2	0.2

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

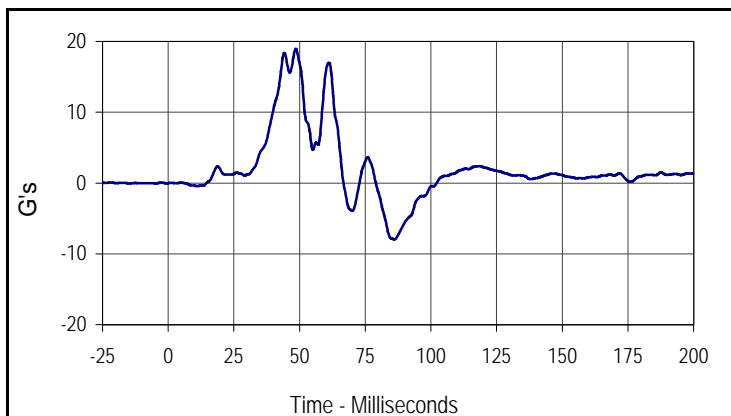
Test Date: 4/5/05
 NHTSA No.: M55800



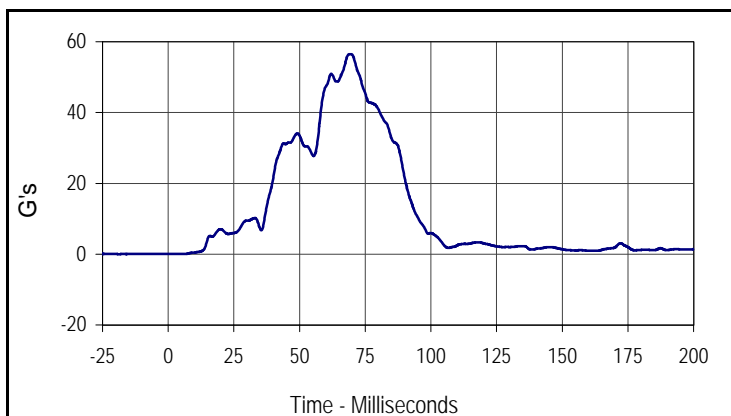
Curve Description			
Passenger Chest Primary X			
CURNO	Type	SAE Class	Units
057	FIL	180	G's
Max	Time	Min	Time
2.5	172.3	-56.3	68.9



Curve Description			
Passenger Chest Primary Y			
CURNO	Type	SAE Class	Units
058	FIL	180	G's
Max	Time	Min	Time
6.6	57.7	-8.4	91.1



Curve Description			
Passenger Chest Primary Z			
CURNO	Type	SAE Class	Units
059	FIL	180	G's
Max	Time	Min	Time
19.0	48.6	-8.0	86.1



Curve Description			
Passenger Chest Resultant Primary			
CURNO	Type	SAE Class	Units
057	RES	180	G's
Max	Time	Min	Time
56.5	69.0	0.0	0.2

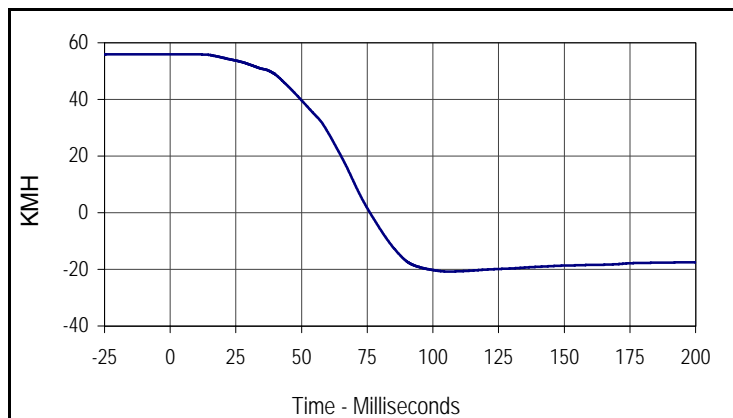
Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan

Test Date: 4/5/05

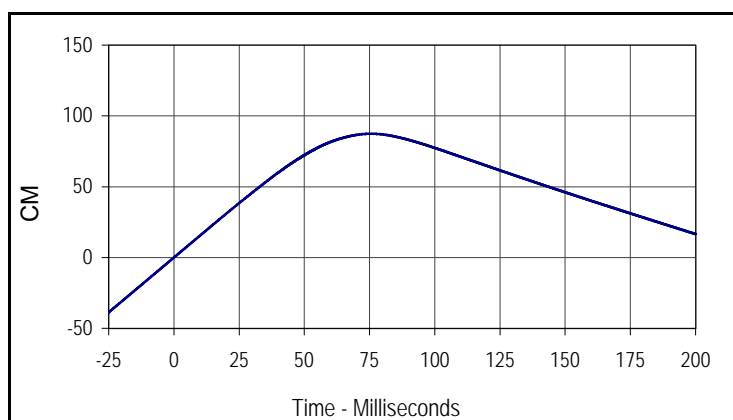


Test Program: 2005 NHTSA 35mph NCAP

NHTSA No.: M55800



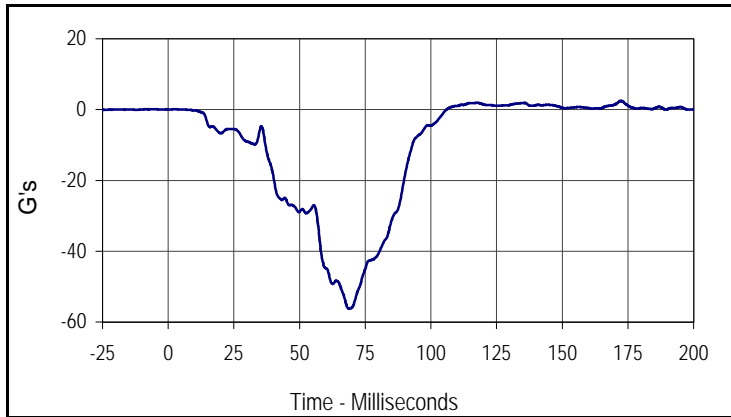
Curve Description			
Passenger Chest Primary X Velocity			
CURNO	Type	SAE Class	Units
057	IN1	180	KMH
Max	Time	Min	Time
55.9	6.9	-20.8	106.2



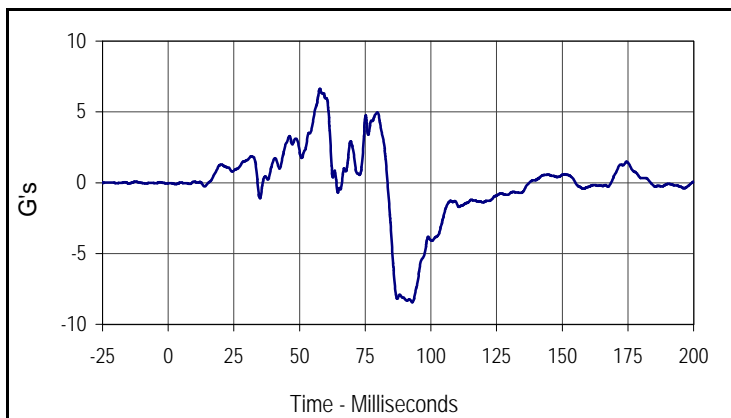
Curve Description			
Passenger Chest Primary X Displacement			
CURNO	Type	SAE Class	Units
057	IN2	180	CM
Max	Time	Min	Time
87.4	75.6	0.0	0.0

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

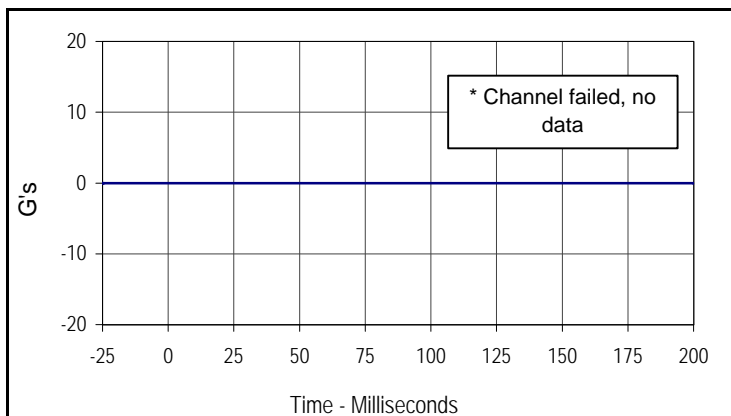
Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Passenger Chest Redundant X			
CURNO	Type	SAE Class	Units
060	FIL	180	G's
Max	Time	Min	Time
2.4	172.4	-56.2	68.8

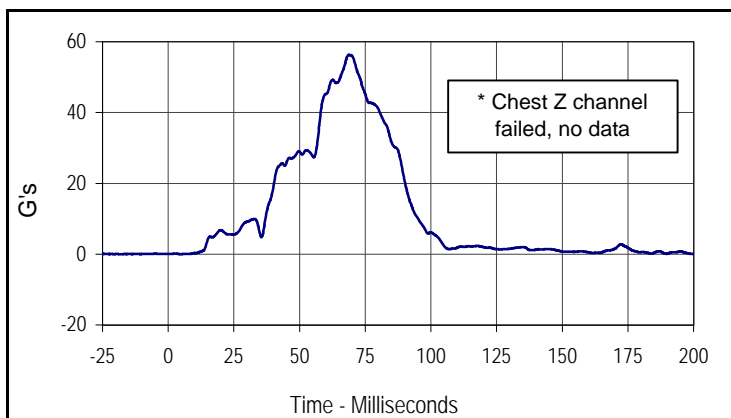


Curve Description			
Passenger Chest Redundant Y			
CURNO	Type	SAE Class	Units
061	FIL	180	G's
Max	Time	Min	Time
6.6	57.8	-8.4	92.9



Curve Description			
Passenger Chest Redundant Z			
CURNO	Type	SAE Class	Units
062	FIL	180	G's
Max	Time	Min	Time
0.0	0.0	0.0	0.0

* Channel failed, no data



Curve Description			
Passenger Chest Resultant Redundant			
CURNO	Type	SAE Class	Units
060	RES	180	G's
Max	Time	Min	Time
56.3	68.8	0.0	4.3

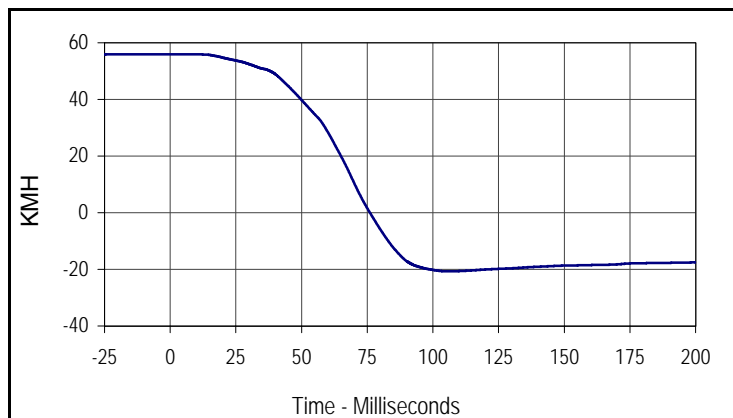
* Chest Z channel failed, no data

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan

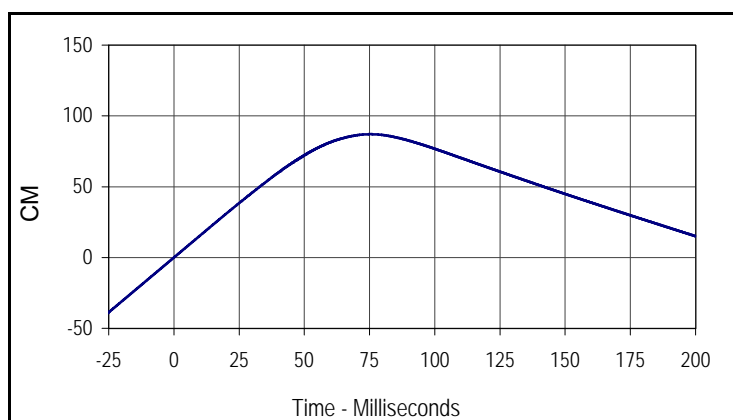
Test Date: 4/5/05

Test Program: 2005 NHTSA 35mph NCAP

NHTSA No.: M55800



Curve Description			
Passenger Chest Redundant X Velocity			
CURNO	Type	SAE Class	Units
060	IN1	180	KMH
Max	Time	Min	Time
55.9	6.6	-20.7	105.9



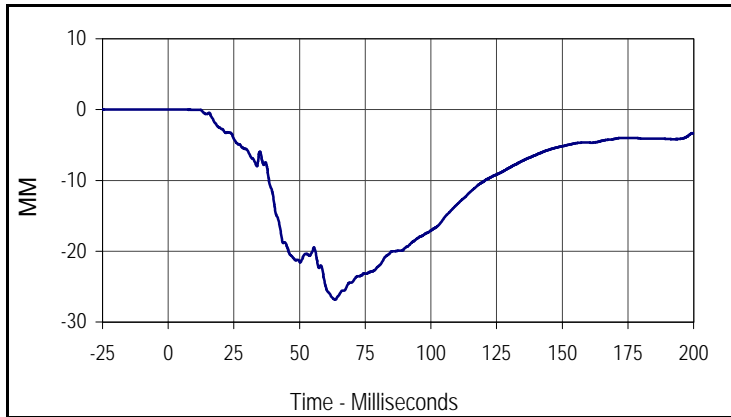
Curve Description			
Passenger Chest Redundant X Displacement			
CURNO	Type	SAE Class	Units
060	IN2	180	CM
Max	Time	Min	Time
87.1	75.3	0.0	0.0

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan

Test Date: 4/5/05

Test Program: 2005 NHTSA 35mph NCAP

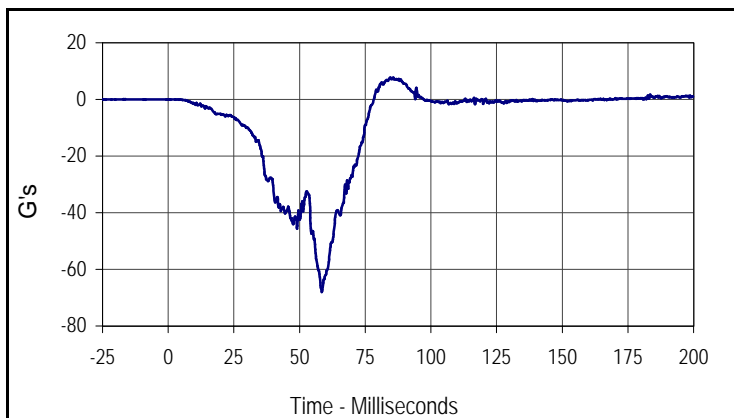
NHTSA No.: M55800



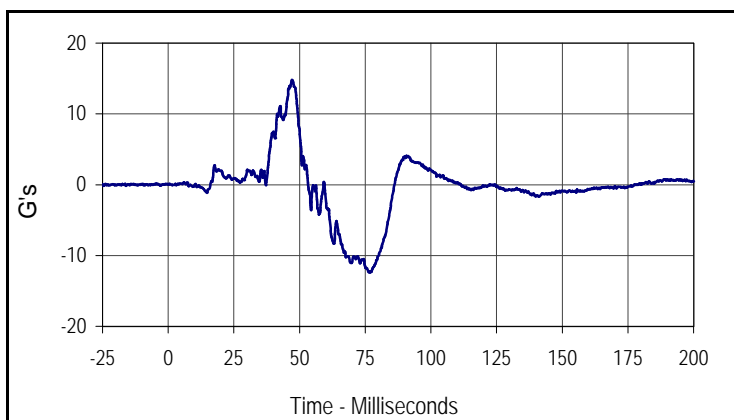
Curve Description			
Passenger Chest Deflection			
CURNO	Type	SAE Class	Units
063	FIL	600	MM
Max	Time	Min	Time
0.0	4.7	-26.8	63.7

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

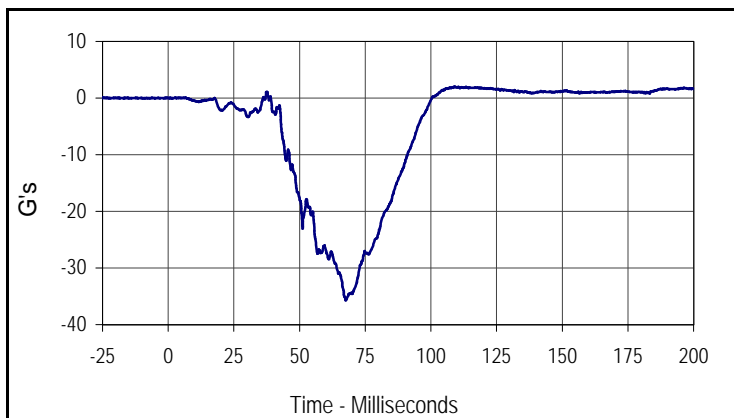
Test Date: 4/5/05
 NHTSA No.: M55800



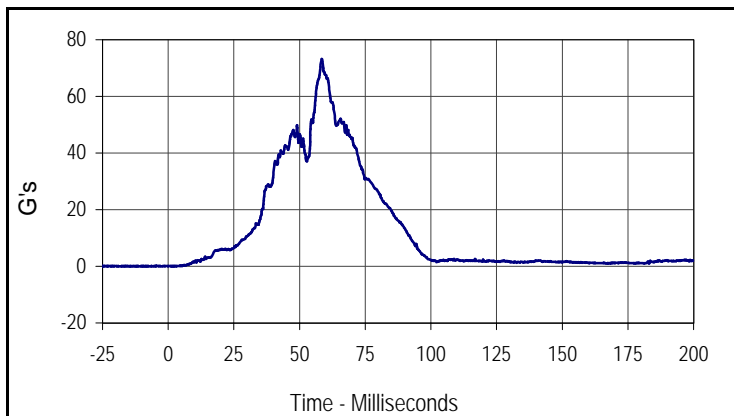
Curve Description			
Passenger Pelvis X			
CURNO	Type	SAE Class	Units
064	FIL	1000	G's
Max	Time	Min	Time
7.7	84.5	-68.0	58.5



Curve Description			
Passenger Pelvis Y			
CURNO	Type	SAE Class	Units
065	FIL	1000	G's
Max	Time	Min	Time
14.8	47.1	-12.4	76.8



Curve Description			
Passenger Pelvis Z			
CURNO	Type	SAE Class	Units
066	FIL	1000	G's
Max	Time	Min	Time
2.0	108.9	-35.7	67.6



Curve Description			
Passenger Pelvis Resultant			
CURNO	Type	SAE Class	Units
064	RES	1000	G's
Max	Time	Min	Time
73.3	58.5	0.0	2.3

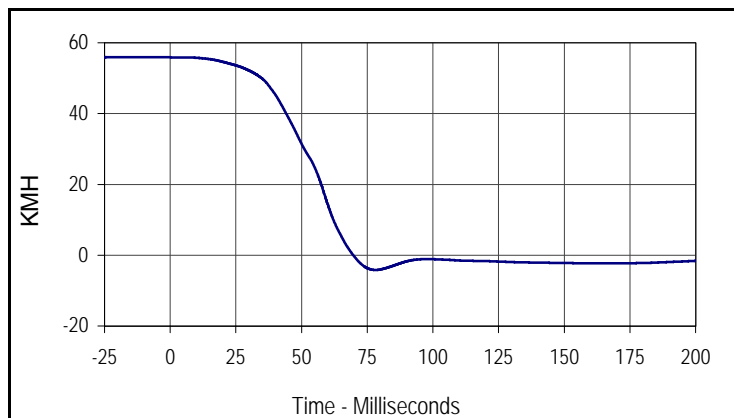
Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan

Test Date: 4/5/05

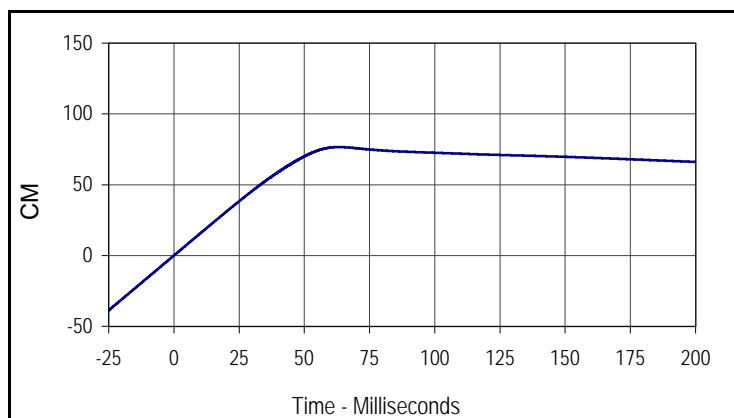


Test Program: 2005 NHTSA 35mph NCAP

NHTSA No.: M55800



Curve Description			
Passenger Pelvis X Velocity			
CURNO	Type	SAE Class	Units
064	IN1	180	KMH
Max	Time	Min	Time
55.9	0.0	-4.2	78.2



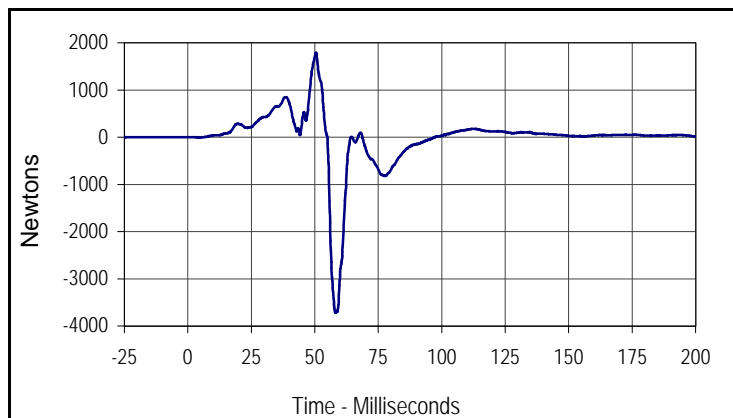
Curve Description			
Passenger Pelvis X Displacement			
CURNO	Type	SAE Class	Units
064	IN2	180	CM
Max	Time	Min	Time
76.6	63.2	0.0	0.0

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan

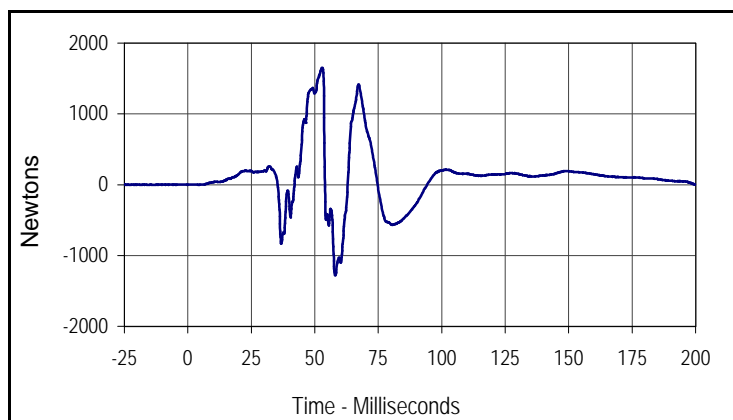
Test Date: 4/5/05

Test Program: 2005 NHTSA 35mph NCAP

NHTSA No.: M55800



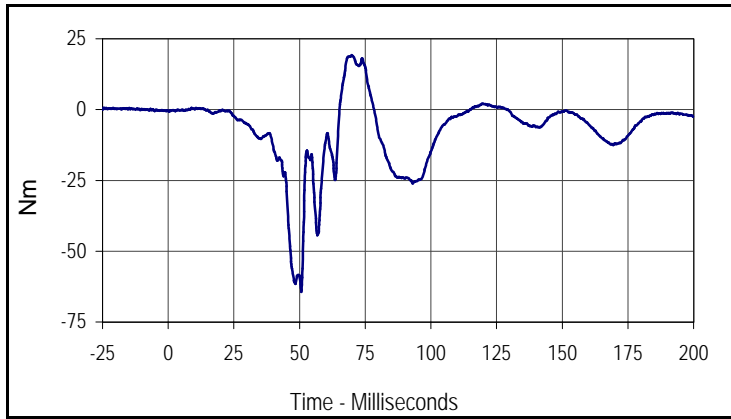
Curve Description			
Passenger Left Femur Force			
CURNO	Type	SAE Class	Units
067	FIL	600	Newtons
Max	Time	Min	Time
1787.3	50.5	-3720.0	58.3



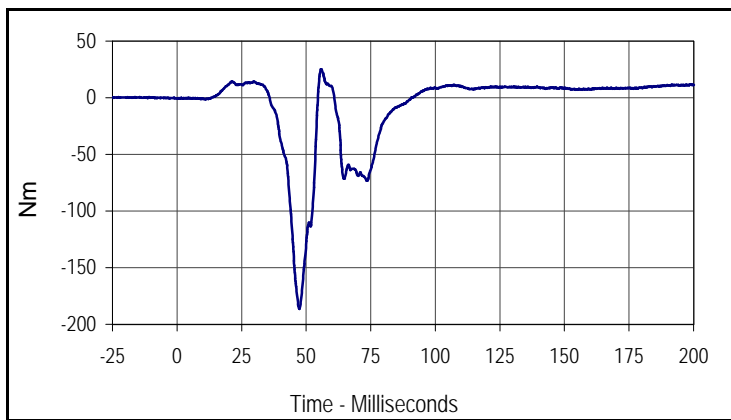
Curve Description			
Passenger Right Femur Force			
CURNO	Type	SAE Class	Units
068	FIL	600	Newtons
Max	Time	Min	Time
1653.1	52.9	-1281.2	58.1

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

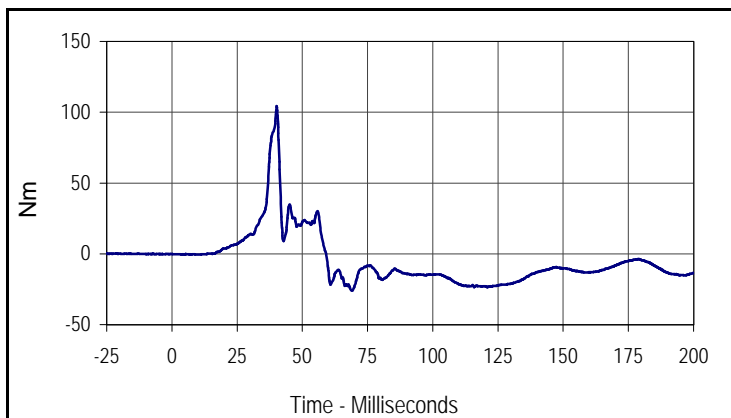
Test Date: 4/5/05
 NHTSA No.: M55800



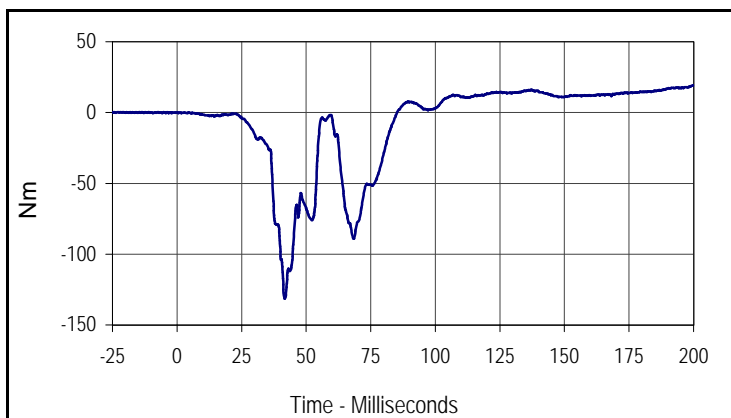
Curve Description			
Passenger Left Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
069	FIL	600	Nm
Max	Time	Min	Time
19.3	69.8	-64.4	50.7



Curve Description			
Passenger Left Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
070	FIL	600	Nm
Max	Time	Min	Time
25.2	55.8	-186.3	47.3



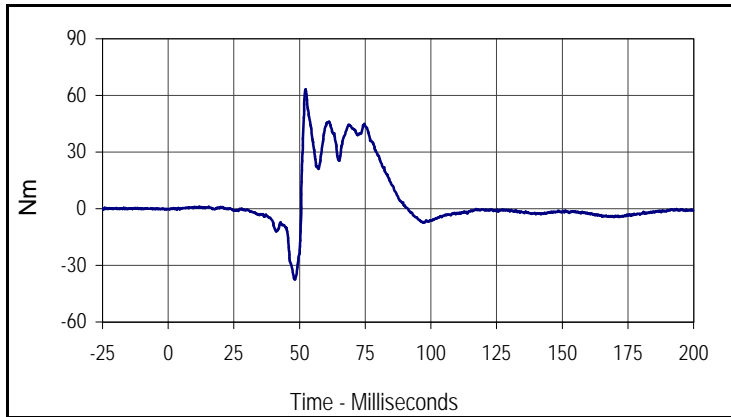
Curve Description			
Passenger Right Upper Tibia Moment X			
CURNO	Type	SAE Class	Units
071	FIL	600	Nm
Max	Time	Min	Time
104.3	40.2	-26.1	69.0



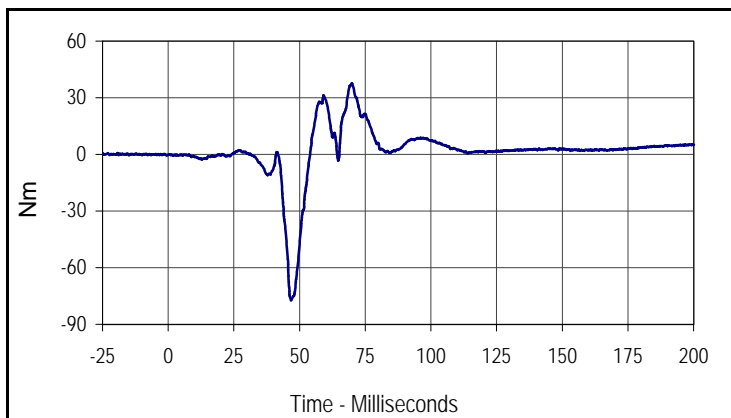
Curve Description			
Passenger Right Upper Tibia Moment Y			
CURNO	Type	SAE Class	Units
072	FIL	600	Nm
Max	Time	Min	Time
19.3	200.0	-131.4	41.7

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

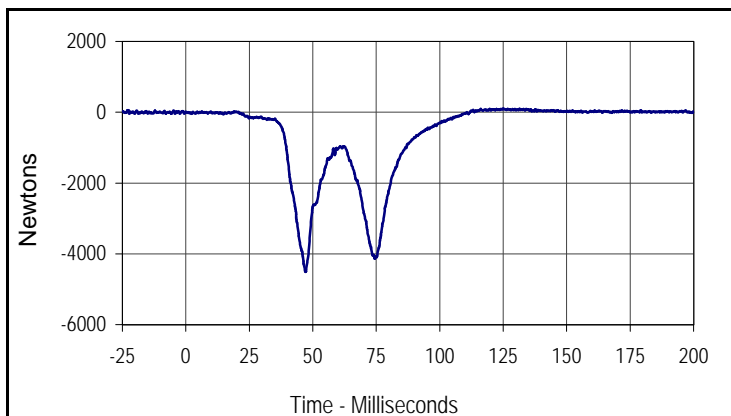
Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Passenger Left Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
073	FIL	600	Nm
Max	Time	Min	Time
63.3	52.3	-37.7	48.2



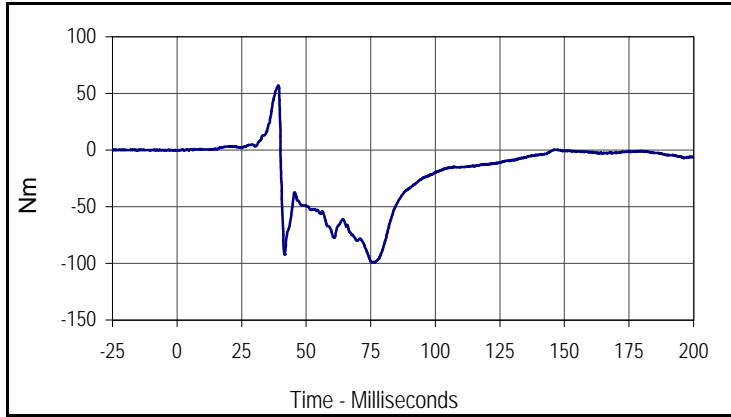
Curve Description			
Passenger Left Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
074	FIL	600	Nm
Max	Time	Min	Time
37.5	69.9	-77.2	46.8



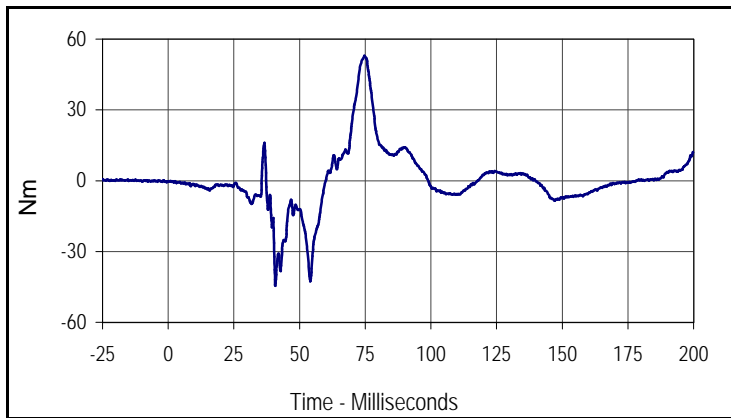
Curve Description			
Passenger Left Lower Tibia Force Z			
CURNO	Type	SAE Class	Units
075	FIL	600	Newtons
Max	Time	Min	Time
97.5	125.0	-4508.4	47.2

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

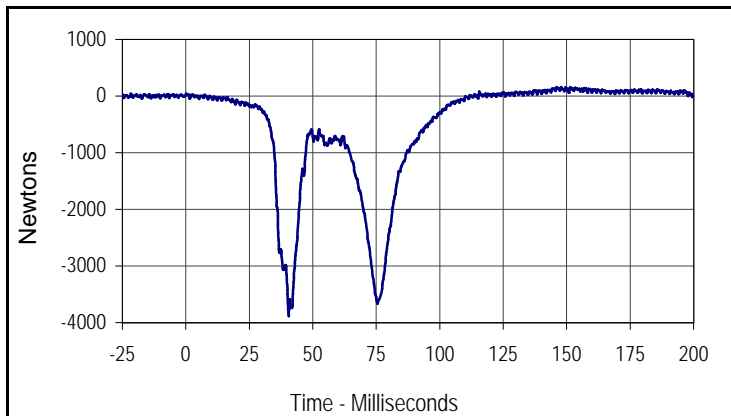
Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Passenger Right Lower Tibia Moment X			
CURNO	Type	SAE Class	Units
076	FIL	600	Nm
Max	Time	Min	Time
56.8	39.2	-99.3	75.6



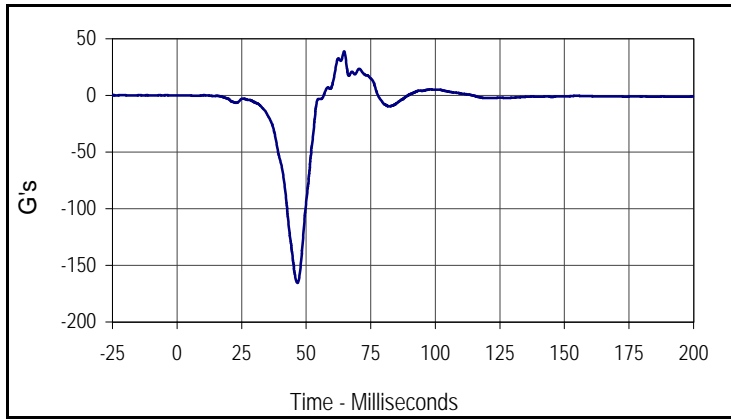
Curve Description			
Passenger Right Lower Tibia Moment Y			
CURNO	Type	SAE Class	Units
077	FIL	600	Nm
Max	Time	Min	Time
52.9	74.7	-44.5	40.8



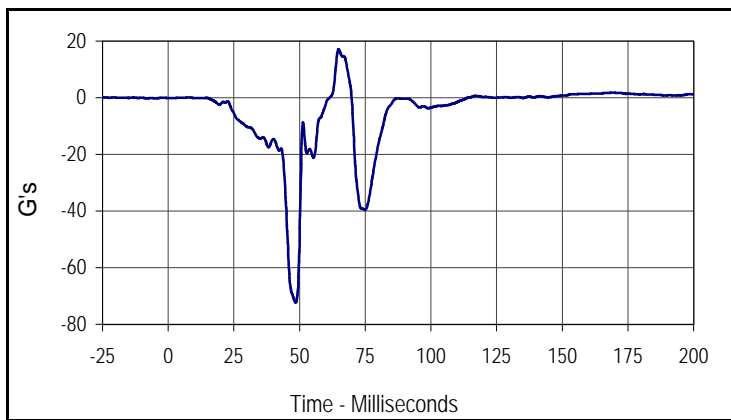
Curve Description			
Passenger Right lower Tibia Force Z			
CURNO	Type	SAE Class	Units
078	FIL	600	Newtons
Max	Time	Min	Time
160.3	151.4	-3888.7	40.5

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

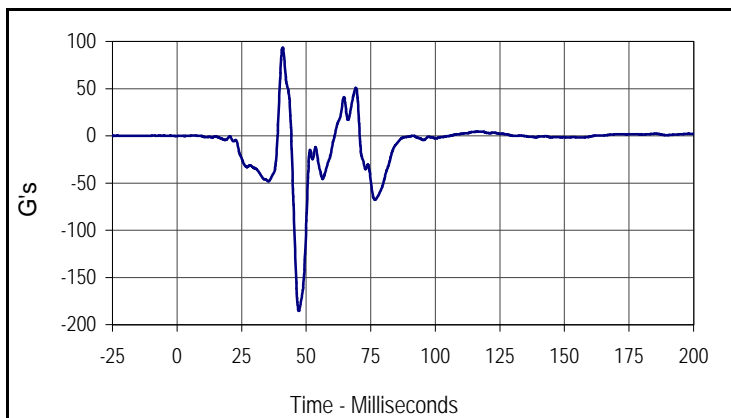
Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Passenger Left Foot Aft X			
CURNO	Type	SAE Class	Units
079	FIL	180	G's
Max	Time	Min	Time
38.9	64.7	-165.5	46.6



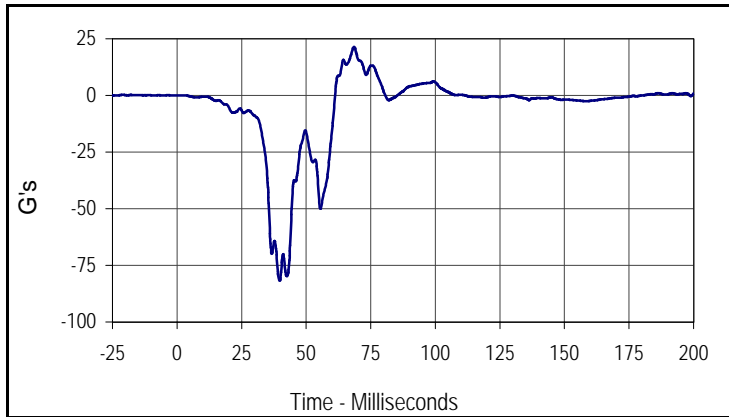
Curve Description			
Passenger Left Foot Aft Z			
CURNO	Type	SAE Class	Units
080	FIL	180	G's
Max	Time	Min	Time
17.2	64.9	-72.3	48.5



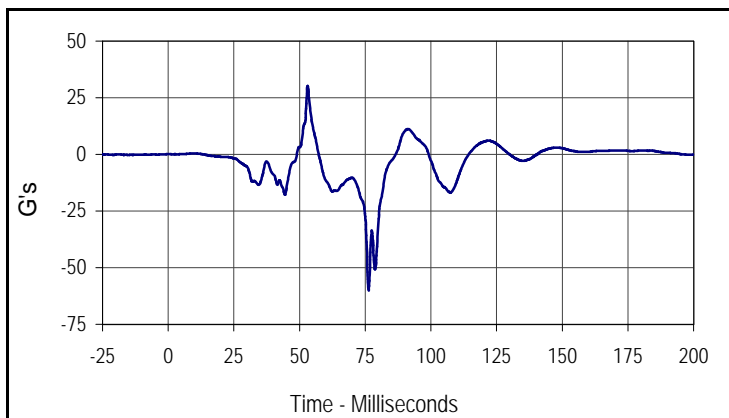
Curve Description			
Passenger Left Foot Fore Z			
CURNO	Type	SAE Class	Units
081	FIL	180	G's
Max	Time	Min	Time
93.6	40.9	-185.5	47.1

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

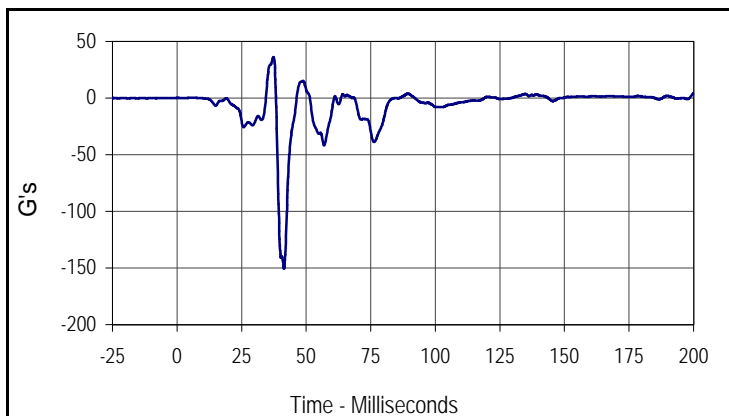
Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Passenger Right Foot Aft X			
CURNO	Type	SAE Class	Units
082	FIL	180	G's
Max	Time	Min	Time
21.5	68.5	-81.8	39.7



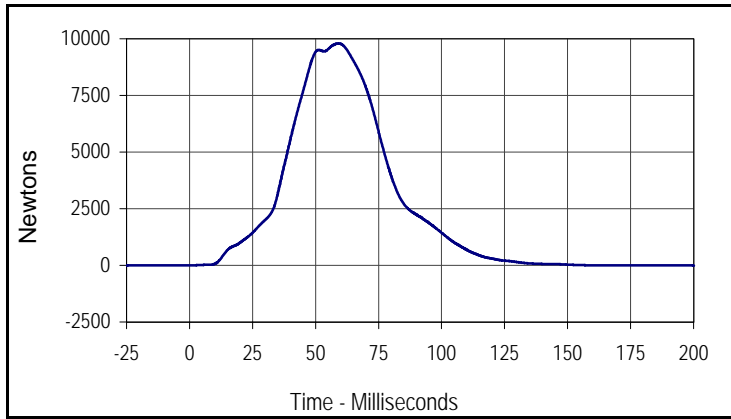
Curve Description			
Passenger Right Foot Aft Z			
CURNO	Type	SAE Class	Units
083	FIL	180	G's
Max	Time	Min	Time
30.2	53.1	-60.0	76.3



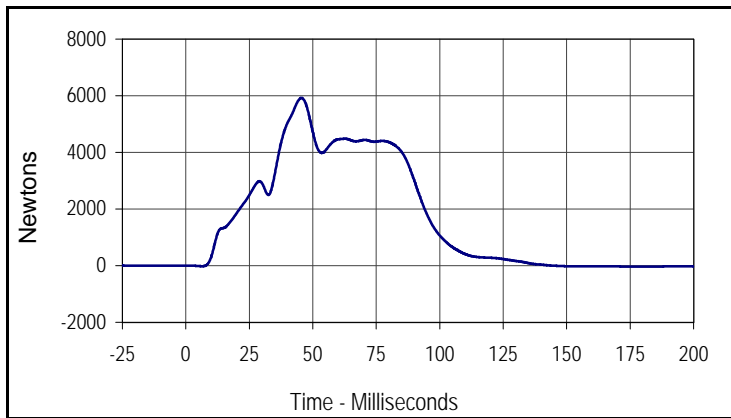
Curve Description			
Passenger Right Foot Fore Z			
CURNO	Type	SAE Class	Units
084	FIL	180	G's
Max	Time	Min	Time
36.2	37.4	-150.5	41.4

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

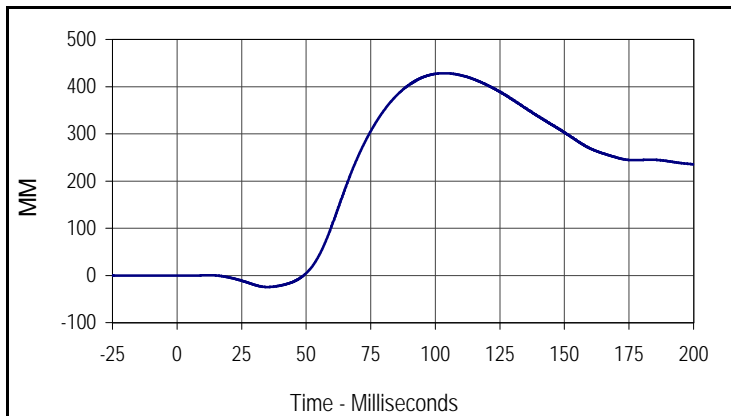
Test Date: 4/5/05
 NHTSA No.: M55800



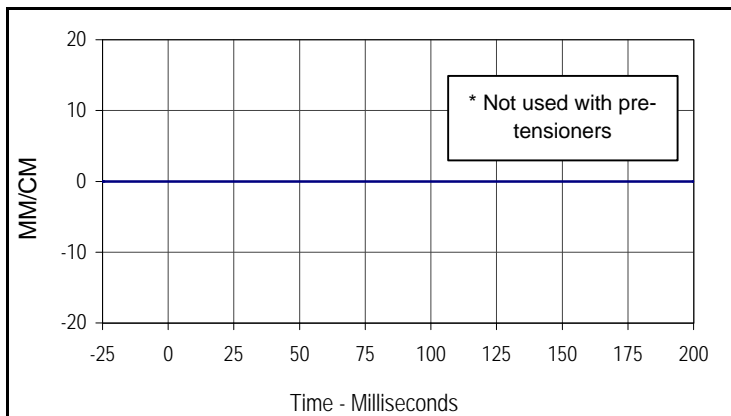
Curve Description			
Passenger Lap Belt Force			
CURNO	Type	SAE Class	Units
085	FIL	60	Newtons
Max	Time	Min	Time
9795.3	59.1	-8.3	200.4



Curve Description			
Passenger Shoulder Belt Force			
CURNO	Type	SAE Class	Units
086	FIL	60	Newtons
Max	Time	Min	Time
5922.8	45.5	-29.5	184.2



Curve Description			
Passenger Shoulder Belt Pullout			
CURNO	Type	SAE Class	Units
087	FIL	60	MM
Max	Time	Min	Time
428.4	103.9	-24.5	35.4

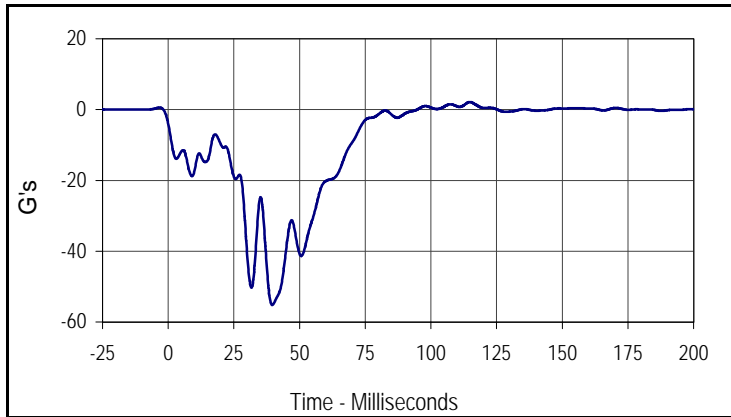


Curve Description			
Passenger Shoulder Belt Elongation			
CURNO	Type	SAE Class	Units
088	FIL	60	MM/CM
Max	Time	Min	Time
0.0	0.0	0.0	0.0

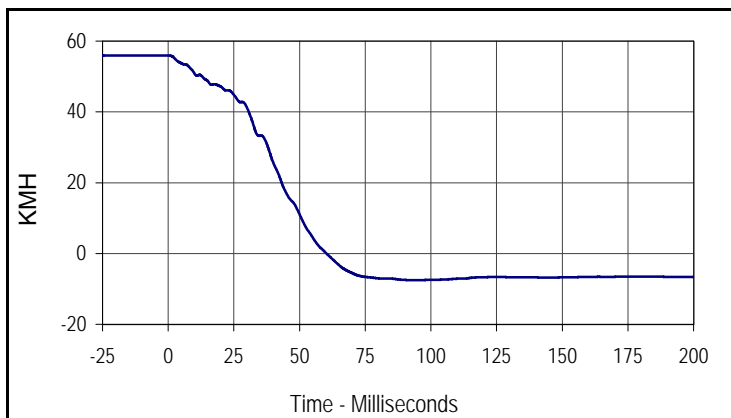
* Not used with pre-tensioners

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

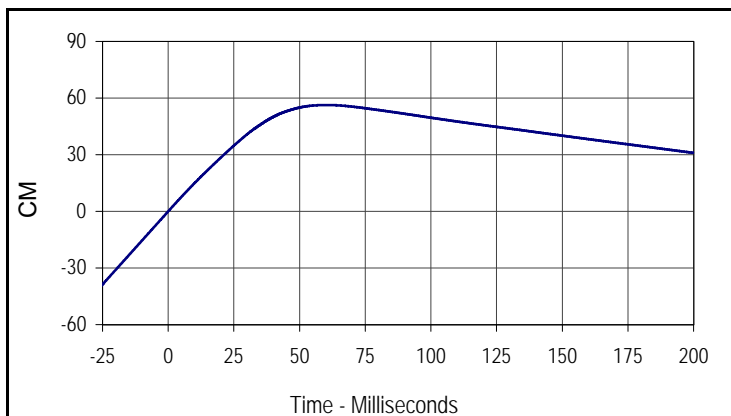
Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Vehicle Left Rear X			
CURNO	Type	SAE Class	Units
089	FIL	60	G's
Max	Time	Min	Time
2.1	114.8	-55.2	39.6



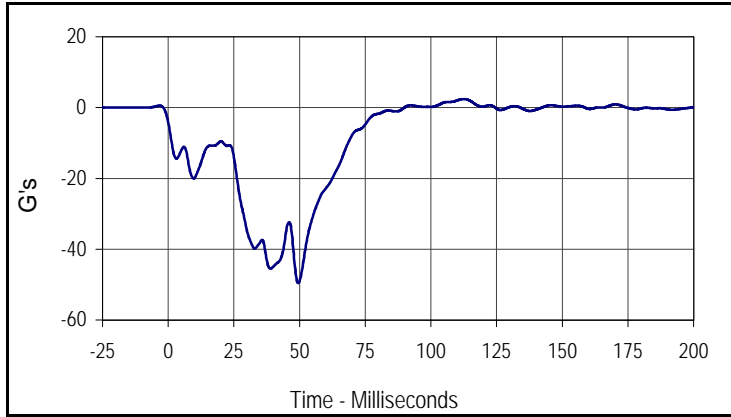
Curve Description			
Vehicle Left Rear X Velocity			
CURNO	Type	SAE Class	Units
089	IN1	180	KMH
Max	Time	Min	Time
55.9	0.2	-7.6	95.4



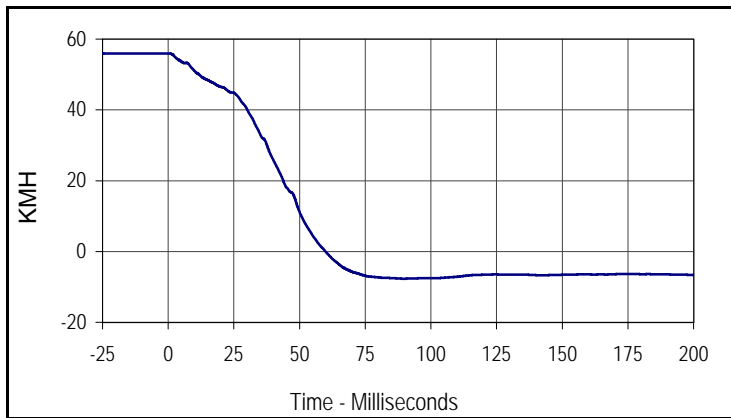
Curve Description			
Vehicle Left Rear X Displacement			
CURNO	Type	SAE Class	Units
089	IN2	180	CM
Max	Time	Min	Time
56.3	60.2	0.0	0.0

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

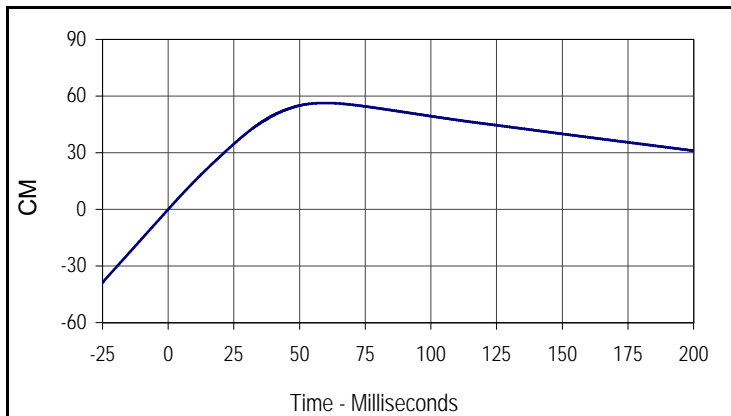
Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Vehicle Right Rear X			
CURNO	Type	SAE Class	Units
090	FIL	60	G's
Max	Time	Min	Time
2.4	112.5	-49.6	49.5



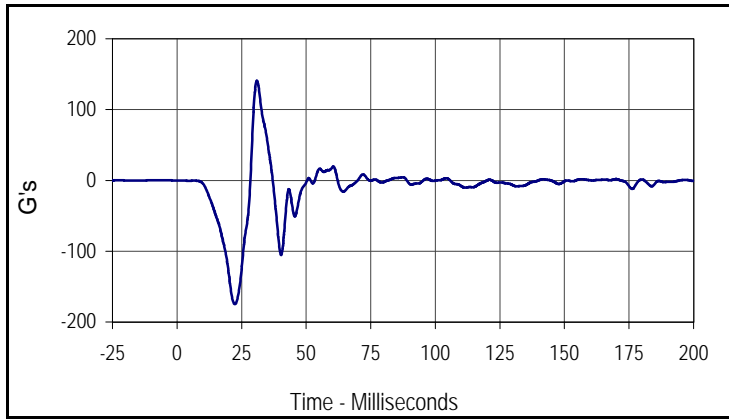
Curve Description			
Vehicle Right Rear X Velocity			
CURNO	Type	SAE Class	Units
090	IN1	180	KMH
Max	Time	Min	Time
55.9	0.2	-7.7	89.7



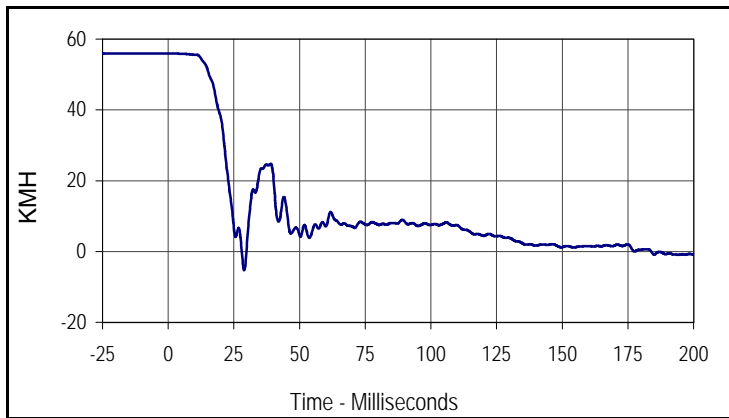
Curve Description			
Vehicle Right Rear X Displacement			
CURNO	Type	SAE Class	Units
090	IN2	180	CM
Max	Time	Min	Time
56.3	59.8	0.0	0.0

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

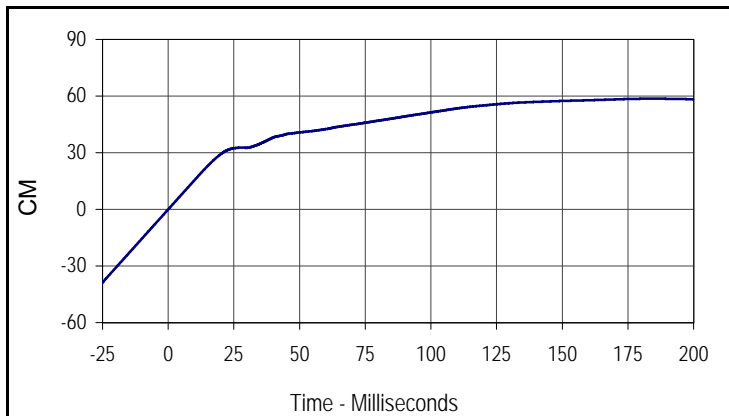
Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Vehicle Engine Top X			
CURNO	Type	SAE Class	Units
091	FIL	60	G's
Max	Time	Min	Time
140.6	30.9	-174.8	22.4



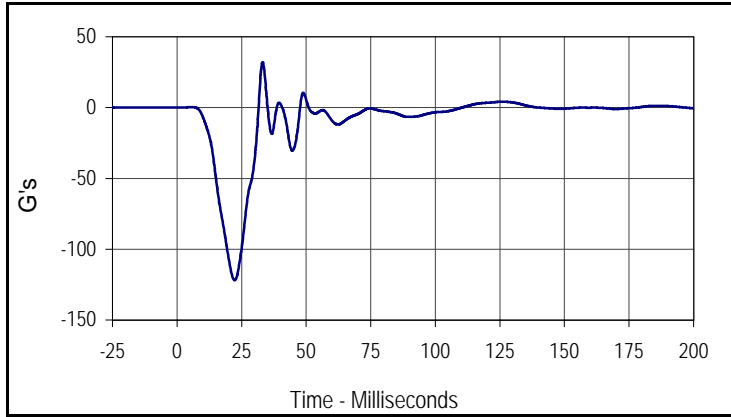
Curve Description			
Vehicle Engine Top X Velocity			
CURNO	Type	SAE Class	Units
091	IN1	180	KMH
Max	Time	Min	Time
55.9	0.0	-5.3	28.9



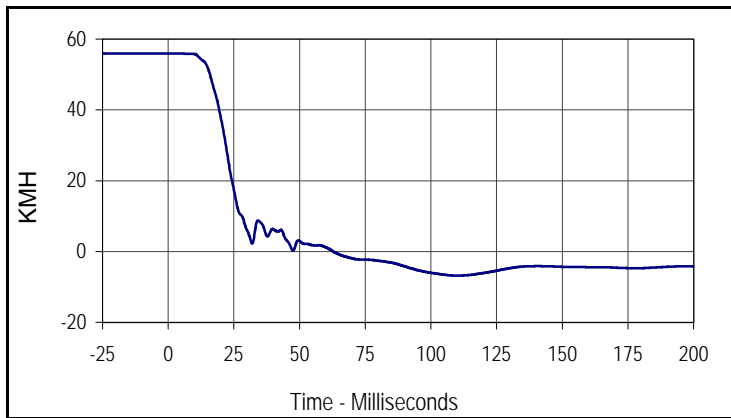
Curve Description			
Vehicle Engine Top X Displacement			
CURNO	Type	SAE Class	Units
091	IN2	180	CM
Max	Time	Min	Time
58.6	183.9	0.0	0.0

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

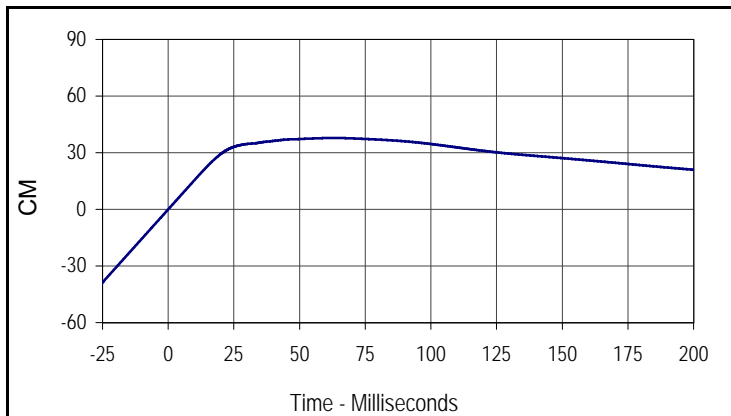
Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Vehicle Engine Bottom X			
CURNO	Type	SAE Class	Units
092	FIL	60	G's
Max	Time	Min	Time
31.9	33.1	-121.9	22.3



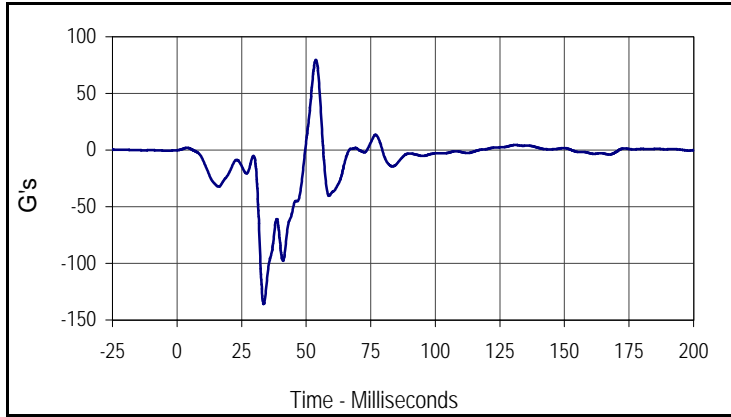
Curve Description			
Vehicle Engine Bottom X Velocity			
CURNO	Type	SAE Class	Units
092	IN1	180	KMH
Max	Time	Min	Time
55.9	4.0	-6.8	110.1



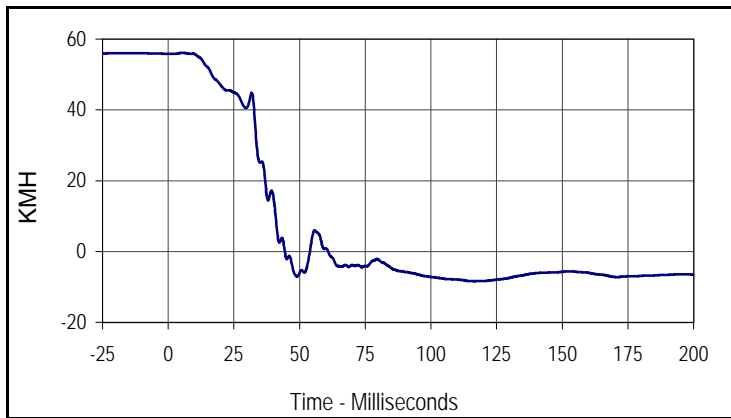
Curve Description			
Vehicle Engine Bottom X Displacement			
CURNO	Type	SAE Class	Units
092	IN2	180	CM
Max	Time	Min	Time
37.8	62.8	0.0	0.0

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

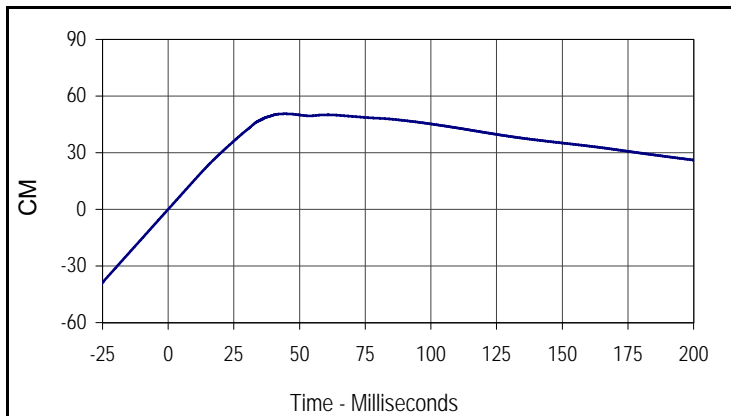
Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Vehicle Left Brake Caliper X			
CURNO	Type	SAE Class	Units
093	FIL	60	G's
Max	Time	Min	Time
79.7	53.8	-135.9	33.5



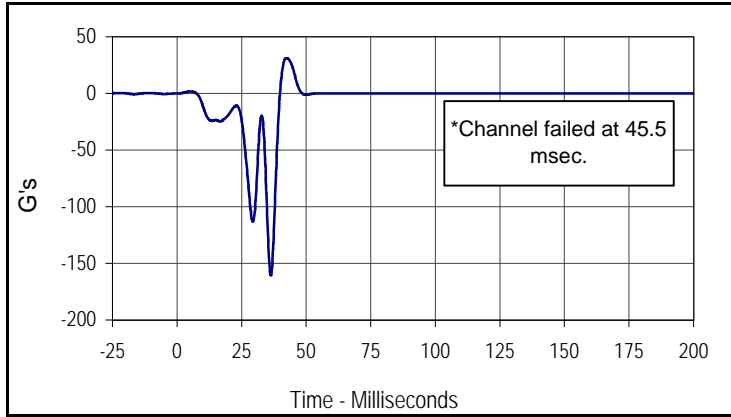
Curve Description			
Vehicle Left Brake Caliper X Velocity			
CURNO	Type	SAE Class	Units
093	IN1	180	KMH
Max	Time	Min	Time
56.2	5.3	-8.4	116.5



Curve Description			
Vehicle Left Brake Caliper X Displacement			
CURNO	Type	SAE Class	Units
093	IN2	180	CM
Max	Time	Min	Time
50.6	44.4	0.1	0.0

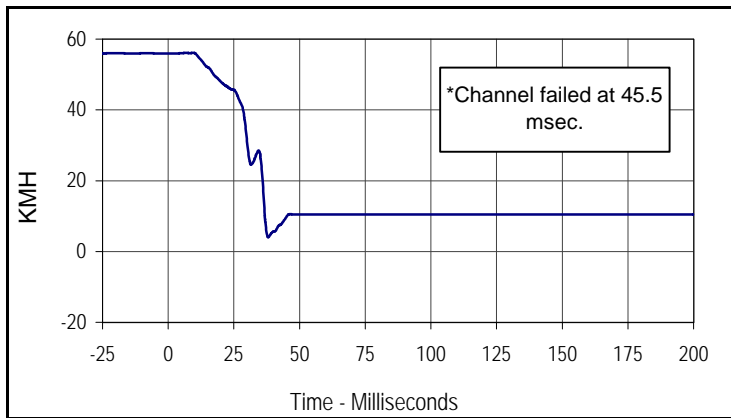
Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05
 NHTSA No.: M55800



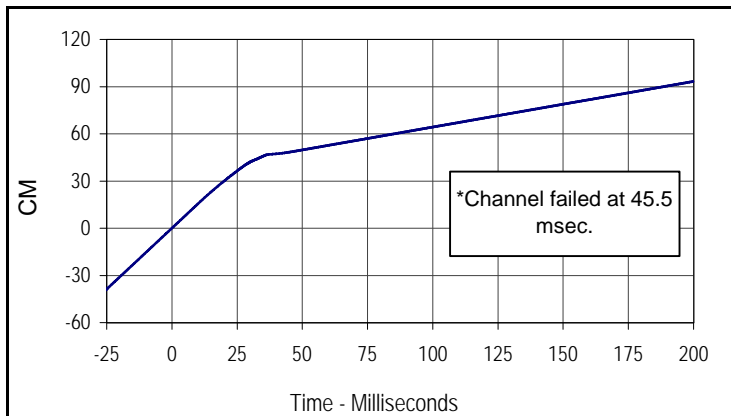
Curve Description			
Vehicle Right Brake Caliper X			
CURNO	Type	SAE Class	Units
094	FIL	60	G's
Max	Time	Min	Time
31.1	42.4	-160.6	36.3

* Channel failed at 45.5 msec.



Curve Description			
Vehicle Right Brake Caliper X Velocity			
CURNO	Type	SAE Class	Units
094	IN1	180	KMH
Max	Time	Min	Time
56.1	9.5	4.1	38.1

* Channel failed at 45.5 msec.

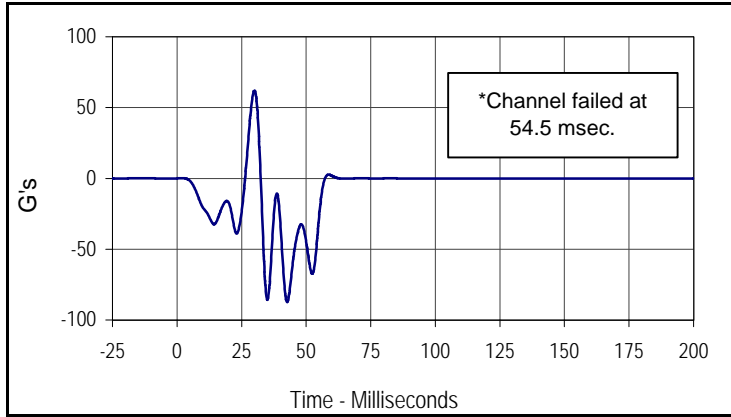


Curve Description			
Vehicle Right Brake Caliper X Displacement			
CURNO	Type	SAE Class	Units
094	IN2	180	CM
Max	Time	Min	Time
93.3	200.0	0.1	0.0

* Channel failed at 45.5 msec.

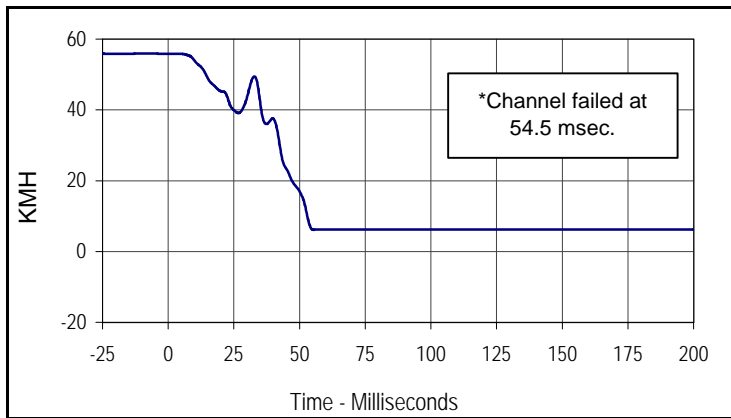
Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05
 NHTSA No.: M55800



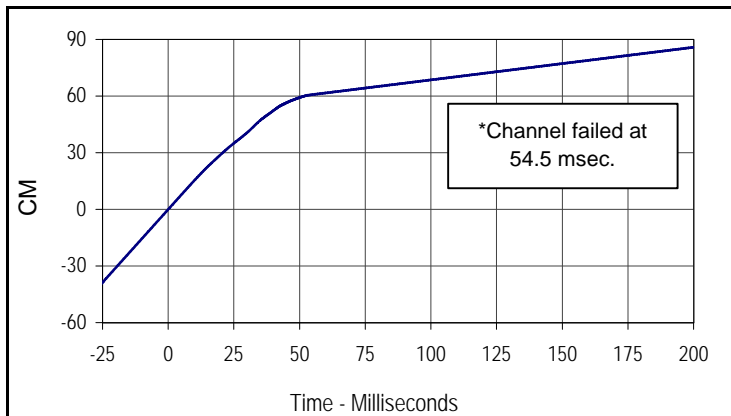
Curve Description			
Vehicle Instrument Panel X			
CURNO	Type	SAE Class	Units
095	FIL	60	G's
Max	Time	Min	Time
61.9	30.0	-87.2	42.6

* Channel failed at 54.5 msec.



Curve Description			
Vehicle Instrument Panel X Velocity			
CURNO	Type	SAE Class	Units
095	IN1	180	KMH
Max	Time	Min	Time
55.9	0.0	6.2	55.3

* Channel failed at 54.5 msec.

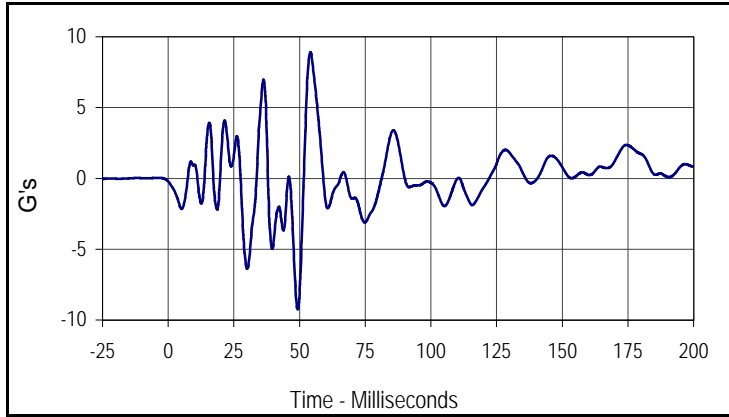


Curve Description			
Vehicle Instrument Panel X Displacement			
CURNO	Type	SAE Class	Units
095	IN2	180	CM
Max	Time	Min	Time
85.8	200.0	0.0	0.0

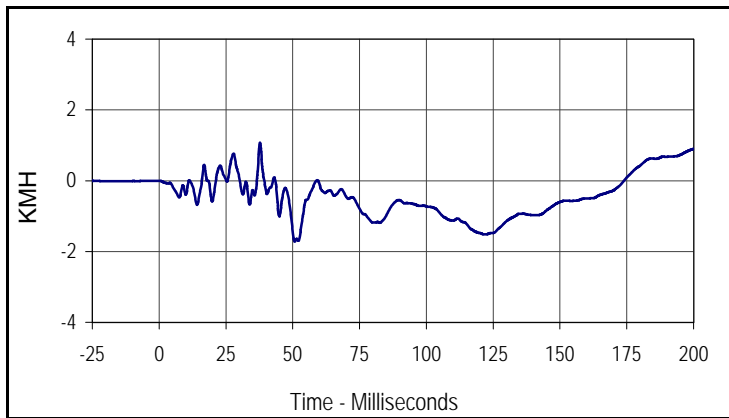
* Channel failed at 54.5 msec.

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

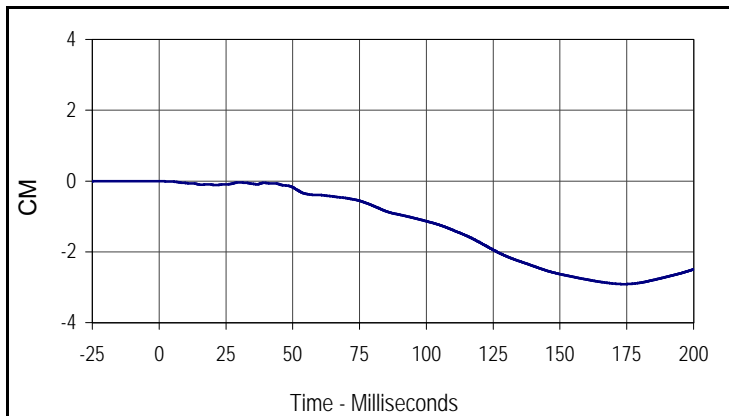
Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Vehicle Left Rear Z			
CURNO	Type	SAE Class	Units
096	FIL	60	G's
Max	Time	Min	Time
8.9	54.1	-9.3	49.3



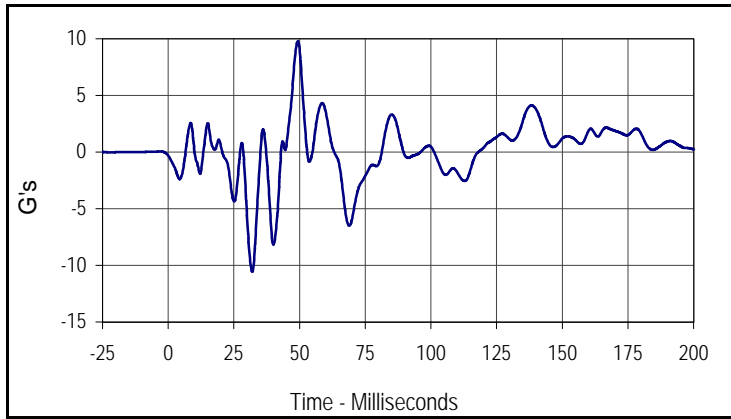
Curve Description			
Vehicle Left Rear Z Velocity			
CURNO	Type	SAE Class	Units
096	IN1	180	KMH
Max	Time	Min	Time
1.1	37.8	-1.7	50.7



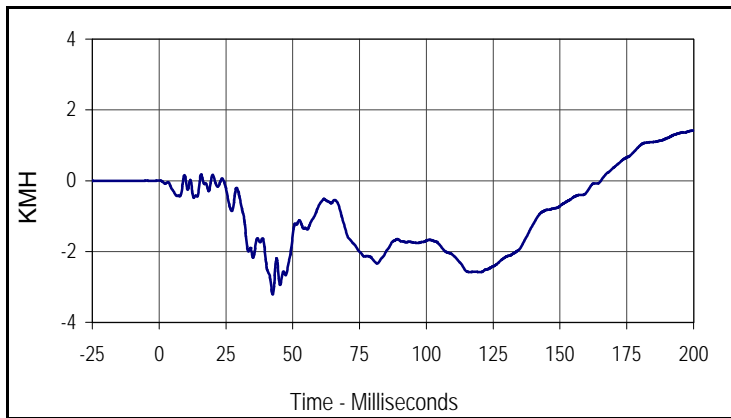
Curve Description			
Vehicle Left Rear Z Displacement			
CURNO	Type	SAE Class	Units
096	IN2	180	CM
Max	Time	Min	Time
0.0	0.0	-2.9	174.0

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

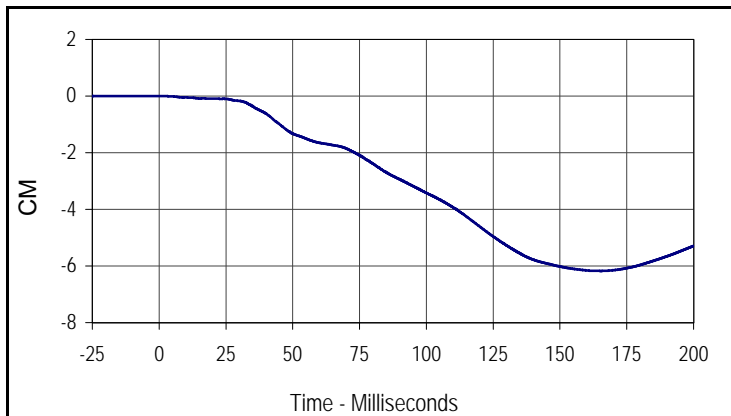
Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Vehicle Right Rear Z			
CURNO	Type	SAE Class	Units
097	FIL	60	G's
Max	Time	Min	Time
9.8	49.4	-10.5	32.0



Curve Description			
Vehicle Right Rear Z Velocity			
CURNO	Type	SAE Class	Units
097	IN1	180	KMH
Max	Time	Min	Time
1.4	199.6	-3.2	42.5



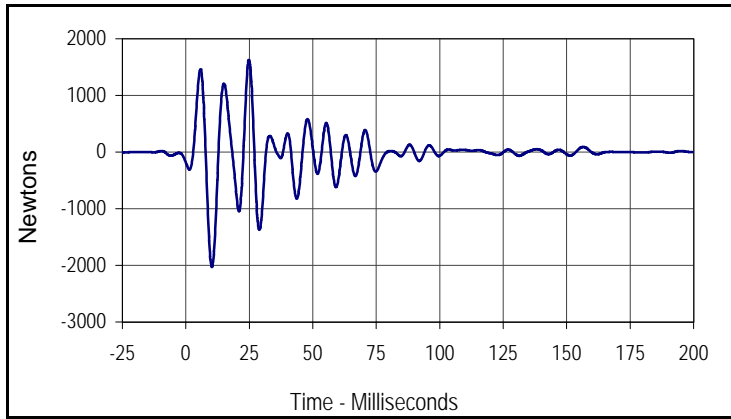
Curve Description			
Vehicle Right Rear Z Displacement			
CURNO	Type	SAE Class	Units
097	IN2	180	CM
Max	Time	Min	Time
0.0	0.5	-6.2	165.3

APPENDIX C

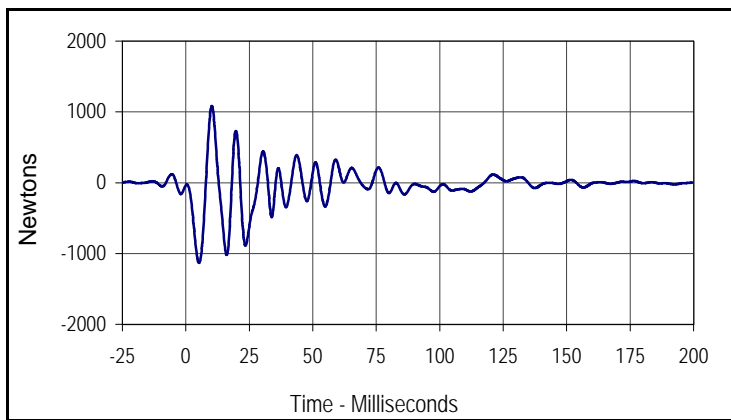
LOAD CELL BARRIER DATA PLOTS

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

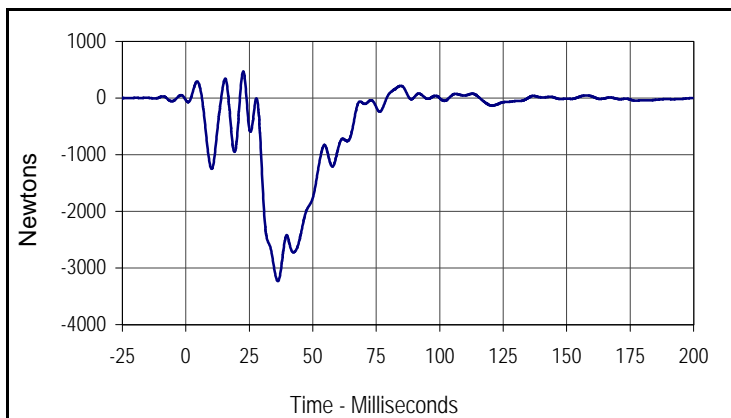
Test Date: 4/5/05
 NHTSA No.: M55800



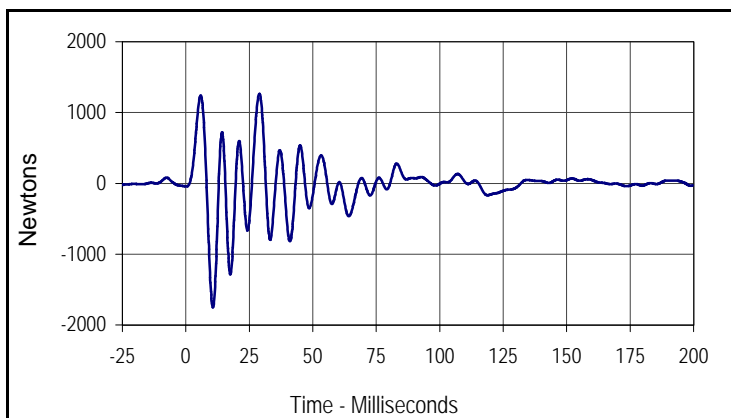
Curve Description			
Barrier Force A1			
CURNO	Type	SAE Class	Units
098	FIL	60	Newtons
Max	Time	Min	Time
1628.5	24.9	-2025.5	10.3



Curve Description			
Barrier Force B1			
CURNO	Type	SAE Class	Units
107	FIL	60	Newtons
Max	Time	Min	Time
1080.4	10.2	-1130.2	5.2



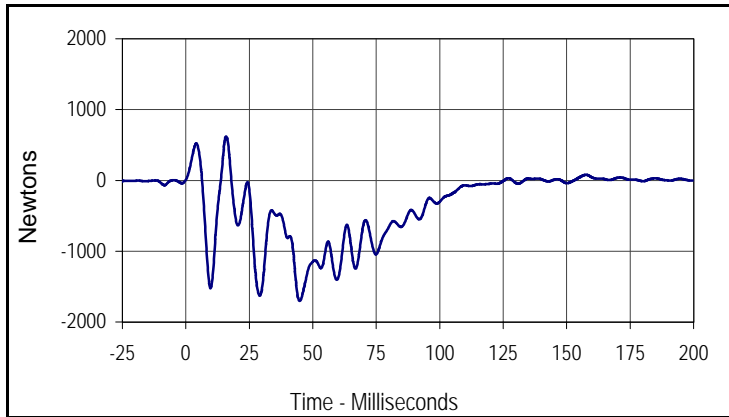
Curve Description			
Barrier Force C1			
CURNO	Type	SAE Class	Units
116	FIL	60	Newtons
Max	Time	Min	Time
469.6	22.6	-3233.6	36.2



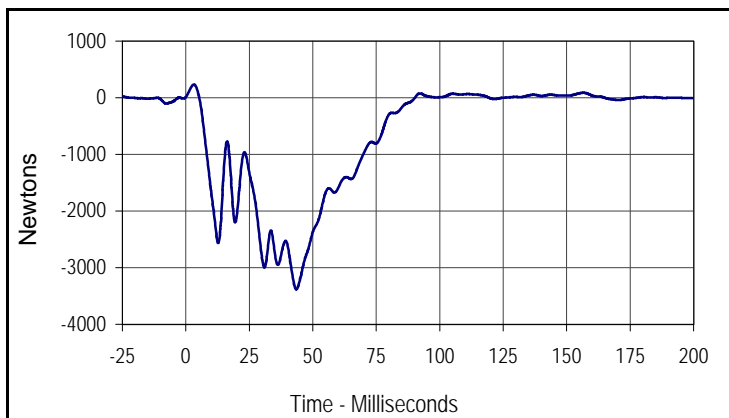
Curve Description			
Barrier Force D1			
CURNO	Type	SAE Class	Units
125	FIL	60	Newtons
Max	Time	Min	Time
1265.1	29.0	-1750.1	10.7

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

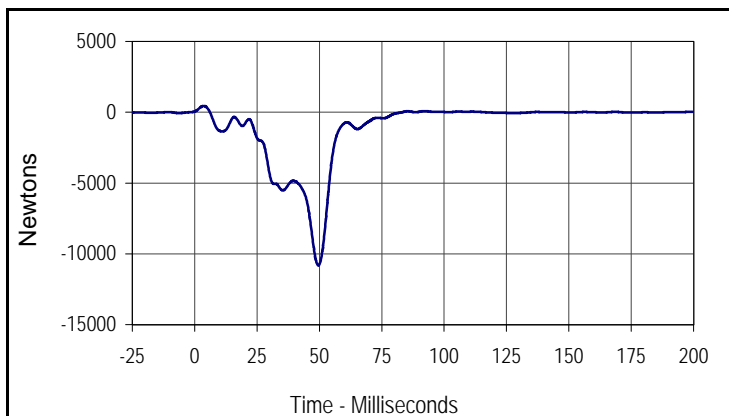
Test Date: 4/5/05
 NHTSA No.: M55800



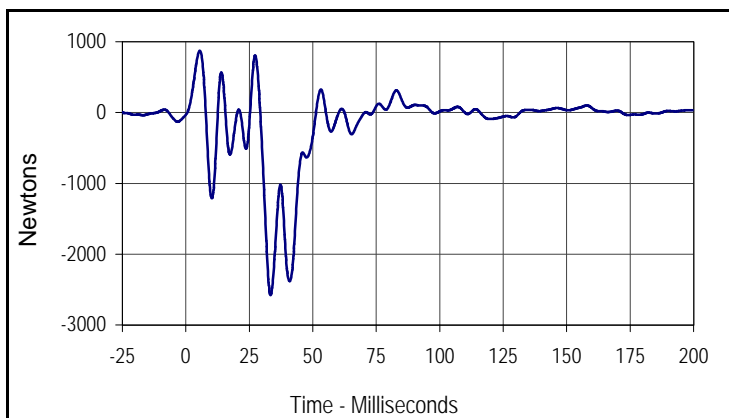
Curve Description			
Barrier Force A2			
CURNO	Type	SAE Class	Units
099	FIL	60	Newtons
Max	Time	Min	Time
619.7	15.8	-1703.9	44.8



Curve Description			
Barrier Force B2			
CURNO	Type	SAE Class	Units
108	FIL	60	Newtons
Max	Time	Min	Time
232.7	3.2	-3382.6	43.5



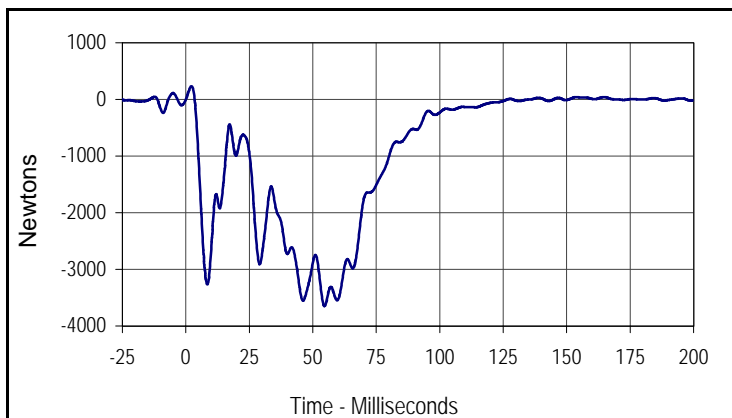
Curve Description			
Barrier Force C2			
CURNO	Type	SAE Class	Units
117	FIL	60	Newtons
Max	Time	Min	Time
442.6	3.6	-10812.0	49.6



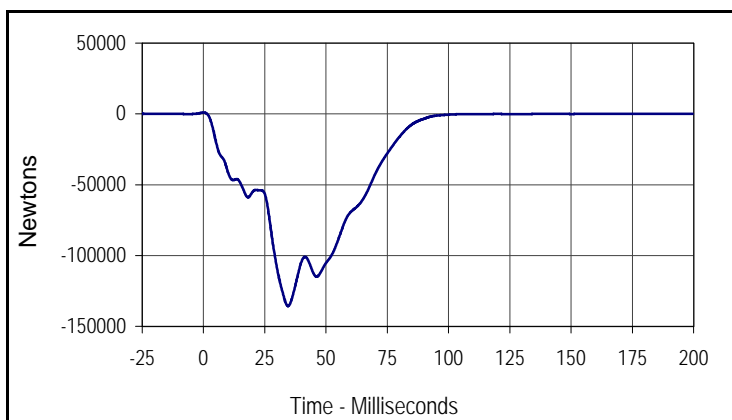
Curve Description			
Barrier Force D2			
CURNO	Type	SAE Class	Units
126	FIL	60	Newtons
Max	Time	Min	Time
872.5	5.5	-2581.6	33.4

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

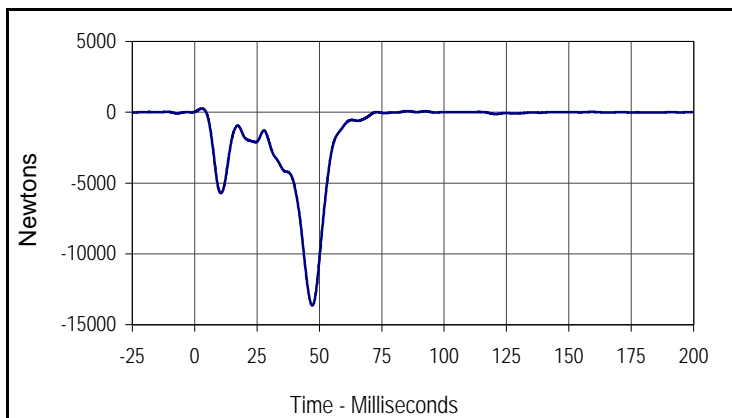
Test Date: 4/5/05
 NHTSA No.: M55800



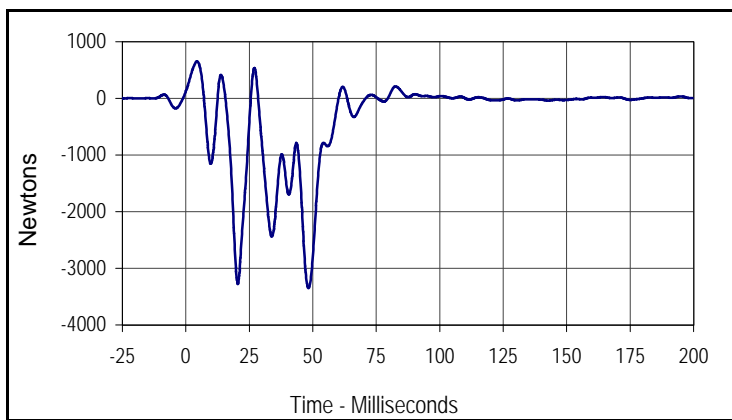
Curve Description			
Barrier Force A3			
CURNO	Type	SAE Class	Units
100	FIL	60	Newtons
Max	Time	Min	Time
234.4	2.2	-3647.6	54.6



Curve Description			
Barrier Force B3			
CURNO	Type	SAE Class	Units
109	FIL	60	Newtons
Max	Time	Min	Time
954.3	0.1	-135705.3	34.5



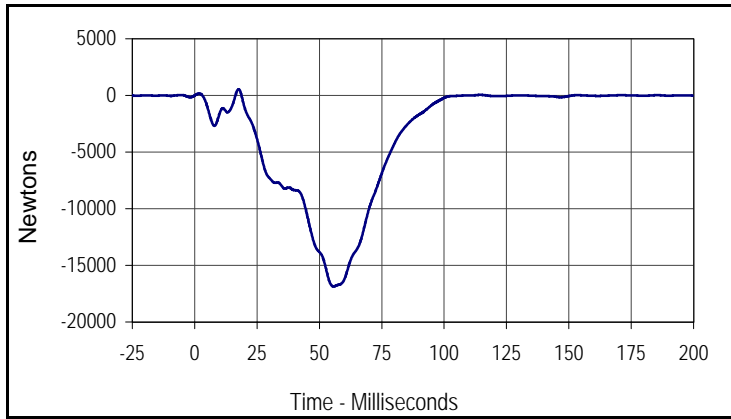
Curve Description			
Barrier Force C3			
CURNO	Type	SAE Class	Units
118	FIL	60	Newtons
Max	Time	Min	Time
261.4	2.9	-13654.1	47.1



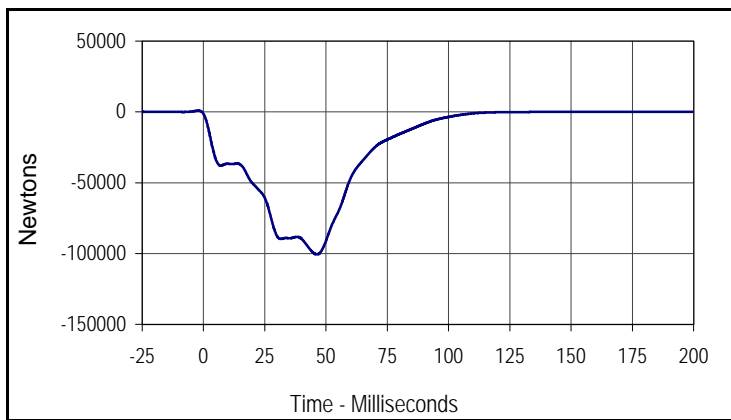
Curve Description			
Barrier Force D3			
CURNO	Type	SAE Class	Units
127	FIL	60	Newtons
Max	Time	Min	Time
653.0	4.4	-3352.6	48.3

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

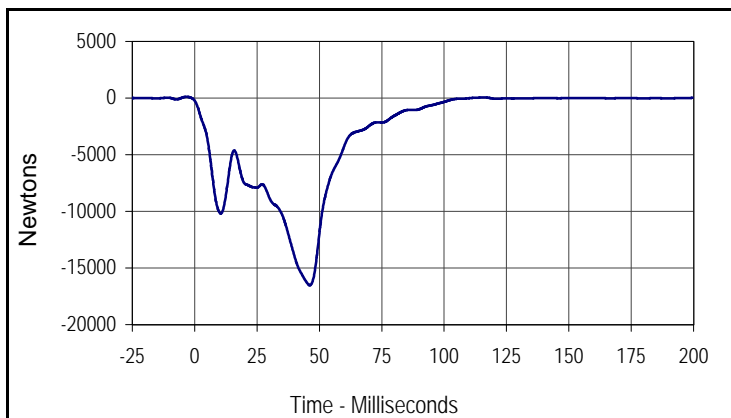
Test Date: 4/5/05
 NHTSA No.: M55800



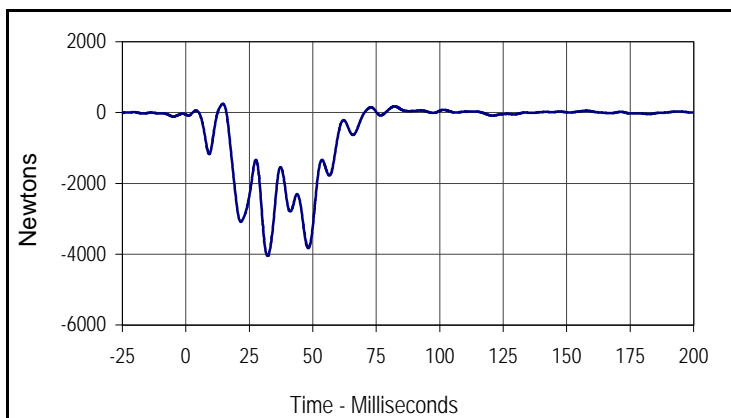
Curve Description			
Barrier Force A4			
CURNO	Type	SAE Class	Units
101	FIL	60	Newtons
Max	Time	Min	Time
532.8	17.6	-16859.6	55.6



Curve Description			
Barrier Force B4			
CURNO	Type	SAE Class	Units
110	FIL	60	Newtons
Max	Time	Min	Time
29.3	193.1	-100605.2	46.3



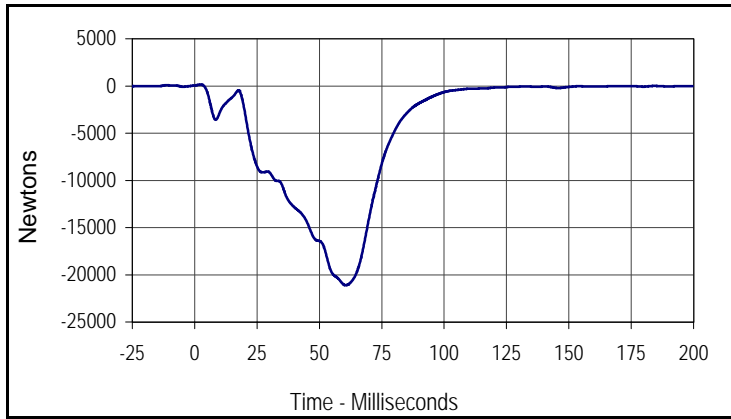
Curve Description			
Barrier Force C4			
CURNO	Type	SAE Class	Units
119	FIL	60	Newtons
Max	Time	Min	Time
54.8	115.9	-16519.2	46.2



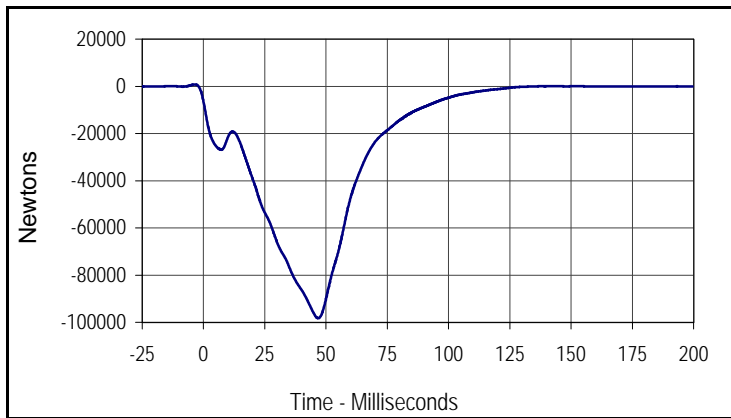
Curve Description			
Barrier Force D4			
CURNO	Type	SAE Class	Units
128	FIL	60	Newtons
Max	Time	Min	Time
248.6	14.6	-4045.2	32.2

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

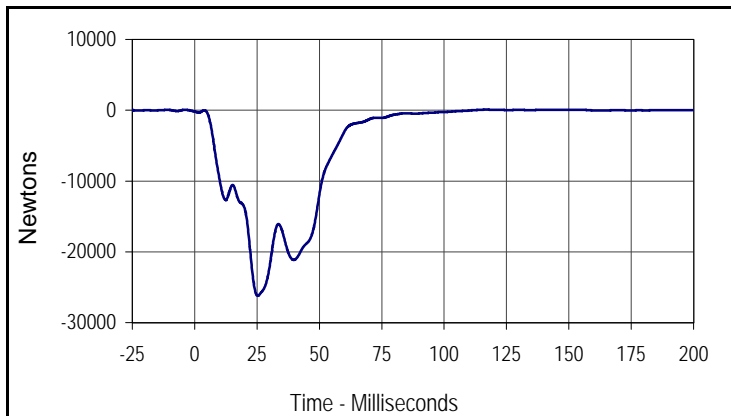
Test Date: 4/5/05
 NHTSA No.: M55800



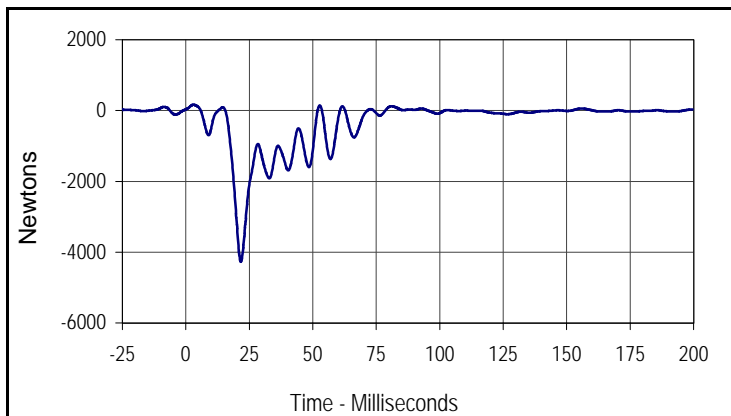
Curve Description			
Barrier Force A5			
CURNO	Type	SAE Class	Units
102	FIL	60	Newtons
Max	Time	Min	Time
145.5	2.4	-21111.6	60.6



Curve Description			
Barrier Force B5			
CURNO	Type	SAE Class	Units
111	FIL	60	Newtons
Max	Time	Min	Time
42.0	143.3	-98301.3	46.8



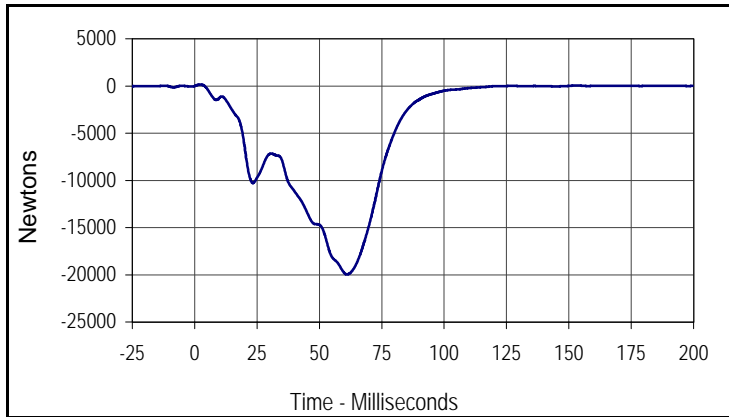
Curve Description			
Barrier Force C5			
CURNO	Type	SAE Class	Units
120	FIL	60	Newtons
Max	Time	Min	Time
90.4	116.9	-26224.9	25.2



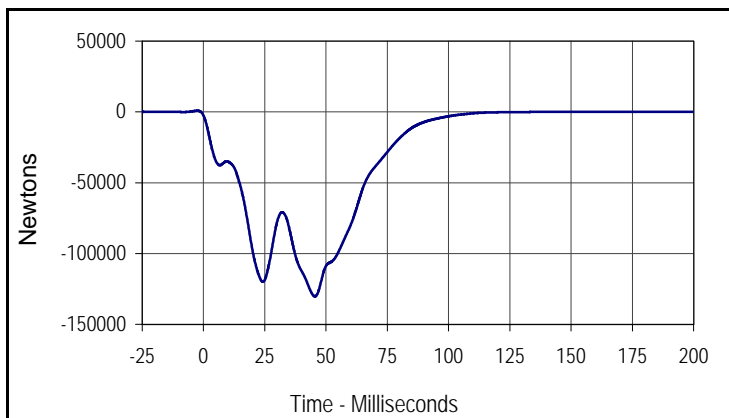
Curve Description			
Barrier Force D5			
CURNO	Type	SAE Class	Units
129	FIL	60	Newtons
Max	Time	Min	Time
163.0	2.9	-4270.8	21.7

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

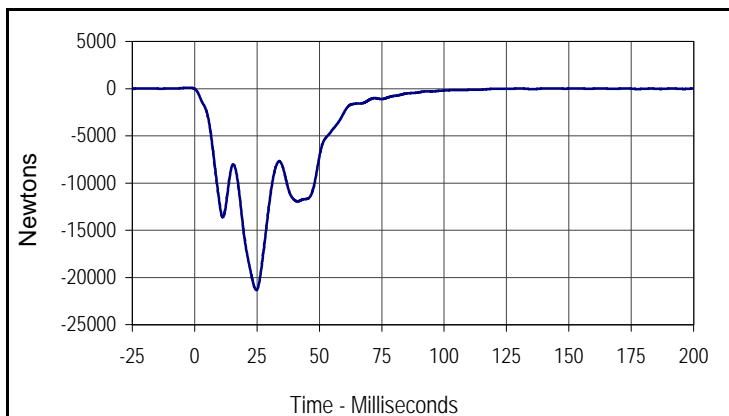
Test Date: 4/5/05
 NHTSA No.: M55800



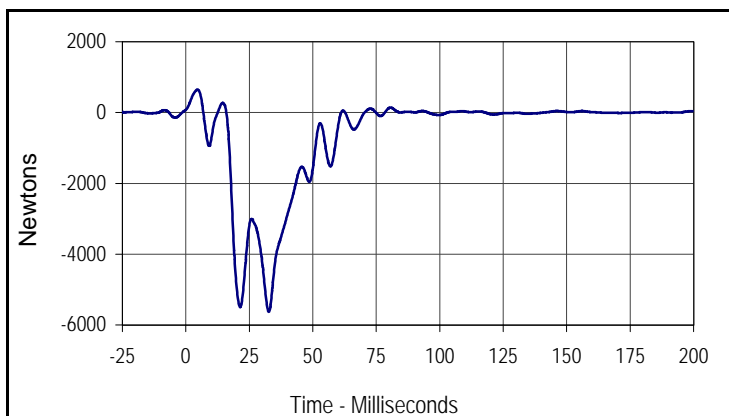
Curve Description			
Barrier Force A6			
CURNO	Type	SAE Class	Units
103	FIL	60	Newtons
Max	Time	Min	Time
149.3	2.3	-19959.1	61.1



Curve Description			
Barrier Force B6			
CURNO	Type	SAE Class	Units
112	FIL	60	Newtons
Max	Time	Min	Time
26.7	142.4	-130257.4	45.5



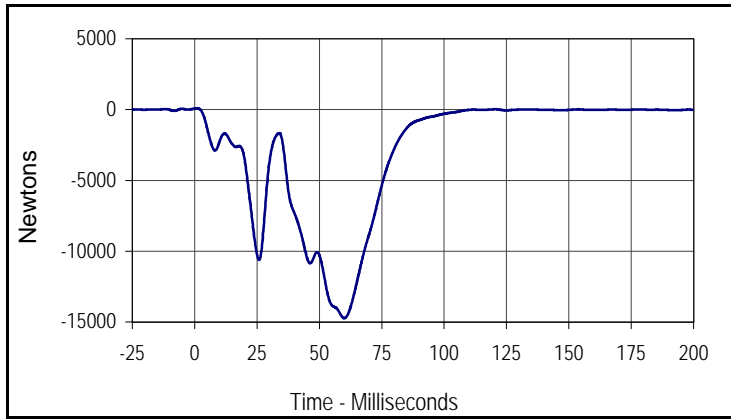
Curve Description			
Barrier Force C6			
CURNO	Type	SAE Class	Units
121	FIL	60	Newtons
Max	Time	Min	Time
24.3	151.8	-21349.1	24.7



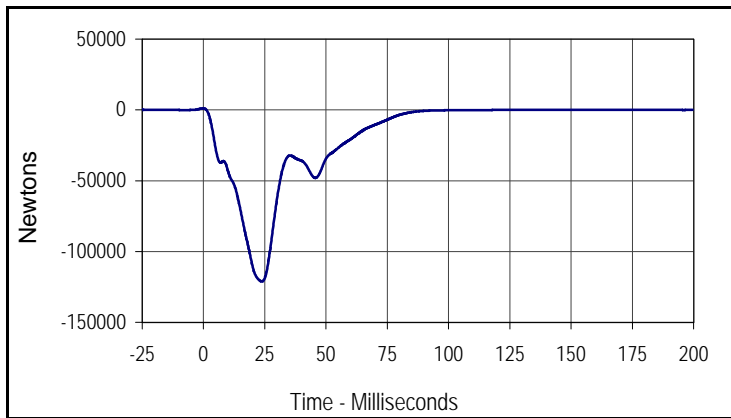
Curve Description			
Barrier Force D6			
CURNO	Type	SAE Class	Units
130	FIL	60	Newtons
Max	Time	Min	Time
646.2	4.6	-5626.9	32.7

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

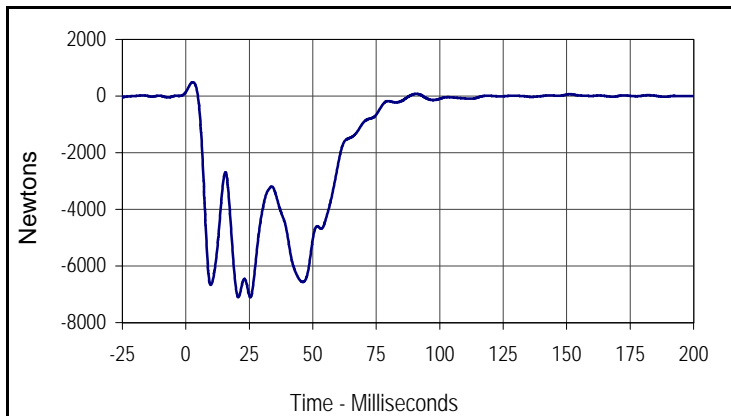
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 NHTSA No.: M55800



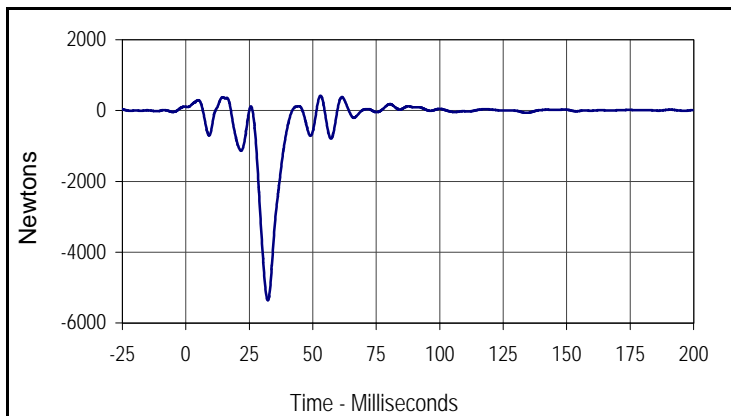
Curve Description			
Barrier Force A7			
CURNO	Type	SAE Class	Units
104	FIL	60	Newtons
Max	Time	Min	Time
88.0	1.1	-14728.0	60.0



Curve Description			
Barrier Force B7			
CURNO	Type	SAE Class	Units
113	FIL	60	Newtons
Max	Time	Min	Time
1086.7	0.0	-121132.2	23.7



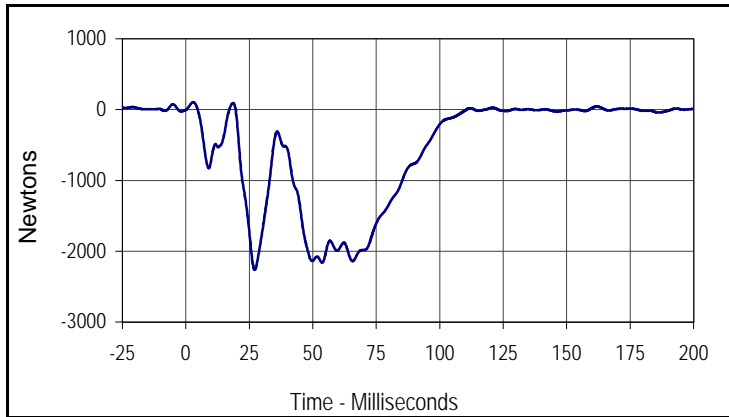
Curve Description			
Barrier Force C7			
CURNO	Type	SAE Class	Units
122	FIL	60	Newtons
Max	Time	Min	Time
491.2	2.7	-7111.9	25.4



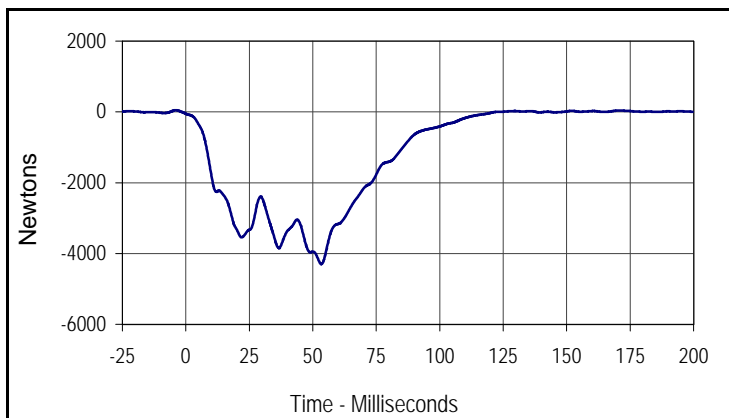
Curve Description			
Barrier Force D7			
CURNO	Type	SAE Class	Units
131	FIL	60	Newtons
Max	Time	Min	Time
420.9	53.0	-5360.8	32.3

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

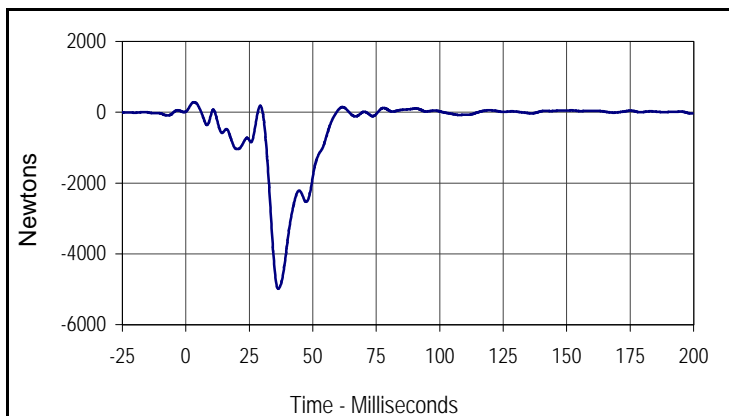
Test Date: 4/5/05
 NHTSA No.: M55800



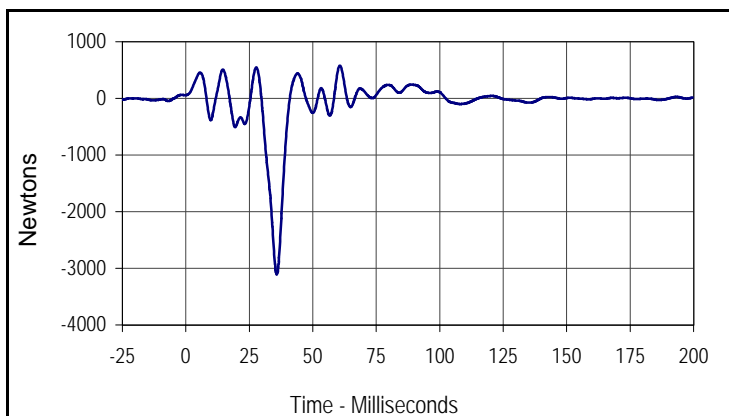
Curve Description			
Barrier Force A8			
CURNO	Type	SAE Class	Units
105	FIL	60	Newtons
Max	Time	Min	Time
106.0	2.9	-2263.2	27.1



Curve Description			
Barrier Force B8			
CURNO	Type	SAE Class	Units
114	FIL	60	Newtons
Max	Time	Min	Time
37.7	170.5	-4297.8	53.4



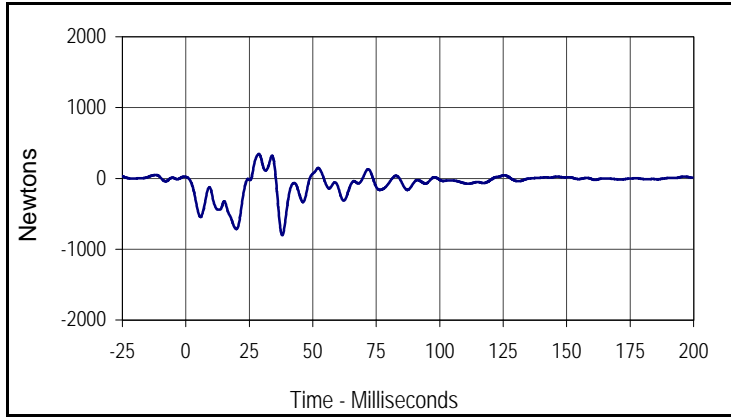
Curve Description			
Barrier Force C8			
CURNO	Type	SAE Class	Units
123	FIL	60	Newtons
Max	Time	Min	Time
282.5	3.1	-4984.2	36.3



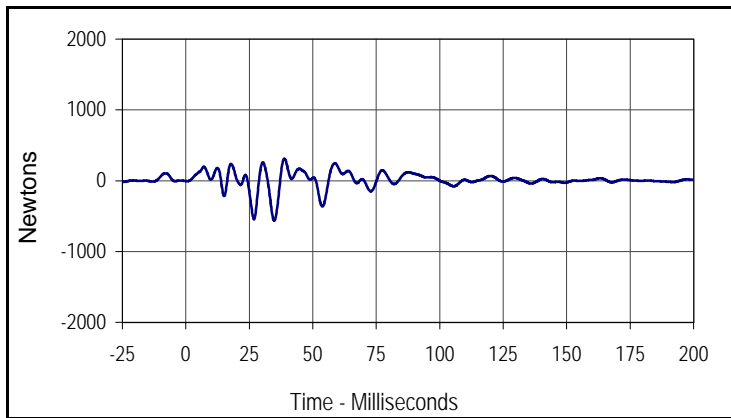
Curve Description			
Barrier Force D8			
CURNO	Type	SAE Class	Units
132	FIL	60	Newtons
Max	Time	Min	Time
577.8	60.7	-3107.3	35.8

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

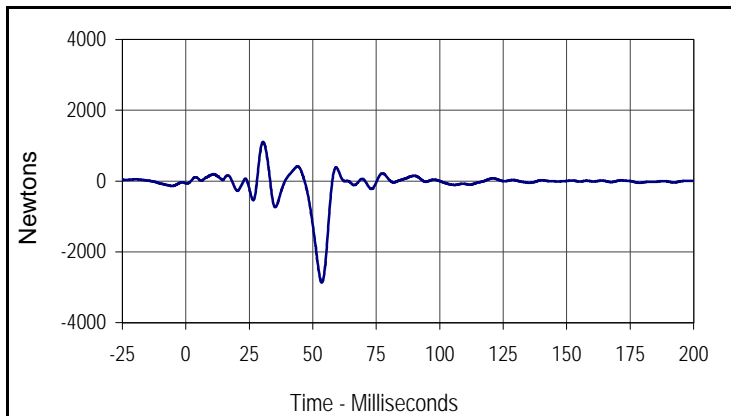
Test Date: 4/5/05
 NHTSA No.: M55800



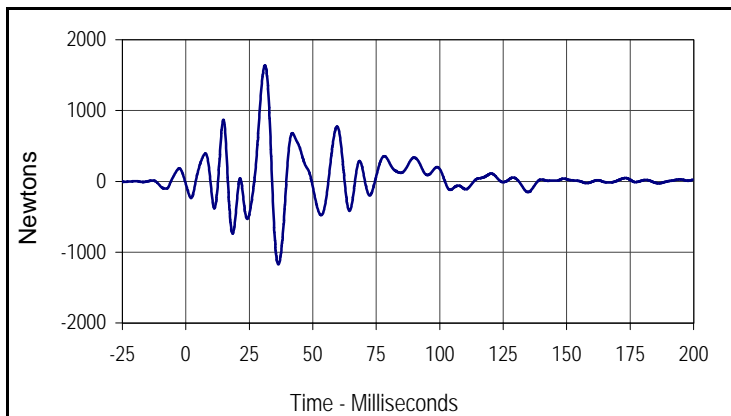
Curve Description			
Barrier Force A9			
CURNO	Type	SAE Class	Units
106	FIL	60	Newtons
Max	Time	Min	Time
345.2	28.7	-804.0	38.0



Curve Description			
Barrier Force B9			
CURNO	Type	SAE Class	Units
115	FIL	60	Newtons
Max	Time	Min	Time
308.6	38.8	-561.8	34.8



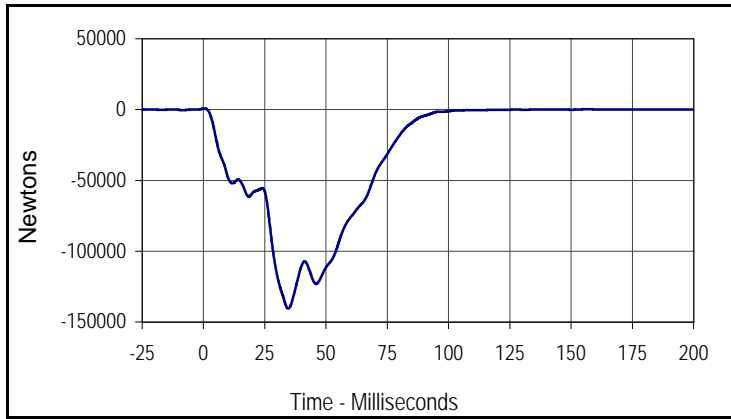
Curve Description			
Barrier Force C9			
CURNO	Type	SAE Class	Units
124	FIL	60	Newtons
Max	Time	Min	Time
1110.7	30.4	-2864.1	53.6



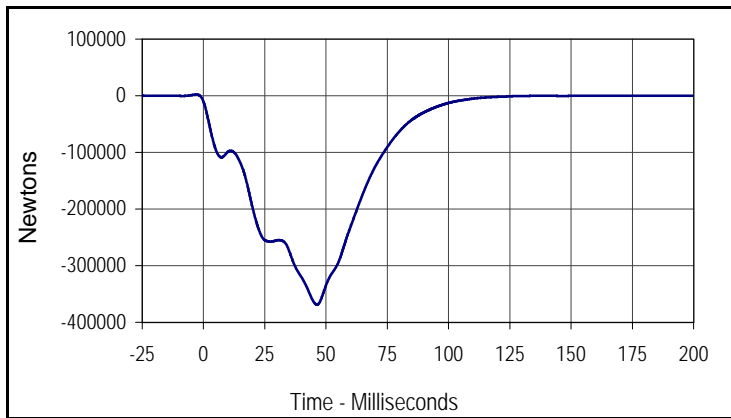
Curve Description			
Barrier Force D9			
CURNO	Type	SAE Class	Units
133	FIL	60	Newtons
Max	Time	Min	Time
1636.6	31.2	-1173.3	36.4

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

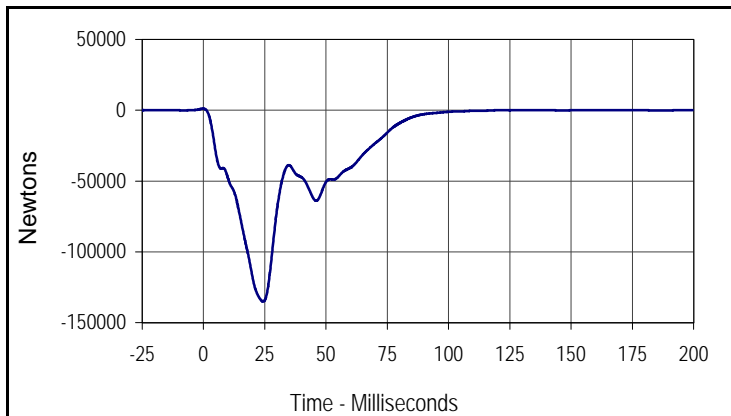
Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Barrier Force Sum Group 1			
CURNO	Type	SAE Class	Units
001	SUM	60	Newtons
Max	Time	Min	Time
787.5	0.3	-140607.2	34.6



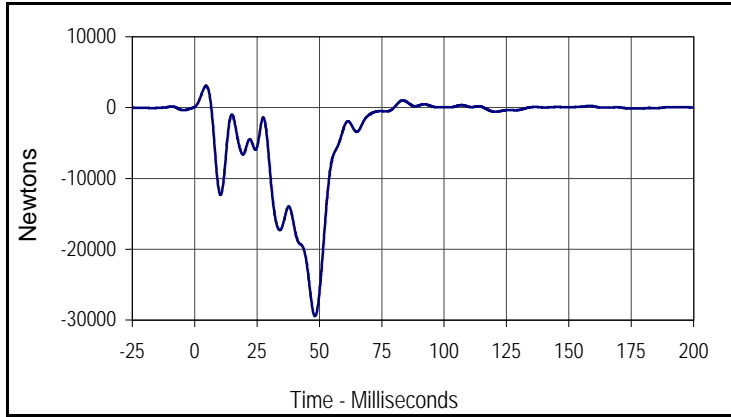
Curve Description			
Barrier Force Sum Group 2			
CURNO	Type	SAE Class	Units
002	SUM	60	Newtons
Max	Time	Min	Time
97.0	153.2	-368810.1	46.3



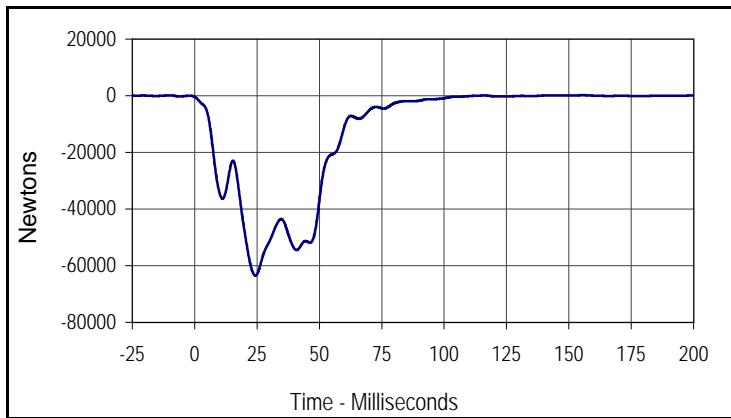
Curve Description			
Barrier Force Sum Group 3			
CURNO	Type	SAE Class	Units
003	SUM	60	Newtons
Max	Time	Min	Time
1108.1	0.0	-135127.4	24.3

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

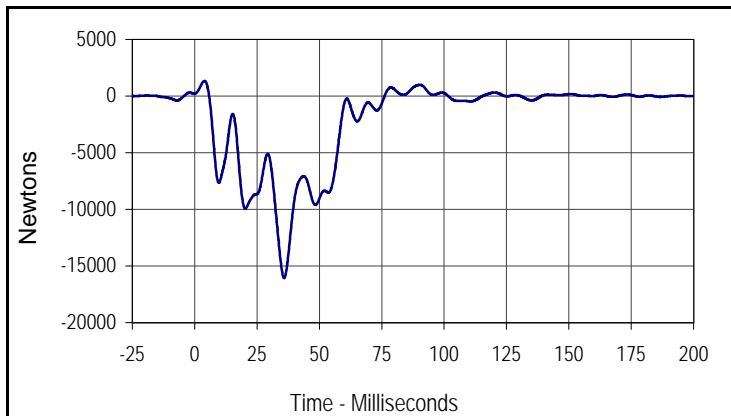
Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Barrier Force Sum Group 4			
CURNO	Type	SAE Class	Units
004	SUM	60	Newtons
Max	Time	Min	Time
3067.3	4.6	-29464.5	48.2



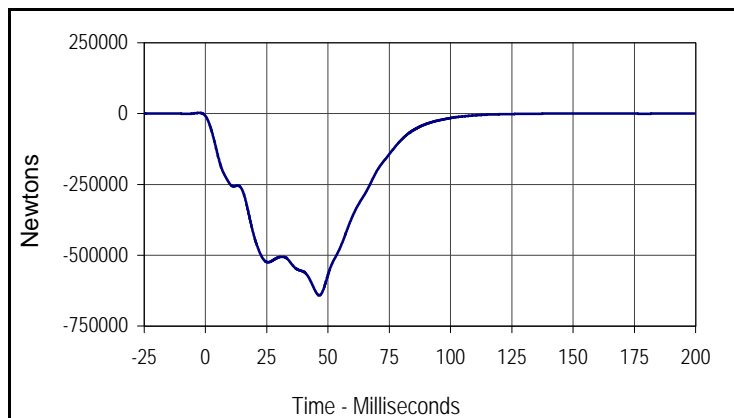
Curve Description			
Barrier Force Sum Group 5			
CURNO	Type	SAE Class	Units
005	SUM	60	Newtons
Max	Time	Min	Time
207.4	155.7	-63470.0	24.4



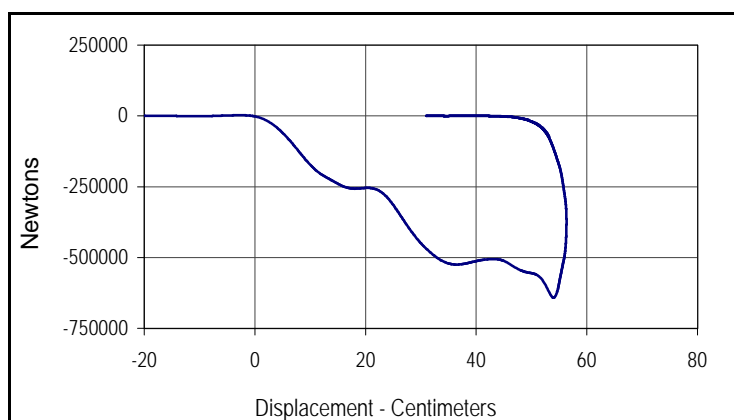
Curve Description			
Barrier Force Sum Group 6			
CURNO	Type	SAE Class	Units
006	SUM	60	Newtons
Max	Time	Min	Time
1328.2	3.9	-16065.8	35.8

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05
 NHTSA No.: M55800



Curve Description			
Barrier Force Total Sum			
CURNO	Type	SAE Class	Units
007	SUM	60	Newtons
Max	Time	Min	Time
569.8	155.6	-641822.4	46.4



Curve Description			
Barrier Force Total Sum vs. Displ.			
CURNO	Type	SAE Class	Units
001	XVY	60	Newtons
Max	CM	Min	CM
569.8	39.0	-641822.4	53.6

BARRIER LOAD CELL SUMMARY DATA

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

Location	Units	Max	Time	Min	Time
Barrier Force A1	Newtons	1628.5	24.9	-2025.5	10.3
Barrier Force A2	Newtons	619.7	15.8	-1703.9	44.8
Barrier Force A3	Newtons	234.4	2.2	-3647.6	54.6
Barrier Force A4	Newtons	532.8	17.6	-16859.6	55.6
Barrier Force A5	Newtons	145.5	2.4	-21111.6	60.6
Barrier Force A6	Newtons	149.3	2.3	-19959.1	61.1
Barrier Force A7	Newtons	88.0	1.1	-14728.0	60.0
Barrier Force A8	Newtons	106.0	2.9	-2263.2	27.1
Barrier Force A9	Newtons	345.2	28.7	-804.0	38.0
Barrier Force B1	Newtons	1080.4	10.2	-1130.2	5.2
Barrier Force B2	Newtons	232.7	3.2	-3382.6	43.5
Barrier Force B3	Newtons	954.3	0.1	-135705.3	34.5
Barrier Force B4	Newtons	29.3	193.1	-100605.2	46.3
Barrier Force B5	Newtons	42.0	143.3	-98301.3	46.8
Barrier Force B6	Newtons	26.7	142.4	-130257.4	45.5
Barrier Force B7	Newtons	1086.7	0.0	-121132.2	23.7
Barrier Force B8	Newtons	37.7	170.5	-4297.8	53.4
Barrier Force B9	Newtons	308.6	38.8	-561.8	34.8
Barrier Force C1	Newtons	469.6	22.6	-3233.6	36.2
Barrier Force C2	Newtons	442.6	3.6	-10812.0	49.6
Barrier Force C3	Newtons	261.4	2.9	-13654.1	47.1
Barrier Force C4	Newtons	54.8	115.9	-16519.2	46.2
Barrier Force C5	Newtons	90.4	116.9	-26224.9	25.2
Barrier Force C6	Newtons	24.3	151.8	-21349.1	24.7
Barrier Force C7	Newtons	491.2	2.7	-7111.9	25.4
Barrier Force C8	Newtons	282.5	3.1	-4984.2	36.3
Barrier Force C9	Newtons	1110.7	30.4	-2864.1	53.6
Barrier Force D1	Newtons	1265.1	29.0	-1750.1	10.7
Barrier Force D2	Newtons	872.5	5.5	-2581.6	33.4
Barrier Force D3	Newtons	653.0	4.4	-3352.6	48.3
Barrier Force D4	Newtons	248.6	14.6	-4045.2	32.2
Barrier Force D5	Newtons	163.0	2.9	-4270.8	21.7
Barrier Force D6	Newtons	646.2	4.6	-5626.9	32.7
Barrier Force D7	Newtons	420.9	53.0	-5360.8	32.3
Barrier Force D8	Newtons	577.8	60.7	-3107.3	35.8
Barrier Force D9	Newtons	1636.6	31.2	-1173.3	36.4
Barrier Force Sum Group 1	Newtons	787.5	0.3	-140607.2	34.6
Barrier Force Sum Group 2	Newtons	97.0	153.2	-368810.1	46.3
Barrier Force Sum Group 3	Newtons	1108.1	0.0	-135127.4	24.3
Barrier Force Sum Group 4	Newtons	3067.3	4.6	-29464.5	48.2
Barrier Force Sum Group 5	Newtons	207.4	155.7	-63470.0	24.4
Barrier Force Sum Group 6	Newtons	1328.2	3.9	-16065.8	35.8
Barrier Force Total Sum	Newtons	569.8	155.6	-641822.4	46.4

APPENDIX D

INSTRUMENTATION DATA CHANNEL ASSIGNMENTS

**2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 34
4/5/05
2005 Volkswagen new Jetta 2.5 4-Door Sedan**

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

**2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 34
4/5/05
2005 Volkswagen new Jetta 2.5 4-Door Sedan**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
25	UP. TIBIA LEFT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
26	UP. TIBIA LEFT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
27	UP. TIBIA RIGHT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
28	UP. TIBIA RIGHT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
29	LWR. TIBIA LEFT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
30	LWR. TIBIA LEFT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
31	LWR. TIBIA LEFT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
32	LWR. TIBIA RIGHT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
33	LWR. TIBIA RIGHT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
34	LWR. TIBIA RIGHT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
35	FOOT LEFT, AFT	X	KEIC003X	Accel., Foot Triax	I.C. Sensor	3031-500	G
36	FOOT LEFT, AFT	Z	KEIC003Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
37	FOOT LEFT, FORE	Z	KEIC003Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
38	FOOT RIGHT, AFT	X	KEIC004X	Accel., Foot Triax	I.C. Sensor	3031-500	G
39	FOOT RIGHT, AFT	Z	KEIC004Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
40	FOOT RIGHT, FORE	Z	KEIC004Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
41	LAP BELT FORCE	X	BL134	Load cell, Seat belt	FGP	FN4060	N
42	SHOULDER BELT FORCE	X	BL135	Load cell, Seat belt	FGP	FN4060	N
43	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	MM
44	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

D-2

TR-P25001-16-NC

**2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Passenger A.T.D. Serial Number 35
4/5/05
2005 Volkswagen new Jetta 2.5 4-Door Sedan**

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

**2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Passenger A.T.D. Serial Number 35
4/5/05
2005 Volkswagen new Jetta 2.5 4-Door Sedan**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
69	UP. TIBIA LEFT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
70	UP. TIBIA LEFT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
71	UP. TIBIA RIGHT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
72	UP. TIBIA RIGHT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
73	LWR. TIBIA LEFT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
74	LWR. TIBIA LEFT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
75	LWR. TIBIA LEFT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
76	LWR. TIBIA RIGHT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
77	LWR. TIBIA RIGHT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
78	LWR. TIBIA RIGHT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
79	FOOT LEFT, AFT	X	KEIC002X	Accel., Foot Triax	I.C. Sensor	3031-500	G
80	FOOT LEFT, AFT	Z	KEIC002Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
81	FOOT LEFT, FORE	Z	KEIC002Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
82	FOOT RIGHT, AFT	X	KEIC001X	Accel., Foot Triax	I.C. Sensor	3031-500	G
83	FOOT RIGHT, AFT	Z	KEIC001Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
84	FOOT RIGHT, FORE	Z	KEIC001Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
85	LAP BELT FORCE	X	BL168	Load cell, Seat belt	First Tech	IF-964	N
86	SHOULDER BELT FORCE	X	BL169	Load cell, Seat belt	First Tech	IF-964	N
87	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	MM
88	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

**2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Vehicle Accelerometers
4/5/05
2005 Volkswagen new Jetta 2.5 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
4/5/05
2005 Volkswagen new Jetta 2.5 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
4/5/05
2005 Volkswagen new Jetta 2.5 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

APPENDIX E
DUMMY CALIBRATION DATA

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

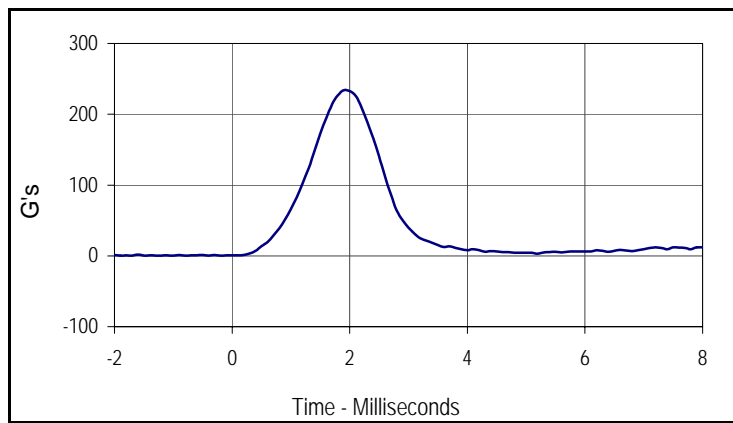
Test Date: 3/28/05

ATD Serial No.: 034

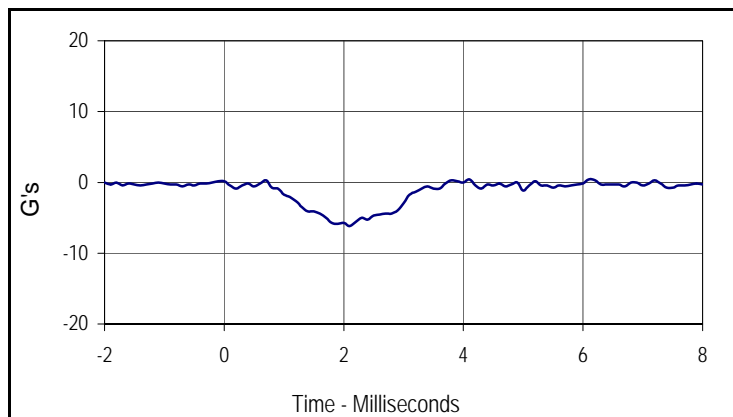
Test I.D.: HD03G



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	234.0	Pass
Peak Lateral Acceleration	G's	≤15.0	6.2	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
234.0	1.9	0.3	-1.9



Curve Description			
Head Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
0.4	4.1	-6.2	2.1

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

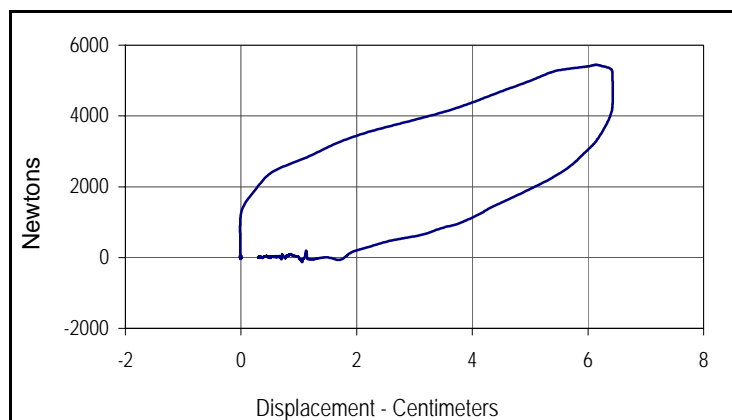
Test Date: 3/29/05

ATD Serial No.: 034

Test I.D.: CH03H



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	5445	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.43	Pass
Internal Hysteresis	%	69 to 85	73.3	Pass
Overall Test Results				Pass



Curve Description			
Probe Force vs. Chest Deflection			
CURNO	Type	SAE Class	Hysteresis
001	FIL	180	73.3
Peak Probe Force		Peak Chest Deflection	
5445		6.43	

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

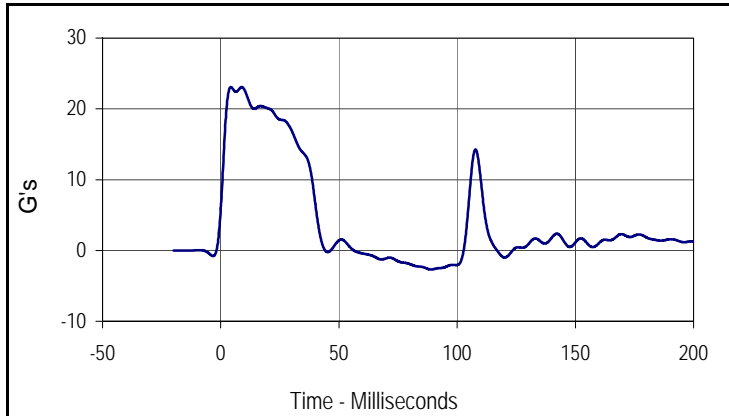
Test Date: 3/29/05

ATD Serial No.: 034

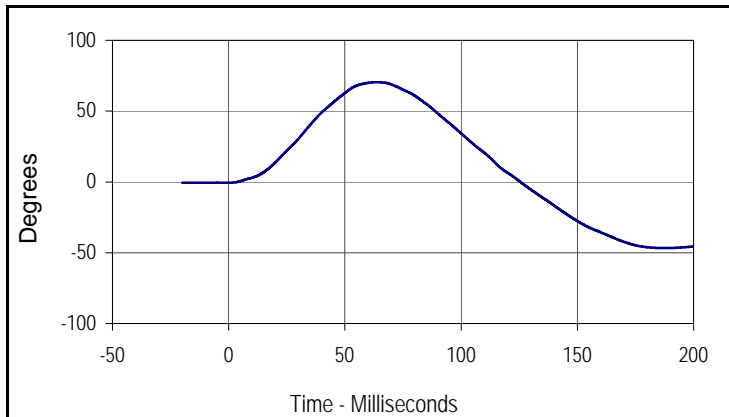
Test I.D.: NF03J



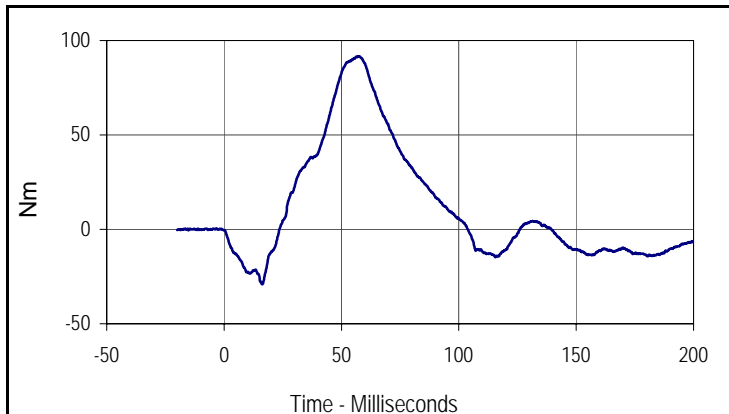
Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	30	Pass	
Pendulum Velocity	m/s	6.89 to 7.13	7.11	Pass	
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	22.7	Pass
	20 Msec.	G's	17.6 to 22.6	20.1	Pass
	30 Msec.	G's	12.5 to 18.5	16.9	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 29.0	16.9	Pass	
Deceleration Decay, Time to Cross 5 G's	Msec.	34.0 to 42.0	40.7	Pass	
Maximum "D" Plane Rotation	Max	Degrees	64.0 to 78.0	70.4	Pass
	Time	Msec.	57.0 to 64.0	63.5	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	113.0 to 128.0	125.5	Pass	
Moment About Occ. Condyle	Max	Nm	84.1 to 108.5	91.7	Pass
	Time	Msec.	47.0 to 58.0	57.1	Pass
Positive Moment Decay, Time To Zero Crossing	Msec.	97.0 to 107.0	103.8	Pass	
Overall Test Results				Pass	



Curve Description			
Pendulum Deceleration			
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
23.1	4.2	-2.7	88.9



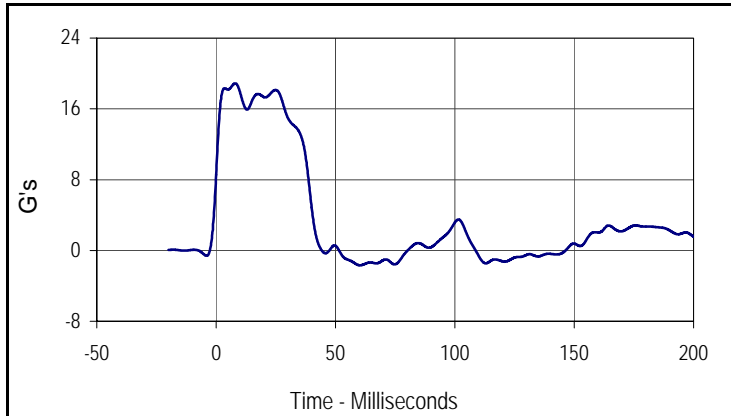
Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
70.4	63.5	-46.7	187.5



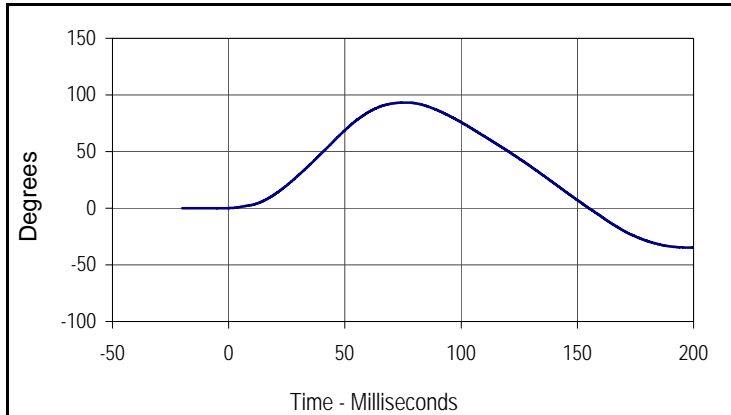
Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
91.7	57.1	-29.1	16.3



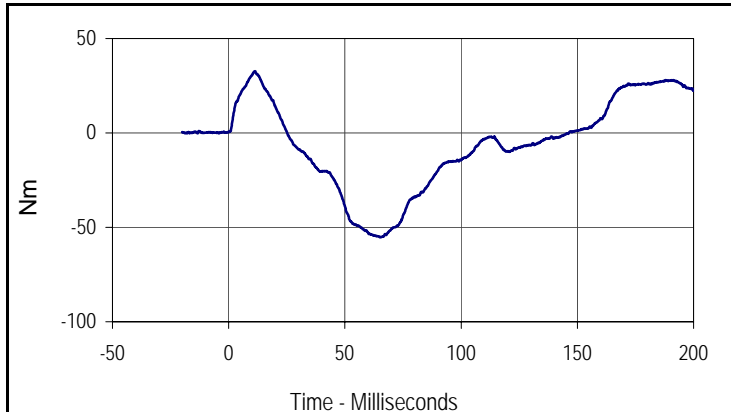
Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	30	Pass	
Pendulum Velocity	m/s	5.94 to 6.19	6.08	Pass	
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	17.9	Pass
	20 Msec.	G's	14.0 to 19.0	17.3	Pass
	30 Msec.	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	93.3	Pass
	Time	Msec.	72.0 to 82.0	75.7	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	147.0 to 174.0	155	Pass	
Moment About Occ. Condyle	Max	Nm	-52.9 to- 79.9	-55.3	Pass
	Time	Msec.	65.0 to 79.0	65.1	Pass
Positive Moment Decay, Time To Zero Crossing	Msec.	120.0 to 148.0	146.4	Pass	
Overall Test Results				Pass	



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
93.3	75.7	-34.7	198.1



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
32.7	11.4	-55.3	65.1

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

Test Date: 3/29/05

ATD Serial No.: 034

Test I.D.: LK03G , RK03G

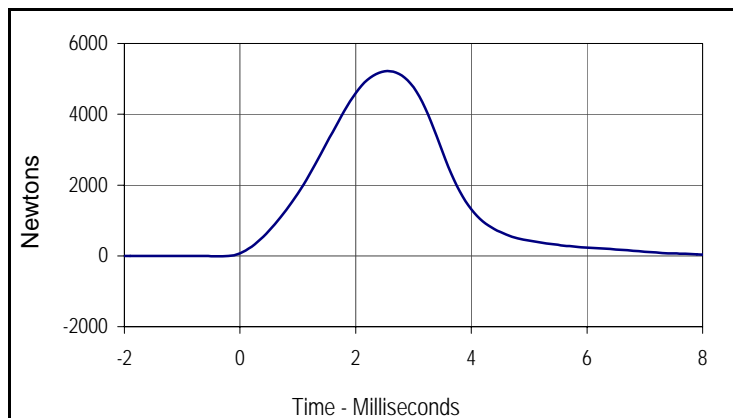


Left Knee

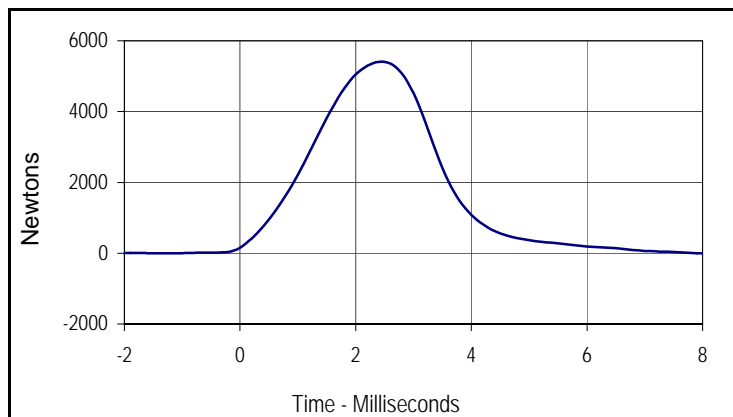
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.10	Pass
Peak Probe Force	Newtons	4715 to 5782	5216	Pass
Overall Test Results				Pass

Right Knee

Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.13	Pass
Peak Probe Force	Newtons	4715 to 5782	5406	Pass
Overall Test Results				Pass



Curve Description			
Left Knee Probe Force			
CURNO	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
5216.4	2.6	-27.4	9.2



Curve Description			
Right Knee Probe Force			
CURNO	Type	SAE Class	Units
002	FIL	600	Newtons
Max	Time	Min	Time
5406.5	2.4	-31.1	8.7

Test Program: Hybrid III 50th Percentile Male External Measurements

Test Date: 3/30/05

ATD Serial No.: 034

Test I.D.: N/A



Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
A - Total sitting height	mm	879 to 889	885	Pass
B - Shoulder pivot height	mm	505 to 521	510	Pass
C - "H" point height	mm	84 to 89	85	Pass
D - "H" point from seat back	mm	135 to 140	139	Pass
E - Shoulder pivot from back	mm	84 to 94	90	Pass
F - Thigh clearance	mm	140 to 155	143	Pass
G - Elbow back to wrist pivot	mm	290 to 305	295	Pass
H - Skull cap to back line	mm	41 to 46	44	Pass
I - Shoulder to elbow length	mm	330 to 345	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	435	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	221	Pass
P - Foot length	mm	251 to 267	260	Pass
V - Shoulder breadth	mm	422 to 437	430	Pass
W - Foot breadth	mm	91 to 107	105	Pass
Y - Chest circumference	mm	970 to 1001	985	Pass
Z - Waist circumference	mm	836 to 866	850	Pass
AA - Location for chest circumference	mm	429 to 434	430	Pass
BB - Location for waist circumference	mm	226 to 231	228	Pass
Overall Test Results				Pass

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

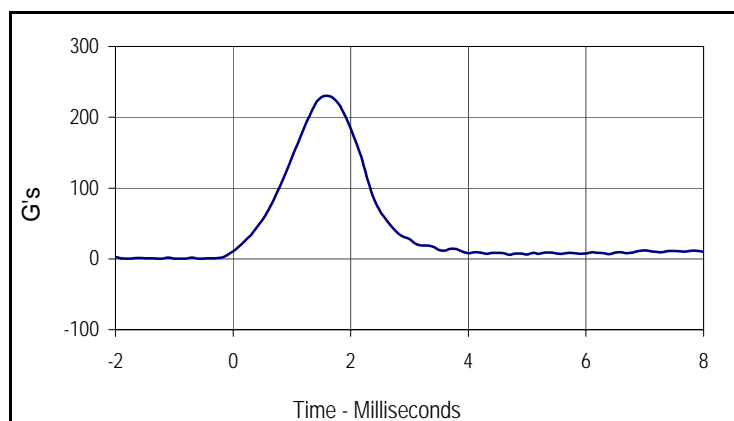
Test Date: 3/28/05

ATD Serial No.: 035

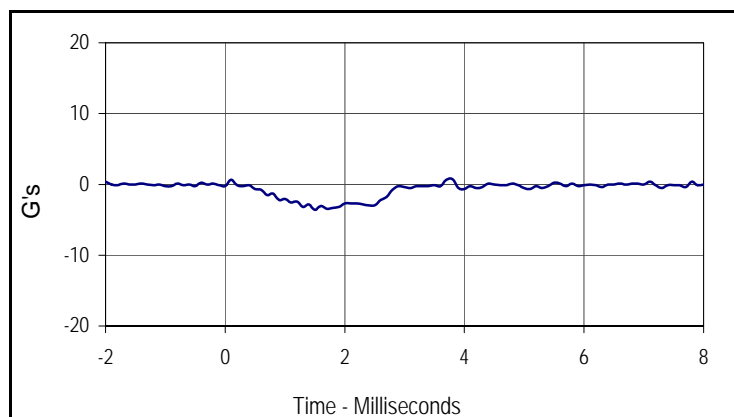
Test I.D.: HD03H



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	230.3	Pass
Peak Lateral Acceleration	G's	≤15.0	3.6	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass



Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
230.3	1.6	0.3	-0.9



Curve Description			
Head Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
0.8	3.8	-3.6	1.5

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

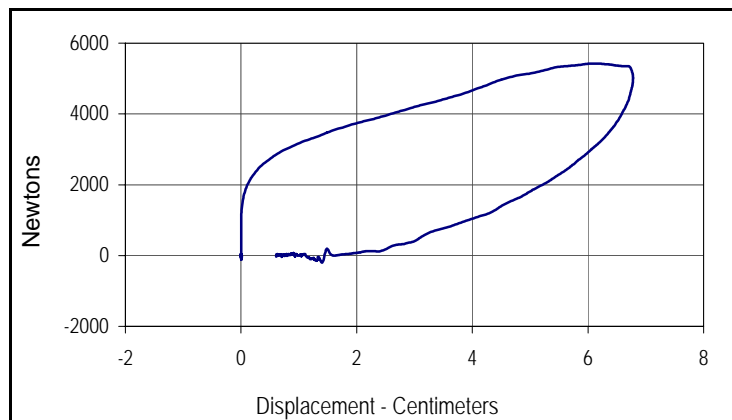
Test Date: 3/29/05

ATD Serial No.: 035

Test I.D.: CH03I



Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	6.58 to 6.82	6.64	Pass
Peak Probe Force	Newtons	5159 to 5893	5425	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.78	Pass
Internal Hysteresis	%	69 to 85	73.9	Pass
Overall Test Results				Pass



Curve Description			
Probe Force vs. Chest Deflection			
CURNO	Type	SAE Class	Hysteresis
001	FIL	180	73.9
Peak Probe Force		Peak Chest Deflection	
5425		6.78	

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

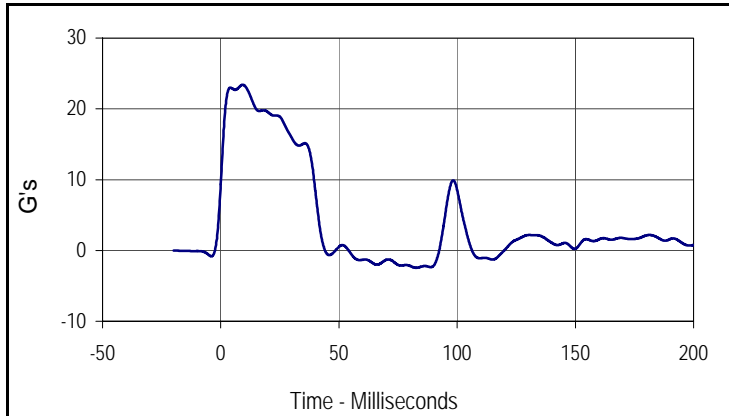
Test Date: 3/29/05

ATD Serial No.: 035

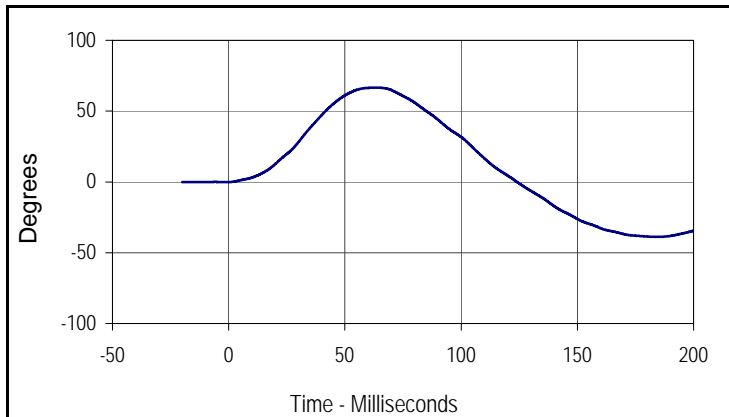
Test I.D.: NF03K



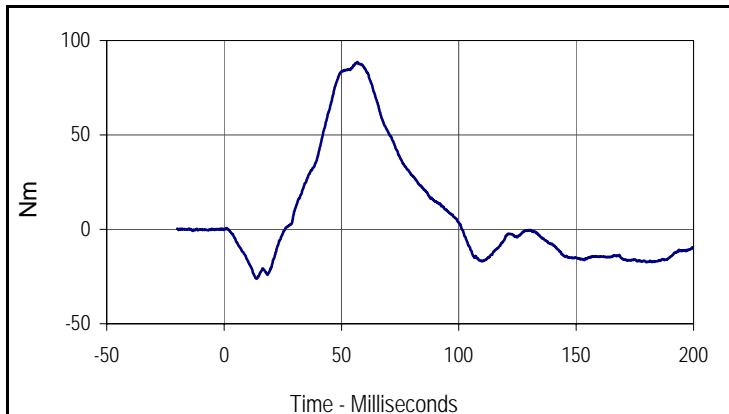
Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	30	Pass	
Pendulum Velocity	m/s	6.89 to 7.13	7.06	Pass	
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	23.3	Pass
	20 Msec.	G's	17.6 to 22.6	19.5	Pass
	30 Msec.	G's	12.5 to 18.5	15.9	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 29.0	15.9	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	66.5	Pass
	Time	Msec.	57.0 to 64.0	63.3	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	113.0 to 128.0	124	Pass	
Moment About Occ. Condyle	Max	Nm	84.1 to 108.5	88.6	Pass
	Time	Msec.	47.0 to 58.0	56.8	Pass
Positive Moment Decay, Time To Zero Crossing	Msec.	97.0 to 107.0	101.4	Pass	
Overall Test Results				Pass	



Curve Description			
Pendulum Deceleration			
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
23.4	9.3	-2.4	82.7



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
66.5	63.3	-38.8	184.3



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
88.6	56.8	-26.1	13.9

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

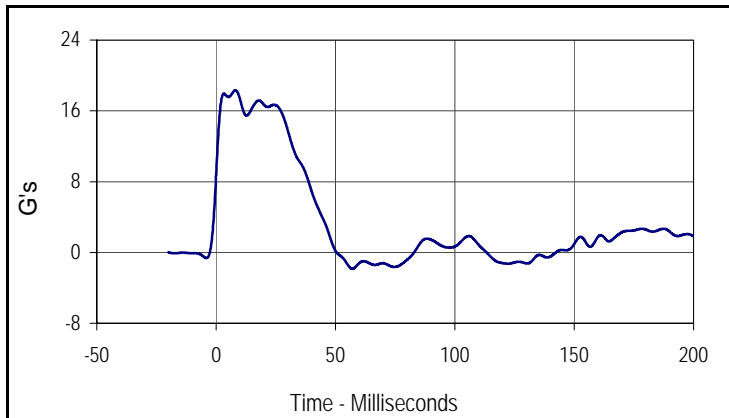
Test Date: 3/29/05

ATD Serial No.: 035

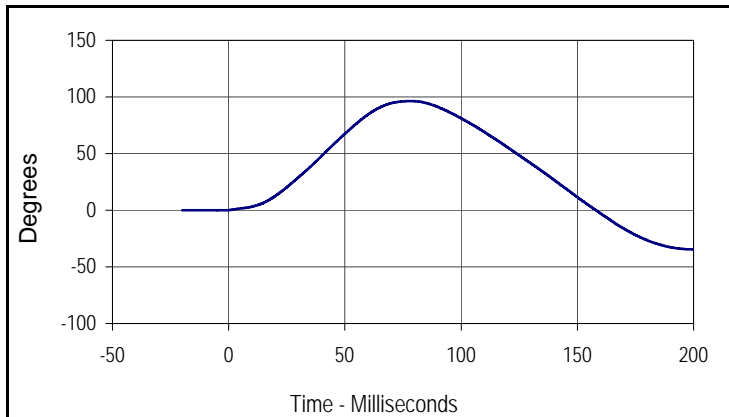
Test I.D.: NE03M



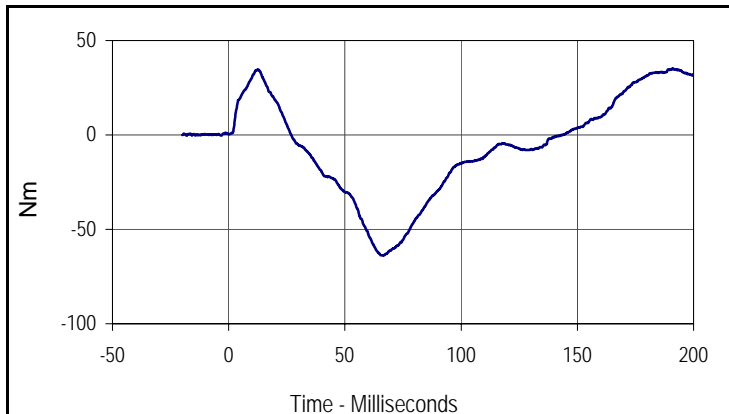
Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	30	Pass	
Pendulum Velocity	m/s	5.94 to 6.19	6.13	Pass	
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	17.3	Pass
	20 Msec.	G's	14.0 to 19.0	16.7	Pass
	30 Msec.	G's	11.0 to 16.0	13.8	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 22.0	13.8	Pass	
Deceleration Decay, Time to Cross 5 G's	Msec.	38.0 to 46.0	42.8	Pass	
Maximum "D" Plane Rotation	Max	Degrees	81.0 to 106.0	96.3	Pass
	Time	Msec.	72.0 to 82.0	78.1	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	147.0 to 174.0	158	Pass	
Moment About Occ. Condyle	Max	Nm	-52.9 to- 79.9	-63.9	Pass
	Time	Msec.	65.0 to 79.0	66.4	Pass
Positive Moment Decay, Time To Zero Crossing	Msec.	120.0 to 148.0	143.6	Pass	
Overall Test Results				Pass	



Curve Description			
Pendulum Deceleration			
CURNO	Type	SAE Class	Units
001	FIL	60	G's
Max	Time	Min	Time
18.3	8.1	-1.8	57.0



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
96.3	78.1	-34.6	200.0



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
35.2	191.2	-63.9	66.4

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

Test Date: 3/29/05

ATD Serial No.: 035

Test I.D.: LK03I , RK03I



Left Knee

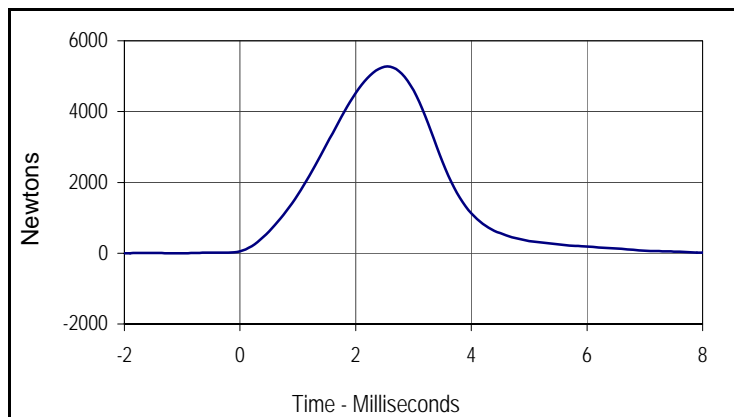
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.09	Pass
Peak Probe Force	Newtons	4715 to 5782	5507	Pass
Overall Test Results				Pass

Right Knee

Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.10	Pass
Peak Probe Force	Newtons	4715 to 5782	5265	Pass
Overall Test Results				Pass



Curve Description			
Left Knee Probe Force			
CURNO	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
5506.9	2.5	-28.5	9.4



Curve Description			
Right Knee Probe Force			
CURNO	Type	SAE Class	Units
002	FIL	600	Newtons
Max	Time	Min	Time
5264.9	2.5	-19.4	9.2

Test Program: Hybrid III 50th Percentile Male External Measurements Test Date: 3/30/05
 ATD Serial No.: 035 Test I.D.: N/A



Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
A - Total sitting height	mm	879 to 889	884	Pass
B - Shoulder pivot height	mm	505 to 521	511	Pass
C - "H" point height	mm	84 to 89	85	Pass
D - "H" point from seat back	mm	135 to 140	139	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	300	Pass
H - Skull cap to back line	mm	41 to 46	44	Pass
I - Shoulder to elbow length	mm	330 to 345	335	Pass
J - Elbow rest height	mm	190 to 211	205	Pass
K - Buttock to knee length	mm	579 to 604	600	Pass
L - Popliteal length	mm	429 to 455	450	Pass
M - Knee pivot height	mm	485 to 500	489	Pass
N - Buttock popliteal length	mm	452 to 477	475	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	102	Pass
Y - Chest circumference	mm	970 to 1001	985	Pass
Z - Waist circumference	mm	836 to 866	850	Pass
AA - Location for chest circumference	mm	429 to 434	431	Pass
BB - Location for waist circumference	mm	226 to 231	230	Pass
Overall Test Results				Pass

APPENDIX F
CHILD RESTRAINT SYSTEMS

REPORT NUMBER TR-P25001-16-NC

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

**VOLKSWAGEN OF AMERICA, INC.
2005 VOLKSWAGEN NEW JETTA 2.5 4-DOOR SEDAN**

NHTSA NUMBER: M55800

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



APRIL 5, 2005

FINAL REPORT

**PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
RULEMAKING
OFFICE OF CRASHWORTHINESS STANDARDS
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Date of Acceptance

Technical Report Documentation Page

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9. Performing Organization Name and Address Karco Engineering, LLC 9270 Holly Rd. Adelanto, CA, 92301				10. Work Unit No.	
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12. Sponsoring Agency Name and Address U. S. Department of Transportation National Highway Traffic Safety Administration Rulemaking Office of Crashworthiness Standards Mail Code NPS-111 400 Seventh Street, SW, Room 5311 Washington, D.C 20590				13. Type of Report and Period Covered Final Test Report Option Year 4	
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16. Abstract A frontal barrier impact test was conducted on a 10 year old hybrid III child dummy (Position 3) in conjunction with frontal NCAP testing on a 2005 Volkswagen New Jetta 2.5 4-Door Sedan. P3 (10 year old) was restrained with the vehicle's three-point belt system. This test was conducted in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure for the determination of CRS crashworthiness at Karco Engineering, LLC on April 5, 2005					
Measurement Description		Units	Right Rear (10 Yr.)		
Head Injury Criteria (HIC) 36		N/A	2062.2		
Head Injury Criteria (HIC) 15		N/A	1785.0		
3 msec. Chest Clip		G's	50.3		
Peak Chest Deflection		mm	-11.1		
17. Key Words 56.3 km/h NCAP Frontal Barrier Impact Test New Car Assessment Program (NCAP) Final Report of a 10 Year Old Hybrid III Child Dummy (P3) NHTSA NO. M55800				18. Distribution of Statement Copies of this report available from: NHTSA Technical Reference Division National Highway Traffic Safety Administration 400 Seventh St., SW, Room 5108 Washington, D.C. 20590	
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SECTION F-1

PURPOSE AND SUMMARY OF TEST M55800

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

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

SUMMARY

A 10 year old Hybrid III child dummy was placed in the P3 seating position. The dummy was restrained with the vehicle's three-point belt system.

The child dummy was instrumented with head, chest, and pelvic tri-axial accelerometers, a chest displacement potentiometer, six-axis upper neck, lumbar, clavicle, ASIS and femur load cells. Seat belt load cells were placed on the shoulder and lap belts to measure belt loads.

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

CHILD DUMMY VALUES

Location	HIC 36 Values	HIC 15 Values	3 Msec. Chest Clip (g)	Peak Chest Defl. (mm)
10-year Child (P3)	2062.2	1785.0	50.3	-11.1

DATA SHEET NO.1 CRASH TEST SUMMARY

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

CHILD RESTRAINT SYSTEM INFORMATION

Description	Position #4 CRS	Position #3 CRS
Manufacturer		
Model Name		
Serial No.		
Type		
Forward/Rearward		

VISIBLE DUMMY CONTACT POINTS

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

POST-TEST DOOR OPENINGS

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

POST-TEST SEAT DATA

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

MOVIE COVERAGE

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

DATA CHANNELS

Child Sensors	36
---------------	----

DATA SHEET NO.2 CRS PARAMETER DATA

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

RETAINING CLIP INFORMATION

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

CHILD HARNESS STRETCH

Description	Position #4 CRS	Position #3 CRS
Harness Stretch		

TEST VEHICLE WEIGHTS

	Units	As Delivered Weights (UVW)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	450	306		477	371	
Right	kg	416	301		486	385	
Ratio	%	58.8	41.2		56.0	44.0	
Totals	kg	866	607	1473	963	756	1719

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1473
Weight of 2 P572 ATD's	kg	152
Rated Cargo/Luggage Wt. (RCLW)	kg	101
Calculated Vehicle Target Wt. (TVTW)	kg	1726

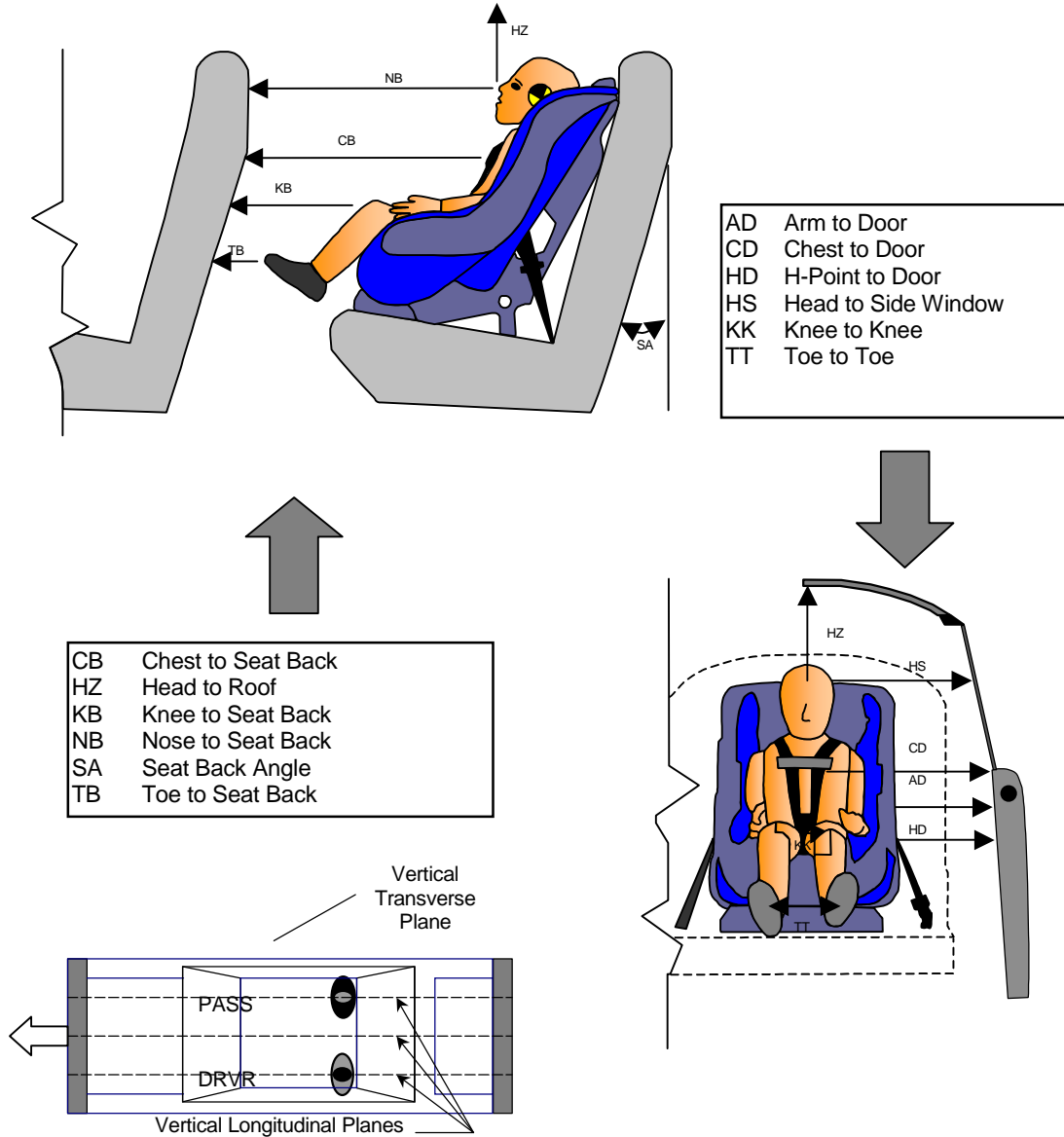
DATA SHEET NO.3 CHILD DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program 2005 NHTSA 35mph NCAP

Test Date: 4/5/05



DUMMY MEASUREMENTS FOR REAR SEAT OCCUPANTS

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

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

CHILD DUMMY POSITION MEASUREMENTS

Code	Measurement	Units	P4 CRS			P3 CRS Serial No. 009		
			Pre-Test	Post-Test	Diff.	Pre-Test	Post-Test	Diff.
SA	Seat Back Angle	deg.				12.2	12.3	0.1
HZ	Head to Roof (Z)	mm				295	300	5
CD	Chest to Dash	mm				330	310	-20
KK	Knee to Knee (Y)	mm				220	205	-15
HS	Head to Side Window	mm				340	355	15
HD	H-Point to Door (Y)	mm				155	175	20
AD	Arm to Door	mm				130	190	60
NB	Nose to Seat Back	mm				550	665	115
CB	Chest to Seat Back	mm				535	590	55
FF	Foot to Foot	mm				155	175	20
KB-Left	Knee to Seat Back	mm				275	280	5
KB-Right	Knee to Seat Back	mm				290	260	-30
TB-Left	Toe to Seat Back	mm				20	0	-20
TB-Right	Toe to Seat Back	mm				10	0	-10

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

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

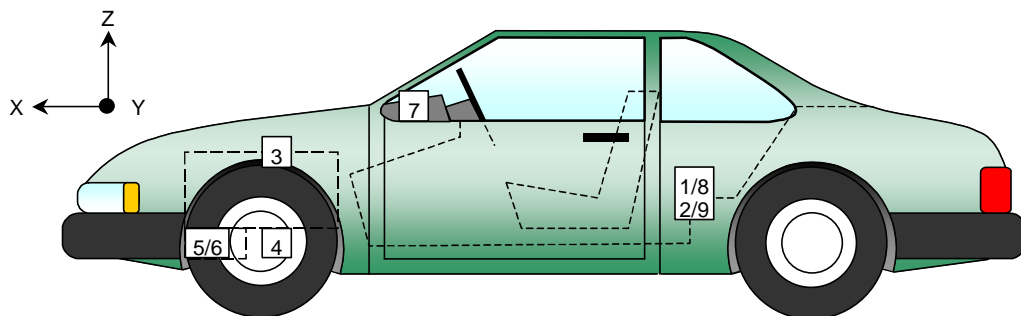
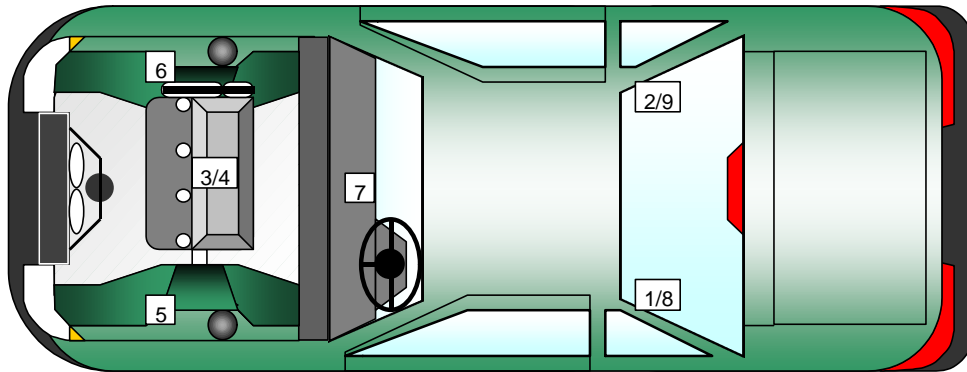
Test Date: 4/5/05

VEHICLE ACCELEROMETER PEAK DATA AND PRE-TEST LOCATIONS

No.	Accelerometer Location	Measurements (mm)			Peak Values				
		X	Y	Z	Units	Max	Time	Min	Time
1	Left Rear X-Member	1930	-700	400	G's	2.1	114.8	-55.2	39.6
2	Right Rear X-Member	1930	700	400	G's	2.4	112.5	-49.6	49.5
3	Engine Top	3950	60	810	G's	140.6	30.9	-174.8	22.4
4	Engine Bottom	3890	-150	190	G's	31.9	33.1	-121.9	22.3
5	Left Brake Caliper	3800	-850	230	G's	79.7	53.8	-135.9	33.5
6	Right Brake Caliper	3800	850	230	G's	31.1	42.4	-160.6	36.3 ¹
7	Instrument Panel	3030	50	1000	G's	61.9	30.0	-87.2	42.6 ²
8	Left Rear X-Member (Z-Axis)	1790	-670	360	G's	8.9	54.1	-9.3	49.3
9	Right Rear X-Member (Z-Axis)	1790	670	360	G's	9.8	49.4	-10.5	32.0

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

- 1.) Channel failed at 45.5 msec.
- 2.) Channel failed at 54.5 msec.



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

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	16.9	195.4	-49.9	66.5	1.8	199.0	-56.6	76.9
Head CG	Y	G's	5.2	61.8	-12.4	92.8	5.9	87.8	-8.2	61.1
Head CG	Z	G's	27.6	48.6	-26.4	85.5	31.3	62.3	-2.7	69.7
Head CG Resultant	N/A	G's	53.7	61.3			57.2	76.9		

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	1.7	137.8	-55.0	75.0	2.5	172.3	-56.3	68.9
Chest CG	Y	G's	8.5	87.3	-2.7	27.5	6.6	57.7	-8.4	91.1
Chest CG	Z	G's	17.1	47.3	-10.4	89.2	19.0	48.6	-8.0	86.1
Chest CG Resultant	N/A	G's	55.3	75.0			56.5	69.0		

FEMUR PEAK FORCES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Femur	Z	Newtons	1463.3	48.4	-3146.0	58.2	1787.3	50.5	-3720.0	58.3
Right Femur	Z	Newtons	1475.2	47.2	-4663.3	57.1	1653.1	52.9	-1281.2	58.1

SEAT BELT SENSOR PEAK VALUES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Shoulder Belt Pullout	N/A	MM	36.5	65.9	-84.0	200.0	428.4	103.9	-24.5	35.4
Shoulder Belt Stretch	N/A	MM/CM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lap Belt Force	N/A	Newtons	10665.2	57.7	-0.9	0.0	9795.3	59.1	-8.3	200.4
Shoulder Belt Force	N/A	Newtons	4782.1	74.8	-36.6	167.6	5922.8	45.5	-29.5	184.2

1.) Not used with pre-tensioners

PRIMARY HEAD INJURY CRITERIA (HIC36)

Location	Driver				Passenger			
	HIC	T ¹	T ²	Avg G	HIC	T ¹	T ²	Avg G
Head CG Primary	543.6	56.1	92.1	46.9	524.7	58.3	94.3	46.2

PRIMARY CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Primary	53.5	72.6	75.6	55.1	67.8	70.8

DATA SHEET NO. 8...(CONTINUED)

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	8.5	74.7	-94.1	58.1	7.7	84.5	-68.0	58.5
Pelvis	Y	G's	16.3	70.5	-11.0	55.4	14.8	47.1	-12.4	76.8
Pelvis	Z	G's	1.6	35.4	-40.2	71.4	2.0	108.9	-35.7	67.6
Pelvis Resultant	N/A	G's	98.7	58.1			73.3	58.5		

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	787.1	68.8	-239.0	127.1	591.5	67.3	-510.1	119.5
Neck Force	Y	Newtons	240.1	63.4	-237.1	94.4	250.7	86.5	-259.4	128.5
Neck Force	Z	Newtons	1933.5	59.8	-376.8	85.6	1454.6	62.4	-40.7	13.7
Neck Force Resultant	N/A	Newtons	2020.5	59.8			1507.5	62.5		
Neck Moment	X	Nm	19.0	80.6	-16.1	110.0	16.7	97.7	-15.2	123.7
Neck Moment	Y	Nm	39.6	64.1	-31.0	83.8	45.4	107.9	-26.4	90.7
Neck Moment	Z	Nm	11.2	101.8	-5.3	148.8	7.3	104.1	-4.0	175.4
Neck Moment Resultant	N/A	Nm	40.1	64.1			46.0	107.9		

FOOT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Foot Aft	X	G's	32.9	85.7	-52.5	34.6	38.9	64.7	-165.5	46.6
Left Foot Aft	Z	G's	6.9	88.5	-55.3	35.4	17.2	64.9	-72.3	48.5
Left Foot Fore	Z	G's	19.3	89.7	-73.6	35.8	93.6	40.9	-185.5	47.1
Right Foot Aft	X	G's	54.0	83.2	-100.4	35.5	21.5	68.5	-81.8	39.7
Right Foot Aft	Z	G's	10.0	53.9	-73.1	34.4	30.2	53.1	-60.0	76.3
Right Foot Fore	Z	G's	35.0	28.2	-135.1	30.6	36.2	37.4	-150.5	41.4

1.) Driver channel failed at 40.0 msec.

UPPER AND LOWER TIBIA PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Upper Moment	X	Nm	31.8	52.8	-19.2	60.5	19.3	69.8	-64.4	50.7
Left Upper Moment	Y	Nm	37.9	91.8	-83.7	37.6	25.2	55.8	-186.3	47.3
Right Upper Moment	X	Nm	57.2	61.7	-21.1	40.5	104.3	40.2	-26.1	69.0
Right Upper Moment	Y	Nm	118.8	58.0	-116.1	35.6	19.3	200.0	-131.4	41.7
Left Lower Moment	X	Nm	11.5	52.8	-7.5	62.0	63.3	52.3	-37.7	48.2
Left Lower Moment	Y	Nm	115.0	88.2	-41.6	49.8	37.5	69.9	-77.2	46.8
Left Lower Force	Z	Newtons	49.7	163.5	-2590.9	34.7	97.5	125.0	-4508.4	47.2
Right Lower Moment	X	Nm	22.6	35.8	-64.8	39.8	56.8	39.2	-99.3	75.6
Right Lower Moment	Y	Nm	84.4	81.0	-25.0	40.3	52.9	74.7	-44.5	40.8
Right Lower Force	Z	Newtons	196.5	58.2	-4631.5	35.3	160.3	151.4	-3888.7	40.5

DATA SHEET NO.5 CRS PERFORMANCE DATA

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

CRS PERFORMANCE DATA

Location	P4 CRS		P3 CRS	
	Damage	Post-Test	Damage	Post-Test
Upper Tether Strap				
Upper Tether Buckle				
Upper Tether Hook				
Veh. Upper Tether Anchor				
Lower Anchor Strap				
Lower Anchor Buckle				
Lower Anchor Hooks				
Veh. Lower CRS Anchors				
5-Point Harness Connections				
Cracks on CRS				
Fabric Tears on CRS				
Vehicle Seat Structure				
Vehicle Seat Fabric Tears				

DATA SHEET NO.6 CRS CAMERA DATA

Test Vehicle: 2005 Volkswagen New Jetta 2.5 4-Door Sedan

NHTSA No.: M55800

Test Program 2005 NHTSA 35mph NCAP

Test Date: 4/5/05

CAMERA LOCATIONS

No.	Camera View	Location(mm)			Film Plane to Head	Angle (Deg.)	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Right Rear Dummy Onboard	-2665	-700	-1332	1234	-10	13	1000
2	Left Rear Dummy Onboard	-2895	-700	-1332	1148	-10	12	1000

ADDITIONAL CAMERAS

1	Left Rear Dummy Onboard	2210	-383	-1442	1306	-20	8.5	1000
2	Rear Dummies Onboard	-2210	-400	-1442	1316	-25	8.5	1000

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

SECTION F-2
PHOTOGRAPHS

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9	Post-Test Position 3 Dummy Feet	F2-9

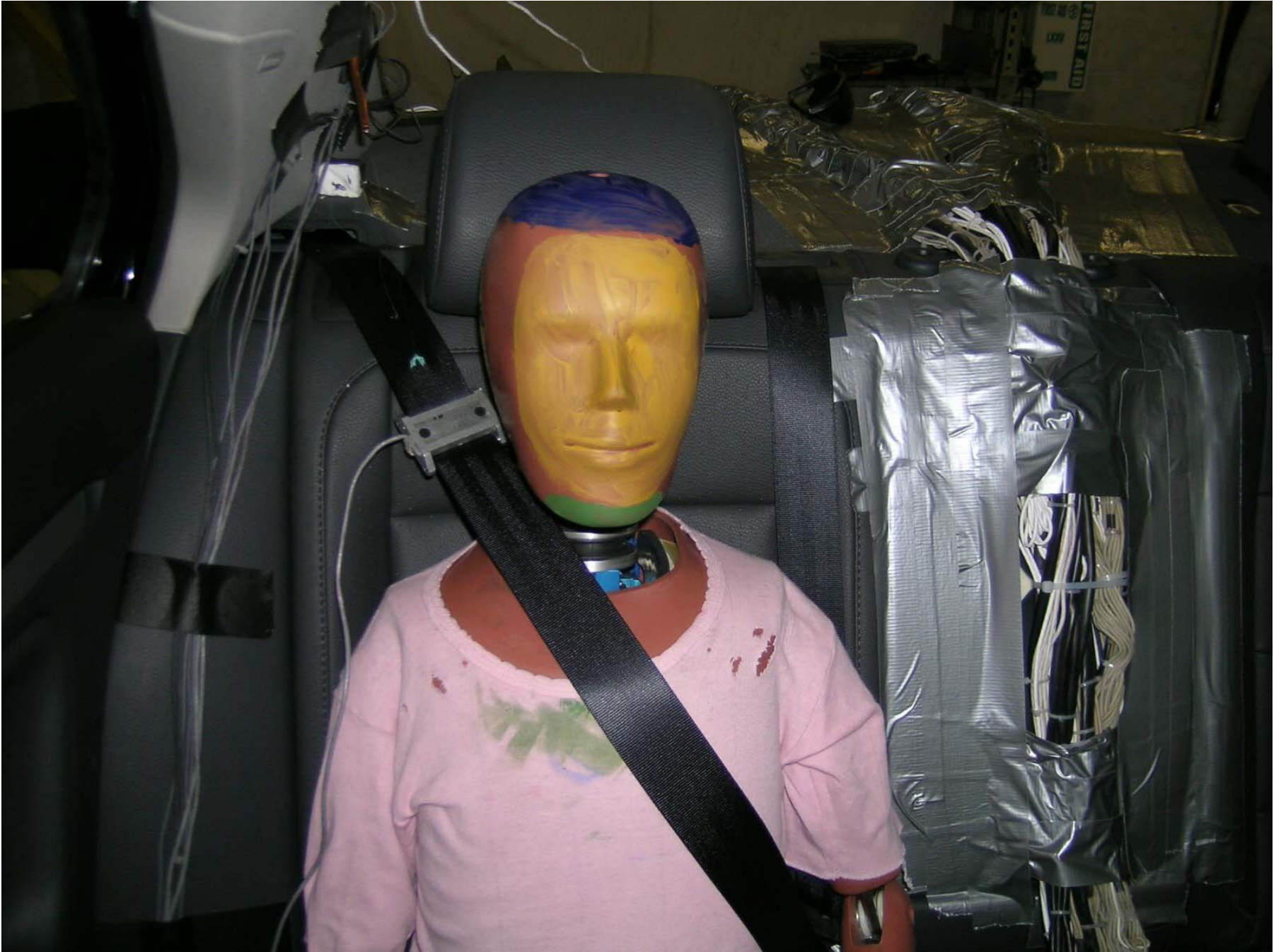


Figure F2-1: Pre-Test Position 3 Front View (Head Position)



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

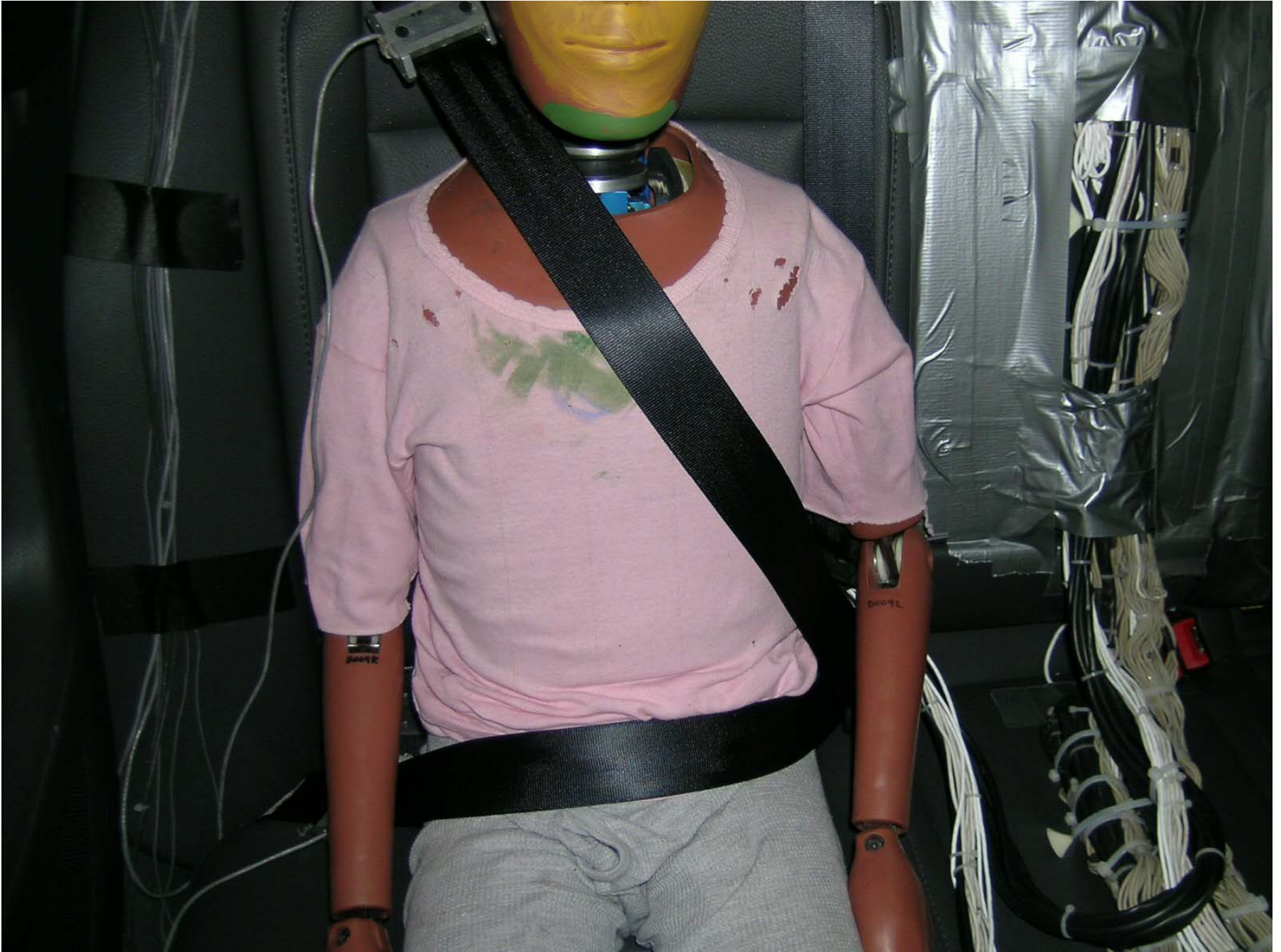


Figure F2-3: Pre-Test Position 3 Front View (Seat Belt Position)



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



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



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



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



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



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

SECTION F-3

CHILD DUMMY RESPONSE AND CRS DATA TRACES

LIST OF DATA PLOTS

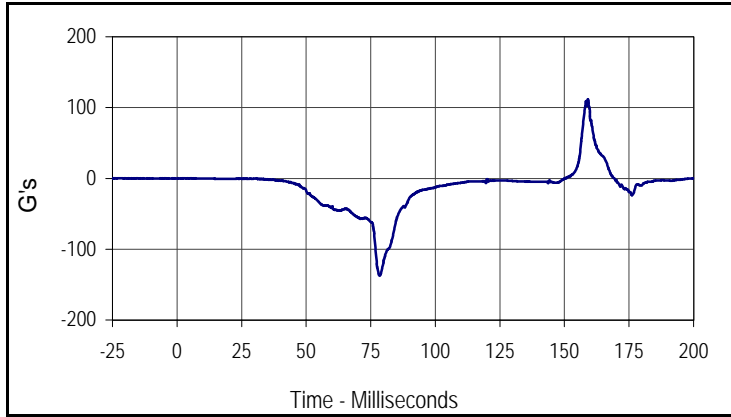
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	Right Rear (10 Yr.) Right Clavicle Force Z	F3-10

LIST OF DATA PLOTS...(CONTINUED)

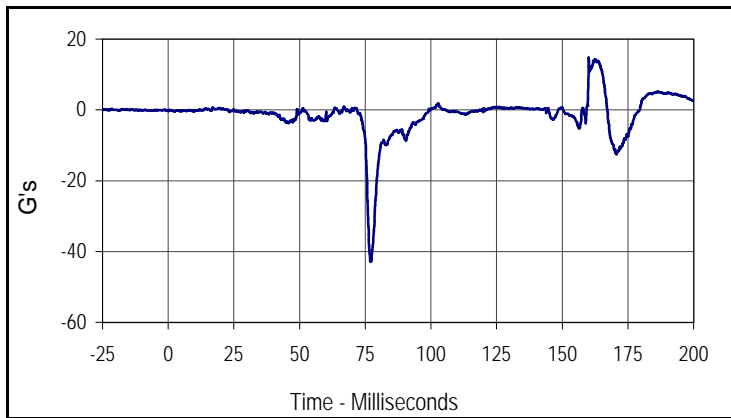
<u>Data Plot</u>		<u>Page</u>
F3-11	Right Rear (10 Yr.) Left Upper ASIS Force	F3-11
	Right Rear (10 Yr.) Left Lower ASIS Force	F3-11
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F3-12	Right Rear (10 Yr.) Lap Belt Force	F3-12
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	Right Rear (10 Yr.) Shoulder Belt Elongation	F3-12

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

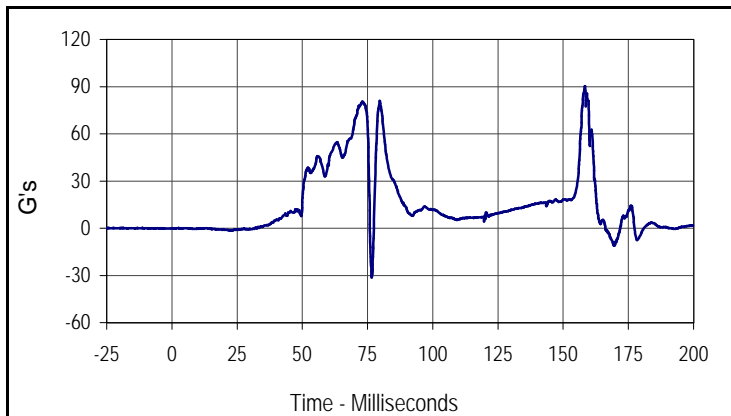
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 NHTSA No.: M55800



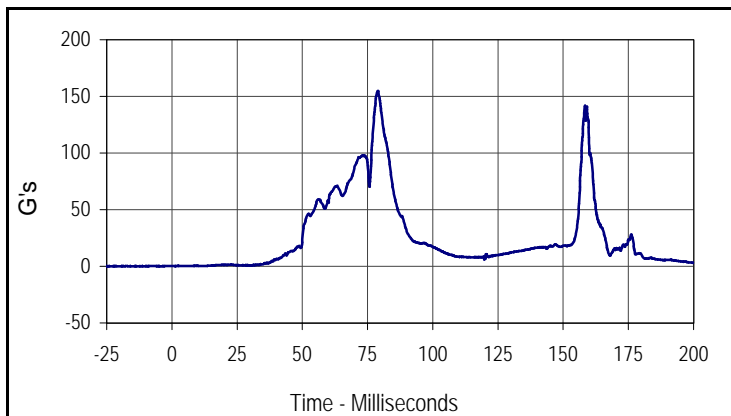
Curve Description			
Right Rear (10 Yr.) Head X			
CURNO	Type	SAE Class	Units
134	FIL	1000	G's
Max	Time	Min	Time
111.8	159.1	-137.6	78.4



Curve Description			
Right Rear (10 Yr.) Head Y			
CURNO	Type	SAE Class	Units
135	FIL	1000	G's
Max	Time	Min	Time
14.7	160.1	-42.9	77.1



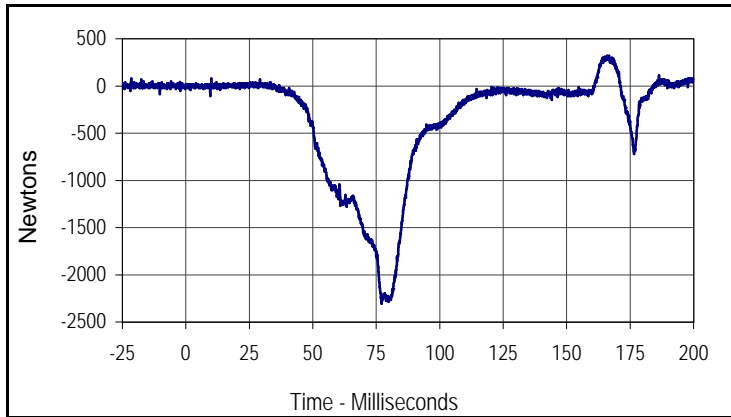
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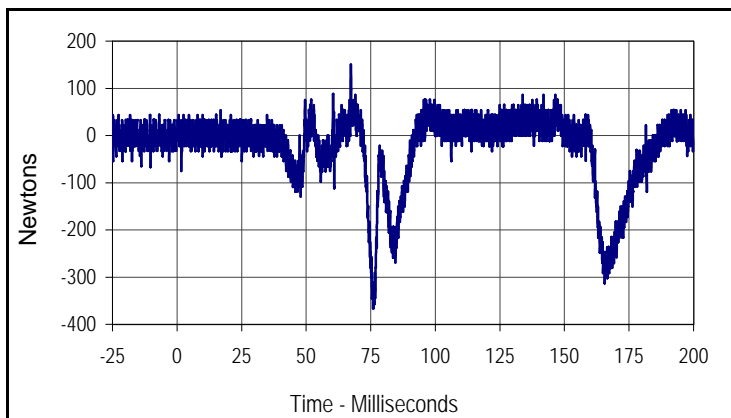
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Right Rear (10 Yr.) Head Resultant			
CURNO	Type	SAE Class	Units
134	RES	1000	G's
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Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

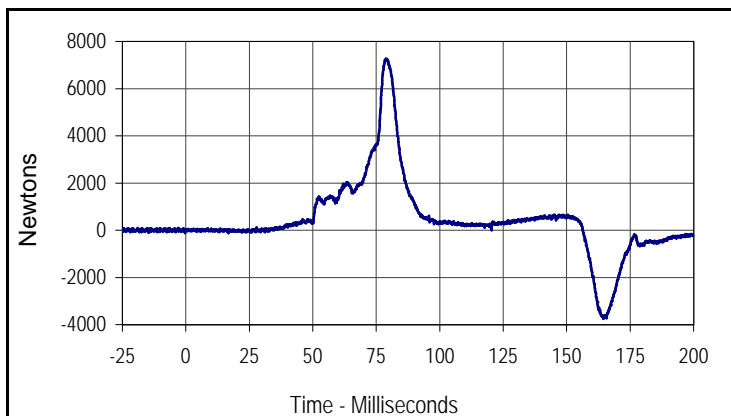
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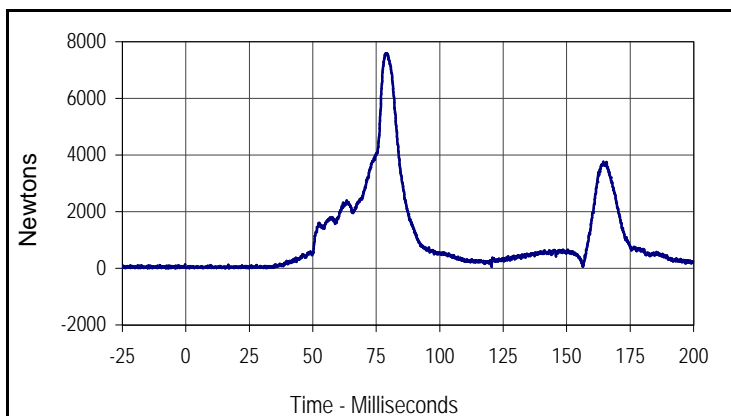
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Right Rear (10 Yr.) Upper Neck Force X			
CURNO	Type	SAE Class	Units
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Max	Time	Min	Time
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Curve Description			
Right Rear (10 Yr.) Upper Neck Force Y			
CURNO	Type	SAE Class	Units
138	FIL	1000	Newtons
Max	Time	Min	Time
150.7	67.3	-366.0	75.9



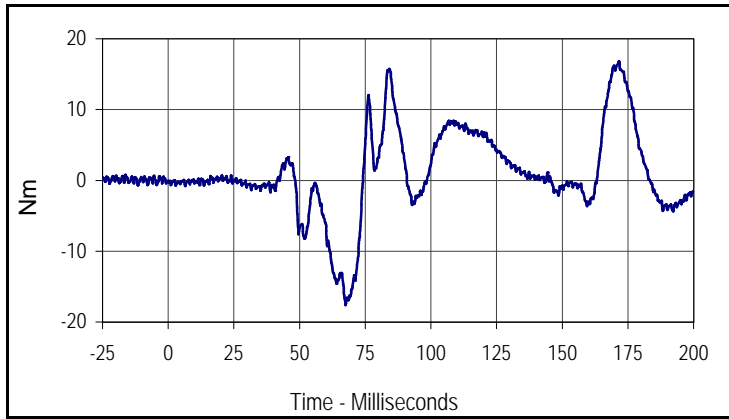
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Max	Time	Min	Time
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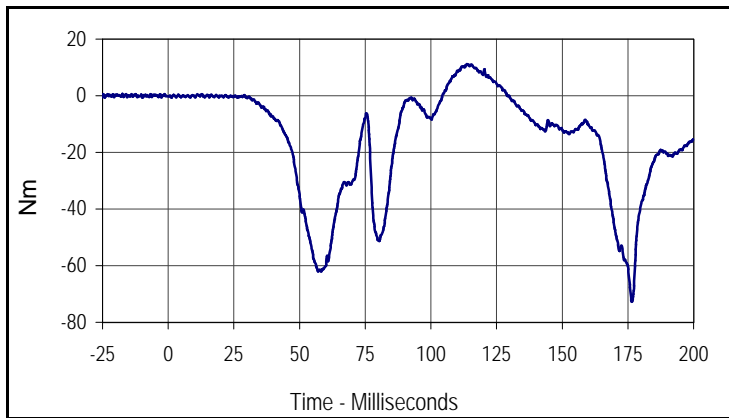
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Right Rear (10 Yr.) Neck Force Resultant			
CURNO	Type	SAE Class	Units
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Max	Time	Min	Time
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Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

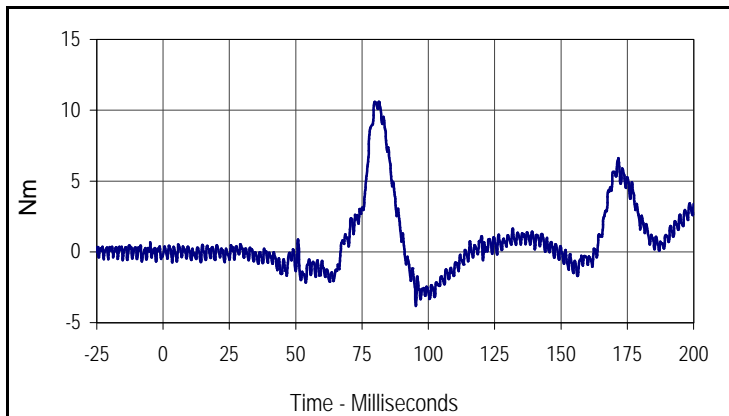
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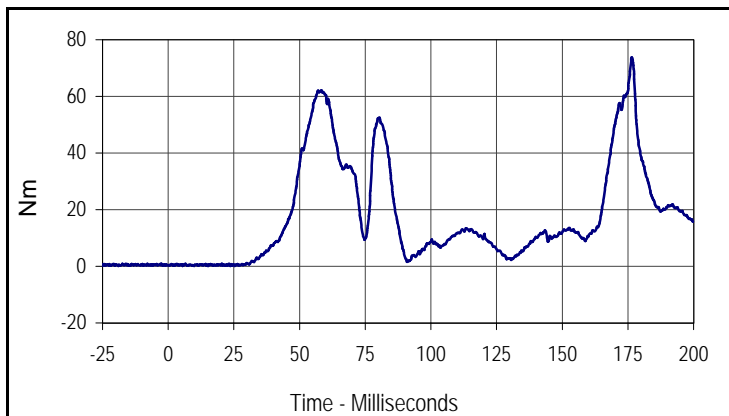
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Right Rear (10 Yr.) Upper Neck Moment X			
CURNO	Type	SAE Class	Units
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Max	Time	Min	Time
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Curve Description			
Right Rear (10 Yr.) Upper Neck Moment Y			
CURNO	Type	SAE Class	Units
141	FIL	600	Nm
Max	Time	Min	Time
11.1	113.7	-72.8	176.5



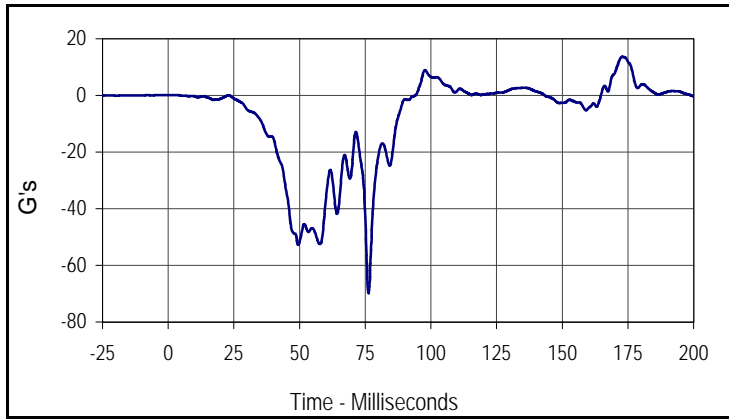
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CURNO	Type	SAE Class	Units
142	FIL	600	Nm
Max	Time	Min	Time
10.6	81.4	-3.8	95.3



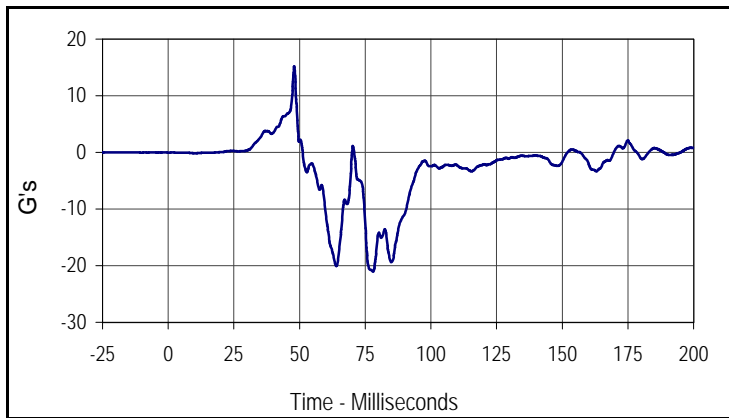
Curve Description			
Right Rear (10 Yr.) Neck Moment Resultant			
CURNO	Type	SAE Class	Units
140	RES	600	Nm
Max	Time	Min	Time
73.8	176.5	0.1	5.5

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

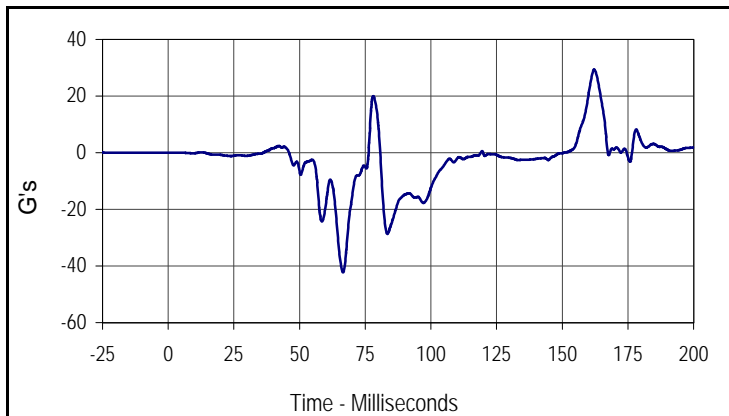
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 NHTSA No.: M55800



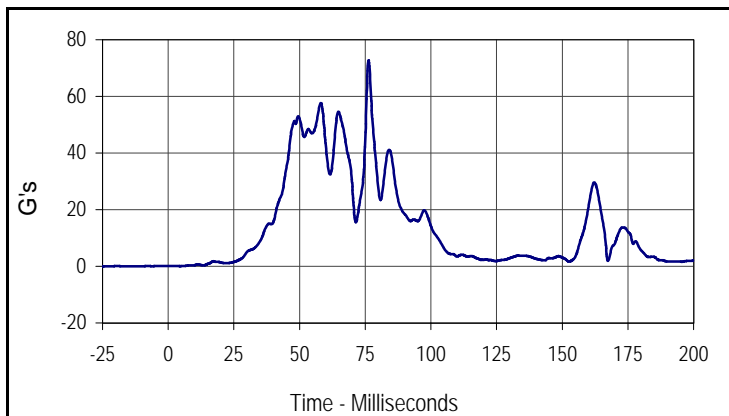
Curve Description			
Right Rear (10 Yr.) Chest X			
CURNO	Type	SAE Class	Units
143	FIL	180	G's
Max	Time	Min	Time
13.6	172.9	-69.9	76.3



Curve Description			
Right Rear (10 Yr.) Chest Y			
CURNO	Type	SAE Class	Units
144	FIL	180	G's
Max	Time	Min	Time
15.2	48.0	-21.1	77.9



Curve Description			
Right Rear (10 Yr.) Chest Z			
CURNO	Type	SAE Class	Units
145	FIL	180	G's
Max	Time	Min	Time
29.3	162.1	-42.3	66.5



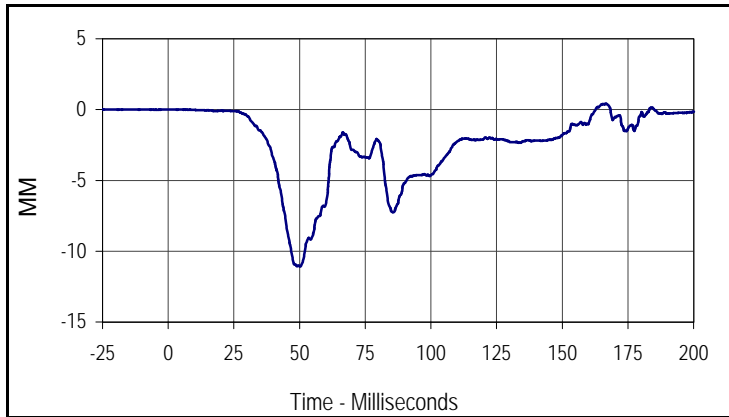
Curve Description			
Right Rear (10 Yr.) Chest Resultant			
CURNO	Type	SAE Class	Units
143	RES	180	G's
Max	Time	Min	Time
72.8	76.3	0.0	4.5

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan

Test Date: 4/5/05

Test Program: 2005 NHTSA 35mph NCAP

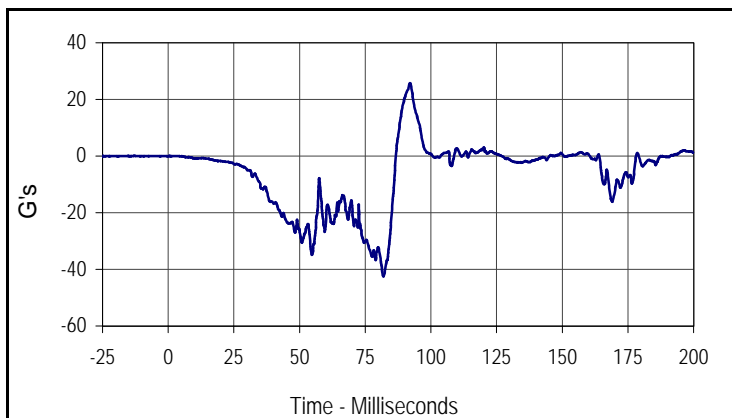
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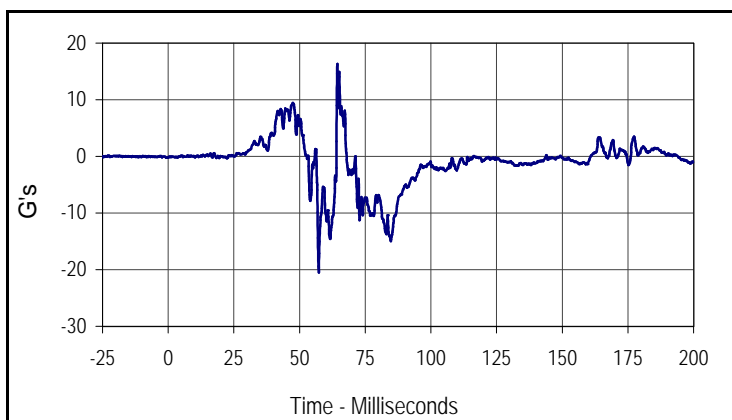
Curve Description			
Right Rear (10 Yr.) Chest Deflection			
CURNO	Type	SAE Class	Units
146	FIL	600	MM
Max	Time	Min	Time
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Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

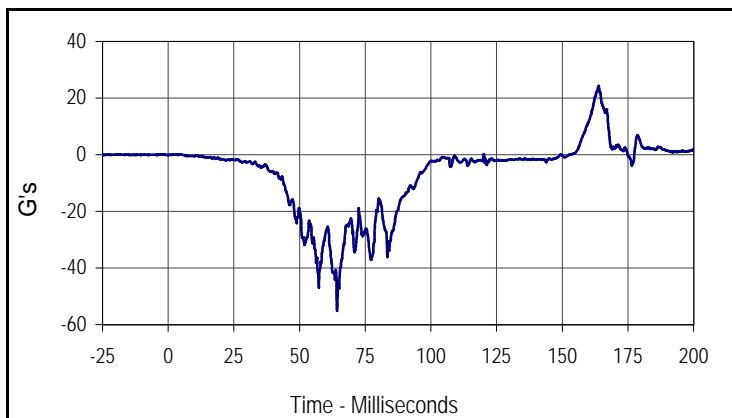
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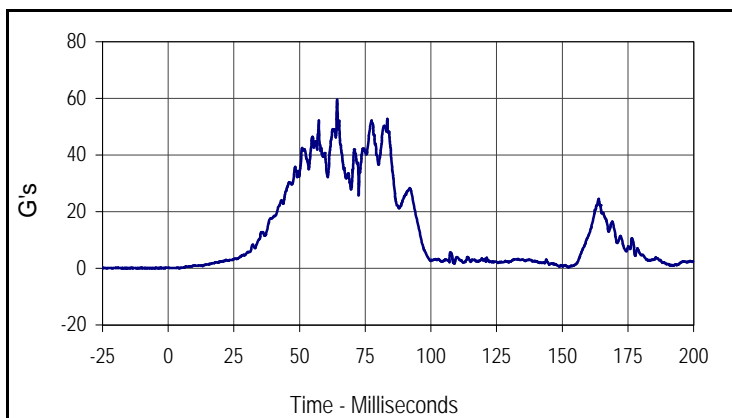
Curve Description			
Right Rear (10 Yr.) Pelvis X			
CURNO	Type	SAE Class	Units
147	FIL	1000	G's
Max	Time	Min	Time
25.7	92.1	-42.5	81.9



Curve Description			
Right Rear (10 Yr.) Pelvis Y			
CURNO	Type	SAE Class	Units
148	FIL	1000	G's
Max	Time	Min	Time
16.3	64.4	-20.5	57.3



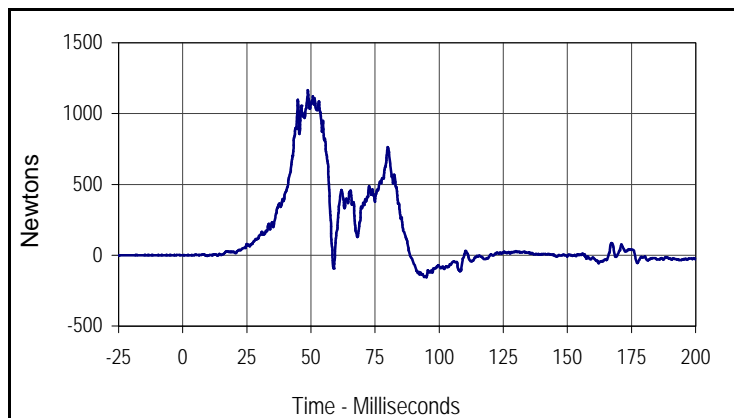
Curve Description			
Right Rear (10 Yr.) Pelvis Z			
CURNO	Type	SAE Class	Units
149	FIL	1000	G's
Max	Time	Min	Time
24.2	163.9	-55.1	64.3



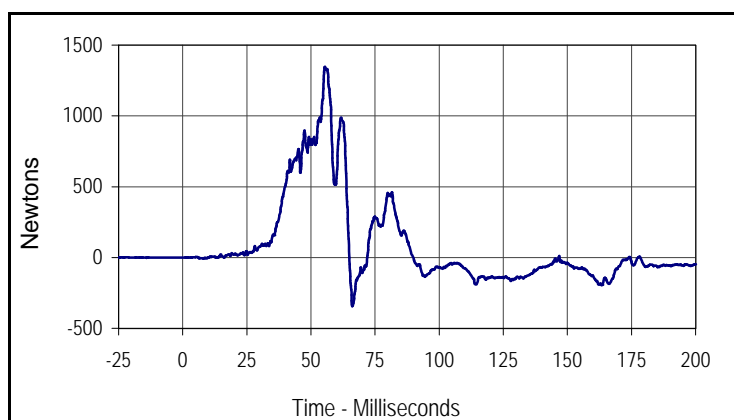
Curve Description			
Right Rear (10 Yr.) Pelvis Resultant			
CURNO	Type	SAE Class	Units
147	RES	1000	G's
Max	Time	Min	Time
59.5	64.3	0.0	4.2

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05
 NHTSA No.: M55800



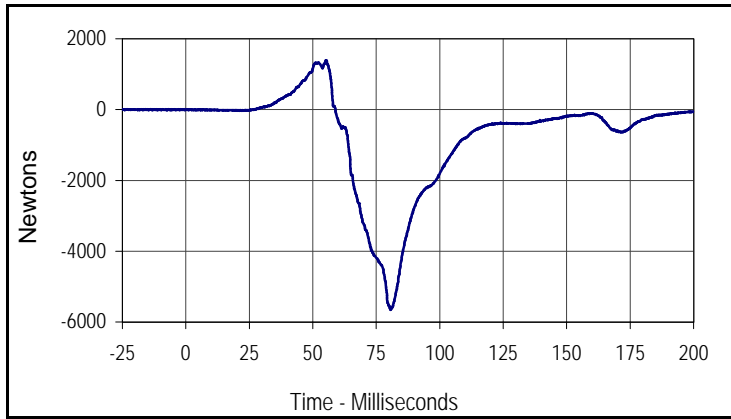
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Right Rear (10 Yr.) Left Femur Force			
CURNO	Type	SAE Class	Units
150	FIL	600	Newtons
Max	Time	Min	Time
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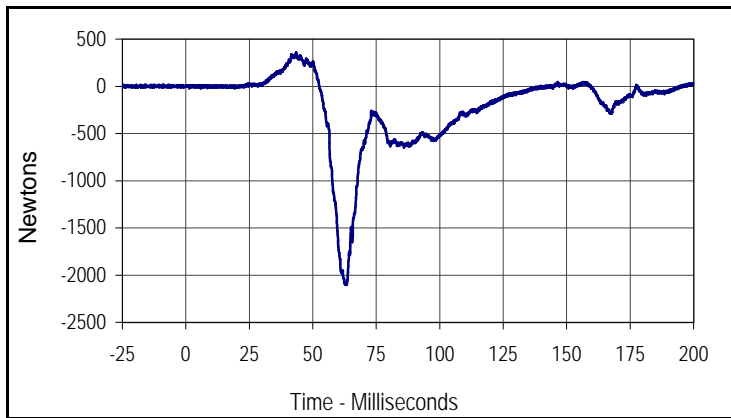
Curve Description			
Right Rear (10 Yr.) Right Femur Force			
CURNO	Type	SAE Class	Units
151	FIL	600	Newtons
Max	Time	Min	Time
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Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

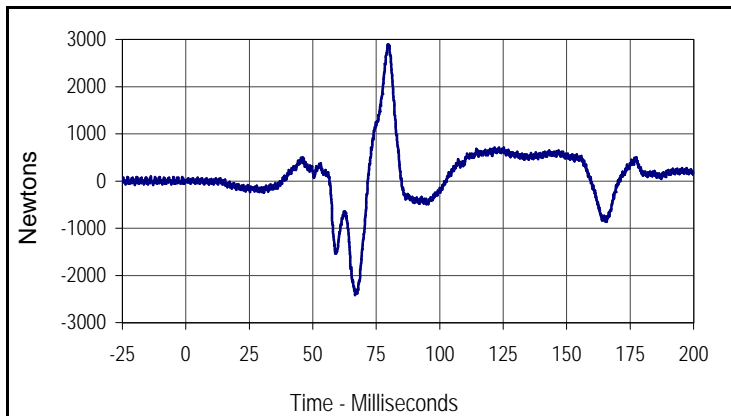
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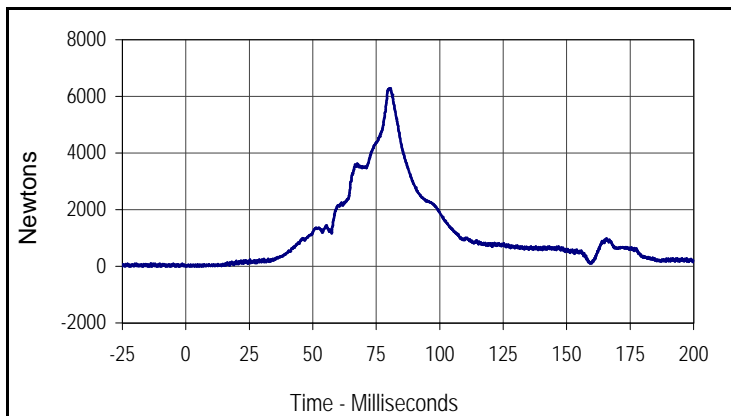
Curve Description			
Right Rear (10 Yr.) Lumbar Force X			
CURNO	Type	SAE Class	Units
152	FIL	1000	Newtons
Max	Time	Min	Time
1394.2	55.2	-5655.1	80.6



Curve Description			
Right Rear (10 Yr.) Lumbar Force Y			
CURNO	Type	SAE Class	Units
153	FIL	1000	Newtons
Max	Time	Min	Time
360.1	43.4	-2101.8	62.8



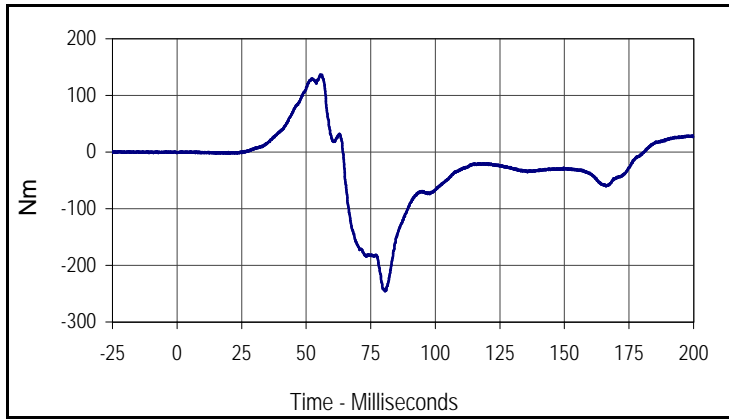
Curve Description			
Right Rear (10 Yr.) Lumbar Force Z			
CURNO	Type	SAE Class	Units
154	FIL	1000	Newtons
Max	Time	Min	Time
2890.0	79.5	-2413.9	66.7



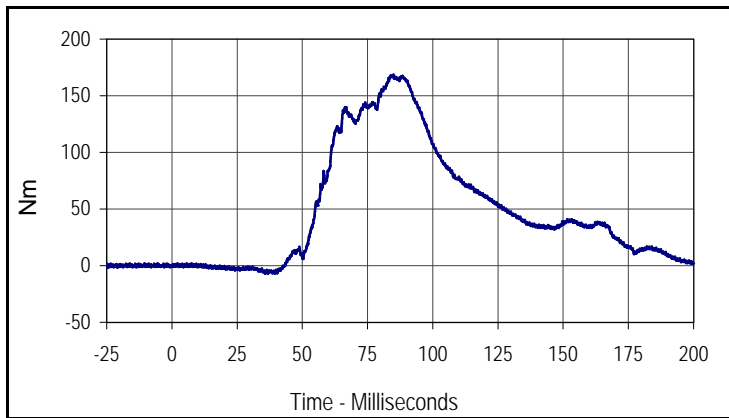
Curve Description			
Right Rear (10 Yr.) Lumbar Force Resultant			
CURNO	Type	SAE Class	Units
152	RES	1000	Newtons
Max	Time	Min	Time
6287.8	80.2	1.0	0.0

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

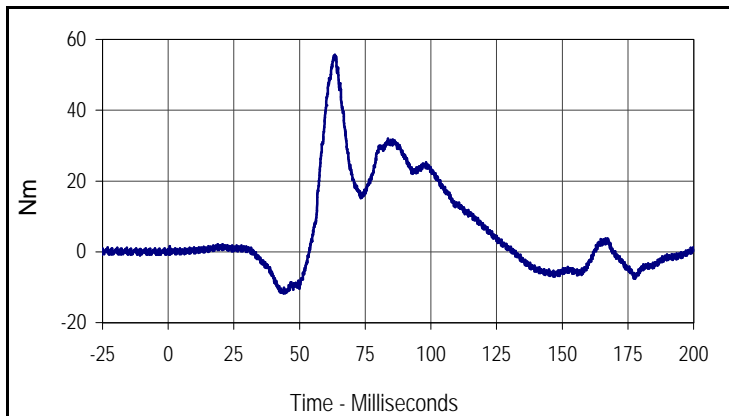
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 NHTSA No.: M55800



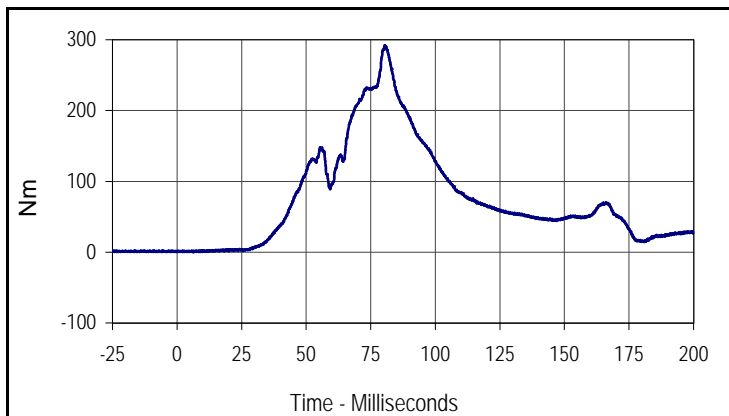
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Right Rear (10 Yr.) Lumbar Moment X			
CURNO	Type	SAE Class	Units
155	FIL	1000	Nm
Max	Time	Min	Time
136.8	55.4	-245.7	80.5



Curve Description			
Right Rear (10 Yr.) Lumbar Moment Y			
CURNO	Type	SAE Class	Units
156	FIL	1000	Nm
Max	Time	Min	Time
168.5	84.9	-7.0	35.7



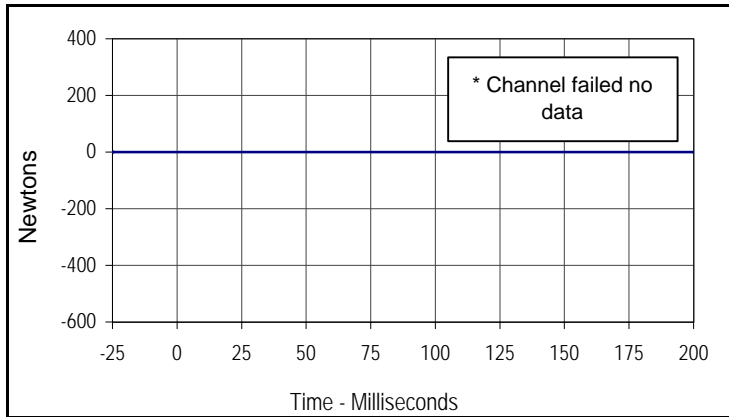
Curve Description			
Right Rear (10 Yr.) Lumbar Moment Z			
CURNO	Type	SAE Class	Units
157	FIL	1000	Nm
Max	Time	Min	Time
55.7	63.4	-11.8	44.0



Curve Description			
Right Rear (10 Yr.) Lumbar Moment Resultant			
CURNO	Type	SAE Class	Units
155	RES	1000	Nm
Max	Time	Min	Time
292.1	80.4	0.1	6.5

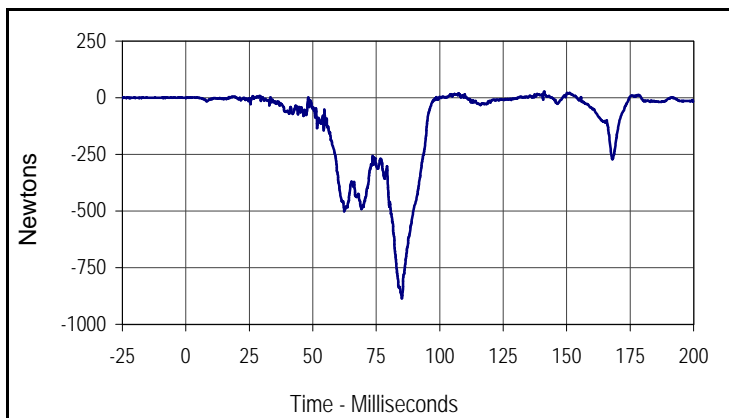
Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

Test Date: 4/5/05
 NHTSA No.: M55800

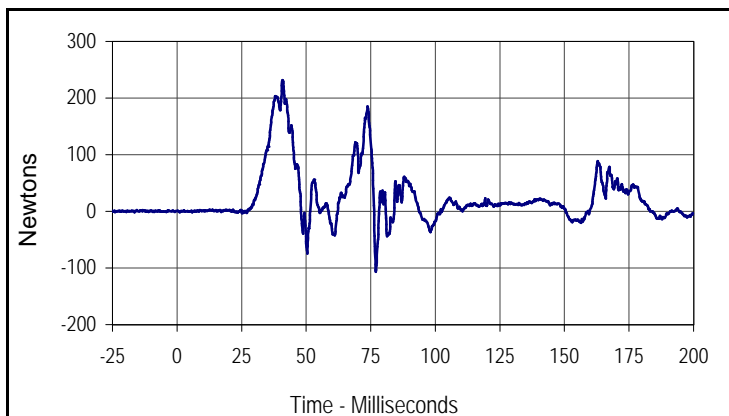


Curve Description			
Right Rear (10 Yr.) Left Clavicle Force X			
CURNO	Type	SAE Class	Units
158	FIL	1000	Newtons
Max	Time	Min	Time
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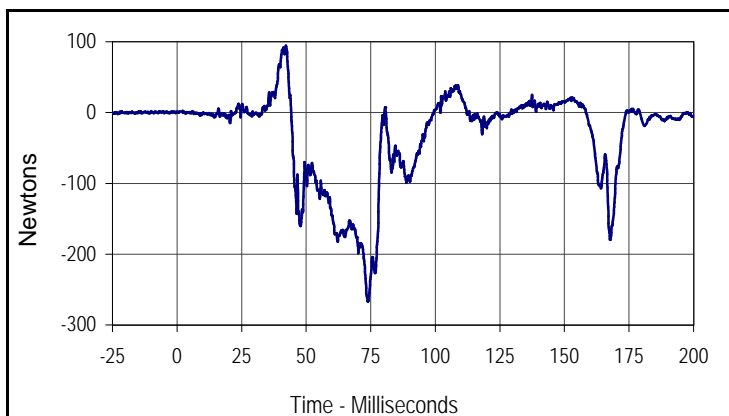
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Curve Description			
Right Rear (10 Yr.) Left Clavicle Force Z			
CURNO	Type	SAE Class	Units
159	FIL	1000	Newtons
Max	Time	Min	Time
27.0	141.2	-886.3	85.1



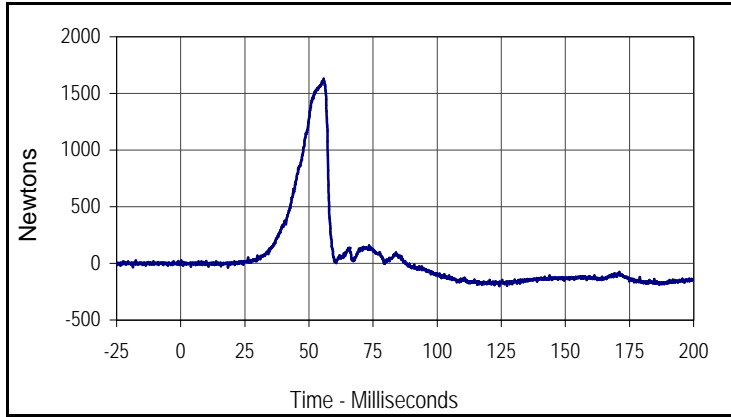
Curve Description			
Right Rear (10 Yr.) Right Clavicle Force X			
CURNO	Type	SAE Class	Units
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Max	Time	Min	Time
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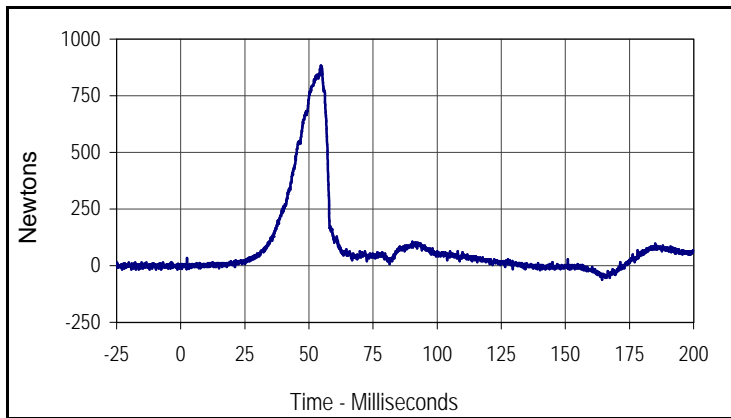
Curve Description			
Right Rear (10 Yr.) Right Clavicle Force Z			
CURNO	Type	SAE Class	Units
161	FIL	1000	Newtons
Max	Time	Min	Time
94.70	42.2	-266.96	73.9

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

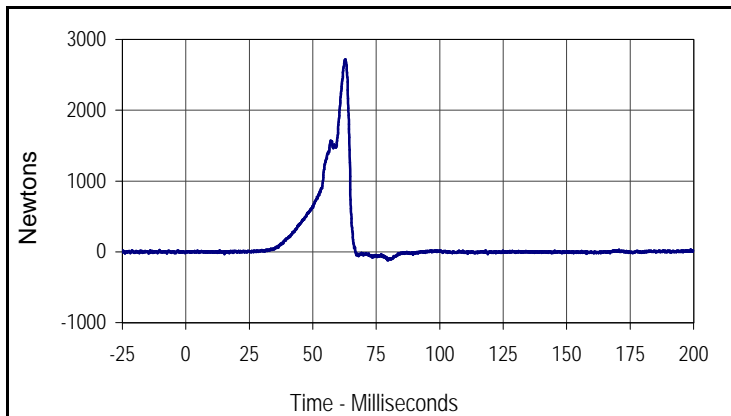
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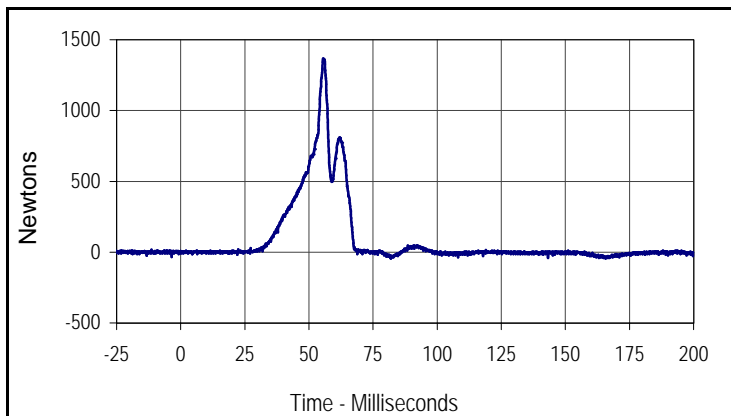
Curve Description			
Right Rear (10 Yr.) Left Upper ASIS Force			
CURNO	Type	SAE Class	Units
162	FIL	1000	Newtons
Max	Time	Min	Time
1629.0	55.7	-201.4	124.3



Curve Description			
Right Rear (10 Yr.) Left Lower ASIS Force			
CURNO	Type	SAE Class	Units
163	FIL	1000	Newtons
Max	Time	Min	Time
882.2	54.6	-62.7	164.3



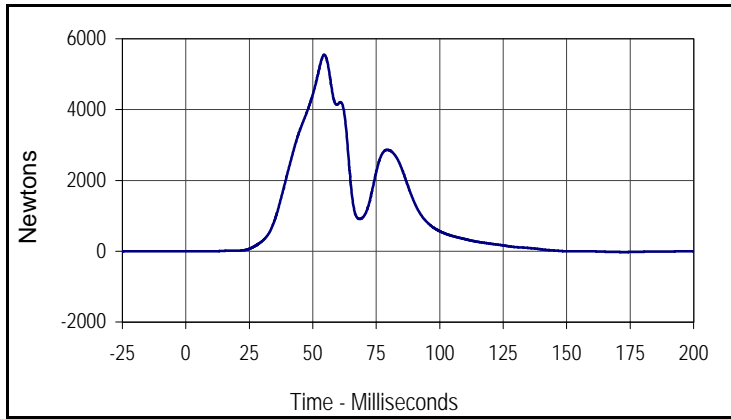
Curve Description			
Right Rear (10 Yr.) Right Upper ASIS Force			
CURNO	Type	SAE Class	Units
164	FIL	1000	Newtons
Max	Time	Min	Time
2721.7	62.9	-118.5	79.5



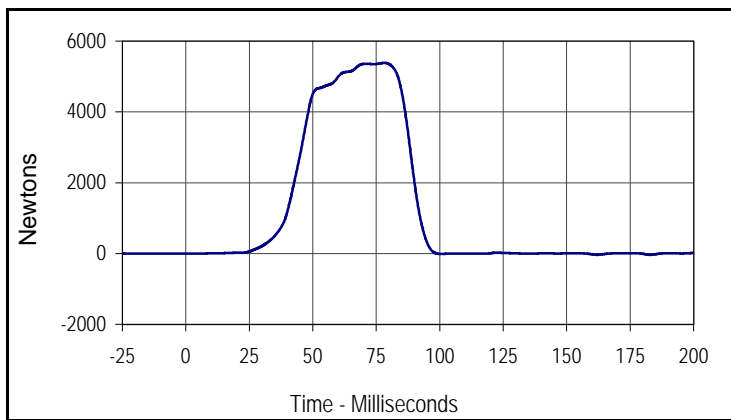
Curve Description			
Right Rear (10 Yr.) Right Lower ASIS Force			
CURNO	Type	SAE Class	Units
165	FIL	1000	Newtons
Max	Time	Min	Time
1367.7	55.5	-45.8	82.0

Test Vehicle: 2005 Volkswagen new Jetta 2.5 4-Door Sedan
 Test Program: 2005 NHTSA 35mph NCAP

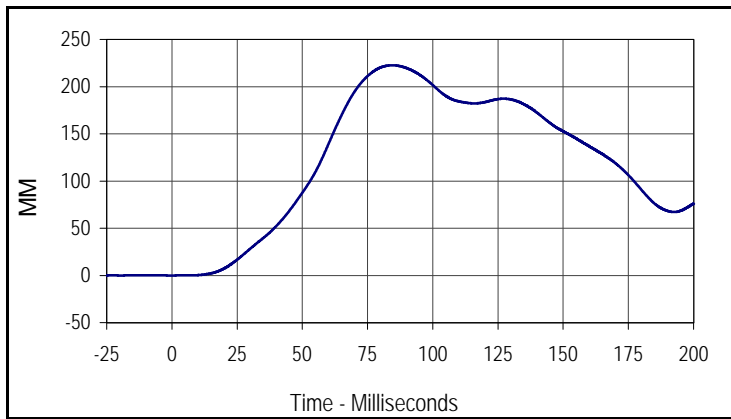
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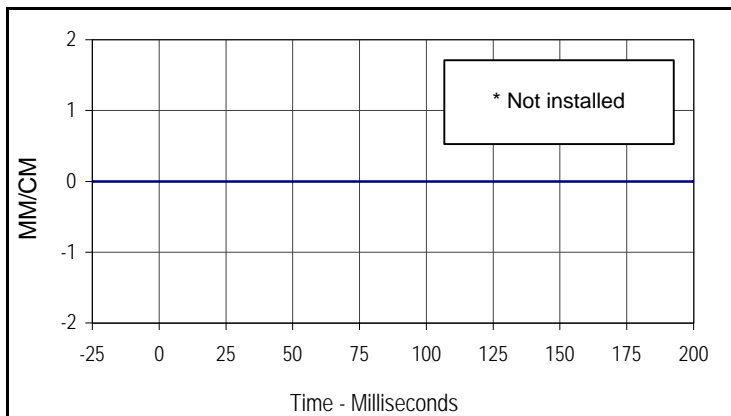
Curve Description			
Right Rear (10 Yr.) Lap Belt Force			
CURNO	Type	SAE Class	Units
166	FIL	60	Newtons
Max	Time	Min	Time
5549.0	54.5	-26.2	172.7



Curve Description			
Right Rear (10 Yr.) Shoulder Belt Force			
CURNO	Type	SAE Class	Units
167	FIL	60	Newtons
Max	Time	Min	Time
5386.4	78.2	-35.4	182.9



Curve Description			
Right Rear (10 Yr.) Shoulder Belt Pullout (10Yr.)			
CURNO	Type	SAE Class	Units
168	FIL	60	MM
Max	Time	Min	Time
222.6	84.5	0.0	0.0



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

* Not installed

SECTION F-4

CHILD DUMMY INSTRUMENTATION INFORMATION

**2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 34
4/5/05
2005 Volkswagen new Jetta 2.5 4-Door Sedan**

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

**2005 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 34
4/5/05
2005 Volkswagen new Jetta 2.5 4-Door Sedan**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
25	UP. TIBIA LEFT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
26	UP. TIBIA LEFT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
27	UP. TIBIA RIGHT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
28	UP. TIBIA RIGHT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
29	LWR. TIBIA LEFT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
30	LWR. TIBIA LEFT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
31	LWR. TIBIA LEFT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
32	LWR. TIBIA RIGHT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
33	LWR. TIBIA RIGHT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
34	LWR. TIBIA RIGHT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
35	FOOT LEFT, AFT	X	KEIC003X	Accel., Foot Triax	I.C. Sensor	3031-500	G
36	FOOT LEFT, AFT	Z	KEIC003Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
37	FOOT LEFT, FORE	Z	KEIC003Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
38	FOOT RIGHT, AFT	X	KEIC004X	Accel., Foot Triax	I.C. Sensor	3031-500	G
39	FOOT RIGHT, AFT	Z	KEIC004Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
40	FOOT RIGHT, FORE	Z	KEIC004Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
41	LAP BELT FORCE	X	BL134	Load cell, Seat belt	FGP	FN4060	N
42	SHOULDER BELT FORCE	X	BL135	Load cell, Seat belt	FGP	FN4060	N
43	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	MM
44	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

D-2

TR-P25001-16-NC

SECTION F-5

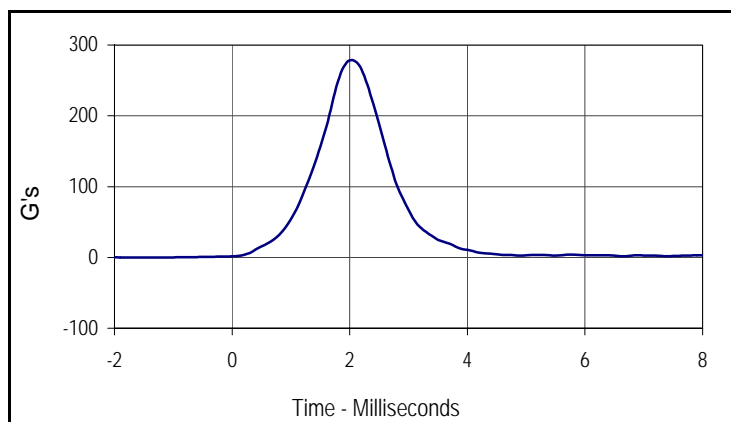
CHILD DUMMY CALIBRATION INFORMATION

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

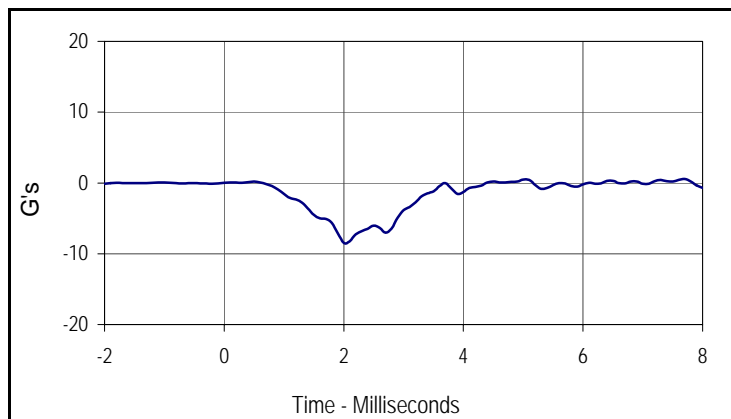
Test Date: 3/30/05
 Test I.D.: HD03M



Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	250.0 to 300.0	278.5	Pass
Peak Lateral Acceleration	G's	≤15.0	8.5	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<10	1.4	Pass
Overall Test Results				Pass



Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
278.5	2.0	0.0	-1.2



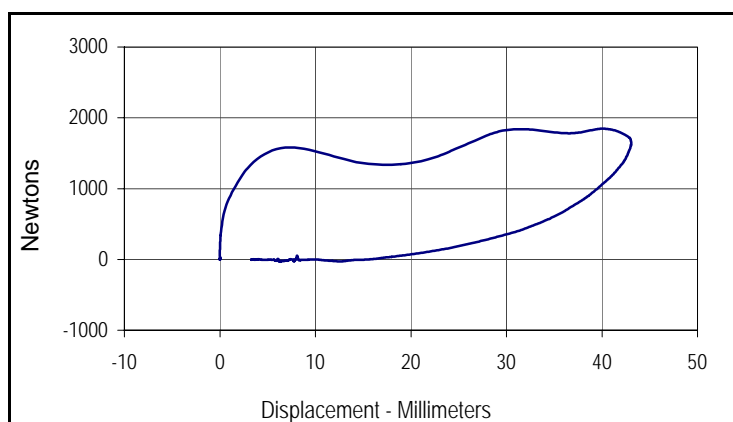
Curve Description			
Head Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
0.5	5.0	-8.5	2.0

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

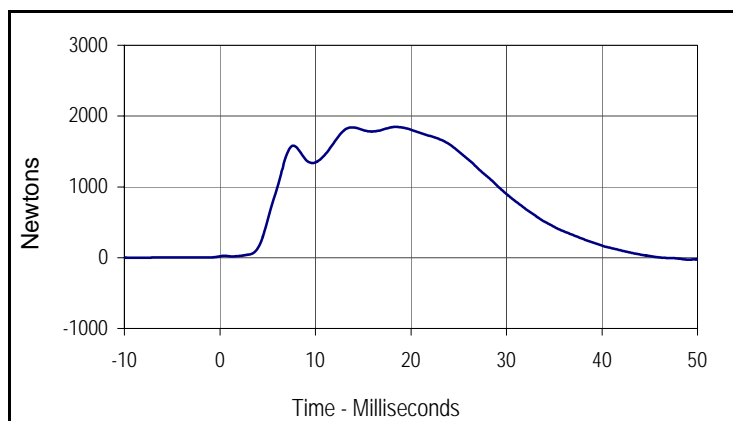
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 Test I.D.: CH03J



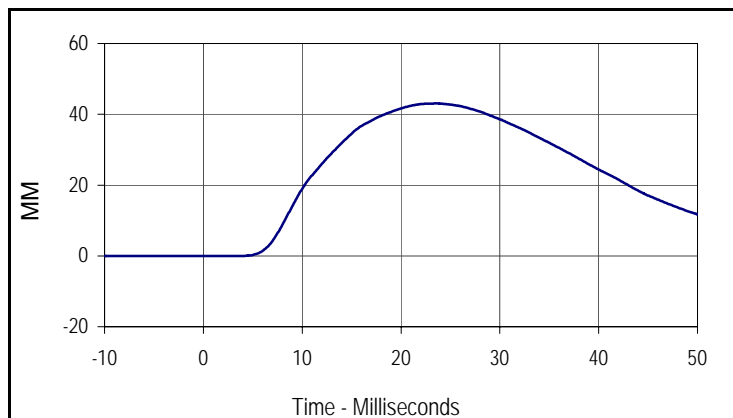
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	5.88 to 6.12	6.10	Pass
Peak Chest Deflection	MM	40.5 to 48.5	43.1	Pass
Peak Force Between 40.5 and 48.5 MM	Newtons	1830 to 2330	1846	Pass
Peak Force Between 20 and 40.5 MM	Newtons	≤2330	1841	Pass
Internal Hysteresis	%	69 to 85	81.5	Pass
Overall Test Results				Pass



Curve Description			
Probe Force vs. Chest Deflection			
CURNO	Type	SAE Class	Hysteresis
003	FIL	180	81.5
Peak Probe Force		Peak Chest Deflection	
1846.1		43.1	



Curve Description			
Probe Force			
CURNO	Type	SAE Class	Units
002	FIL	180	Newtons
Max	Time	Min	Time
1846.1	18.4	-31.9	81.8



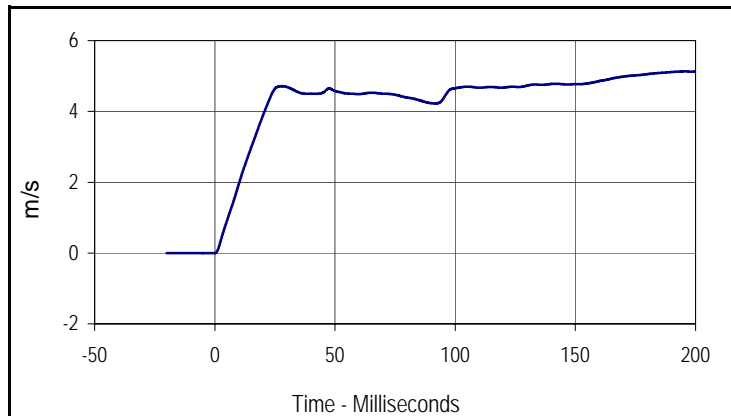
Curve Description			
Chest Deflection			
CURNO	Type	SAE Class	Units
001	FIL	180	MM
Max	Time	Min	Time
43.1	23.5	0.0	3.6

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

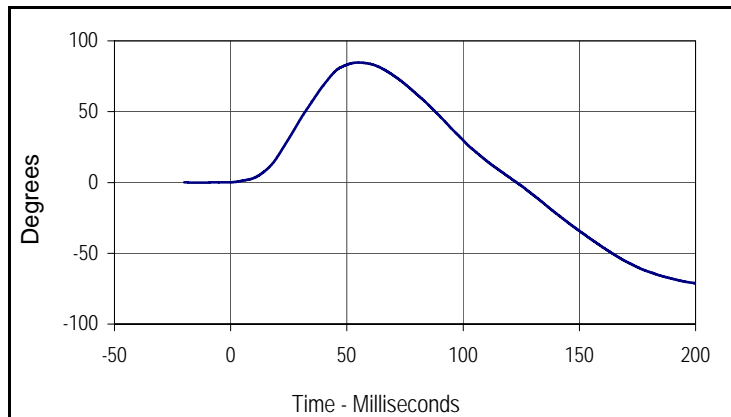
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 Test I.D.: NF03K



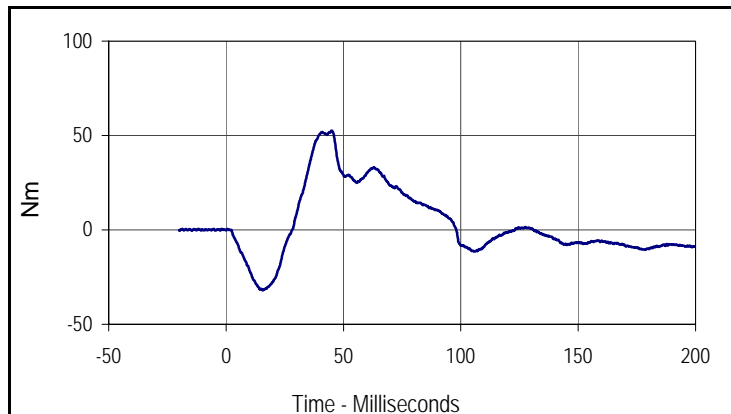
Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	30	Pass	
Pendulum Velocity	m/s	5.98 to 6.22	6.14	Pass	
Pendulum Deceleration	10 Msec.	m/s	1.64 to 2.04	1.95	Pass
	20 Msec.	m/s	3.04 to 4.04	3.88	Pass
	30 Msec.	m/s	4.45 to 5.65	4.69	Pass
"D" Plane Rotation	Max	Degrees	74.0 to 88.0	84.7	Pass
Peak Moment in Rotation	Max	Nm	50.0 to 62.0	52.6	Pass
Positive Moment Decay, Time To 10 Nm	Msec.		85.0 to 105.0	90.8	Pass
Overall Test Results				Pass	



Curve Description			
Pendulum Velocity			
CURNO	Type	SAE Class	Units
001	FIL	180	m/s
Max	Time	Min	Time
5.1	195.5	0.0	-0.2



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
84.7	54.9	-71.1	200.0



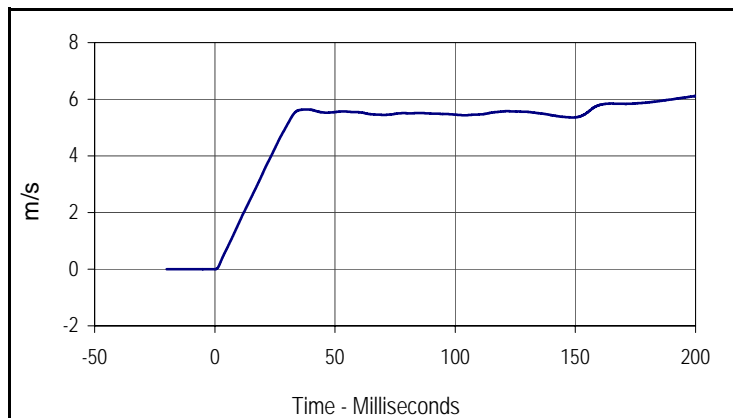
Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
002	FIL	600	Nm
Max	Time	Min	Time
52.6	44.9	-32.0	15.7

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

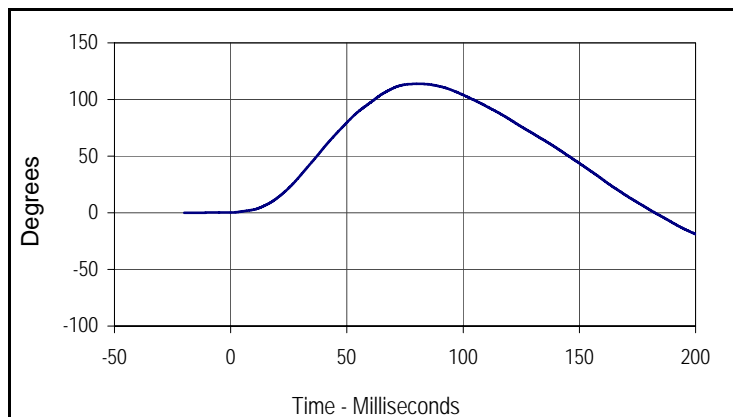
Test Date: 3/29/05
 Test I.D.: NE03U



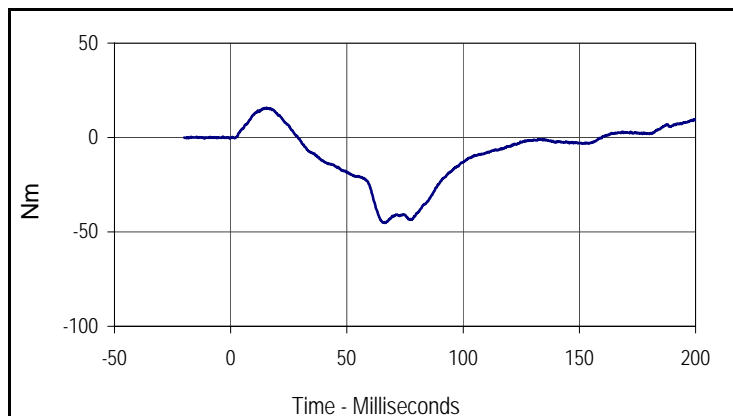
Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	30	Pass	
Pendulum Velocity	m/s	4.91 to 5.15	4.97	Pass	
Pendulum Deceleration	10 Msec.	m/s	1.59 to 1.89	1.63	Pass
	20 Msec.	m/s	2.88 to 3.68	3.40	Pass
	30 Msec.	m/s	4.20 to 5.20	5.08	Pass
"D" Plane Rotation	Max	Degrees	99.0 to 114.0	113.8	Pass
Peak Moment in Rotation	Max	Nm	-35.0 to -47.0	-45.2	Pass
Positive Moment Decay, Time To 10 Nm	Msec.		100.0 to 120.0	104.0	Pass
Overall Test Results				Pass	



Curve Description			
Pendulum Velocity			
CURNO	Type	SAE Class	Units
001	FIL	180	m/s
Max	Time	Min	Time
6.1	200.0	0.0	0.0



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
113.8	80.7	-18.8	200.0



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
002	FIL	600	Nm
Max	Time	Min	Time
15.7	15.4	-45.2	66.3

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

Test Date: 3/28/05
 Test I.D.: LK03K , RK03K



Left Knee

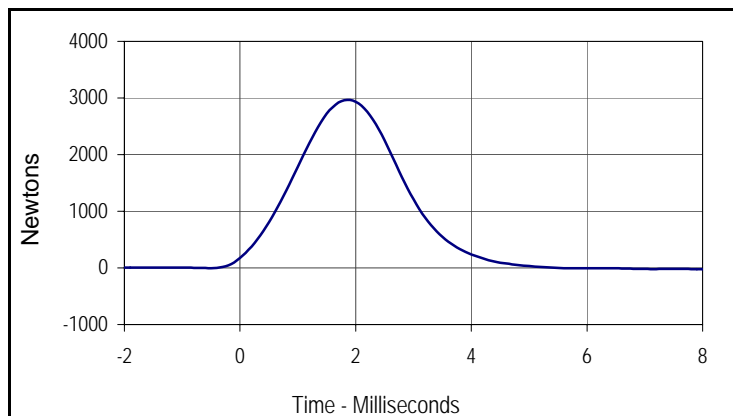
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.09	Pass
Peak Probe Force	Newtons	2560 to 3140	3100	Pass
Overall Test Results				Pass

Right Knee

Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.10	Pass
Peak Probe Force	Newtons	2560 to 3140	2966	Pass
Overall Test Results				Pass



Curve Description			
Left Knee Probe Force			
CURNO	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
3100.4	2.0	-27.5	6.9



Curve Description			
Right Knee Probe Force			
CURNO	Type	SAE Class	Units
002	FIL	600	Newtons
Max	Time	Min	Time
2966.3	1.9	-26.3	8.5

Test Program: Hybrid III 10 Yr Old External Measurements

Test Date: 3/30/05

ATD Serial No.: 009

Test I.D.: N/A



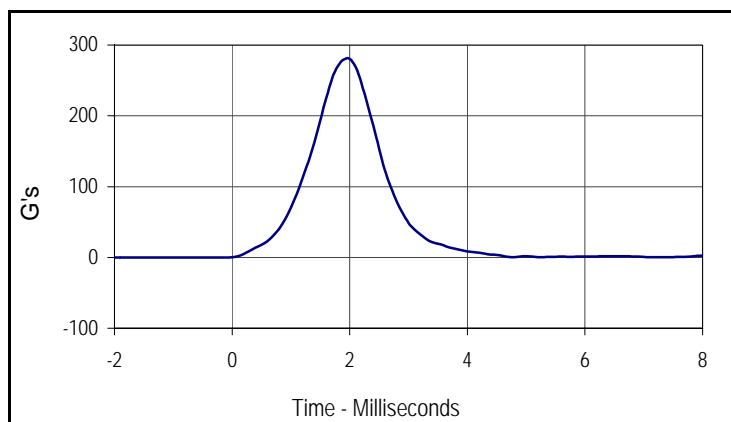
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
A - Total sitting height	mm	710 to 737	725	Pass
B - Shoulder pivot height	mm	385 to 405	400	Pass
C - "H" point height	mm	78 to 88	85	Pass
D - "H" point from backline	mm	133 to 143	138	Pass
E - Shoulder pivot from back	mm	80 to 90	85	Pass
F - Thigh clearance	mm	105 to 121	115	Pass
G - Elbow back to wrist pivot	mm	227 to 243	236	Pass
H - Skull cap to back line	mm	46 to 51	49	Pass
I - Shoulder to elbow length	mm	269 to 285	276	Pass
J - Elbow rest height	mm	137 to 158	145	Pass
K - Buttock to knee length	mm	464 to 484	475	Pass
L - Popliteal length	mm	321 to 342	340	Pass
M - Knee pivot height	mm	370 to 389	380	Pass
N - Buttock popliteal length	mm	367 to 387	370	Pass
O - Chest depth without jacket	mm	158 to 173	165	Pass
P - Foot length	mm	188 to 203	195	Pass
R - Buttock to knee pivot length	mm	414 to 434	425	Pass
S - Head breadth	mm	137 to 147	145	Pass
T - Head depth	mm	178 to 188	182	Pass
U - Hip breadth	mm	257 to 272	265	Pass
V - Shoulder breadth	mm	307 to 323	315	Pass
W - Foot breadth	mm	69 to 84	74	Pass
X - Head circumference	mm	528 to 549	540	Pass
Y - Chest circumference with jacket	mm	691 to 716	701	Pass
Z - Waist circumference	mm	696 to 721	710	Pass
AA - Location for chest circumference	mm	338 to 348	340	Pass
Overall Test Results				Pass

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

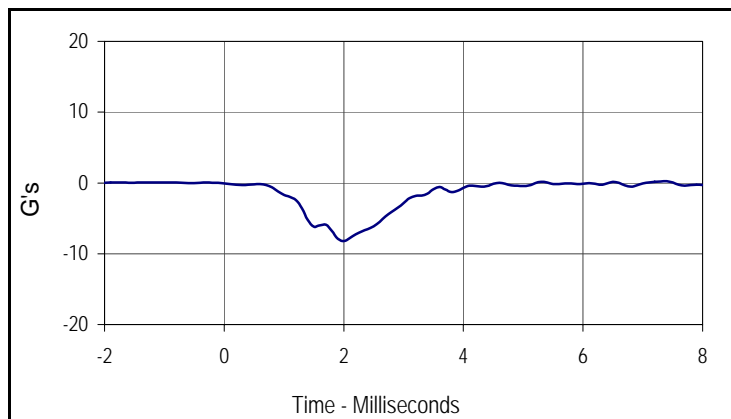
Test Date: 3/30/05
 Test I.D.: HD03N



Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	250.0 to 300.0	280.4	Pass
Peak Lateral Acceleration	G's	≤15.0	8.2	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<10	0.9	Pass
Overall Test Results				Pass



Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
280.4	2.0	0.0	-0.5



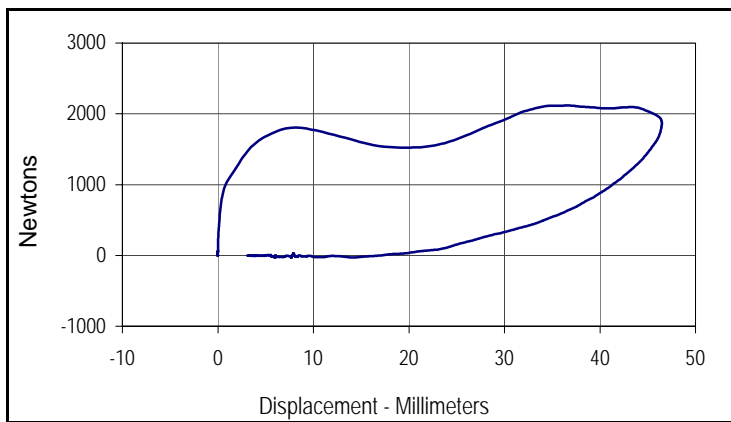
Curve Description			
Head Y			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
0.2	5.3	-8.2	2.0

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

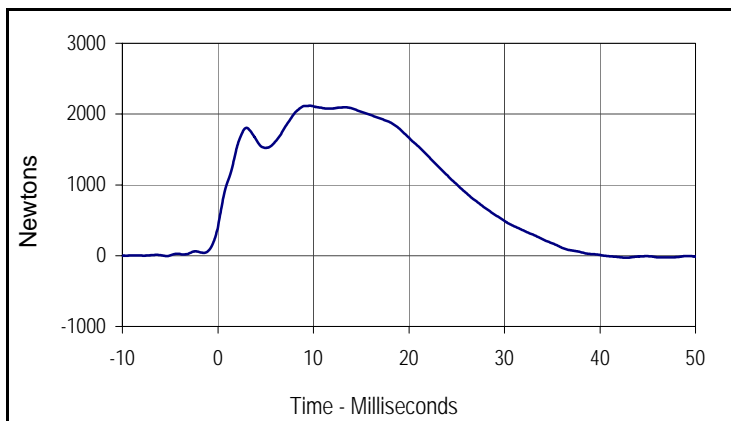
Test Date: 3/30/05
 Test I.D.: CH03K



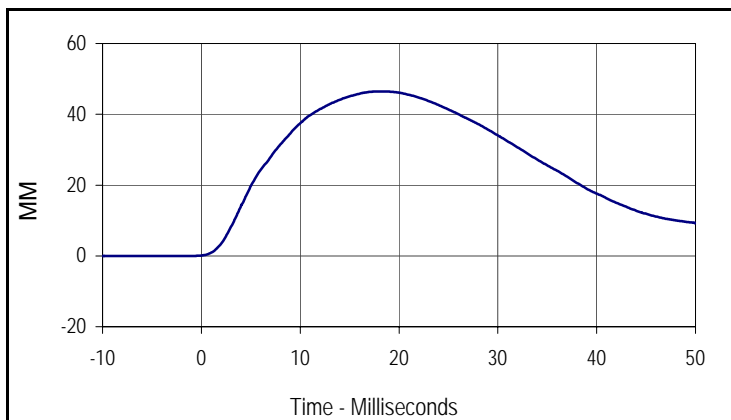
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	5.88 to 6.12	5.96	Pass
Peak Chest Deflection	MM	40.5 to 48.5	46.5	Pass
Peak Force Between 40.5 and 48.5 MM	Newtons	1830 to 2330	2117	Pass
Peak Force Between 20 and 40.5 MM	Newtons	≤2330	2096	Pass
Internal Hysteresis	%	69 to 85	81.4	Pass
Overall Test Results			Pass	



Curve Description			
Probe Force vs. Chest Deflection			
CURNO	Type	SAE Class	Hysteresis
003	FIL	180	81.4
Peak Probe Force		Peak Chest Deflection	
2116.8		46.5	



Curve Description			
Probe Force			
CURNO	Type	SAE Class	Units
002	FIL	180	Newtons
Max	Time	Min	Time
2116.8	9.7	-34.0	85.1



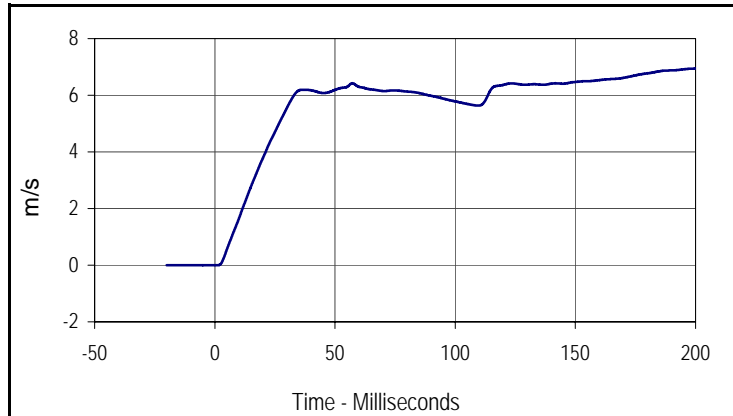
Curve Description			
Chest Deflection			
CURNO	Type	SAE Class	Units
001	FIL	180	MM
Max	Time	Min	Time
46.5	18.2	0.0	-7.1

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

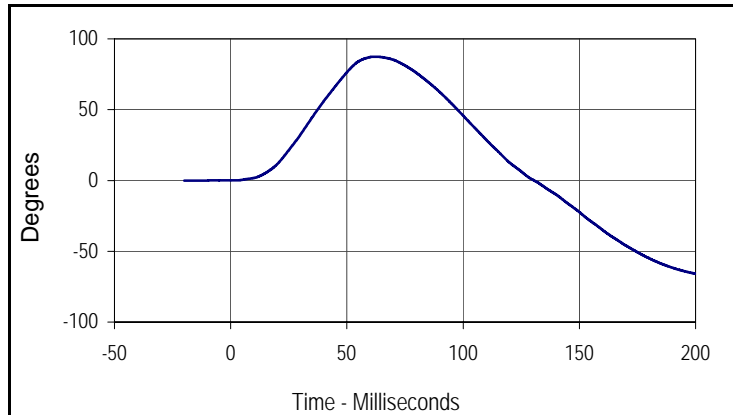
Test Date: 3/29/05
 Test I.D.: NF03M



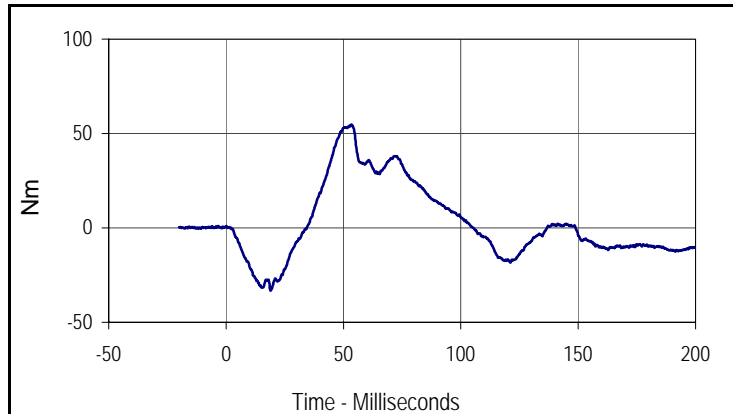
Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	30	Pass	
Pendulum Velocity	m/s	5.98 to 6.22	6.08	Pass	
Pendulum Deceleration	10 Msec.	m/s	1.64 to 2.04	1.64	Pass
	20 Msec.	m/s	3.04 to 4.04	3.78	Pass
	30 Msec.	m/s	4.45 to 5.65	5.56	Pass
"D" Plane Rotation	Max	Degrees	74.0 to 88.0	87.5	Pass
Peak Moment in Rotation	Max	Nm	50.0 to 62.0	54.8	Pass
Positive Moment Decay, Time To 10 Nm	Msec.		85.0 to 105.0	95.0	Pass
Overall Test Results				Pass	



Curve Description			
Pendulum Velocity			
CURNO	Type	SAE Class	Units
001	FIL	180	m/s
Max	Time	Min	Time
6.9	200.0	0.0	1.2



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
87.5	62.1	-65.9	200.0



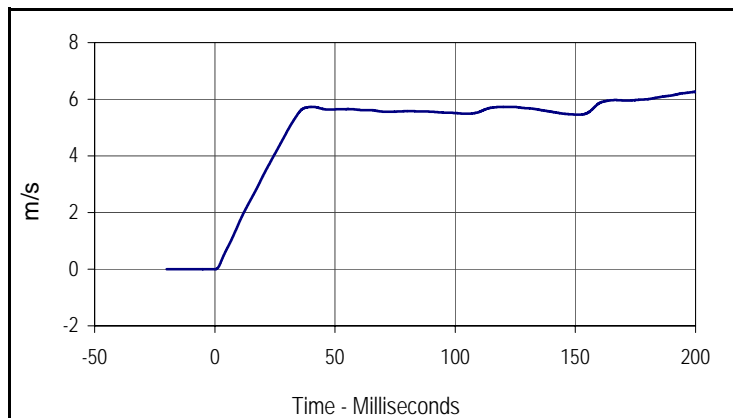
Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
002	FIL	600	Nm
Max	Time	Min	Time
54.8	53.3	-33.2	19.0

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

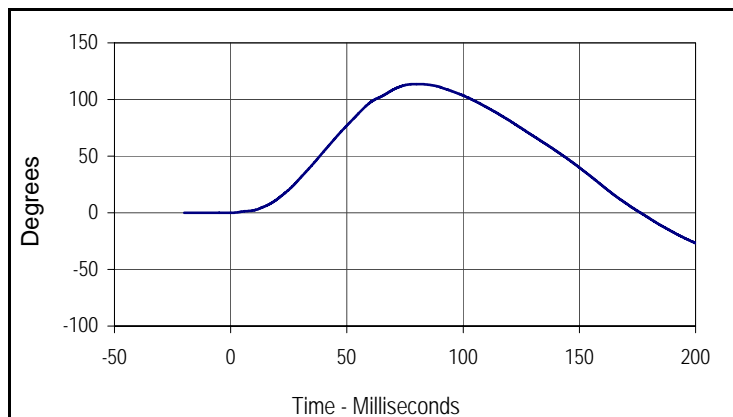
Test Date: 3/29/05
 Test I.D.: NE03V



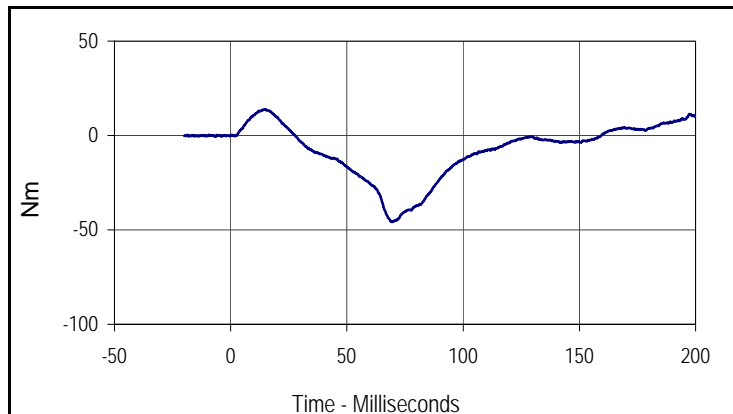
Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	30	Pass	
Pendulum Velocity	m/s	4.91 to 5.15	5.07	Pass	
Pendulum Deceleration	10 Msec.	m/s	1.59 to 1.89	1.62	Pass
	20 Msec.	m/s	2.88 to 3.68	3.29	Pass
	30 Msec.	m/s	4.20 to 5.20	4.85	Pass
"D" Plane Rotation	Max	Degrees	99.0 to 114.0	113.6	Pass
Peak Moment in Rotation	Max	Nm	-35.0 to -47.0	-45.8	Pass
Positive Moment Decay, Time To 10 Nm	Msec.	100.0 to 120.0	104.3	Pass	
Overall Test Results				Pass	



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



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
113.6	80.1	-26.8	200.0



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
002	FIL	600	Nm
Max	Time	Min	Time
13.8	15.1	-45.8	69.6

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

Test Date: 3/28/05
 Test I.D.: LK03M , RK03M

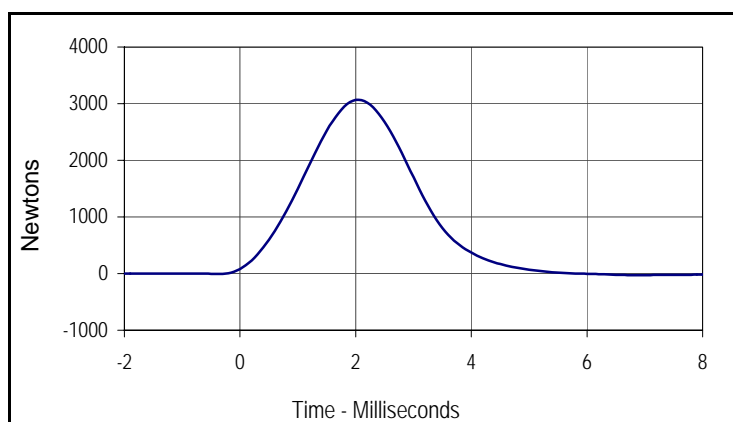


Left Knee

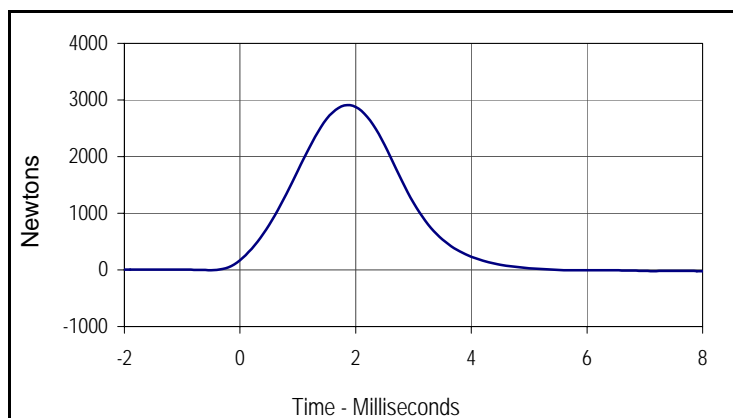
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.11	Pass
Peak Probe Force	Newtons	2560 to 3140	3067	Pass
Overall Test Results				Pass

Right Knee

Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.10	Pass
Peak Probe Force	Newtons	2560 to 3140	2907	Pass
Overall Test Results				Pass



Curve Description			
Left Knee Probe Force			
CURNO	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
3066.7	2.0	-27.2	6.9



Curve Description			
Right Knee Probe Force			
CURNO	Type	SAE Class	Units
002	FIL	600	Newtons
Max	Time	Min	Time
2907.0	1.9	-25.8	8.5

Test Program: Hybrid III 10 Yr Old External Measurements

Test Date: 3/30/05

ATD Serial No.: 011

Test I.D.: N/A



Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
A - Total sitting height	mm	710 to 737	725	Pass
B - Shoulder pivot height	mm	385 to 405	389	Pass
C - "H" point height	mm	78 to 88	81	Pass
D - "H" point from backline	mm	133 to 143	141	Pass
E - Shoulder pivot from back	mm	80 to 90	86	Pass
F - Thigh clearance	mm	105 to 121	120	Pass
G - Elbow back to wrist pivot	mm	227 to 243	231	Pass
H - Skull cap to back line	mm	46 to 51	48	Pass
I - Shoulder to elbow length	mm	269 to 285	284	Pass
J - Elbow rest height	mm	137 to 158	156	Pass
K - Buttock to knee length	mm	464 to 484	480	Pass
L - Popliteal length	mm	321 to 342	341	Pass
M - Knee pivot height	mm	370 to 389	380	Pass
N - Buttock popliteal length	mm	367 to 387	369	Pass
O - Chest depth without jacket	mm	158 to 173	170	Pass
P - Foot length	mm	188 to 203	200	Pass
R - Buttock to knee pivot length	mm	414 to 434	431	Pass
S - Head breadth	mm	137 to 147	145	Pass
T - Head depth	mm	178 to 188	185	Pass
U - Hip breadth	mm	257 to 272	268	Pass
V - Shoulder breadth	mm	307 to 323	311	Pass
W - Foot breadth	mm	69 to 84	81	Pass
X - Head circumference	mm	528 to 549	540	Pass
Y - Chest circumference with jacket	mm	691 to 716	700	Pass
Z - Waist circumference	mm	696 to 721	712	Pass
AA - Location for chest circumference	mm	338 to 348	340	Pass
Overall Test Results				Pass