REPORT NUMBER: CAL-06-05

NEW CAR ASSESSMENT PROGRAM (NCAP)
FRONTAL BARRIER IMPACT TEST

GENERAL MOTORS CORPORATION
2006 CADILLAC DTS
4-DOOR PASSENGER CAR

NHTSA NUMBER: M60103

CALSPAN TEST NUMBER: 8642-NCAP-65

CALSPAN CORPORATION
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December 13, 2005

FINAL REPORT

PREPARED FOR:

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Rulemaking
Office of Crashworthiness Standards
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15. Supplementary Notes

16. Abstract

A frontal load cell barrier test of a 2006 Cadillac DTS 4-Door Passenger Car was performed at Calspan Corporation's crash test facility in Buffalo, New York, on December 13, 2005.

The impact velocity was 56.65 kph and the temperature at the barrier face was 20.9EC. The maximum post-test vehicle crush was 588 mm. The test vehicle was equipped with 3-point restraint systems, knee bolsters, and airbags at both the driver and right outboard passenger seating positions.

With respect to FMVSS 208 "Occupant Crash Protection - Injury Criteria" both the driver and passenger appeared to comply with head, chest, and femur requirements. The occupant injury criteria summary is as follows:

Measurement Description	**Units**	**Threshold**	**Driver (142)**	**Passenger (150)**
Head Injury Criteria (HIC - 36 ms)	-	1000	346.0	521.3
Maximum Thorax Acceleration (3 ms Clip)	g's	60 g's	41.3	48.0
Chest Displacement	mm	-76 mm	-30.6	-26.2
Left Femur Force	Newtons	-10000 N	-3282.0	-3438.7
Right Femur Force	Newtons	-10000 N	-3434.4	-2125.1

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TABLE OF CONTENTS

SECTION 1

PURPOSE AND SUMMARY OF TEST

1.1 PURPOSE

This 56.65 kph frontal barrier impact test is part of the Vehicle Barrier Impact Testing Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-01-D-32005. 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 48.3 kph requirements.

The 56.65 kph frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards Laboratory Indicant Test procedure.

1.2 TEST PROCEDURE

This 56.65 kph 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.

One real-time camera and 14 high-speed cameras were used to document the frontal barrier impact event. Camera locations and other pertinent camera information can be found in this report.

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

Both ATDs were fully instrumented with nine accelerometer array heads, chest and pelvis triaxial accelerometers, chest displacement potentiometers, upper neck transducers, right/left femur load cells, and lower leg instrumentation. Seat belt load cells were also installed on the driver's and passenger's lap and shoulder belts to measure dummy torso and pelvic section loading. The driver (position 1) ATD (Serial No. 142) and the right-front passenger (position 2) ATD (Serial No.150) were calibrated previous to this test. Certification details, along with instrumentation calibration data, are found in Appendix C.

The vehicle, occupant, camera and measurement data are presented in Section 2. Appendix A contains the still photograph prints. The 140 channels of data were recorded on an on-board data acquisition system. Appendix B contains the vehicle, load cell barrier and dummy response data traces. Appendix C contains the dummy calibration data and Appendix D contains the transducer calibration dates.

1.3 SUMMARY OF FRONTAL BARRIER IMPACT TEST

A load cell barrier consisting of 36 load cells was impacted by a 2006 Cadillac DTS 4-Door Passenger Car at a velocity of 56.65 kph. The test was performed at Calspan on December 13, 2005. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

The occupant data is summarized below.

ATD	HIC	T_1	T_2	Clip (g)	T_1	T_2	Chest Disp. (mm)	Left Femur (N)	Right Femur (N)
Driver	346.0	69.5	103.2	41.3	77.1	80.1	-30.6	-3282.0	-3434.4
Passenger	521.3	75.7	106.5	48.0	83.5	87.9	-26.2	-3438.7	-2125.1

The test data can be found on the NHTSA website at www.nhtsa.dot.gov

TEST NOTES	
Data Channel	Anomalies
V1 Driver Torso Belt F	Transducer Failed at 33 ms
V1P2 Head 9 Array Y Arm Az	Wire Cut at 69 ms
V1P2 Left Foot Aft Ax	Questionable Data after 52 ms
V1P2 Left Foot Fore Az	Questionable Data after 52 ms

SECTION 2
OCCUPANT AND VEHICLE INFORMATION

DATA SHEET NO. 1
CRASH TEST SUMMARY

Vehicle NHTSA No.: M60103 Test Mode: 56.3 kph Frontal Barrier
Test Date: December 13, 2005 Time: 13:49 Temperature: 20.9 °C
Vehicle Make/Model/Body Style: 2006 Cadillac DTS 4-Door Passenger Car
Vehicle Test Weight: 2077.5 kg Impact Velocity: 56.65 kph (55.5 – 57.1 kph)
Vehicle/Barrier Impact Angle: 0 ° Max Static Crush: 588 mm

ATD INFORMATION AND VISIBLE CONTACT POINTS

	DRIVER	PASSENGER
ATD Type:	Part 572E	Part 572E
Restraint System:	Seatbelt with torso belt pretenstioner and force limiter, airbag, knee bolster	Seatbelt with torso belt pretenstioner and force limiter, airbag, knee Bolster
Head Contact:	Face to center of airbag, back of head to center of head restraint	Face to center of airbag, back of head to center of head restraint
Abdomen Contact:	Airbag	Airbag
Chest Contact:	None	None
Left Knee Contact:	Knee bolster left of steering column	Left half of glove compartment door
Right Knee Contact:	Knee bolster right of steering column	Right half of glove compartment door

DOOR OPENING, SEAT TRACK AND GLAZING INFORMATION

Description	Driver Side	Passenger Side
Door Lock Status	Locked prior to impact, unlocked automatically by vehicle system following impact	Locked prior to impact, unlocked automatically by vehicle system following impact
Front Door Opening	Closed, latched and operable without tools	Closed, latched and operable without tools
Rear Door Opening	Closed, latched and operable without tools	Closed, latched and operable without tools
Hatch/Other Door Opening	-	-
Front Seat Track Shift (mm)	20 mm forward	15 mm forward
Front Seat Back Failure	None	None
Glazing Damage	None	

VEHICLE REBOUND FROM BARRIER

Measured Parameter	Left Side (mm)	Center (mm)	Right Side (mm)	Average (mm)
Value	842	842	837	840

BELT LENGTH DATA

Measurement Description	Units	Driver	Passenger
Shoulder belt length as measured on ATD	mm	835	818
Lap belt length as measured on ATD	mm	661	660
Belt length from trim panel exit to bolt hole anchor point for continuous webbing systems	mm	1496	1478

DATA SHEET NO. 2
GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2006 Cadillac DTS 4-Door Passenger Car

NHTSA No. : M60103 ; VIN: 1G6KD57Y86U116752 ; Color: Bronze

Engine Data: 8 Cylinders; - CID; 4.6 Liters; - cc

Placement: - Longitudinal or In-Line; X Transverse or Lateral

Transmission Data: 4 Speeds; - Manual; X Automatic; X Overdrive

Final Drive: - Rear Wheel Drive; X Front Wheel Drive; - Four Wheel Drive

AUTOMATIC DOOR LOCKS:

Is test vehicle equipped with Automatic Door Locks (ADLs)? X Yes; - No;

Does vehicle owner's manual describe how to deactivate ADLs? - Yes; X No; - N/A

DEALER AND DELIVERY INFORMATION:

Date Received: 12/01/2005 ; Odometer Reading 674 km

Selling Dealer: Bowser Cadillac LLC

Dealer Address: 2670 Washington Rd, Mc Murray, PA 15317-2365

TEST VEHICLE OPTIONS:

X AC; X Power Steering; X Power Brakes; X Power Locks; X Power Seats

X ABS; X Tilt Wheel; - Stability Control X Traction Control X Anti-Theft

SAFETY BELT FEATURES:

Driver: X Pretensioner (Shoulder); X Load Limiter; X Adjustable Anchorage

Passenger: X Pretensioner (Shoulder); X Load Limiter; X Adjustable Anchorage

AIRBAG FEATURES:

Position	Frontal	Knee Bolster	Side Torso	Side Head/Torso Combination	Side Curtain
Driver:	Yes	No	Yes	No	Yes
Passenger:	Yes	No	Yes	No	Yes
Rear Passenger:	No	No	No	No	No

DATA FROM VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by: General Motors Corporation

Date of Manufacture 09/05

GVWR: 2348 kg; GAWR: 1259 kg FRONT; 1089 kg REAR

VEHICLE CAPACITY DATA:

Type of Front Seats: - Bench; X Bucket; - Split Bench

Number of Occupants: 3 Front; 3 Rear; 6 Total

Vehicle Capacity Weight (VCW) = 496.0 kg

No. of Occupants x 68.04 kg = 408.2 kg

Rated Cargo/Luggage Weight (RCLW) = 87.8 kg

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

WEIGHT OF TEST VEHICLE AS RECEIVED FROM DEALER (with maximum fluids)= UDW:

	Left Side (kg)	Right Side (kg)	Ratio (%)	Total (kg)
Front =	554.5	574.5	61.2	1129.0
Rear =	366.5	349.0	38.8	715.5
			Total Delivered Weight (UDW) =	1844.5

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Delivered Weight (UDW) =	1844.5	kg
Rated Cargo/Luggage Weight (RCLW) =	87.8	kg
Weight of 2 p.572 Dummies @ 76 each =	152	kg
TARGET TEST WEIGHT =	2084.3	kg

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 81.0 KG OF CARGO WEIGHT:

	Left Side (kg)	Right Side (kg)	Ratio (%)	Total (kg)
Front =	578.5	611.0	57.3	1189.5
Rear =	454.0	434.0	42.7	888.0
			Total Vehicle Test Weight (ATW) =	2077.5

Weight of Ballast Secured in Vehicle Trunk Area[1] = 27 kg

Vehicle Components Removed for Weight Reduction: None

VEHICLE ATTITUDE (all dimension in millimeters):

	Left Front	Right Front	Left Rear	Right Rear	CG[2]
AS DELIVERED:	743	742	754	752	0.0
FULLY LOADED:	733	730	725	720	-
AS TESTED:	735	732	725	720	0.0

Vehicle's Wheel Base: 2933 mm

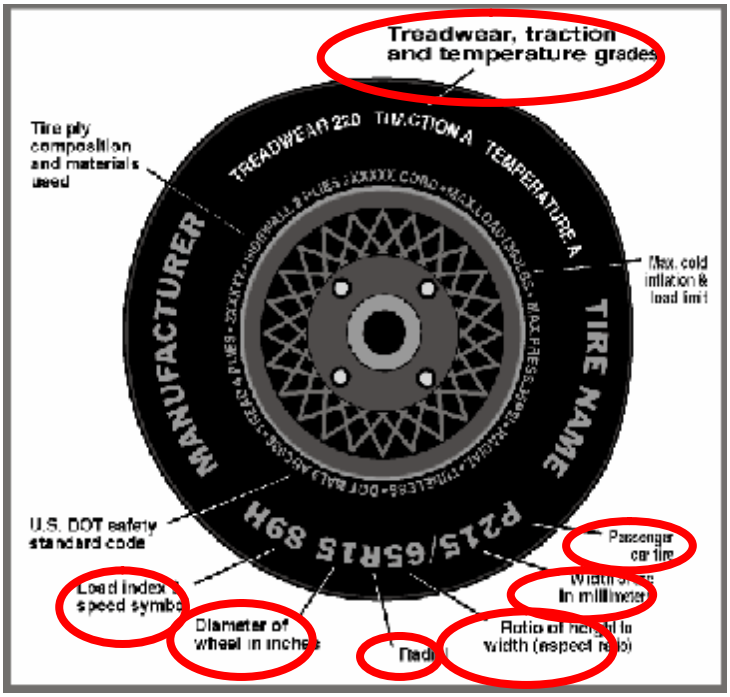
[1]Ballast weight does not include the weight of instrumentation, on-board cameras and data acquisition system

[2]Rearward of the front axle centerline.

DATA SHEET NO. 3
TEST VEHICLE TIRE INFORMATION

Vehicle Year/Make/Model/Body Style: 2006 Cadillac DTS 4-Door Passenger Car

NHTSA Test No.: M60103 Test Date: December 13, 2005



Measured Parameter	Front	Rear
Maximum Tire Pressure (from sidewall - kPa)	300	300
Cold Pressure (from tire placard - kPa)*	210	210
Recommended Tire Size (from tire placard)	P235/55R17 S	P235/55R17 S
Tire size on Vehicle	P235/55R17 98S	P235/55R17 98S
Tire Manufacturer	Continental	Continental
Tire Name	Touring Contact AS	Touring Contact AS
Tire Type	P	P
Tire Width (mm)	235	235
Ratio of Height to Width (aspect ratio)	55	55
Radial	R	R
Wheel Diameter	17	17
Load Index & Speed Symbol	98S	98S
Treadwear	520	520
Traction Grade	A	A
Temperature Grade	B	B

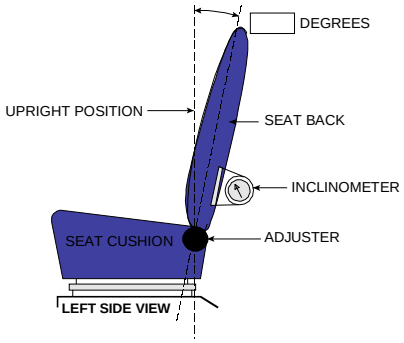
*Tire pressure used for test

DATA SHEET NO. 4
TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year : 2006 Vehicle Model: Cadillac DTS Body Style : 4-Door Passenger Car

1. NOMINAL DESIGN RIDING POSITION:
for adjustable driver and passenger seat backs. Please describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent, if applicable.



FRONT SEAT ASSEMBLY

Seat back angle for driver's seat: 24

Measurement instructions: Seat was reclined 14 degrees from the forward most locking position.

Seat back angle for passenger's seat: 24

Measurement instructions: Seat was back reclined 14 degrees from the forward most locking position.

2. SEAT FORE AND AFT POSITIONING:

Positioning of the driver's seat: Seat was positioned full down at the middle of absolute fore/aft travel. (total fore/aft travel was 278 mm, seat was placed 139 mm rearward of the absolute forward-most position)

Positioning of the passenger's seat: Seat was positioned full down at the middle of absolute fore/aft travel. (total fore/aft travel was 278 mm, seat was placed 139 mm rearward of the absolute forward-most position)

3. FUEL TANK CAPACITY DATA:

3.1 A. "Usable Capacity" of the standard equipment fuel tank is 70.0 liters

B. "Usable Capacity" of the optional equipment fuel tank is - liters

C. "Usable Capacity" of the vehicle(s) used for certification testing to requirements of FMVSS 301 = 64.4 to 65.8 liters

3.2 Actual Amount of Stoddard solvent added to vehicle for test = 64.4 liters

3.3 One-Third of Useable Capacity = 23.3 liters

3.4 Is vehicle equipped with electric fuel pump? Yes- X ; No- -

If YES, explain the vehicle operating conditions under which the fuel pump will pump fuel.

The fuel pump operates for 2 seconds when the ignition is placed in the on position and the engine is not turning, the fuel pump continuously while the engine is turning.

4. STEERING COLUMN ADJUSTMENTS:

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions. If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine the geometric center.

Operational Instructions: Where the uppermost position is defined as detent 0, the steering column was placed in detent 3. Detent 3 is 15.4 degrees down from the uppermost position.

5. SEAT BELT UPPER ANCHORAGE:

Nominal design riding position: Where the uppermost position is defined as detent 0, the adjustable D-ring was placed in detent 2.

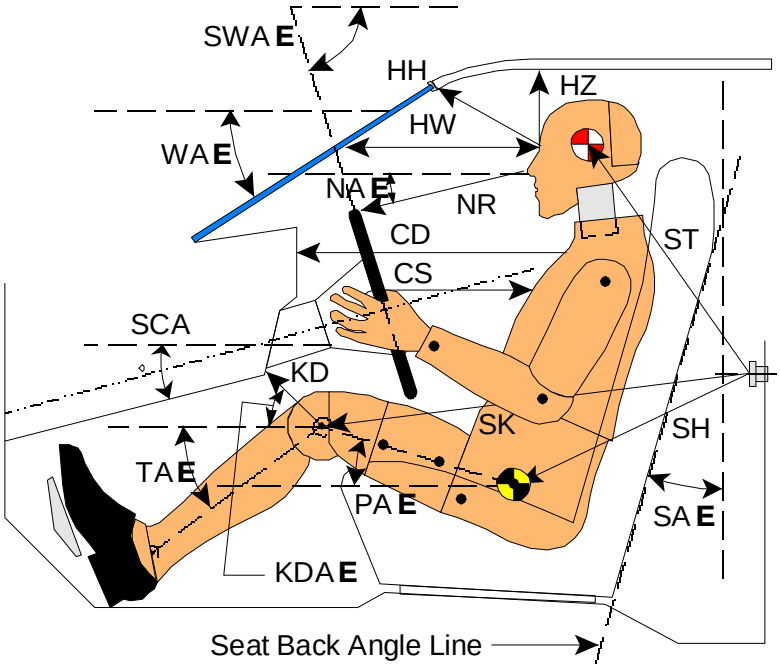
6. AUTOMATIC DOOR LOCKS: Is test vehicle equipped with ADLs? X Yes; - No;

Does vehicle owner's manual describe how to deactivate ADLs? - Yes; X No; - N/A

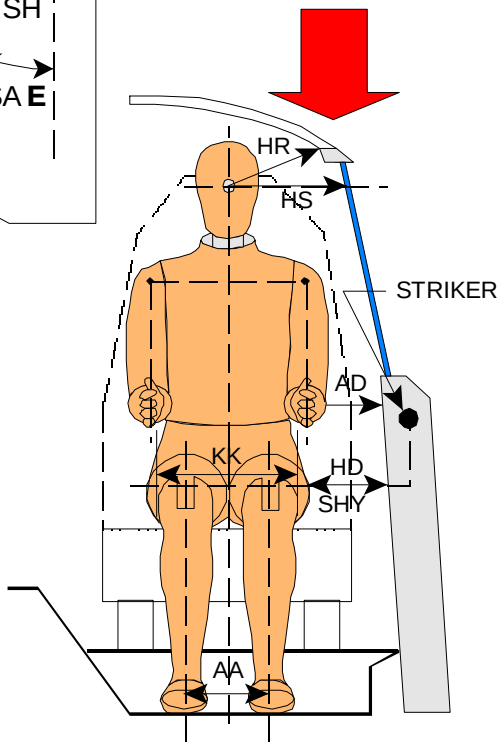
Comments: None

DATA SHEET NO. 5
FRONT SEAT DUMMY POSITIONING MEASUREMENTS IN VEHICLE

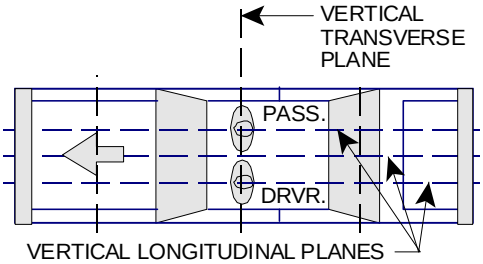
DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS



AD - Arm to Door
HD - H-Point to Door
HR - Head to Side Header
HS - Head to Side Window
KK - Knee to Knee
AA - Ankle to Ankle
SHY- Striker to H-Point (Y Direction)



CD - Chest to Dash
CS - Steering Wheel to Chest
HH - Head to Header
HW - Head to Windshield
HZ - Head to Roof
KDA - Knee to Dash Angle
KDL- Left Knee to Dash
KDR - Right Knee to Dash
NA - Nose to Rim Angle
NR - Nose to Rim
PA - Pelvic Angle
RA - Rim to Abdomen
SA - Seat Back Angle
SCA - Steering Column Angle
SH - Striker to H-Point
SK - Striker to Knee
ST - Striker to Head
SWA- Steering Wheel Angle
TA - Tibial Angle
WA - Windshield Angle



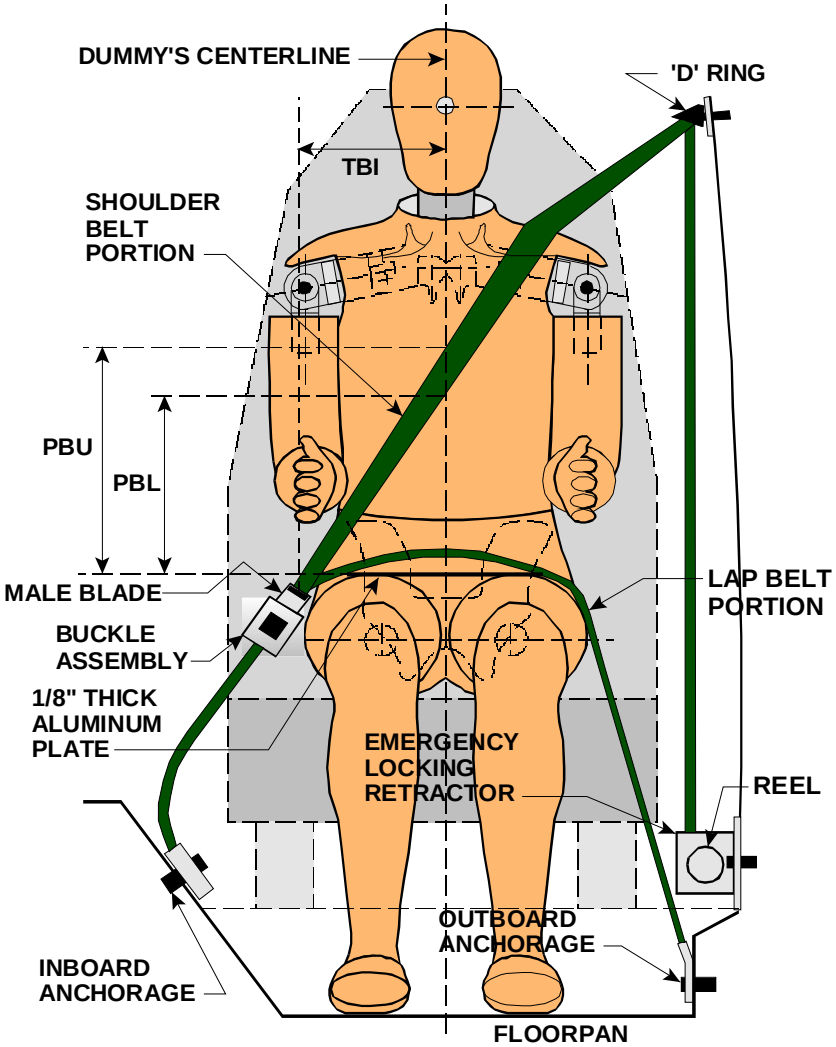
DATA SHEET NO. 5
FRONT SEAT DUMMY POSITIONING MEASUREMENTS IN VEHICLE (cont.)

	DRIVER (Serial #142)			PASS. (Serial #150)		
WA^O	27.8 deg.			N/A		
SWA^O	70.8 deg.			N/A		
SCA^O	19.2 deg.			N/A		
SA^O	24.0 deg.			24.0 deg.		
HZ	202			200		
HH	395			366		
HW	765			720		
HR	235			228		
NR	429	Angle	4 deg.	N/A		
CD	561			540		
CS	362			N/A		
RA	230			N/A		
KDL	180	Angle (KDA)	30 deg.	190		
KDR	162			195	Angle (KDA)	37 deg.
PA^O	24.9 deg.			22.4 deg.		
TA^O	36.2 deg.			36.3 deg.		
KK	370			318		
AA	306			220		
ST	511	Angle	3 deg.	511	Angle	4 deg.
SK	561	Angle	92 deg.	561	Angle	93 deg.
SH	218	Angle	129 deg.	220	Angle	125 deg.
SHY	290			285		
HS	397			381		
HD	180			171		
AD	150			158		

Dimensions in millimeters

DATA SHEET NO. 6
SEAT BELT POSITIONING DATA

SEAT BELT POSITIONING DATA

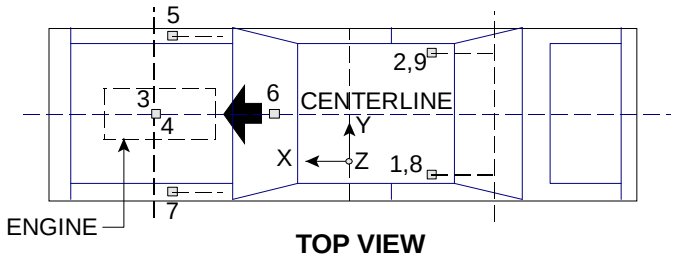


FRONT VIEW OF DUMMY

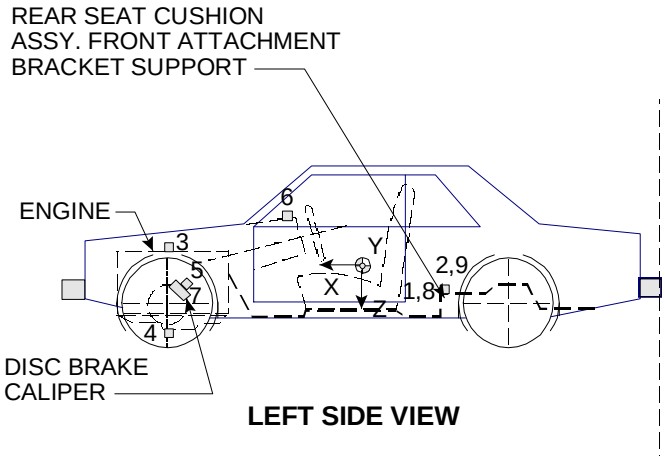
	DRIVER DUMMY (mm)	PASSENGER DUMMY (mm)
PBU -- Top surface of alum. plate to upper edge	315	325
PBL-- Top surface of alum. plate to belt lower edge	243	242
LAP BELT TENSION	10 N	10 N
SHOULDER BELT TENSION	Retractor	Retractor

DATA SHEET NO. 7
VEHICLE ACCELEROMETER LOCATIONS

VEHICLE ACCELEROMETER LOCATIONS



TOP VIEW



LEFT SIDE VIEW

		PRE-TEST LENGTH (mm)		
No.	LOCATION	X	Y	Z
1	Left Rear Seat Cross Member X	1682	-651	-349
2	Right Rear Seat Cross Member X	1682	651	-349
3	Top of Engine Block	4400	-209	-870
4	Bottom of Engine	4314	162	-380
5	Disc Brake Caliper @ Right Side	4154	658	-445
6	Instrument Panel**	-	-	-
7	Disc Brake Caliper @Left Side	4154	-658	-445
8	Left Rear Seat Cross Member Z	1682	-651	-349
9	Right Rear Seat Cross Member Z	1682	651	-349

X – From rear surface of vehicle (+ forward)
Y – From vehicle centerline (+ right)
Z – From ground plane (+ up)
** Accelerometer was not requested by the COTR

DATA SHEET NO.8
SUMMARY OF FMVSS 212 and FMVSS 219 (Partial) DATA

DETAILS OF WINDSHIELD MOUNTING SUCH AS RETENTION METHOD, TRIM TYPE, ETC.:

Windshield is bonded in place and covered with a 10 mm molding.

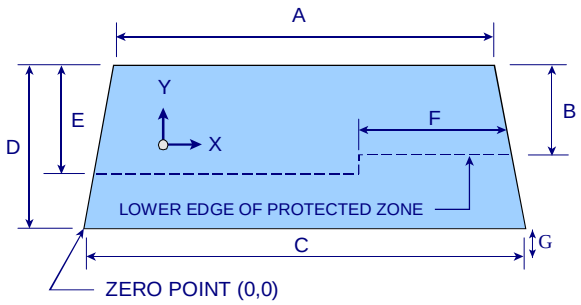
FMVSS 212 REQUIREMENTS:

The Post-Test periphery retention amount must be at least 75% of the Pre-Test periphery measurement for vehicles NOT equipped with automatic restraints, and 50% for each side of the windshield for vehicles equipped with automatic restraint systems for front occupants,

Temperature of windshield molding during test: 20.9ºC.

FMVSS 212 TEST DATA

	WINDSHIELD PERIPHERY		% OF RETENTION
	PRE-TEST (mm)	POST-TEST (mm)	
RIGHT SIDE	2318.0	2318.0	100.0%
LEFT SIDE	2318.0	2318.0	100.0%
TOTAL	4636	4636	100.0%



FRONT VIEW OF WINDSHIELD

DIMENSIONS (mm)	
A	1286
B	480
C	1600
D	875
E	520
F	630
G	10

FAILURE DETAILS: None

DETAILS OF WINDSHIELD GLASS PENETRATION GREATER THAN 6 mm: None

	COORDINATES	
	X	Y
1.	-	-
2.	-	-
3.	-	-
4.	-	-

DATA SHEET NO. 9
SUMMARY OF FMVSS NO. 301 DATA

NHTSA TEST No.: M60103 TEST DATE: December 13, 2005

VEHICLE MAKE/MODEL: 2006 Cadillac DTS 4-Door Passenger Car

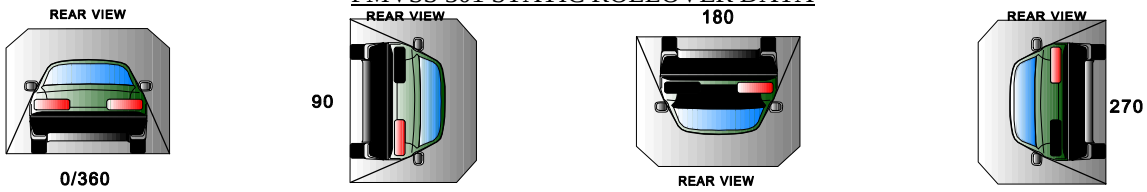
FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

FUEL SPILLAGE MEASUREMENT:

Time Interval	Amount	Maximum Allowable Spillage
Impact Until Motion Ceases	0	**28 g**
First Five Minutes Following Impact	0	**142 g**
Next 25 Minutes	0	**28 g / 1 minute**

SOLVENT SPILLAGE DETAILS: None

FMVSS 301 STATIC ROLLOVER DATA



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Stage	Rotation Time (spec. 1 -3 min)				FMVSS 301 Hold Time		Total Time				Next Whole Minute Interval	
0º - 90º	1	minutes	5	seconds	5	minutes	6	minutes	5	seconds	7	minutes
90º - 180º	1	minutes	23	seconds	5	minutes	6	minutes	23	seconds	7	minutes
180º-270º	1	minutes	9	seconds	5	minutes	6	minutes	9	seconds	7	minutes
270º-360º	1	minutes	10	seconds	5	minutes	6	minutes	10	seconds	7	minutes

II. FMVSS 301 REQUIREMENTS: (Maximum allowable solvent spillage):

First 5 minutes from onset of rotation	6th min.	7th min.	8th min. (if required)
142 g	28 g	28 g	28 g

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

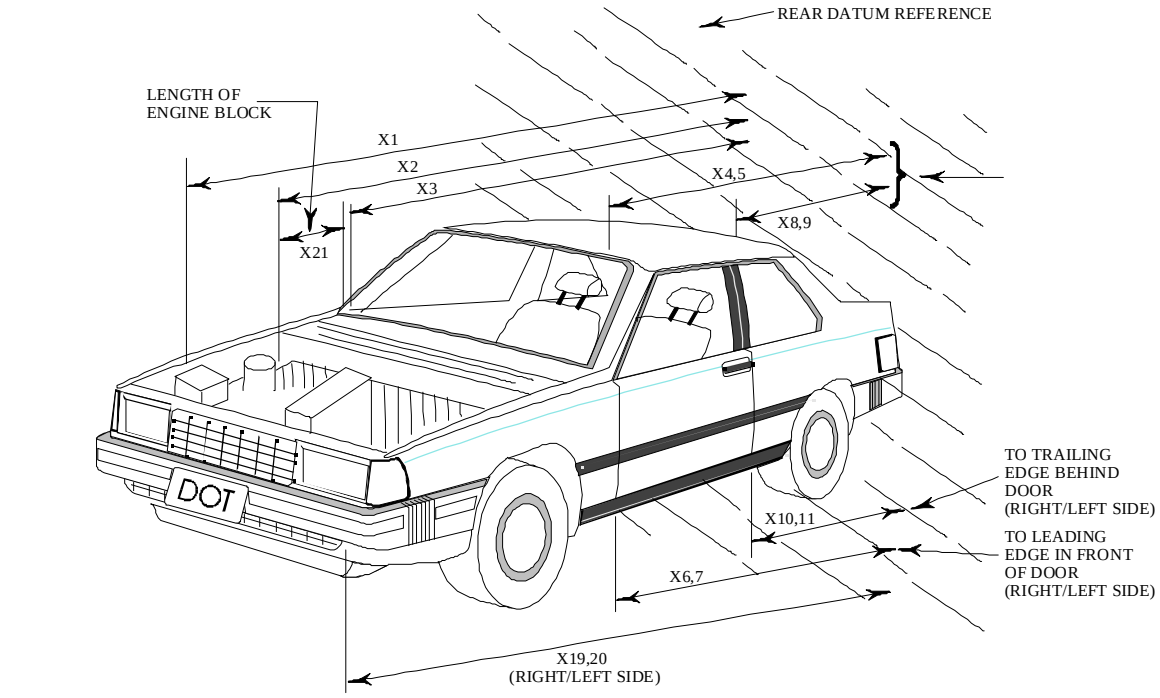
Rollover Stage	First 5 minutes from onset of rotation (g)	6th min. (g)	7th min. (g)	8th min. (if required) (g)
0º - 90º	0	0	0	N/A
90º - 180º	0	0	0	N/A
180º-270º	0	0	0	N/A
270º-360º	0	0	0	N/A

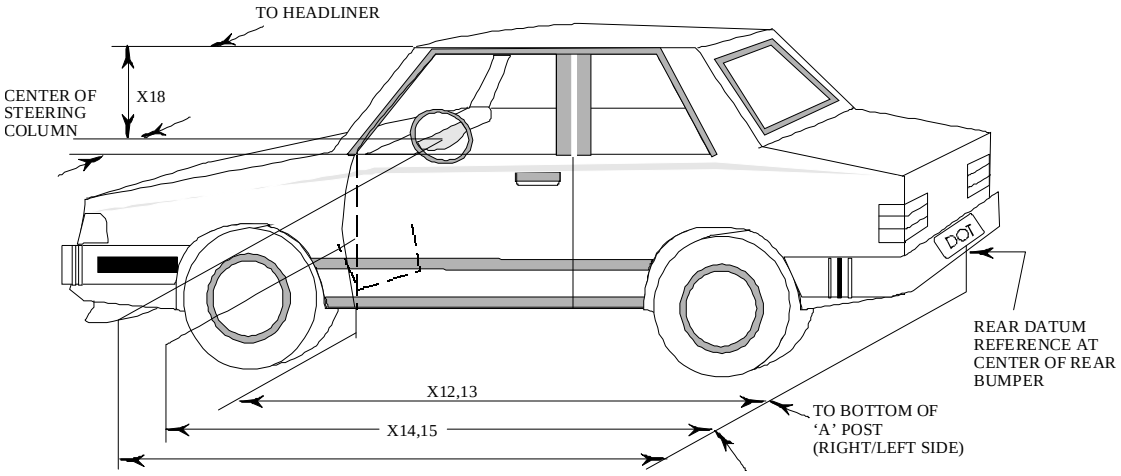
Note: Record spillage for whole minute intervals only as determined above.

IV. SOLVENT SPILLAGE LOCATION(S):

Rollover Stage	Spillage Location
0º - 90º	None
90º - 180º	None
180º-270º	None
270º-360º	None

DATA SHEET NO. 10
TEST VEHICLE MEASUREMENTS





DATA SHEET NO.10
VEHICLE MEASUREMENTS (cont.)

NHTSA TEST No.: M60103 TEST DATE: December 13, 2005

VEHICLE MAKE/MODEL: 2006 Cadillac DTS 4-Door Passenger Car

No.		Pre-Test	Post-Test	Difference
X1	Total Length of Vehicle at Centerline	5269	4681	588
X2	Rear Surface of Vehicle to Front of Engine	4728	4460	268
X3	Rear Surface of Vehicle to Firewall	4119	4074	45
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	3654	3653	1
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	3654	3655	-1
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	3648	3644	4
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	3651	3649	2
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	2534	2532	2
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	2532	2533	-1
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	2513	2507	6
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	2511	2510	1
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	3612	3605	7
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	3617	3615	2
X14	Rear Surface of Vehicle to Firewall, Right Side	4240	4193	47
X15	Rear Surface of Vehicle to Firewall, Left Side	4242	4225	17
X16	Rear Surface of Vehicle to Steering Column	3162	3176	-14
X17	Center of Steering Column to "A" Post	286	273	13
X18	Center of Steering Column to Headliner	408	440	-32
X19	Rear Surface of Vehicle to Right Side of Front Bumper	5151	4623	528
X20	Rear Surface of Vehicle to Left Side of Front Bumper	5153	4668	485
X21	Length of Engine Block	595	595	0
RD	Rear Surface of Vehicle to Right Side of Dash Panel	3356	3341	15
CD	Rear Surface of Vehicle to Center of Dash Panel	3366	3365	1
LD	Rear Surface of Vehicle to Left Side of Dash Panel	3357	3355	2

All Dimensions in mm

DATA SHEET NO.10
VEHICLE MEASUREMENTS (cont.)

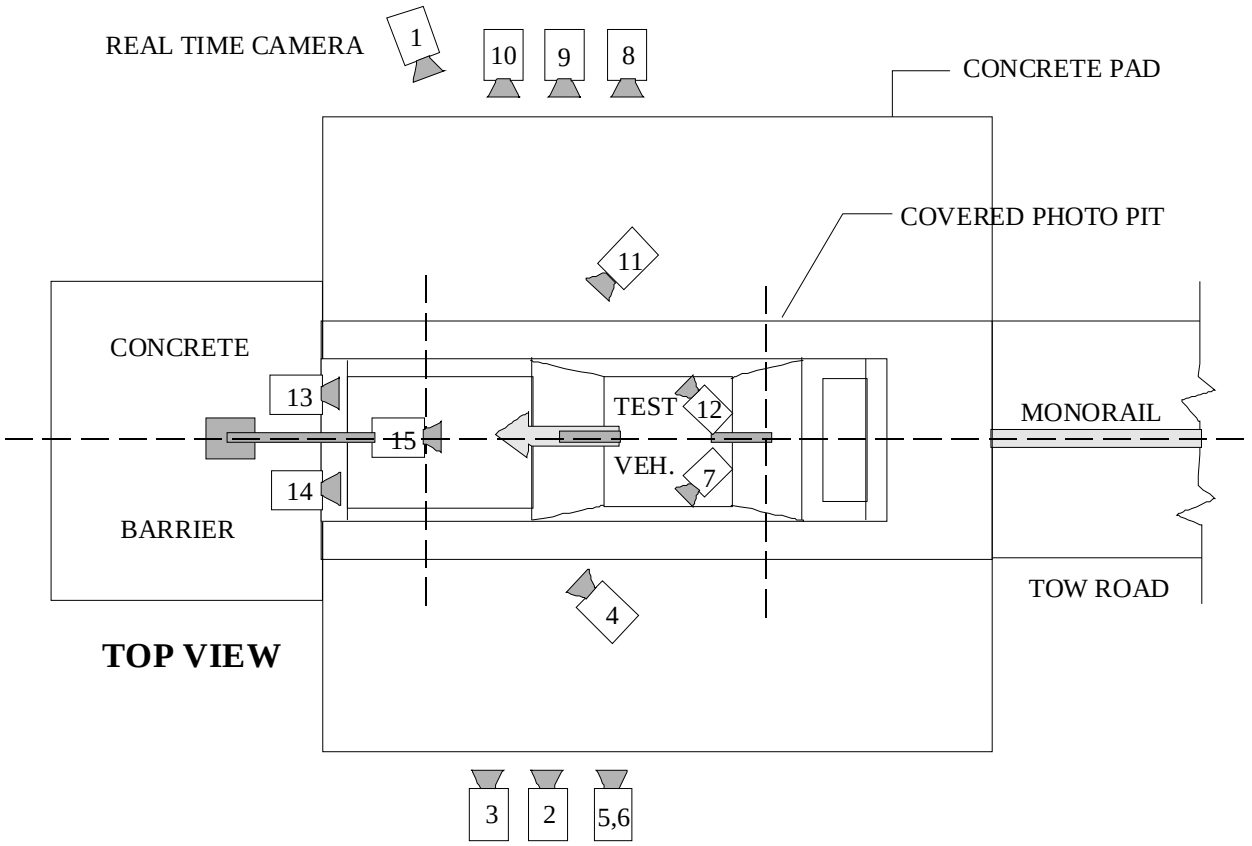
NHTSA TEST No.: M60103 TEST DATE: December 13, 2005

VEHICLE MAKE/MODEL: 2006 Cadillac DTS 4-Door Passenger Car

TARGET VEHICLE STRUCTURAL MEASUREMENTS

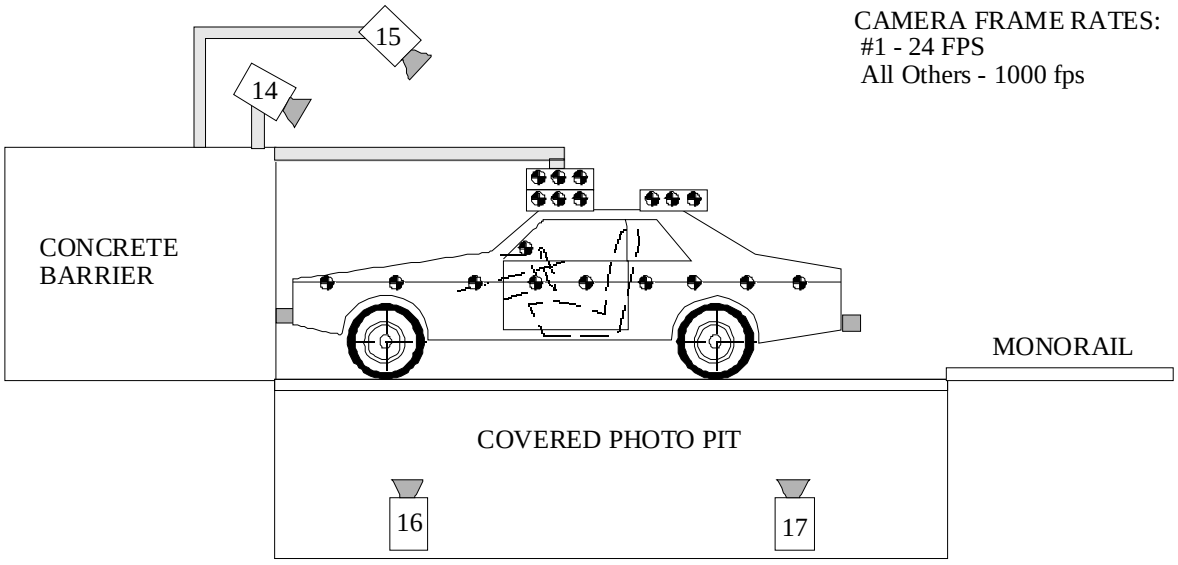
	Elements	Pre-Test (mm)
1	Total length	5290
2	Total Width	1905
3	Bumper Top Height	515
4	Bumper Bottom Height	405
5	Longitudinal Member Top Height	540
6	Distance Between Longitudinal Members	1090
7	Longitudinal Member Width	95
8	Engine top height	846
9	Engine bottom height	190
10	Engine and gearbox width	870
11	Front bumper-engine distance	513
12	Front shock absorber fixing height	905
13	Bonnet leading edge height	736
14	Front shock absorber fixing width	1230
15	Front bumper – front axle distance	1105
16	Front axle – a pillar distance	580
17	A-pillar – B pillar distance	988
18	B-pillar – rear axle distance	1267
19	B-pillar – C Pillar distance	964
20	Roof sill bottom height	1268
21	Roof sill top height	1420
22	Floor sill bottom height	203
23	Floor sill top height	360

DATA SHEET NO.11
HIGH-SPEED CAMERA LOCATIONS



TOP VIEW

CAMERA FRAME RATES:
#1 - 24 FPS
All Others - 1000 fps



LEFT SIDE VIEW

DATA SHEET NO.11
HIGH-SPEED CAMERA LOCATIONS (cont.)

NHTSA Test No.: M60103 Vehicle: 2006 Cadillac DTS 4-Door Passenger Car

CAMERA NO.	VIEW	CAMERA POSITIONS (mm)* X	Y	Z	ANGLE (deg)**	FILM PLANE TO HEAD TARGET	LENS (mm)	SPEED (fps)
1	Real-Time Camera	-	-	-	-	-	-	30
2	Overall Left Side	7620	1720	1082	-3.2	7232	24	1000
3	Left Side View	9826	1078	1090	-3.0	9438	50	1000
4	Driver and Interior View	7818	2722	2045	-7.5	-	35	500
5	Steering Column (Bottom)	7366	2125	1165	-3.9	6978	25	1000
6	Steering Column (Top)	7366	2125	1785	-8.9	6978	28-70	1000
7**	Left CRS Lateral View	-	-	-	-	-	-	-
8	Overall Right Side	7842	2000	1075	-4.6	8140	28	1000
9	Right Side View	9971	1285	1035	-1.8	10269	50	999
10	Right Passenger View	8584	1812	1365	-3.4	8882	35	1000
11	Passenger and Interior View	7551	3198	2025	-7.3	-	35	500
12**	Right CRS Lateral View	-	-	-	-	-	-	-
13	Passenger Front View	620	-92	1987	-32.4	-	13	500
14	Driver Front View	620	-92	1987	-33.1	-	13	500
15	Windshield View	0	-530	3374	-47.5	-	24	500
16	Pit View of Engine	0	1090	-3048	90.0	-	13	500
17	Pit View of Fuel Tank	0	2680	-3048	90.0	-	13	500

*X = film plane to monorail centerline ** = referenced to horizontal plane

Y = film plane to impact location N.T. indicates No Timing

Z = film plane to ground

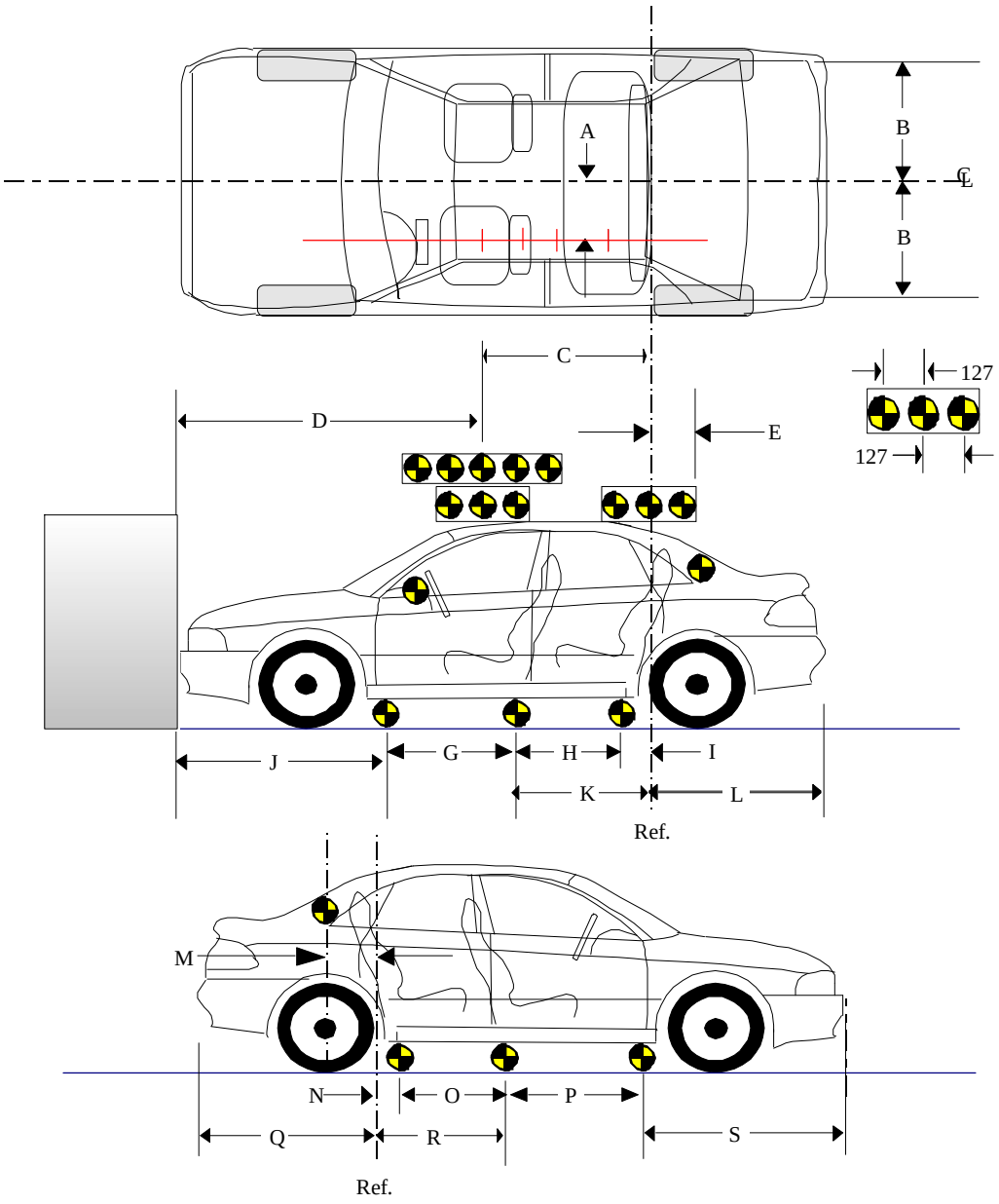
** CRS installation was not requested, these camera positions were not used.

DATA SHEET NO. 12
VEHICLE REFERENCE PHOTO TARGET LOCATIONS

NHTSA Test No.: M60103 Vehicle: 2006 Cadillac DTS 4-Door Passenger Car

(Dimensions in millimeters)

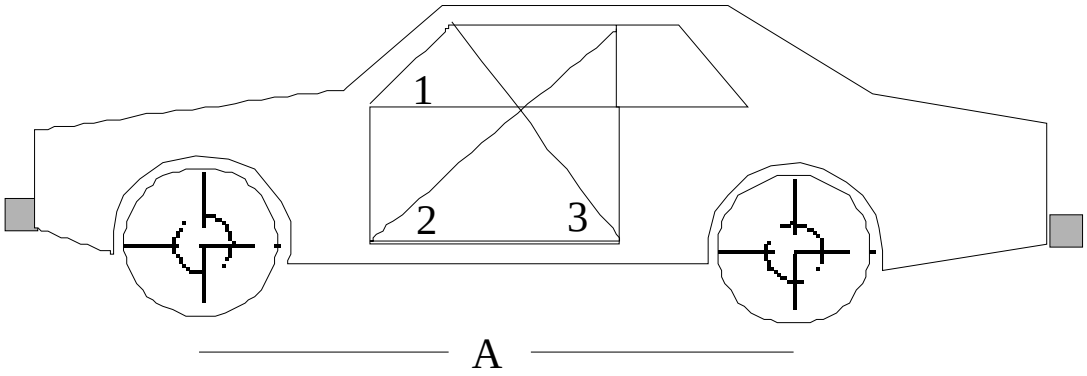
A	374
B	686
C	1220
D	2438
E	359
F	1723
G	992
H	991
I	122
J	1570
K	1113
L	1594
M	356
N	116
O	993
P	994
Q	1595
R	1109
S	1570



DATA SHEET NO. 13
VEHICLE INTRUSION MEASUREMENTS

NHTSA Test No.: M60103 Vehicle: 2006 Cadillac DTS 4-Door Passenger Car

DOOR OPENING WIDTH AND WHEELBASE MEASUREMENTS



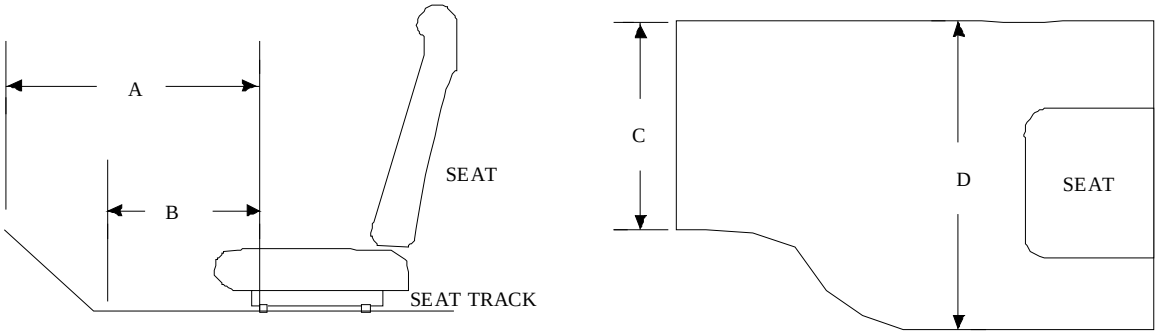
UNITS (mm)	LEFT			RIGHT		
MEASUREMENT	1	2	3	1	2	3
BEFORE TEST	981	1423	989	979	1432	995
AFTER TEST	980	1422	992	977	1433	996
DIFFERENCE	1	1	-3	2	-1	-1

UNITS (mm)	A = WHEELBASE LEFT	A = WHEELBASE RIGHT
BEFORE TEST	2933	2933
AFTER TEST	2898	2824
DIFFERENCE	35	109

DATA SHEET NO.13
VEHICLE INTRUSION MEASUREMENTS (cont)

NHTSA Test No.: M60103 Vehicle: 2006 Cadillac DTS 4-Door Passenger Car

STATIC FOOTWELL DEFORMATION



DRIVER

Measurement	Pre-Test	Post-Test	Difference
A	722	701	21
B	546	541	5
C	451	448	3
D	486	484	2

PASSENGER

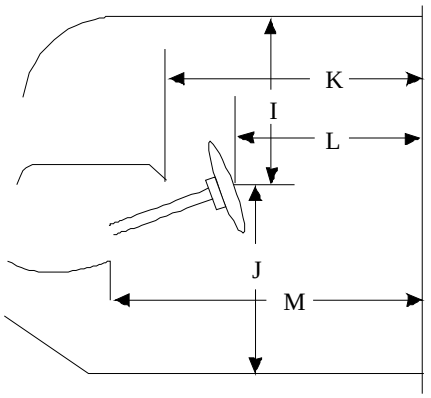
Measurement	Pre-Test	Post-Test	Difference
A	722	626	96
B	539	520	19
C	482	466	16
D	501	499	2

Units = mm

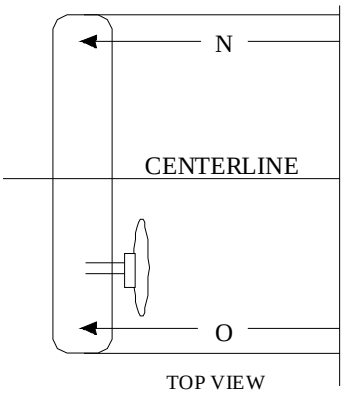
DATA SHEET NO.13
VEHICLE INTRUSION MEASUREMENTS (cont.)

NHTSA Test No.: M60103 Vehicle: 2006 Cadillac DTS 4-Door Passenger Car

STATIC PASSENGER COMPARTMENT INTRUSION

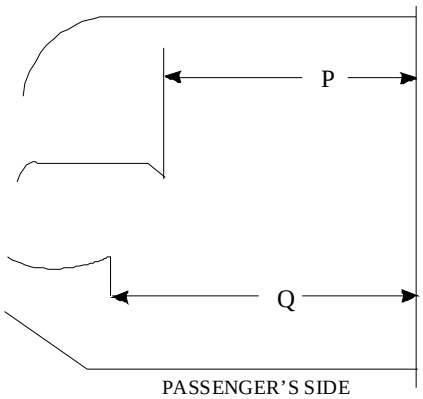


DRIVER'S SIDE



TOP VIEW

MEASUREMENTS
FROM C-PILLAR
BELT ANCHORAGE



PASSENGER'S SIDE

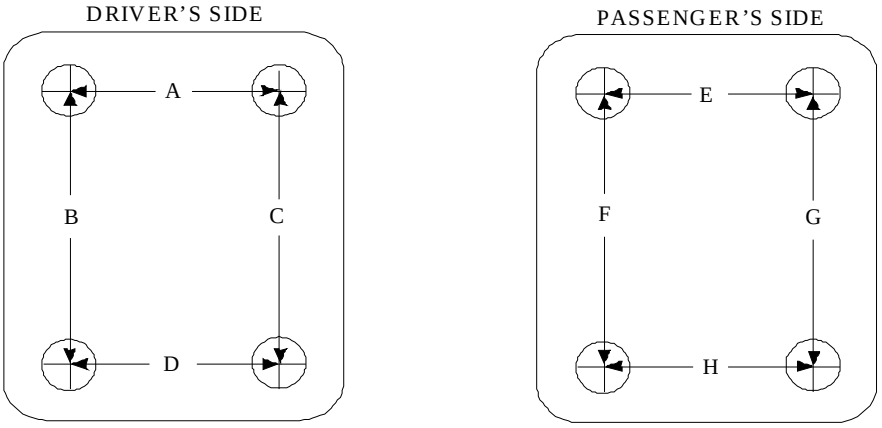
Measurement	Pre-Test	Post-Test	Difference
I	408	440	-32
J	639	620	19
K	2088	2091	-3
L	1910	1924	-14
M	2190	2180	10
N	2101	2087	14
O	2105	2103	2
P = K (PASS.)	2365	2372	-7
Q = M (PASS.)	2176	2158	18

Units = mm

DATA SHEET NO.13
VEHICLE INTRUSION MEASUREMENTS (cont.)

NHTSA Test No.: M60103 Vehicle: 2006 Cadillac DTS 4-Door Passenger Car

FLOORBOARD DEFORMATION



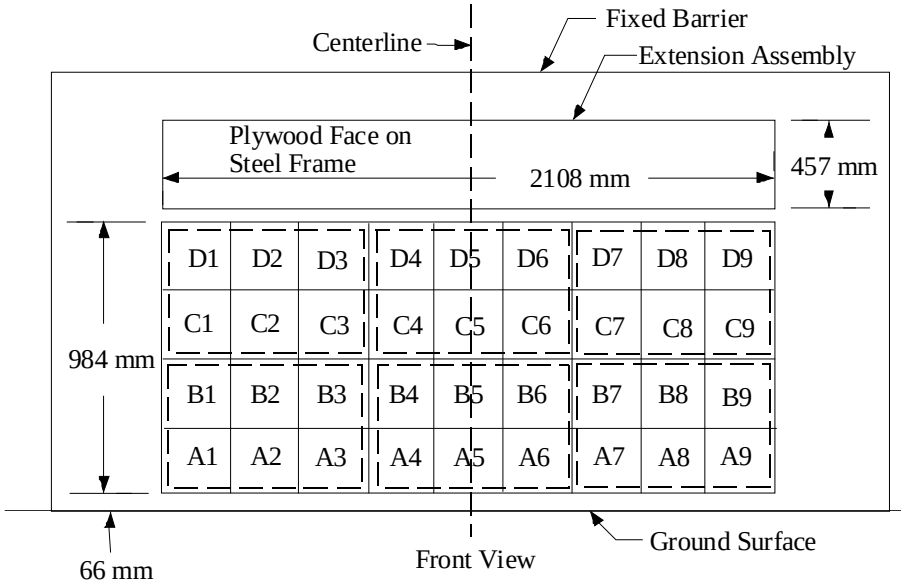
TOP VIEW THROUGH FLOOR PAN

Measurement	Pre-Test	Post-Test	Difference
A	451	448	3
B	386	387	-1
C	389	384	5
D	486	484	2
E	482	466	16
F	374	357	17
G	397	398	-1
H	501	499	2

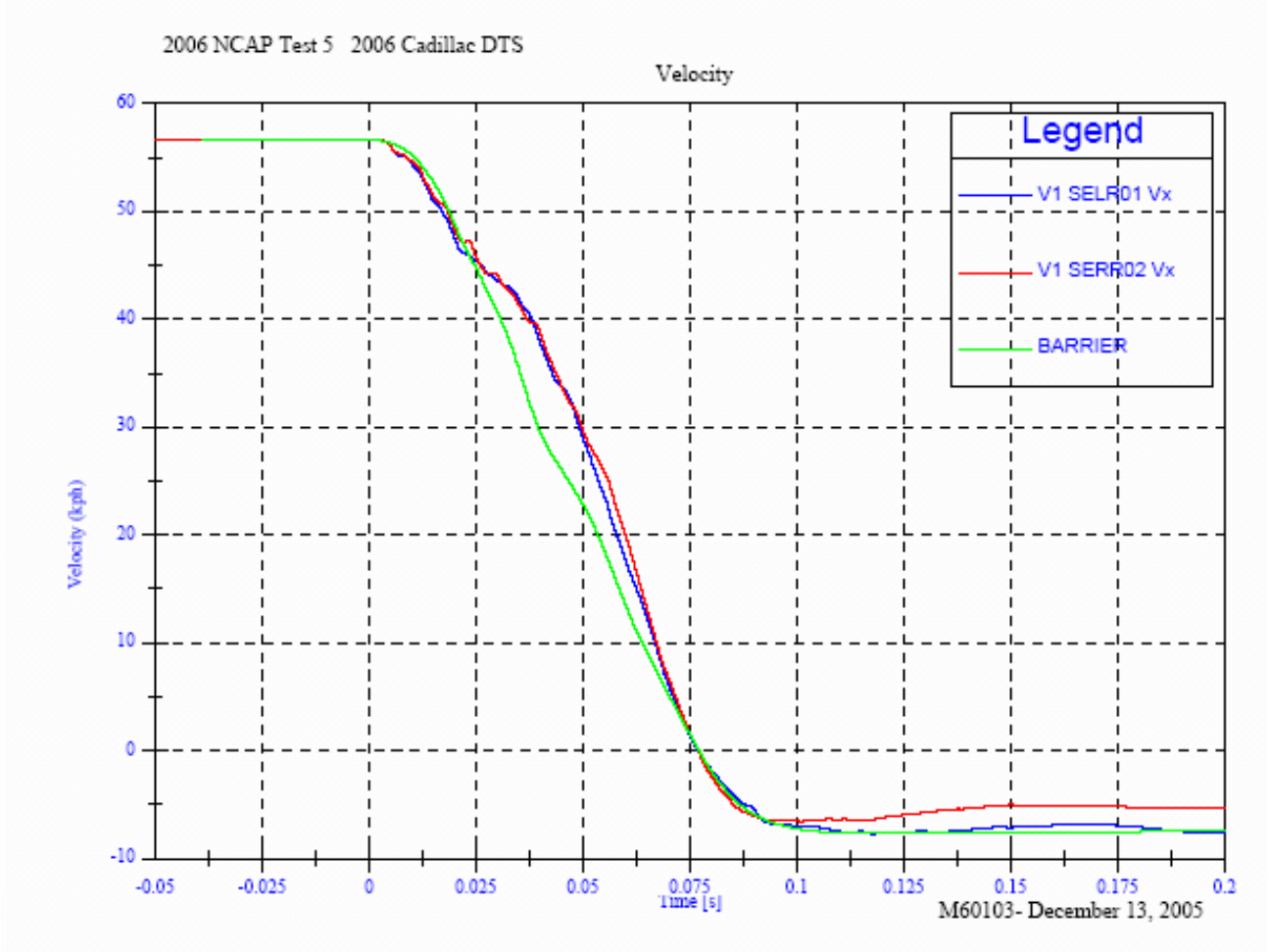
Units = mm

DATA SHEET NO.14
LOAD CELL LOCATIONS ON FIXED BARRIER

36 Load Cells
4 Rows
9 Columns



Momentum Plot



DATA SHEET NO. 15
ACCIDENT INVESTIGATION DIVISION DATA

FOR FRONTAL BARRIER IMPACT

Vehicle Make/Model/Body Style: Cadillac DTS 4-Door Passenger Car

NHTSA Test No.: M60103 VIN: 1G6KD57Y86U116752

Model Year: 2006 Build Date: 09/05 Test Date: December 13, 2005

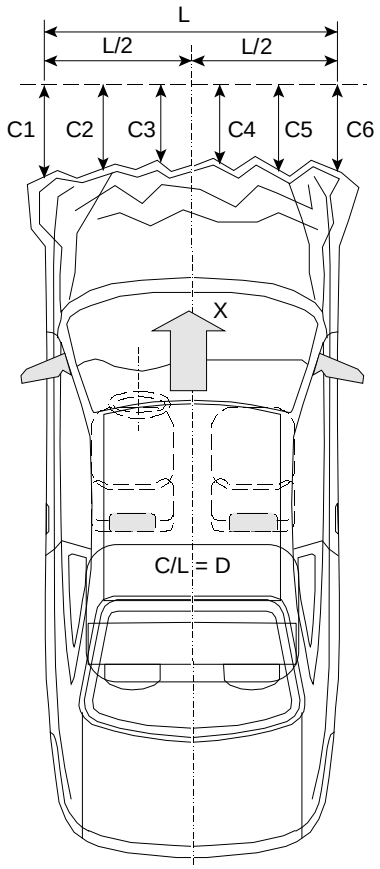
Vehicle Size Category: Passenger Car - Large Test Weight: 2077.5 kg

Vehicle Wheelbase: 2933 mm; Front Overhang: 1087 mm; Overall Width: 1900 mm

Collision Deformation Classification (CDC) Code: 12FDEW3

Crush Depth Dimensions

	PRE (mm)	POST (mm)	DIFF (mm)
C1 =	5048	4671	377
C2 =	5185	4673	512
C3 =	5253	4682	571
C4 =	5252	4676	576
C5 =	5183	4645	538
C6 =	5042	4637	405



Midpoint of Damage: D = Vehicle Centerline (Longitudinal)

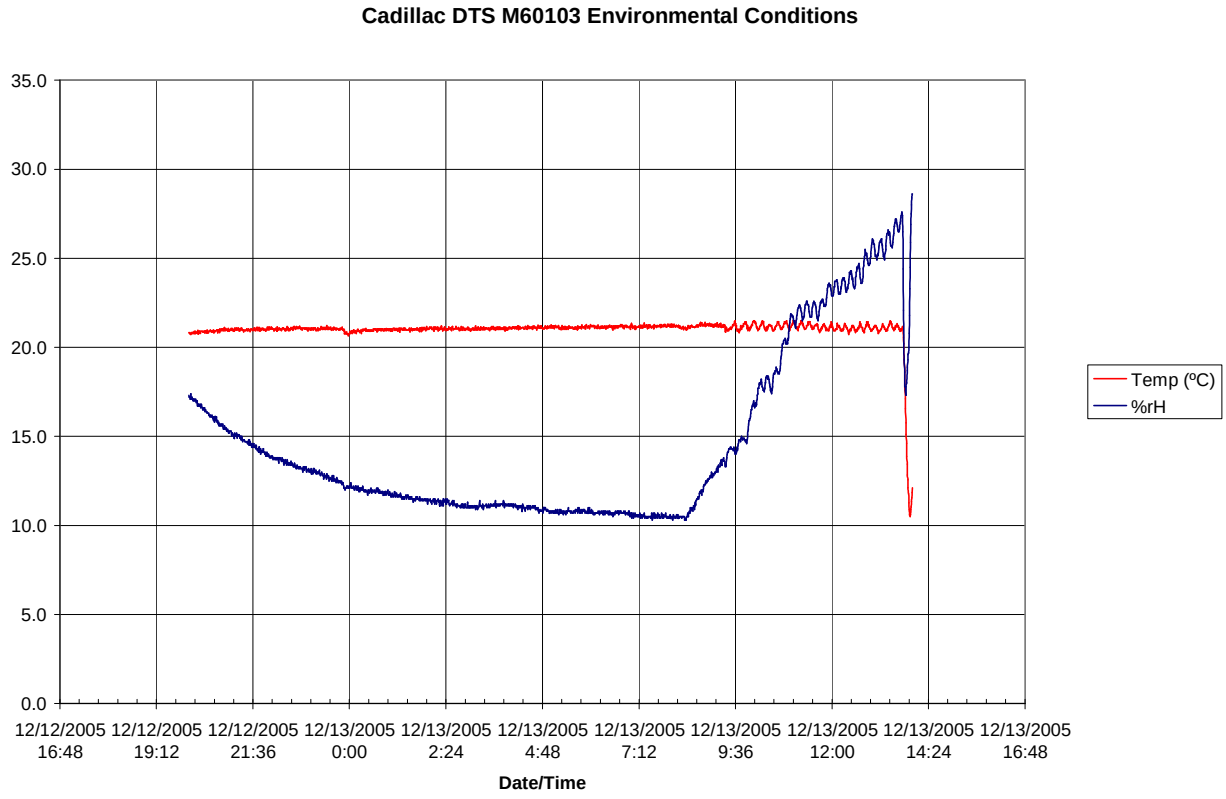
Length of Damaged Region: L1= 1566 mm

L2= 783.0 mm

L5= 313.2 mm

DATA SHEET NO.16
VEHICLE AND DUMMY TEMPERATURE STABILIZATION CHART

NHTSA Test No.: M60103 Vehicle: 2006 Cadillac DTS 4-Door Passenger Car



APPENDIX A

PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

TABLE OF PHOTOGRAPHS (CONTINUED)

Figure A-1: Load Cell Locations

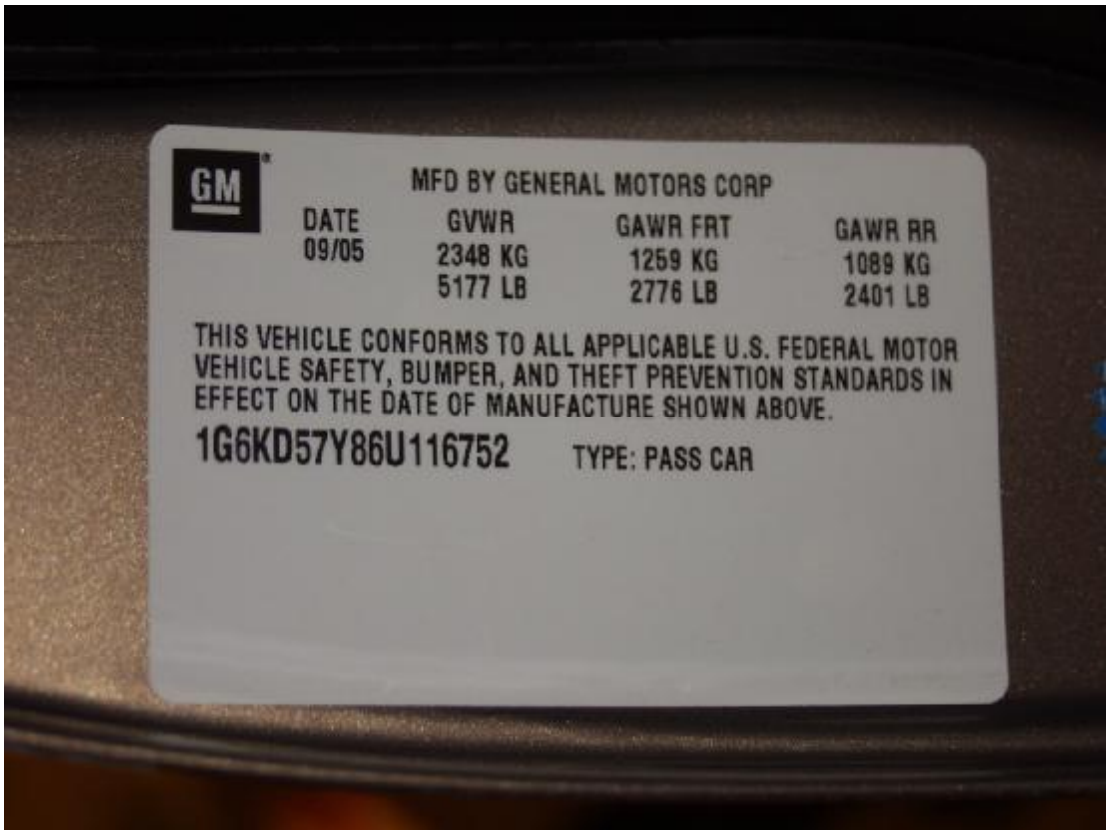


Figure A-2: Vehicle Certification Placard

Figure A-3: Vehicle Tire Placard

Figure A-4: Right Front, As Received

Figure A-5: Left Rear, 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 Three-Quarter View

Figure A-13: Post-Test Right Front Three-Quarter View

Figure A-14: Pre-Test Left Rear Three-Quarter View

Figure A-15: Post-Test Left Rear Three-Quarter View

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

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

Figure A-18: Pre-Test Windshield View

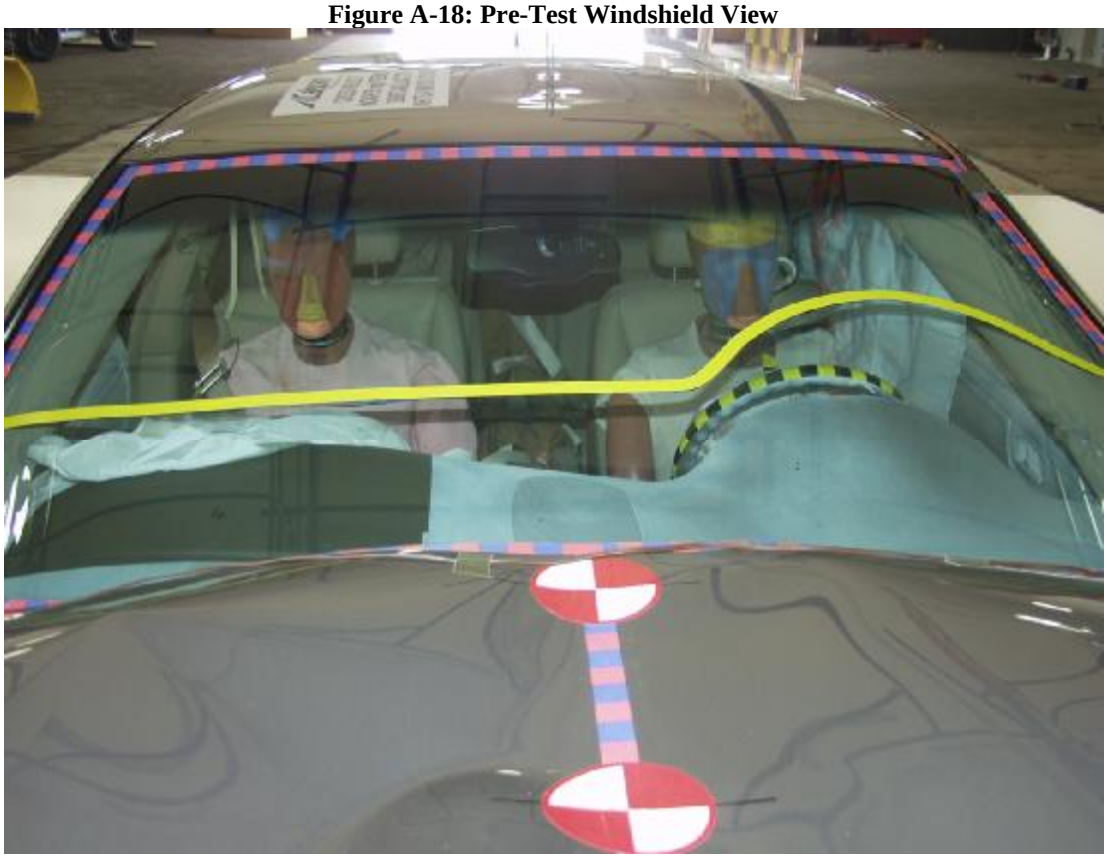


Figure A-19: Post-Test Windshield View

Figure A-20: Pre-Test Engine Compartment View

Figure A-21: Post-Test Engine Compartment View

Figure A-22: Pre-Test Fuel Cap View

Figure A-23: Post-Test Fuel Cap View

Figure A-24: Pre-Test Front Underbody View

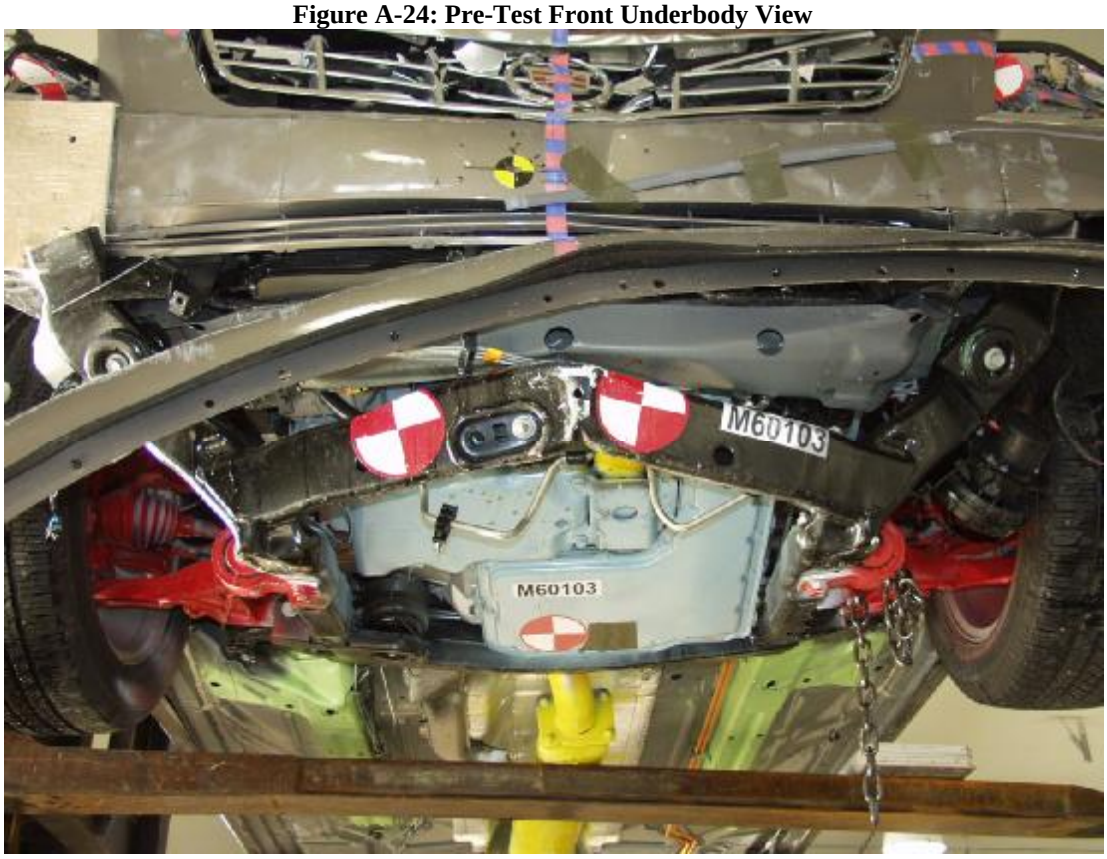


Figure A-25: Post-Test Front Underbody View

Figure A-26: Pre-Test Mid Underbody View

Figure A-27: Post-Test Mid Underbody View

Figure A-28: Pre-Test Rear Underbody View

Figure A-29: Post-Test Rear Underbody View

Figure A-30: Pre-Test Driver Head Location

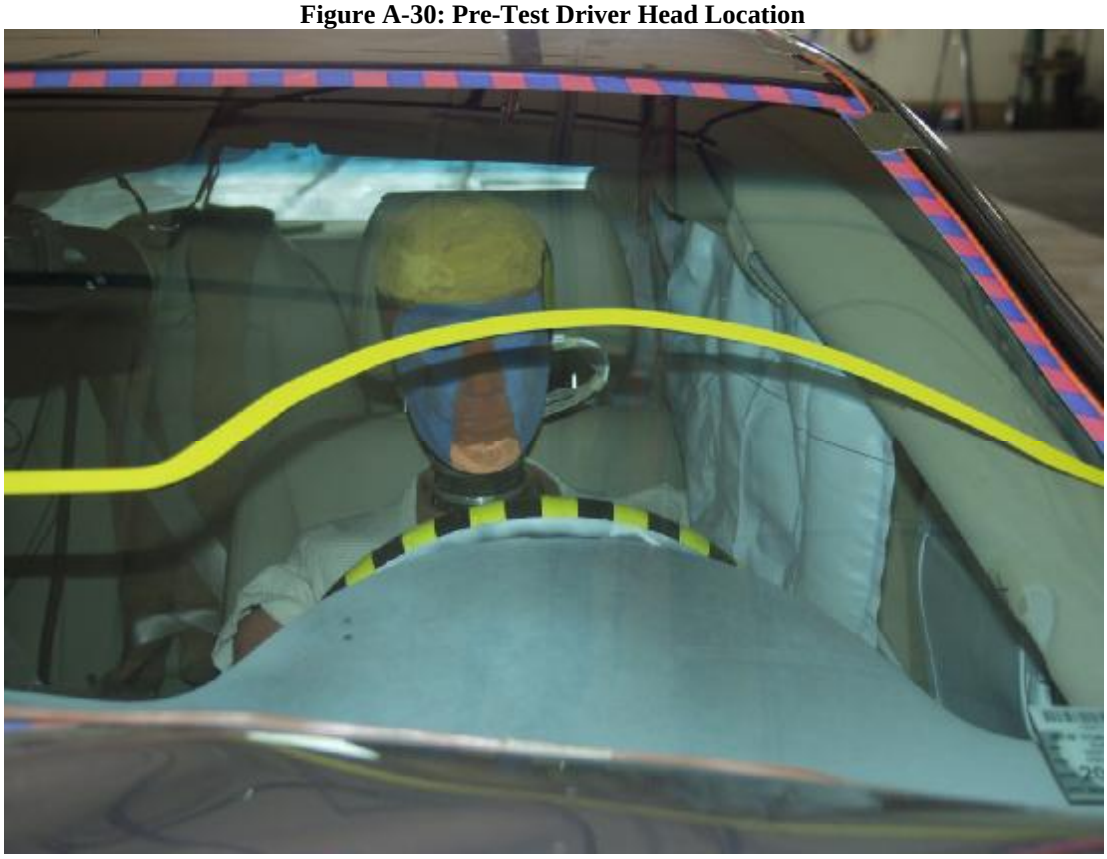


Figure A-31: Post-Test Driver Head Location

Figure A-32: Pre-Test Driver Position View

Figure A-33: Post-Test Driver Position View

Figure A-34: Pre-Test Driver and Interior View

Figure A-35: Post-Test Driver and Interior View

Figure A-36: Pre-Test Driver Feet View

Figure A-37: Post-Test Driver Feet View

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

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

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

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

Figure A-42: Post-Test Driver Head View

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

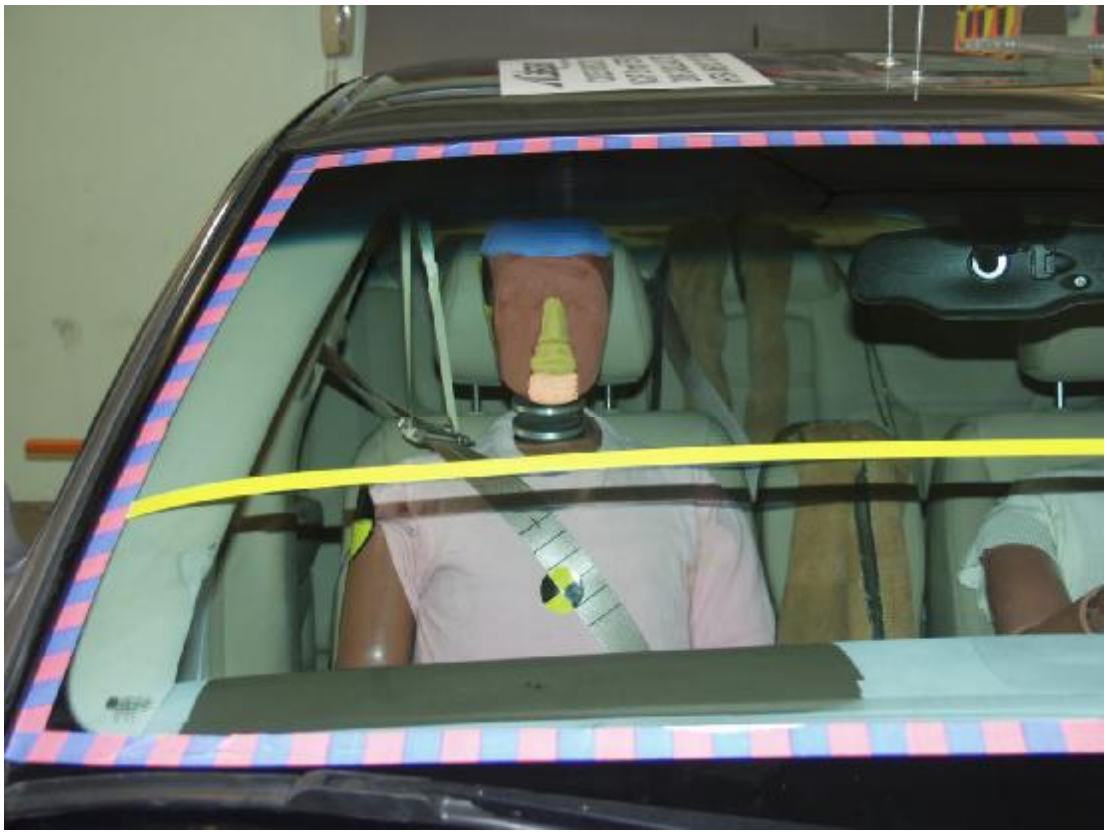


Figure A-44: Pre-Test Passenger Head Location

Figure A-45: Post-Test Passenger Head Location

Figure A-46: Pre-Test Passenger Position View

Figure A-47: Post-Test Passenger Position View

Figure A-48: Pre-Test Passenger and Interior View

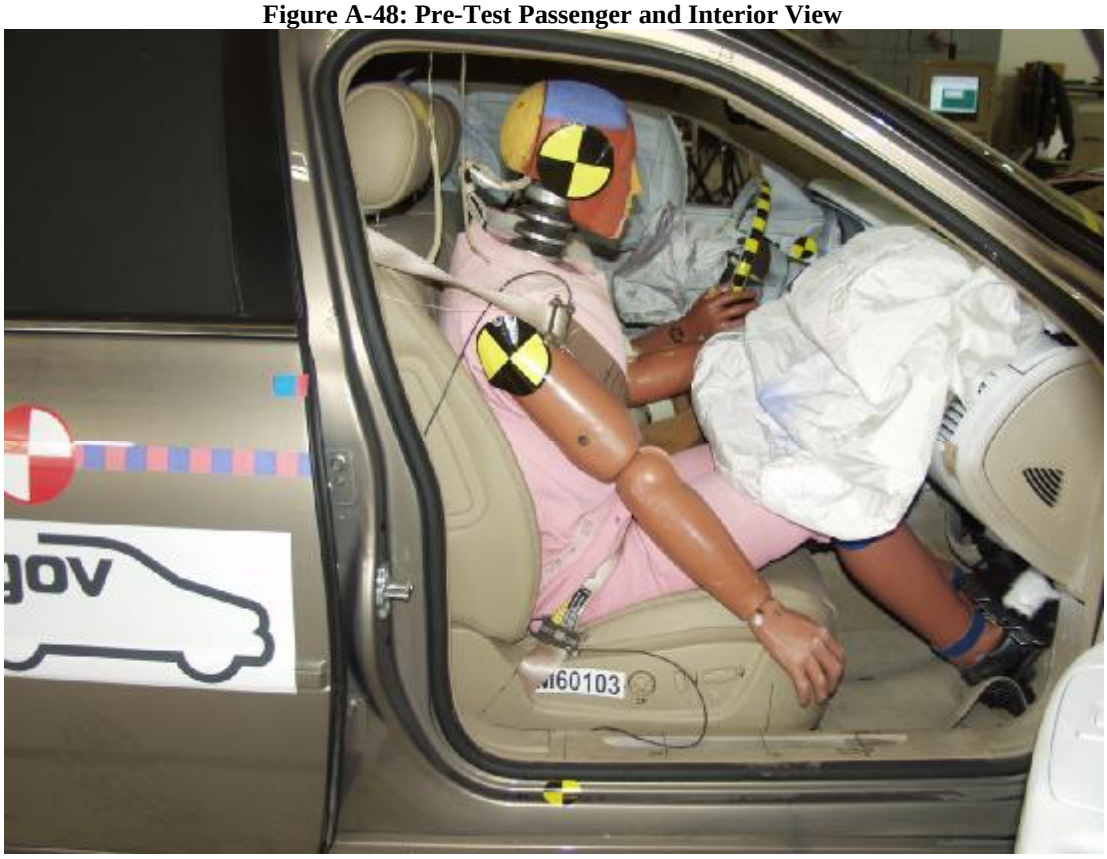


Figure A-49: Post-Test Passenger and Interior View

Figure A-50: Pre-Test Passenger Feet View

Figure A-51: Post-Test Passenger Feet View

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

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

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

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

Figure A-56: Post-Test Passenger Head View

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

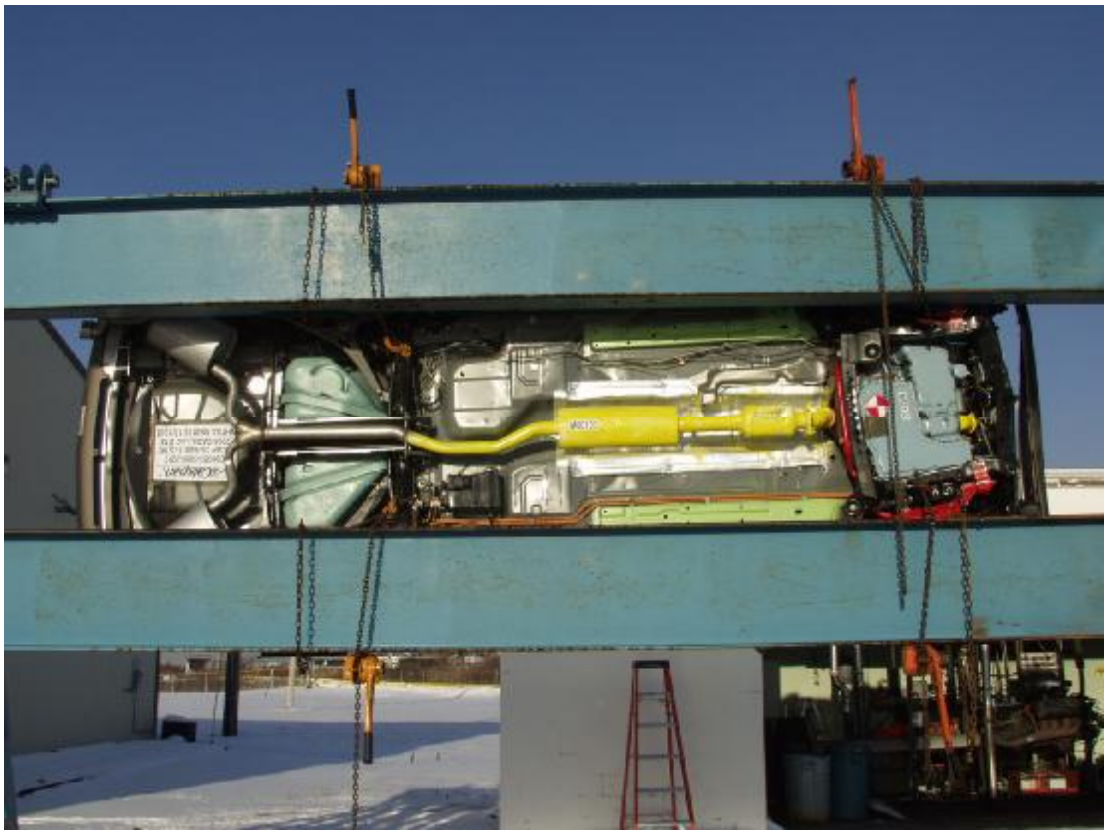


Figure A-58: Rollover View - 90°

Figure A-59: Rollover View - 180°

Figure A-60: Rollover View - 270°

Figure A-61: Rollover View - 360°

Figure A-62: Impact View

APPENDIX B

DUMMY, VEHICLE AND LOAD CELL BARRIER RESPONSE DATA

Hybrid III Dummy Sign Conventions
Load Cells and Special Transducers

Transducer	**SAE Sign Convention (positive unless noted)**
Upper Neck Load Cell	Fx Head rearward Fy Head left Fz Neck in tension Mx Left ear to left shoulder My Chin to chest (flexion) Mz Chin to left shoulder (look left)
Chest Displacement Potentiometer	Compression is negative
Pelvic Load Cell (Lower Lumbar)	Fx Chest rearward Fy Chest left Fz Spine in tension
Femur Load Cell	Compression is negative
Upper Tibia Load Cell (right and left leg)	Mx Support tibia at ends, load left side center My Support tibia at ends, load front (shin) center
Lower Tibia Load Cell (right and left leg)	Fz Tibia in tension Mx Support tibia at ends, load left side center My Support tibia at ends, load front (shin) center

DATA CHANNEL FILTER CLASS SUMMARY

NHTSA TEST NO.: M60103

DATA TYPE	**SAE FILTER CLASS (Hz)**
Dummy Head Accelerations	1000
Dummy Chest Accelerations	180
Dummy Chest Displacements	600
Dummy Femur Forces	600
Dummy Belt Loads	60
Dummy Belt Displacements	180
Dummy Neck Forces	1000
Dummy Neck Moments	600
Vehicle Accelerations	60
Vehicle Velocity Integrations	180
Vehicle Displacement Integrations	180
Load Cell Barrier Forces	60

Table of Data Plots

The following dummy, vehicle and load cell response data can be found in the research and development section of the NHTSA website at: www.nhtsa.dot.gov

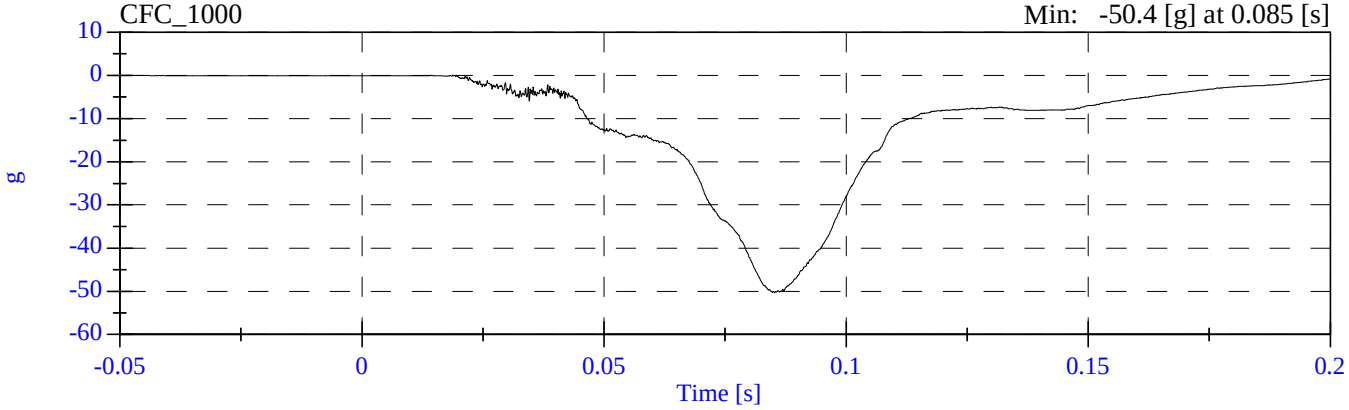
V1P1 Head 9 Array X Arm y	V1P2 Head 9 Array X Arm Ay
V1P1 Head 9 Array X Arm z	V1P2 Head 9 Array X Arm Az
V1P1 Head 9 Array Y Arm x	V1P2 Head 9 Array Y Arm Ax
V1P1 Head 9 Array Y Arm z	V1P2 Head 9 Array Y Arm Az
V1P1 Head 9 Array Z Arm x	V1P2 Head 9 Array Z Arm Ax
V1P1 Head 9 Array Z Arm y	V1P2 Head 9 Array Z Arm Ay
V1P1 Head CG x	V1P2 Head CG x
V1P1 Head CG y	V1P2 Head CG y
V1P1 Head CG z	V1P2 Head CG z
V1P1 Head CG Red x	V1P2 Head CG Red x
V1P1 Head CG Red y	V1P2 Head CG Red y
V1P1 Head CG Red z	V1P2 Head CG Red z
V1P1 Upper Neck Fx	V1P2 Upper Neck Fx
V1P1 Upper Neck Fy	V1P2 Upper Neck Fy
V1P1 Upper Neck Fz	V1P2 Upper Neck Fz
V1P1 Upper Neck Mx	V1P2 Upper Neck Mx
V1P1 Upper Neck My	V1P2 Upper Neck My
V1P1 Upper Neck Mz	V1P2 Upper Neck Mz
V1P1 Chest x	V1P2 Chest x
V1P1 Chest y	V1P2 Chest y
V1P1 Chest z	V1P2 Chest z
V1P1 Chest Red x	V1P2 Chest Red x
V1P1 Chest Red y	V1P2 Chest Red y
V1P1 Chest Red z	V1P2 Chest Red z
V1P1 Chest Compression	V1P2 Chest Compression
V1P1 Pelvic x	V1P2 Pelvic x
V1P1 Pelvic y	V1P2 Pelvic y
V1P1 Pelvic z	V1P2 Pelvic z
V1P1 Left Femur	V1P2 Left Femur
V1P1 Right Femur	V1P2 Right Femur
V1P1 Left Upper Tibia Mx	V1P2 Left Upper Tibia Mx
V1P1 Left Upper Tibia My	V1P2 Left Upper Tibia My
V1P1 Left Lower Tibia Fz	V1P2 Left Lower Tibia Fz
V1P1 Left Lower Tibia Mx	V1P2 Left Lower Tibia Mx
V1P1 Left Lower Tibia My	V1P2 Left Lower Tibia My
V1P1 Right Upper Tibia Mx	V1P2 Right Upper Tibia Mx
V1P1 Right Upper Tibia My	V1P2 Right Upper Tibia My
V1P1 Right Lower Tibia Fz	V1P2 Right Lower Tibia Fz
V1P1 Right Lower Tibia Mx	V1P2 Right Lower Tibia Mx
V1P1 Right Lower Tibia My	V1P2 Right Lower Tibia My
V1P1 Left Foot Aft x	V1P2 Left Foot Aft Ax
V1P1 Left Foot Aft z	V1P2 Left Foot Aft Az
V1P1 Left Foot Fore z	V1P2 Left Foot Fore Az
V1P1 Right Foot Aft x	V1P2 Right Foot Aft x
V1P1 Right Foot Aft z	V1P2 Right Foot Aft z
V1P1 Right Foot Fore z	V1P2 Right Foot Fore z
V1 Driver Lap Belt F	V1 Passenger Lap Belt F
V1 Driver Torso Belt F	V1 Passenger Torso Belt F

Barrier Load Cell A1 Fx	Barrier Load Cell C1 Fx
Barrier Load Cell A2 Fx	Barrier Load Cell C2 Fx
Barrier Load Cell A3 Fx	Barrier Load Cell C3 Fx
Barrier Load Cell A4 Fx	Barrier Load Cell C4 Fx
Barrier Load Cell A5 Fx	Barrier Load Cell C5 Fx
Barrier Load Cell A6 Fx	Barrier Load Cell C6 Fx
Barrier Load Cell A7 Fx	Barrier Load Cell C7 Fx
Barrier Load Cell A8 Fx	Barrier Load Cell C8 Fx
Barrier Load Cell A9 Fx	Barrier Load Cell C9 Fx
Barrier Load Cell B1 Fx	Barrier Load Cell D1 Fx
Barrier Load Cell B2 Fx	Barrier Load Cell D2 Fx
Barrier Load Cell B3 Fx	Barrier Load Cell D3 Fx
Barrier Load Cell B4 Fx	Barrier Load Cell D4 Fx
Barrier Load Cell B5 Fx	Barrier Load Cell D5 Fx
Barrier Load Cell B6 Fx	Barrier Load Cell D6 Fx
Barrier Load Cell B7 Fx	Barrier Load Cell D7 Fx
Barrier Load Cell B8 Fx	Barrier Load Cell D8 Fx
Barrier Load Cell B9 Fx	Barrier Load Cell D9 Fx

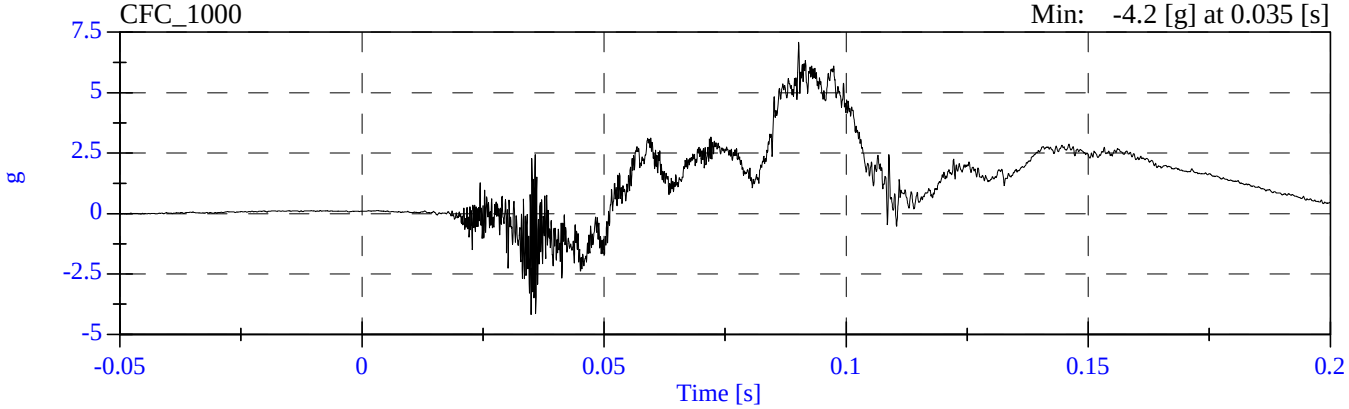
TEST NOTES	
Data Channel	Anomalies
V1 Driver Torso Belt F	Transducer Failed at 33 ms
V1P2 Head 9 Array Y Arm Az	Wire Cut at 69 ms
V1P2 Left Foot Aft Ax	Questionable Data after 52 ms
V1P2 Left Foot Fore Az	Questionable Data after 52 ms

2006 NCAP Test 5 - 2006 Cadillac DTS
M60103 - December 13, 2005

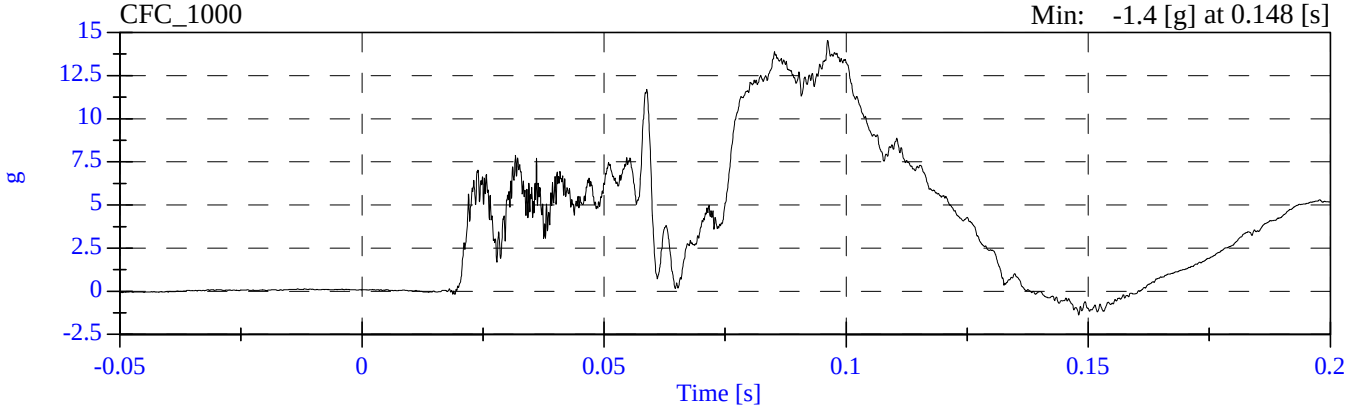
V1P1 Head CG x
CFC_1000
Max: 0.1 [g] at 0.019 [s]
Min: -50.4 [g] at 0.085 [s]



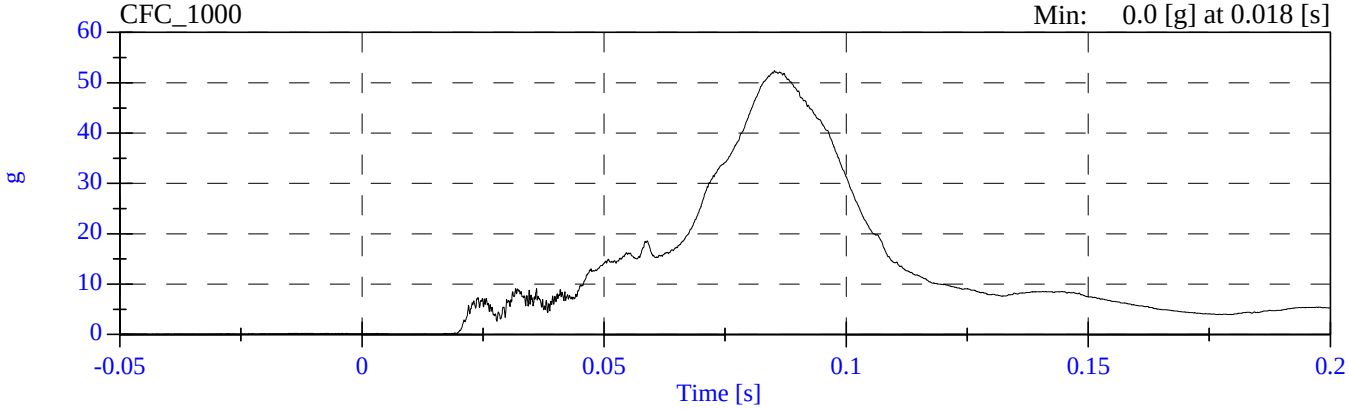
V1P1 Head CG y
CFC_1000
Max: 7.1 [g] at 0.090 [s]
Min: -4.2 [g] at 0.035 [s]



V1P1 Head CG z
CFC_1000
Max: 14.5 [g] at 0.096 [s]
Min: -1.4 [g] at 0.148 [s]

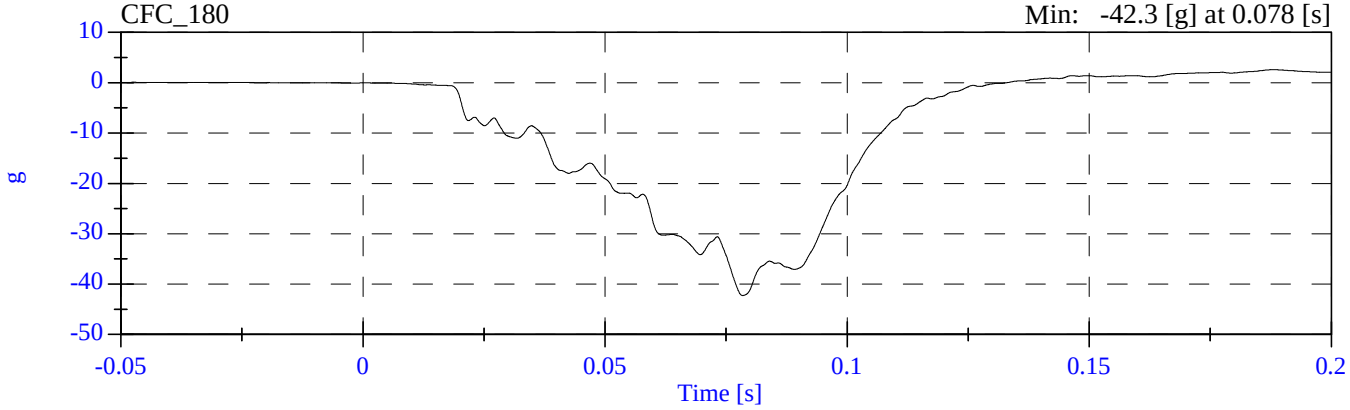


V1P1 Head CG Resultant
CFC_1000
Max: 52.5 [g] at 0.085 [s]
Min: 0.0 [g] at 0.018 [s]

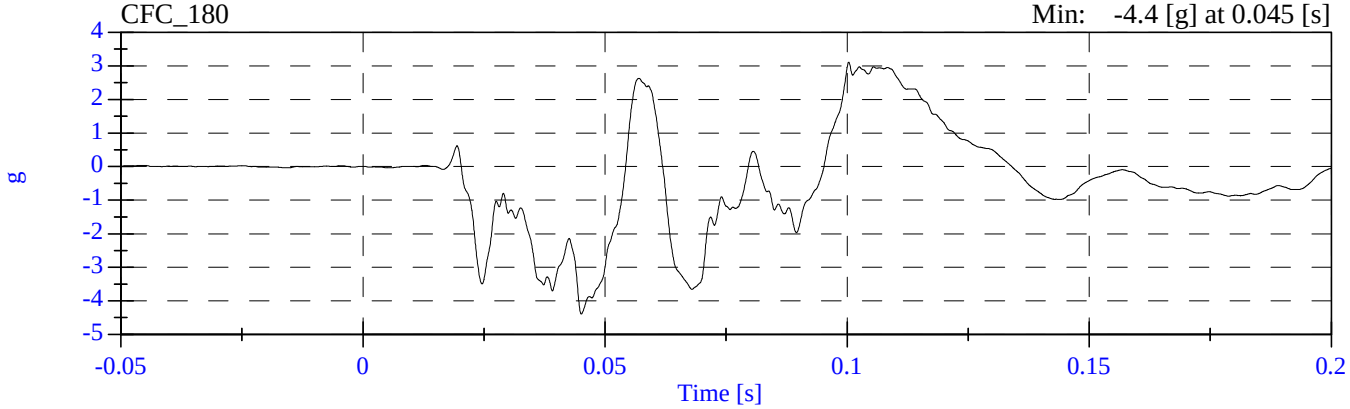


2006 NCAP Test 5 - 2006 Cadillac DTS
M60103 - December 13, 2005

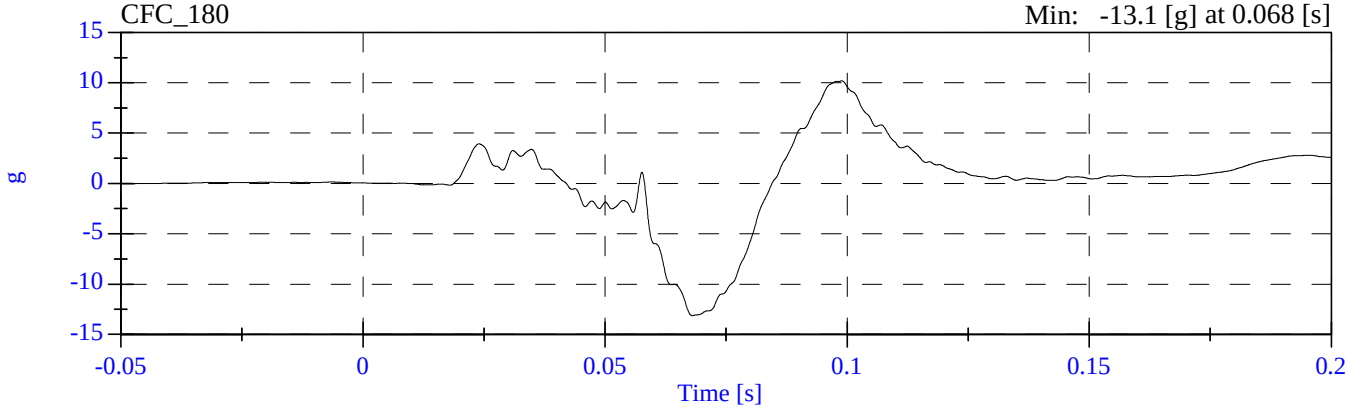
V1P1 Chest x
CFC_180
Max: 2.6 [g] at 0.188 [s]
Min: -42.3 [g] at 0.078 [s]



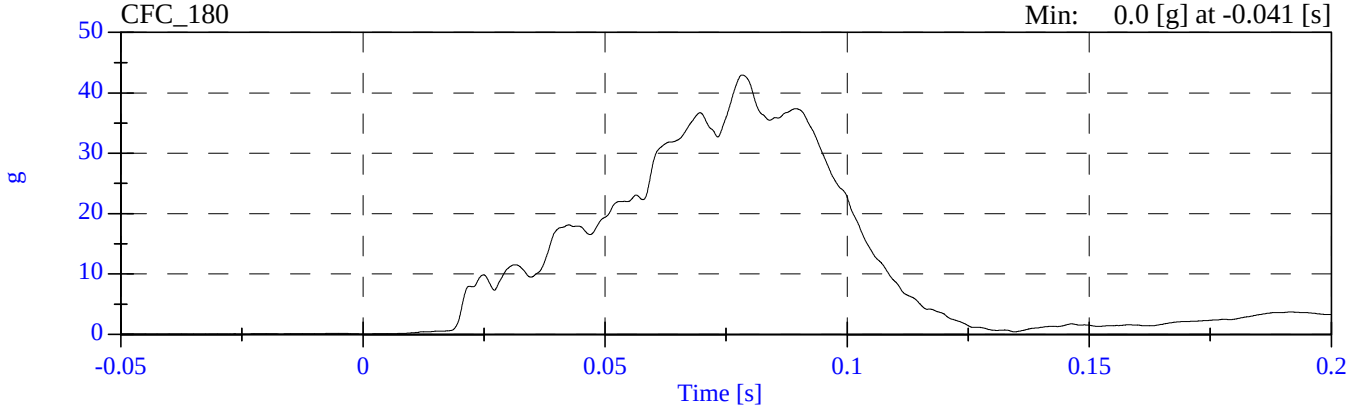
V1P1 Chest y
CFC_180
Max: 3.1 [g] at 0.100 [s]
Min: -4.4 [g] at 0.045 [s]



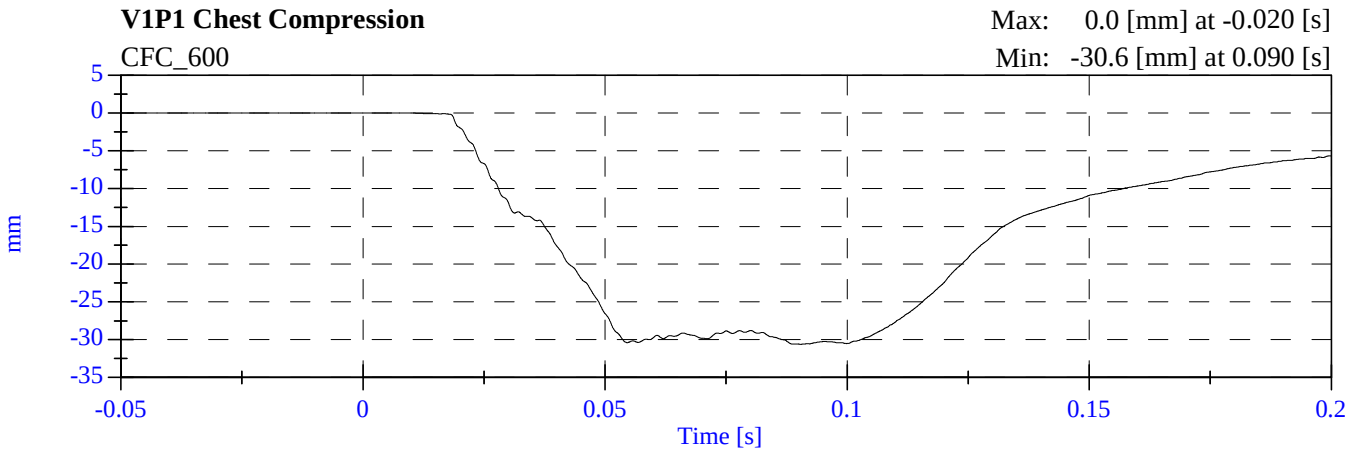
V1P1 Chest z
CFC_180
Max: 10.2 [g] at 0.099 [s]
Min: -13.1 [g] at 0.068 [s]



V1P1 Chest Resultant
CFC_180
Max: 43.0 [g] at 0.078 [s]
Min: 0.0 [g] at -0.041 [s]

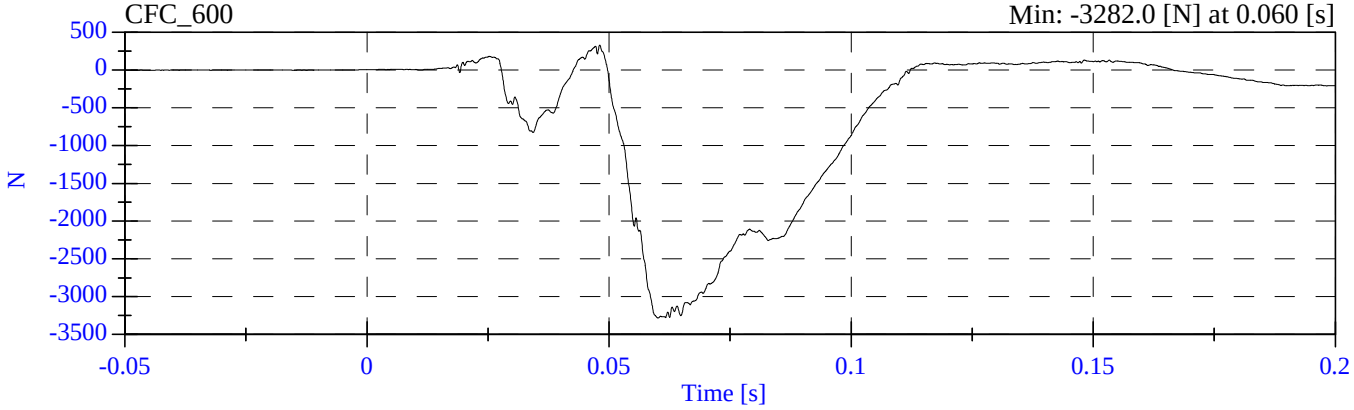


2006 NCAP Test 5 - 2006 Cadillac DTS
M60103 - December 13, 2005

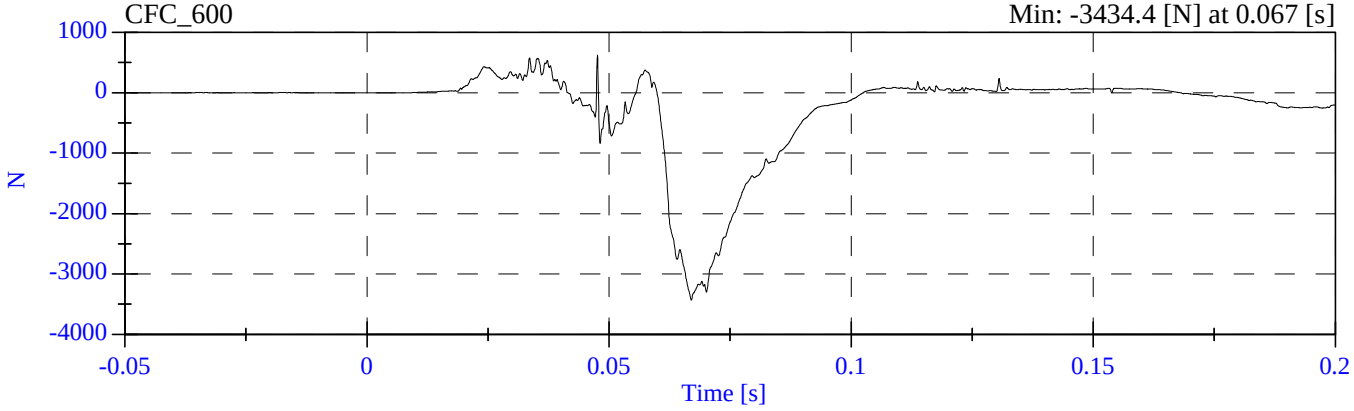


2006 NCAP Test 5 - 2006 Cadillac DTS
M60103 - December 13, 2005

V1P1 Left Femur
CFC_600
Max: 330.1 [N] at 0.048 [s]
Min: -3282.0 [N] at 0.060 [s]

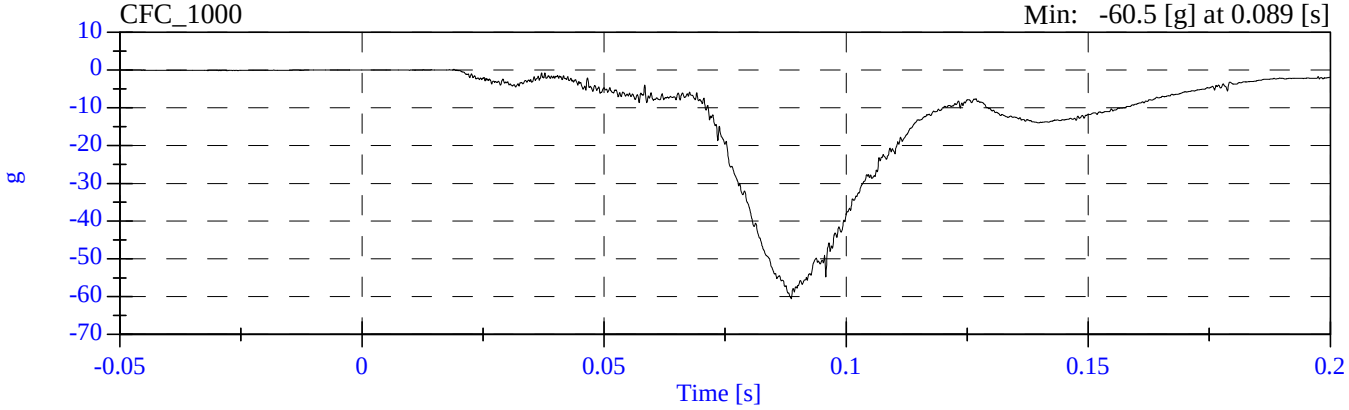


V1P1 Right Femur
CFC_600
Max: 622.4 [N] at 0.048 [s]
Min: -3434.4 [N] at 0.067 [s]

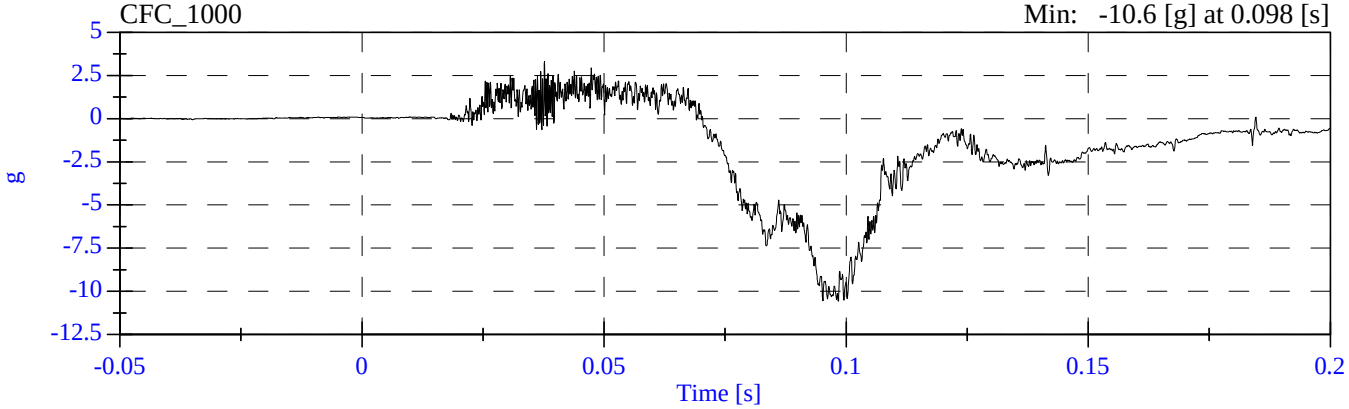


2006 NCAP Test 5 - 2006 Cadillac DTS
M60103 - December 13, 2005

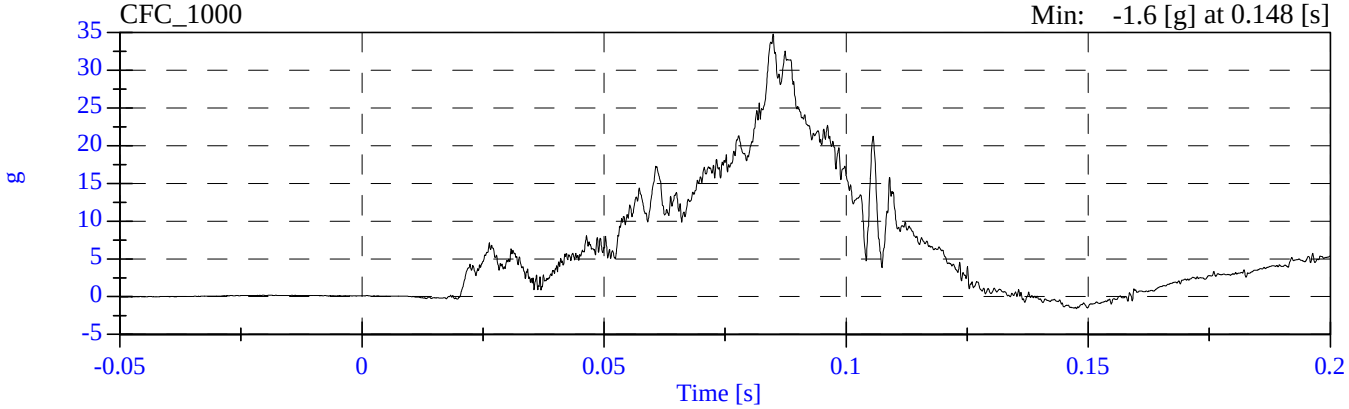
V1P2 Head CG x
CFC_1000
Max: 0.2 [g] at 0.019 [s]
Min: -60.5 [g] at 0.089 [s]



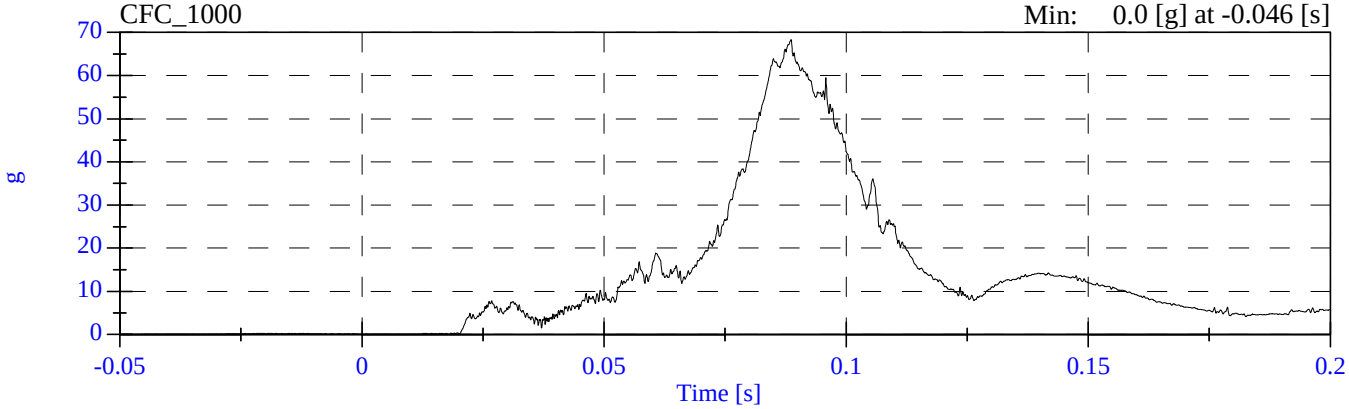
V1P2 Head CG y
CFC_1000
Max: 3.3 [g] at 0.038 [s]
Min: -10.6 [g] at 0.098 [s]



V1P2 Head CG z
CFC_1000
Max: 34.8 [g] at 0.085 [s]
Min: -1.6 [g] at 0.148 [s]

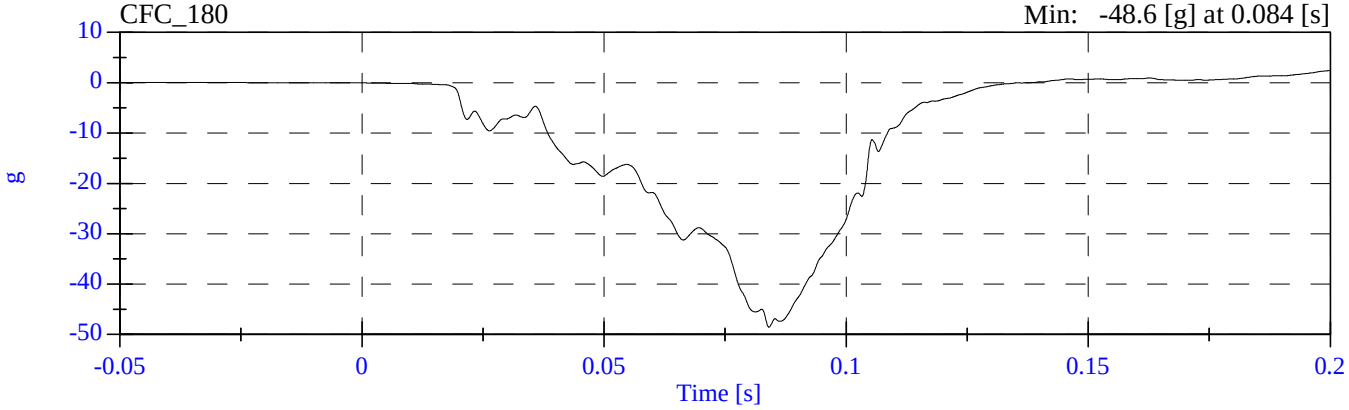


V1P2 Head CG Resultant
CFC_1000
Max: 68.4 [g] at 0.089 [s]
Min: 0.0 [g] at -0.046 [s]

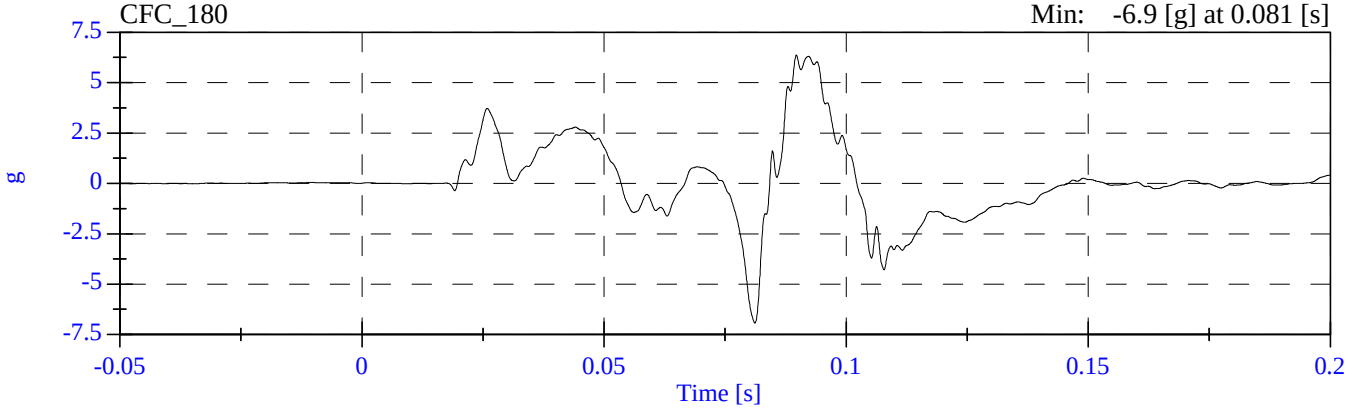


2006 NCAP Test 5 - 2006 Cadillac DTS
M60103 - December 13, 2005

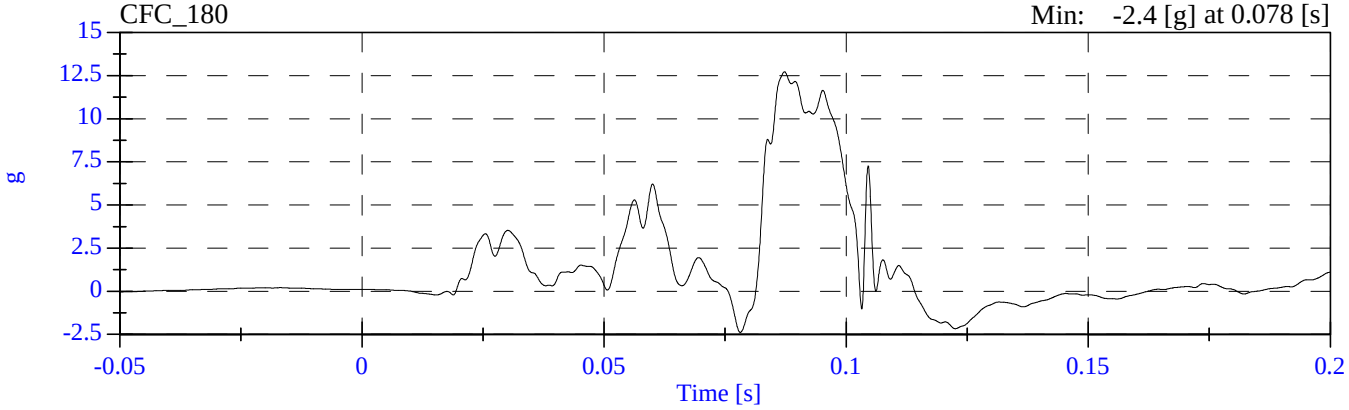
V1P2 Chest x
CFC_180
Max: 2.4 [g] at 0.200 [s]
Min: -48.6 [g] at 0.084 [s]



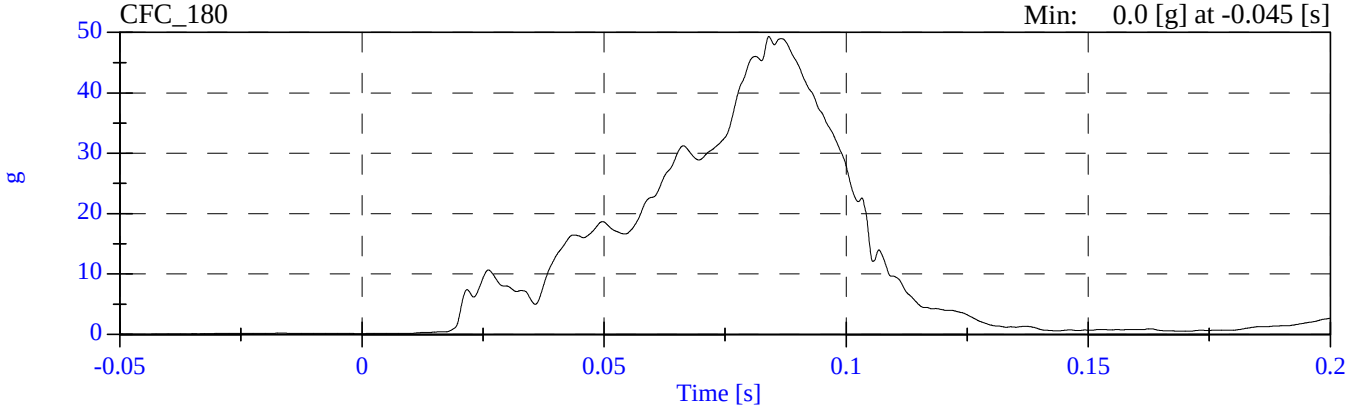
V1P2 Chest y
CFC_180
Max: 6.4 [g] at 0.090 [s]
Min: -6.9 [g] at 0.081 [s]



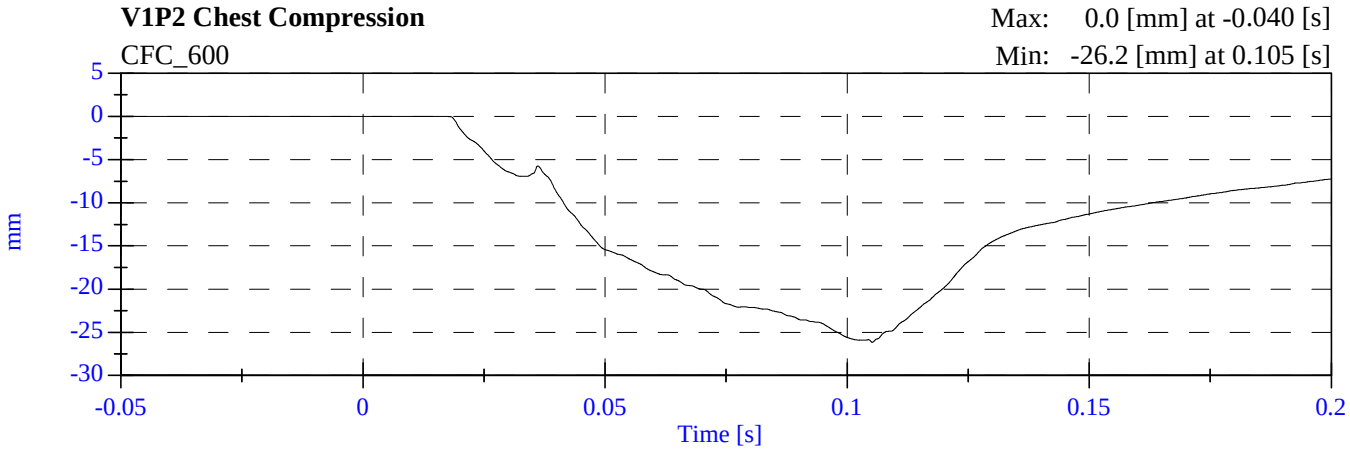
V1P2 Chest z
CFC_180
Max: 12.7 [g] at 0.087 [s]
Min: -2.4 [g] at 0.078 [s]



V1P2 Chest Resultant
CFC_180
Max: 49.3 [g] at 0.084 [s]
Min: 0.0 [g] at -0.045 [s]

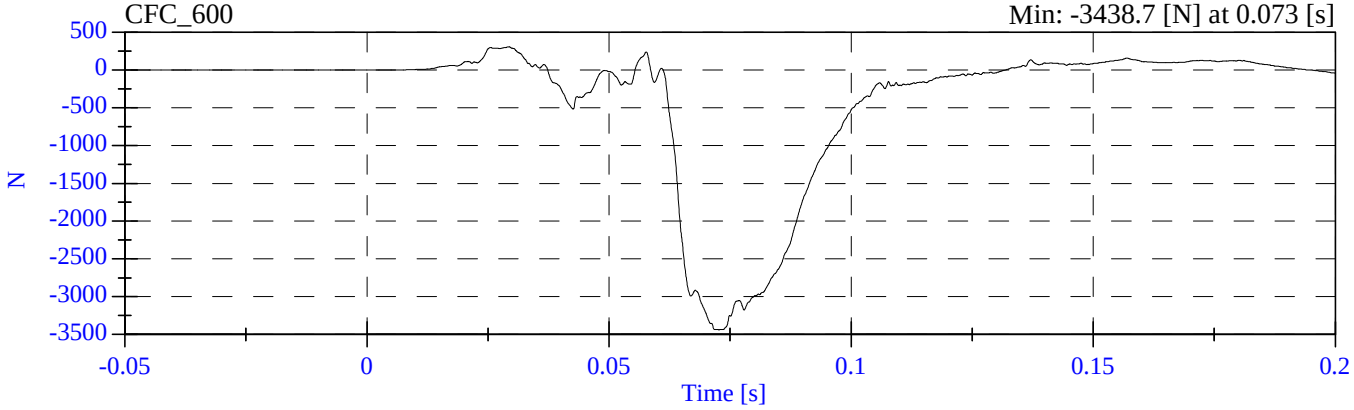


2006 NCAP Test 5 - 2006 Cadillac DTS
M60103 - December 13, 2005

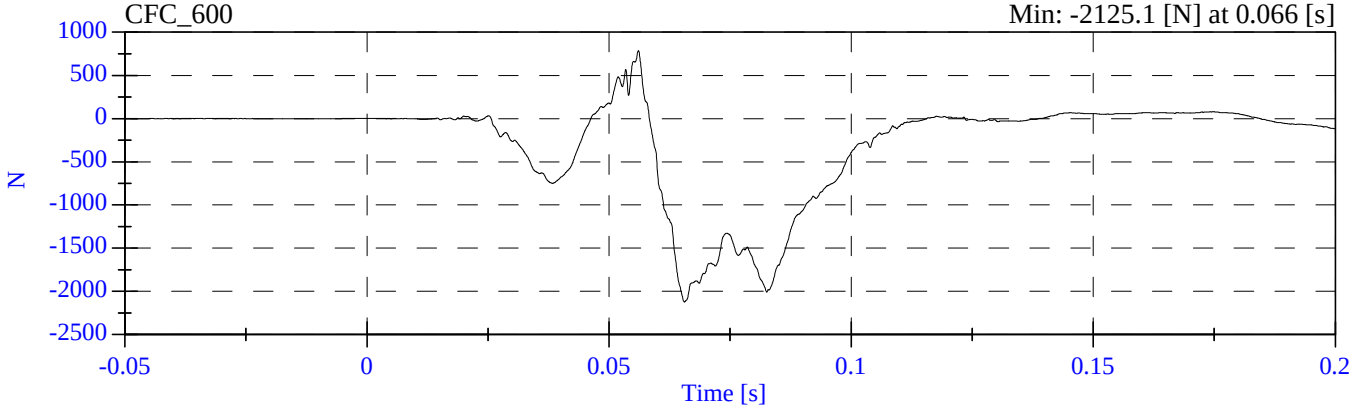


2006 NCAP Test 5 - 2006 Cadillac DTS
M60103 - December 13, 2005

V1P2 Left Femur
CFC_600
Max: 309.6 [N] at 0.029 [s]
Min: -3438.7 [N] at 0.073 [s]



V1P2 Right Femur
CFC_600
Max: 788.2 [N] at 0.056 [s]
Min: -2125.1 [N] at 0.066 [s]



APPENDIX C

PART 572B/E DUMMY CONFIGURATION
AND PERFORMANCE VERIFICATION DATA SHEETS

Appendix C contains the results from certification tests performed on the 50th percentile male anthropomorphic test devices utilized for this crash test. The results indicate that the dummies meet all of the performance requirements of the six standard tests as specified in 49 CFR Part 572, Federal Register, Volume 42, No. 25, dated February 7, 1977.

The tests were conducted at the Dummy Certification Test Facility of Calspan. A summary of the test results, and Part 572 specifications are included in this Appendix.

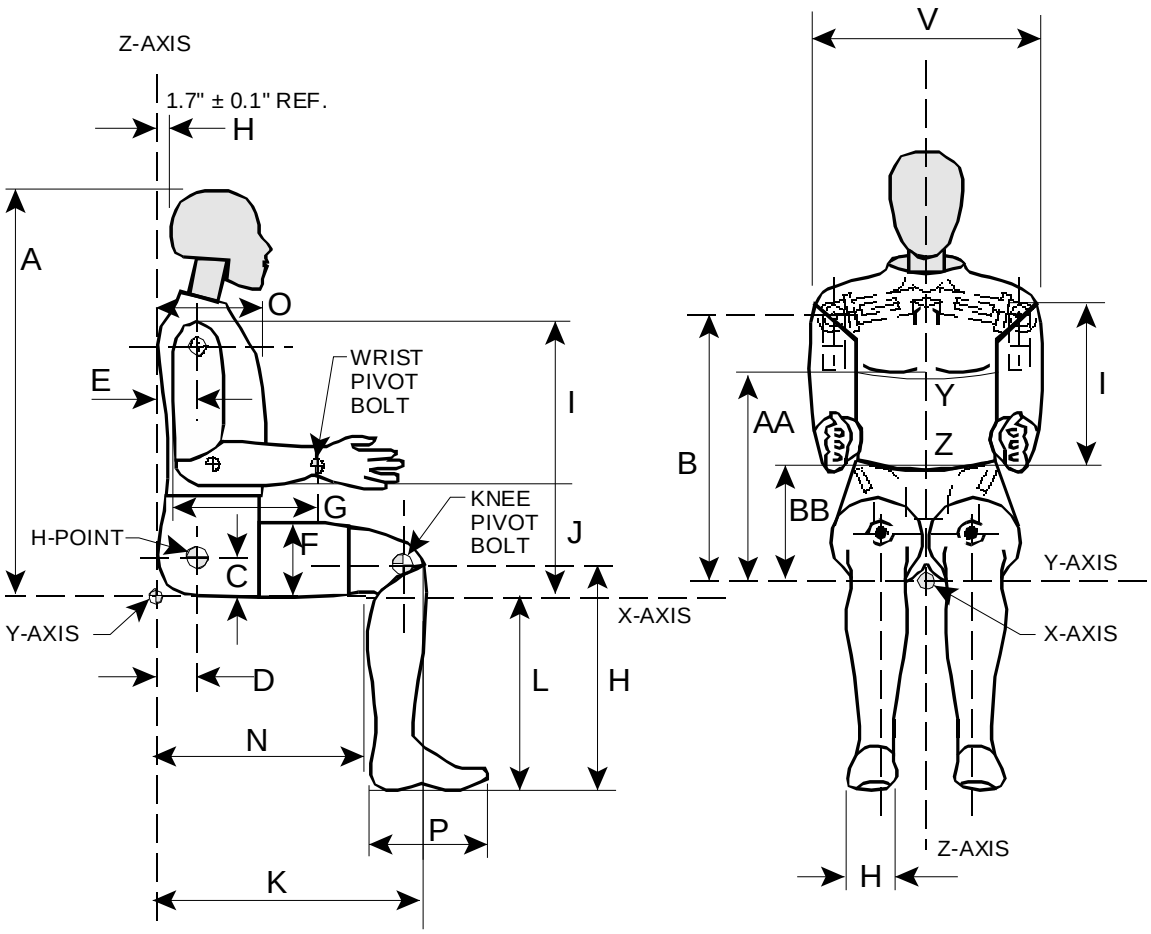
Dummy serial numbers and certification dates are:

Position No./Location	Serial No.	Completion Date
#1/Driver	142	September 13, 2005
#2/Right Front Passenger	150	September 13, 2005

Electronic Test Equipment

The complement of signal conditioning, recording and display equipment, in conjunction with dummy certification testing, can be found in New Car Assessment and Standards Indicant Testing Final Report No. 6525-V-1.

EXTERNAL DIMENSIONS SPECIFICATIONS



NOTE: Figure is referenced to the erect seated position. The curved lumbar does not allow the Hybrid III to be positioned in a perfect erect attitude. (REF: S572.31(A)(6))

PART 572E
HEAD DROP TEST

Dummy Serial Number	142
Sequential Test Number	1
Date	September 7, 2005
Workfile	142H1 09-07-05

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	18.9 – 25.6 Deg C	21.1
Relative Humidity	10% - 70%	36.0
Peak Resultant Acceleration	225-275 G's	251.38
Peak Lateral Acceleration	15 G's Max	1.32
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	142	
Sequential Test Number	1	
Date	September 8, 2005	6 Axis Neck Transducer
Workfile	142NF2 09-08-05	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		20.6 – 22.2 Deg C	21.11
Relative Humidity		10% - 70%	36.00
Impact Velocity		6.89 – 7.13 m/s	7.00
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	23.36
	20 ms	17.60 - 22.60 G's	22.39
	30 ms	12.50 - 18.50 G's	17.15
Max Pendulum G's Above 30 ms		29 G's Max	17.15
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	37.70
D Plane Rotation	Max	64 - 78 Deg	64.06
	Time	57 - 64 ms	58.60
Moment About Occipital Condyle	Max	88.13 – 108.47 N-m	103.45
	Time	47 - 58 ms	49.00
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	115.00
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	98.20

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	142	
Sequential Test Number	1	
Date	September 8, 2005	6 Axis Neck Transducer
Workfile	142NE 09-08-05	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		20.6 – 22.2 Deg C	21.11
Relative Humidity		10% - 70%	36.00
Impact Velocity		5.94 – 6.19 m/s	6.08
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	18.95
	20 ms	14.00 - 19.00 G's	18.76
	30 ms	11.00 - 16.00 G's	15.66
Max Pendulum G's Above 30 ms		22 G's Max	15.66
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	39.60
D Plane Rotation	Max	81 - 106 Deg	85.84
	Time	72 - 82 ms	72.20
Moment About Occipital Condyle	Max	-79.99 - -52.88 N-m	-76.65
	Time	65 - 79 ms	67.90
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	149.20
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	132.50

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number	142
Sequential Test Number	1
Date	September 12, 2005
Workfile	142T 09-12-05

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	20.6 – 22.2 Deg C	21.1
Relative Humidity	10% - 70%	38.0
Pendulum Velocity	6.58 – 6.83 m/s	6.74
Maximum Deflection	64.52 – 72.64 mm	71.49
Maximum Resistive Force	5159.9 – 5893.9 N	5237.17
Internal Hysteresis	69 - 85 %	74.17

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number	142
Sequential Test Number	1
Date	1
Workfile	142LF 09-13-05/142RF 09-13-05

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	18.9 – 25.6 Deg C	21.1
Relative Humidity	10% - 70%	31.0
Probe Velocity	2.07 – 2.13 m/s	2.13
Peak Knee Impact Force	4715.1 – 5782.7 N	5303.21
RIGHT KNEE		
Temperature	18.9 – 25.6 Deg C	21.1
Relative Humidity	10% - 70%	31.0
Probe Velocity	2.07 – 2.13 m/s	2.13
Peak Knee Impact Force	4715.1 – 5782.7 N	5120.07

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 142
Sequential Test Number 1
Date September 13, 2005

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			38
Location for Chest Circumference	AA	16.9 -17.1 in	17.1
Location for Waist Circumference	BB	8.9 - 9.1 in	9.0
Total Sitting Height	A	34.6 - 35.0 in	35.0
Shoulder Pivot Height	B	19.9 - 20.5 in	20.4
H-Point Height	C	3.3 - 3.5 in	3.5
H-Point from Backline	D	5.3 - 5.5 in	5.3
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.7
Thigh Clearance	F	5.5 - 6.1 in	6.0
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.5
Skull Cap to Backline	H	1.6 - 1.8 in	1.7
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.5
Elbow Rest Height	J	7.5 - 8.3 in	8.2
Buttock Knee Length	K	22.8 - 23.8 in	23.5
Popliteal Height	L	16.9 - 17.9 in	17.7
Knee Pivot Height	M	19.1 - 19.7 in	19.2
Buttock Popliteal Length	N	17.8 - 18.8 in	18.7
Chest Depth	O	8.4 - 9.0 in	9.0
Foot Length	P	9.9 - 10.5 in	10.3
Shoulder Breadth	V	16.6 - 17.2 in	16.9
Foot Breadth	W	3.6 - 4.2 in	4.0
Chest Circumference (With Jacket)	Y	38.2 - 39.4 in	38.8
Waist Circumference	Z	32.9 - 34.1 in	33.0

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
HEAD DROP TEST

Dummy Serial Number	150
Sequential Test Number	1
Date	September 8, 2005
Workfile	150H 09-08-05

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	18.9 – 25.6 Deg C	21.1
Relative Humidity	10% - 70%	36.0
Peak Resultant Acceleration	225-275 G's	268.20
Peak Lateral Acceleration	15 G's Max	9.46
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	150	
Sequential Test Number	1	
Date	September 9, 2005	6 Axis Neck Transducer
Workfile	150NE1 09-09-05	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		20.6 – 22.2 Deg C	21.11
Relative Humidity		10% - 70%	29.00
Impact Velocity		6.89 – 7.13 m/s	6.02
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	19.30
	20 ms	17.60 - 22.60 G's	18.76
	30 ms	12.50 - 18.50 G's	15.31
Max Pendulum G's Above 30 ms		29 G's Max	15.31
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	38.00
D Plane Rotation	Max	64 - 78 Deg	88.29
	Time	57 - 64 ms	73.00
Moment About Occipital Condyle	Max	88.13 – 108.47 N-m	-74.17
	Time	47 - 58 ms	68.40
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	152.50
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	133.50

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	150	
Sequential Test Number	1	
Date	September 9, 2005	6 Axis Neck Transducer
Workfile	150NE1 09-09-05	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		20.6 – 22.2 Deg C	21.11
Relative Humidity		10% - 70%	29.00
Impact Velocity		5.94 – 6.19 m/s	6.02
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	19.30
	20 ms	14.00 - 19.00 G's	18.76
	30 ms	11.00 - 16.00 G's	15.31
Max Pendulum G's Above 30 ms		22 G's Max	15.31
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	38.00
D Plane Rotation	Max	81 - 106 Deg	88.29
	Time	72 - 82 ms	73.00
Moment About Occipital Condyle	Max	-79.99 - -52.88 N-m	-74.17
	Time	65 - 79 ms	68.40
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	152.50
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	133.50

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number	150
Sequential Test Number	1
Date	September 13, 2005
Workfile	150T 09-13-05

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	20.6 – 22.2 Deg C	21.1
Relative Humidity	10% - 70%	39.0
Pendulum Velocity	6.58 – 6.83 m/s	6.72
Maximum Deflection	64.52 – 72.64 mm	65.87
Maximum Resistive Force	5159.9 – 5893.9 N	5389.91
Internal Hysteresis	69 - 85 %	74.67

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number	150
Sequential Test Number	1
Date	September 13, 2005
Workfile	150LF 09-13-05/150RF 09-13-05

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	18.9 – 25.6 Deg C	21.1
Relative Humidity	10% - 70%	31.0
Probe Velocity	2.07 – 2.13 m/s	2.13
Peak Knee Impact Force	4715.1 – 5782.7 N	5284.94
RIGHT KNEE		
Temperature	18.9 – 25.6 Deg C	21.1
Relative Humidity	10% - 70%	31.0
Probe Velocity	2.07 – 2.13 m/s	2.13
Peak Knee Impact Force	4715.1 – 5782.7 N	5237.16

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 150
Sequential Test Number 1
Date September 13, 2005

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			38
Location for Chest Circumference	AA	16.9 -17.1 in	17.0
Location for Waist Circumference	BB	8.9 - 9.1 in	9.0
Total Sitting Height	A	34.6 - 35.0 in	34.8
Shoulder Pivot Height	B	19.9 - 20.5 in	20.1
H-Point Height	C	3.3 - 3.5 in	3.4
H-Point from Backline	D	5.3 - 5.5 in	5.5
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.7
Thigh Clearance	F	5.5 - 6.1 in	6.0
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.5
Skull Cap to Backline	H	1.6 - 1.8 in	1.7
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.2
Elbow Rest Height	J	7.5 - 8.3 in	8.2
Buttock Knee Length	K	22.8 - 23.8 in	23.5
Popliteal Height	L	16.9 - 17.9 in	17.8
Knee Pivot Height	M	19.1 - 19.7 in	19.5
Buttock Popliteal Length	N	17.8 - 18.8 in	18.5
Chest Depth	O	8.4 - 9.0 in	9.0
Foot Length	P	9.9 - 10.5 in	10.2
Shoulder Breadth	V	16.6 - 17.2 in	16.9
Foot Breadth	W	3.6 - 4.2 in	4.0
Chest Circumference (With Jacket)	Y	38.2 - 39.4 in	39.1
Waist Circumference	Z	32.9 - 34.1 in	34.0

Remarks:

Laboratory Technician: B. Swiecicki

APPENDIX D

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENT CALIBRATION FOR DRIVER DUMMY
(Six Month Calibration Minimum)

DRIVER DUMMY (S/N 142)		Manufacturer	Serial #	Calibration	
				Last	Next
Head 9 Array	X Arm Y	ENDEVCO	AC-J35933	7/14/2005	1/12/2006
	X Arm Z	ENDEVCO	AC-J36038	7/13/2005	1/11/2006
	Y Arm X	ENDEVCO	AC-J36605	7/14/2005	1/12/2006
	Y Arm Z	ENDEVCO	AC-J21907	7/13/2005	1/11/2006
	Z Arm X	ENDEVCO	AC-J19843	7/13/2005	1/11/2006
	Z Arm Y	ENDEVCO	AC-AJ507	7/13/2005	1/11/2006
Head	X	ENDEVCO	AC-J14189	7/13/2005	1/11/2006
	Y	ENDEVCO	AC-J20125	7/13/2005	1/11/2006
	Z	ENDEVCO	AC-J36744	7/14/2005	1/12/2006
Head	X (R)	ENDEVCO	AC-J21989	7/14/2005	1/12/2006
	Y (R)	ENDEVCO	AC-J35921	7/13/2005	1/11/2006
	Z (R)	ENDEVCO	AC-ACCY2	7/13/2005	1/11/2006
Neck Load Cell	X	DENTON	LC-297FX	7/13/2005	1/11/2006
	Y	DENTON	LC-297FY	7/13/2005	1/11/2006
	Z	DENTON	LC-297FZ	7/13/2005	1/11/2006
Neck Moment	X	DENTON	LC-297MX	7/13/2005	1/11/2006
	Y	DENTON	LC-297MY	7/13/2005	1/11/2006
	Z	DENTON	LC-297MZ	7/13/2005	1/11/2006
Chest	X	ENDEVCO	AC-AC9F9	7/13/2005	1/11/2006
	Y	ENDEVCO	AC-P16194	7/14/2005	1/12/2006
	Z	ENDEVCO	AC-J14688	7/13/2005	1/11/2006
Chest	X (R)	ENDEVCO	AC-AAK48	7/13/2005	1/11/2006
	Y (R)	ENDEVCO	AC-AAKB1	7/14/2005	1/12/2006
	Z (R)	ENDEVCO	AC-J27517	7/14/2005	1/12/2006
Chest Deflection	X	SERVO	DS-142	6/28/2005	12/27/2005
Pelvic	X	ENDEVCO	AC-AJ5R0	7/18/2005	1/16/2006
	Y	ENDEVCO	AC-J22036	7/14/2005	1/12/2006
	Z	ENDEVCO	AC-J17649	7/13/2005	1/11/2006

INSTRUMENT CALIBRATION FOR DRIVER DUMMY
(Six Month Calibration Minimum)

DRIVER DUMMY (S/N 142)		Manufacturer	Serial #	Calibration	
				Last	Next
Left Femur Load Cell	Fz	DENTON	LC-729	12/20/2004	6/20/2005
Right Femur Load Cell	Fz	GSE	LC-631	12/16/2004	6/16/2005
Left Upper Tibia	Mx	DENTON	LC-266MX	6/24/2005	12/23/2005
	My	DENTON	LC-266MY	6/24/2005	12/23/2005
Left Lower Tibia	Fz	DENTON	LC-179FZ	6/22/2005	12/21/2005
	Mx	DENTON	LC-179MX	6/22/2005	12/21/2005
	My	DENTON	LC-179MY	6/22/2005	12/21/2005
Right Upper Tibia	Mx	DENTON	LC-265MX	6/28/2005	12/27/2005
	My	DENTON	LC-265MY	6/28/2005	12/27/2005
Right Lower Tibia	Fz	DENTON	LC-178FZ	6/28/2005	12/27/2005
	Mx	DENTON	LC-178MX	6/28/2005	12/27/2005
	My	DENTON	LC-178MY	6/28/2005	12/27/2005
Left Foot Rear	X	ENTRAN	AC-02I02I05-F06	7/15/2005	1/13/2006
	Z	ENTRAN	AC-01G18-F14	7/15/2005	1/13/2006
Left Foot Front	Z	ENTRAN	AC-99H30-Z13	7/18/2005	1/16/2006
Right Foot Rear	X	ENTRAN	AC-02I20I16-A13	7/15/2005	1/13/2006
	Z	ENTRAN	AC-03D03D16-F01	7/15/2005	1/13/2006
Right Foot Front	Z	ENTRAN	AC-00L20-A15	8/24/2005	2/22/2006
Lap Belt Load Cell		FIRST TECHNOLOGY	LC-173	10/1/2005	4/1/2006
Shoulder Belt Load Cell		FIRST TECHNOLOGY	LC-175	10/1/2005	4/1/2006
Belt Stretch Transducer		-	-	-	-

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY
(Six Month Calibration Minimum)

PASSENGER DUMMY (S/N 150)		Manufacturer	Serial #	Calibration	
				Last	Next
Head 9 Array	X Arm Y	ENDEVCO	AC-J27470	7/13/2005	1/11/2006
	X Arm Z	ENDEVCO	AC-J36741	7/13/2005	1/11/2006
	Y Arm X	ENDEVCO	AC-J20027	7/14/2005	1/12/2006
	Y Arm Z	ENDEVCO	AC-J21988	7/15/2005	1/13/2006
	Z Arm X	ENDEVCO	AC-AAKC6	7/13/2005	1/11/2006
	Z Arm Y	ENDEVCO	AC-AAKD0	7/13/2005	1/11/2006
Head	X	ENDEVCO	AC-J20061	7/13/2005	1/11/2006
	Y	ENDEVCO	AC-AJ4F8	7/13/2005	1/11/2006
	Z	ENDEVCO	AC-AHRW5	7/14/2005	1/12/2006
Head	X (R)	ENDEVCO	AC-AJ7Y4	7/13/2005	1/11/2006
	Y (R)	ENDEVCO	AC-AJ454	7/13/2005	1/11/2006
	Z (R)	ENDEVCO	AC-J19563	7/13/2005	1/11/2006
Neck Load Cell	X	DENTON	LC-157FX	7/14/2005	1/12/2006
	Y	DENTON	LC-157FY	7/14/2005	1/12/2006
	Z	DENTON	LC-157FZ	7/14/2005	1/12/2006
Neck Moment	X	DENTON	LC-157MX	7/14/2005	1/12/2006
	Y	DENTON	LC-157MY	7/14/2005	1/12/2006
	Z	DENTON	LC-157MZ	7/14/2005	1/12/2006
Chest	X	ENDEVCO	AC-J20580	7/14/2005	1/12/2006
	Y	ENDEVCO	AC-J20018	7/13/2005	1/11/2006
	Z	ENDEVCO	AC-J20569	7/14/2005	1/12/2006
Chest	X (R)	ENDEVCO	AC-J21963	7/14/2005	1/12/2006
	Y (R)	ENDEVCO	AC-P16755	7/14/2005	1/12/2006
	Z (R)	ENDEVCO	AC-J14667	7/14/2005	1/12/2006
Chest Deflection	X	SERVO	DS-150	6/23/2005	12/22/2005
Pelvic	X	ENDEVCO	AC-J34378	7/13/2005	1/11/2006
	Y	ENDEVCO	AC-J23757	7/14/2005	1/12/2006
	Z	ENDEVCO	AC-J27513	7/14/2005	1/12/2006

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY
(Six Month Calibration Minimum)

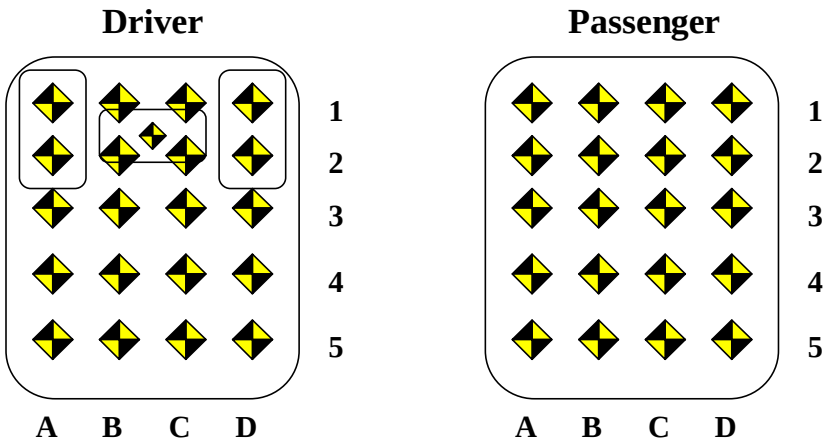
PASSENGER DUMMY (S/N 150)		Manufacturer	Serial #	Calibration	
				Last	Next
Left Femur Load Cell	Fz	DENTON	LC-261	7/2/2005	12/31/2005
Right Femur Load Cell	Fz	DENTON	LC-264	7/2/2005	12/31/2005
Left Upper Tibia	Mx	DENTON	LC-263MX	6/29/2005	12/28/2005
	My	DENTON	LC-263MY	6/29/2005	12/28/2005
Left Lower Tibia	Fz	DENTON	LC-174FZ	6/28/2005	12/27/2005
	Mx	DENTON	LC-174MX	6/28/2005	12/27/2005
	My	DENTON	LC-174MY	6/28/2005	12/27/2005
Right Upper Tibia	Mx	DENTON	LC-268MX	6/27/2005	12/26/2005
	My	DENTON	LC-268MY	6/27/2005	12/26/2005
Right Lower Tibia	Fz	DENTON	LC-196FZ	6/27/2005	12/26/2005
	Mx	DENTON	LC-196MX	6/27/2005	12/26/2005
	My	DENTON	LC-196MY	6/27/2005	12/26/2005
Left Foot Rear	X	ENDEVCO	AC-J19223	7/14/2005	1/12/2006
	Z	ENDEVCO	AC-J20083	7/14/2005	1/12/2006
Left Foot Front	Z	ENTRAN	AC-04J04J07-M02	7/14/2005	1/12/2006
Right Foot Rear	X	ENDEVCO	AC-J27496	7/13/2005	1/11/2006
	Z	ENDEVCO	AC-J35747	7/13/2005	1/11/2006
Right Foot Front	Z	ENDEVCO	AC-J36723	7/13/2005	1/11/2006
Lap Belt Load Cell		FIRST TECHNOLOGY	LC-159	10/1/2005	4/1/2006
Shoulder Belt Load Cell		FIRST TECHNOLOGY	LC-178	10/1/2005	4/1/2006
Belt Stretch Transducer		-	-	-	-

INSTRUMENT CALIBRATION FOR VEHICLE ACCELEROMETERS
(Six Month Calibration Minimum)

	Manufacturer	Serial #	Calibration	
			Last	Next
Left Seat Rear Crossmember X	GS SENSORS	AC-9440-046	10/17/2005	4/17/2006
Right Rear Seat Crossmember X	ICS	AC-FGP19	10/17/2005	4/17/2006
Top of Engine	ICS	AC-FGP03	6/22/2005	12/21/2005
Bottom of Engine	ICS	AC-FGP39	10/12/2005	4/12/2006
Right Disc Brake Caliper	ICS	AC-FGP24	10/12/2005	4/12/2006
Instrument Panel	-	-	-	-
Left Disc Brake Caliper	ICS	AC-FGP22	10/12/2005	4/12/2006
Left Seat Rear Crossmember Z	GS SENSORS	AC-9440-023	10/17/2005	4/17/2006
Right Seat Rear Crossmember Z	ICS	AC-FGP29	10/17/2005	4/17/2006

APPENDIX E

VEHICLE INTERIOR INTRUSION MEASUREMENTS

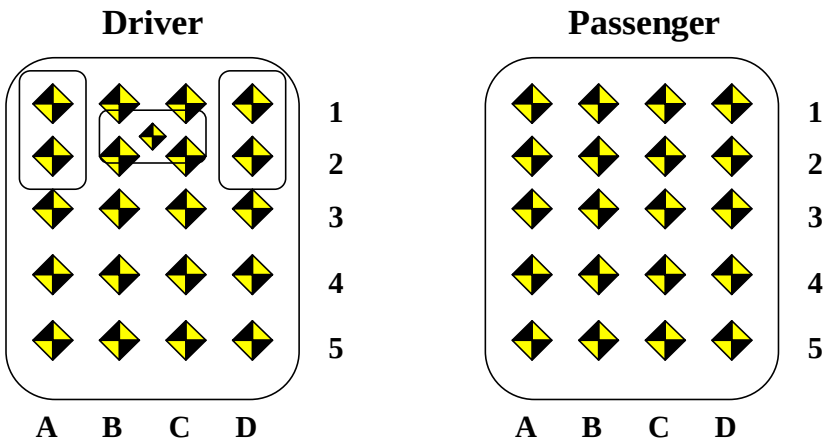


Driver Side Intrusion Measurements

Intrusion Location	PRE-TEST (mm)			POST-TEST (mm)			CHANGE (mm)		
	X	Y	Z	X	Y	Z	X	Y	Z
A1	3758	-570	-511	3750	-568	-513	8	-2	2
B1	3831	-438	-510	3813	-432	-521	18	-6	11
C1	3832	-316	-512	3809	-310	-510	23	-6	-2
D1	3841	-185	-511	3786	-183	-518	55	-2	7
A2	3701	-572	-437	3693	-572	-438	8	0	1
B2	3747	-440	-427	3734	-438	-430	13	-2	3
C2	3748	-316	-427	3745	-316	-416	3	0	-11
D2	3765	-189	-412	3757	-188	-394	8	-1	-18
A3	3649	-574	-366	3644	-574	-365	5	0	-1
B3	3657	-441	-350	3654	-443	-343	3	2	-7
C3	3659	-314	-348	3656	-317	-333	3	3	-15
D3	3660	-188	-350	3661	-192	-326	-1	4	-24
A4	3567	-573	-346	3566	-575	-340	1	2	-6
B4	3568	-441	-341	3567	-443	-329	1	2	-12
C4	3571	-316	-339	3571	-318	-322	0	2	-17
D4	3572	-188	-346	3573	-189	-322	-1	1	-24
A5	3476	-573	-342	3478	-574	-338	-2	1	-4
B5	3480	-442	-339	3480	-445	-326	0	3	-13
C5	3482	-317	-336	3480	-323	-322	2	6	-14
D5	3483	-185	-348	3482	-189	-323	1	4	-25
BP	3675	-356	-540	3667	-364	-515	8	8	-25
G	3349	-515	-796	3345	-517	-793	4	2	-3
H	3339	-216	-790	3336	-218	-788	3	2	-2
L	3162	-369	-981	3176	-378	-944	-14	9	-37
AB	3110	-615	-378	3114	-620	-369	-4	5	-9

BP=Brake Pedal, G=Left side of bolster, H=Right side of bolster, L=Steering wheel center;
AB = Front outboard seat anchor bolt

PASSENGER SIDE INTRUSION MEASUREMENTS



Passenger Side Intrusion Measurements

Intrusion Location	PRE-TEST (mm)			POST-TEST (mm)			CHANGE (mm)		
	X	Y	Z	X	Y	Z	X	Y	Z
A1	3836	195	-500	3786	210	-516	50	-15	16
B1	3838	316	-508	3744	314	-541	94	2	33
C1	3835	452	-513	3712	432	-579	123	20	66
D1	3769	578	-511	3694	568	-543	75	10	32
A2	3743	194	-423	3724	203	-414	19	-9	-9
B2	3746	318	-423	3692	319	-435	54	-1	12
C2	3742	451	-427	3661	445	-465	81	6	38
D2	3713	578	-432	3655	567	-456	58	11	24
A3	3650	191	-351	3647	202	-324	3	-11	-27
B3	3652	319	-350	3628	322	-338	24	-3	-12
C3	3651	450	-349	3615	444	-361	36	6	12
D3	3650	578	-357	3613	570	-373	37	8	16
A4	3562	191	-345	3560	197	-310	2	-6	-35
B4	3563	318	-339	3561	325	-304	2	-7	-35
C4	3560	448	-337	3551	452	-318	9	-4	-19
D4	3562	578	-339	3557	575	-351	5	3	12
A5	3470	191	-344	3469	199	-310	1	-8	-34
B5	3474	317	-336	3471	323	-298	3	-6	-38
C5	3472	451	-333	3472	455	-309	0	-4	-24
D5	3471	578	-336	3472	583	-329	-1	-5	-7
R	3352	237	-794	3340	235	-793	12	2	-1
S	3365	524	-794	3351	523	-795	14	1	1
AB	3110	620	-368	3104	626	-351	6	-6	-17

R=Left side of bolster, S=Right side of bolster, L=Steering wheel center;
AB = Front outboard seat anchor bolt