*** * * A T T E N T I O N * * ***

Individual Vehicle dimensions were obtained through the use of the Expert AutoStats(R) program.

The Expert AutoStats(R) program contains a multitude of vehicle dimensions and specifications on over 41,000 different vehicles and 203 different manufacturers spanning more than 50 years.

While every attempt has been made to ensure accurate data, these dimensions are meant to be used as first approximations. Some measurements are dependant on such factors as tire and rim sizes, tire inflation pressure and wear, suspension system condition, bumper type and style, and other manufacturing variations from vehicle to vehicle.

Whenever feasible, the vehicle in question or an exemplar vehicle should be measured to verify data important to your case.

Individual Vehicle Data Search Service (R)

Provided by:
4N6XPRT SYSTEMS (R)
Forensic Expert Software
La Mesa, CA 91941-3842

(619) 464-3478 / (800) 266-9778 / FAX: (619) 464-2206

Through the use of

E X P E R T A U T O S T A T S (R)

DEVELOPED BY:
Daniel W. Vomhof III & Daniel W. Vomhof, Ph.D.

VEHICLE DATA RESEARCH BY:
Sheryl Cozby, Marion Vomhof, Muriel Vomhof, & Cindy Christensen

Expert VIN DeCoder®

Version Number 3.0.2.4

DeCoded VIN: 1C4GP64L3WB592122

Model:	1998 Chrysler Town & Country LX Wagon Extended Wagon
Engine Size:	3.8L / 231cu.in.
Engine Description:	V6 Cylinder with Overhead Valves
Horse Power:	180 @ 4400 rpm
Torque:	240 lb-ft at 3300 rpm
Injection System:	Sequential Multipolt Fuel Injection (SMFI)
PSI:	49 psi
Ignition:	Electronic
Manufacturer:	Chrysler
Assembly Plant:	St. Louis, MO
Drive Wheels:	This is a Front Wheel Drive vehicle

The First through Third characters (1C4) indicate a Chrysler MPV made in the U.S.A.

The Fourth character (G) indicates a GVWR of 5001-6000 lbs.

The Fifth through Seventh characters (P64) indicate a Town & Country LX Wagon

The Eighth character (L) indicates the OEM engine: 3.8L / 231cu.in., V6, OHV

The Ninth character (the check digit) is entered as 3.
The VIN appears Valid, the calculated value is 3.

The Tenth character (W) indicates the model year 1998

The Eleventh character (B) indicates the vehicle was made in the assembly plant in St. Louis, MO

The Twelfth through Seventeenth characters (592122) indicate the Serial Number and are unique to this vehicle.

Expert AutoStats®

Version 5.1.0.6

PROVIDED BY:
4N6XPRT Systems
8387 University Avenue
La Mesa CA 91941

3/11/2011

1998 CHRYSLER TOWN & COUNTRY 4 DOOR MINI VAN

Curb Weight:		3951	lbs.	1792	kg.
Curb Weight Distribution -	Front:	59	% Rear:	41	%
Gross Vehicle Weight Rating:		5400	lbs.	2449	kg.
Number of Tires on Vehicle:		4			
Drive Wheels:		FRONT			

Horizontal Dimensions	Inches	Feet	Meters
Total Length	200	16.67	5.08
Wheelbase:	119	9.92	3.02
Front Bumper to Front Axle:	34	2.83	0.86
Front Bumper to Front of Front Well:	19	1.58	0.48
Front Bumper to Front of Hood:	5	0.42	0.13
Front Bumper to Base of Windshield:	32	2.67	0.81
Front Bumper to Top of Windshield:	72	6.00	1.83
Rear Bumper to Rear Axle:	47	3.92	1.19
Rear Bumper to Rear of Rear Well:	35	2.92	0.89
Rear Bumper to Rear of Trunk:	5	0.42	0.13
Rear Bumper to Base of Rear Window:	5	0.42	0.13
Width Dimensions			
Maximum Width:	76	6.33	1.93
Front Track:	63	5.25	1.60
Rear Track:	64	5.33	1.63
Vertical Dimensions			
Height:	69	5.75	1.75
Ground to -			
Front Bumper (Top)	23	1.92	0.58
Headlight - center	28	2.33	0.71
Hood - top front:	30	2.50	0.76
Base of Windshield	43	3.58	1.09
Rear Bumper - top:	21	1.75	0.53
Trunk - top rear:	39	3.25	0.99
Base of Rear Window:	44	3.67	1.12

1998 CHRYSLER TOWN & COUNTRY 4 DOOR MINI VAN

Interior Dimensions

	Inches	Feet	Meters
Front Seat Shoulder Width	63	5.25	1.60
Front Seat to Headliner	40	3.33	1.02
Front Leg Room - seatback to floor (max)	41	3.42	1.04
Rear Seat Shoulder Width	65	5.42	1.65
Rear Seat to Headliner	40	3.33	1.02
Front Leg Room - seatback to floor (min)	37	3.08	0.94

Seatbelts: 3pt - front and rear

Airbags: FRONT SEAT AIRBAGS

Steering Data

Turning Circle (Diameter)	480	40.00	12.19
Steering Ratio: 17.50:1			
Wheel Radius:	13	1.08	0.33
Tire Size (OEM): 215/65R15			

Acceleration & Braking Information

Brake Type: FRONT DISC - REAR DRUM

ABS System: ALL WHEEL ABS

Braking, 60 mph to 0 (Hard pedal, no skid, dry pavement):

d = 142.0 ft t = 3.2 sec a = -27.2 ft/sec² G-force = -0.85

Acceleration:

0 to 30mph	t =	3.1	sec	a =	14.2	ft/sec²	G-force = 0.44
0 to 60mph	t =	10.7	sec	a =	8.2	ft/sec²	G-force = 0.26
45 to 65mph	t =	5.7	sec	a =	5.1	ft/sec²	G-force = 0.16

Transmission Type: 4spd AUTOMATIC

Notes:

Federal Bumper Standard Requirements: No Requirement

This vehicles Rated Bumper Strength: 5 mph

N.S.D.C = 1996 - 1998

1998 CHRYSLER TOWN & COUNTRY 4 DOOR MINI VAN

Other Information

Tip-Over Stability Ratio =	1.17	Reasonably Stable
NHTSA Star Rating (calculated)		***

Center of Gravity (No Load):

Inches behind front axle	=	48.79
Inches in front of rear axle	=	70.21
Inches from side of vehicle	=	38.00
Inches from ground	=	27.01
Inches from front corner	=	91.09
Inches from rear corner	=	123.22
Inches from front bumper	=	82.79
Inches from rear bumper	=	117.21

Moments of Inertia Approximations (No Load):

Yaw Moment of Inertia	=	2726.53	lb*ft*sec²
Pitch Moment of Inertia	=	2768.12	lb*ft*sec²
Roll Moment of Inertia	=	634.22	lb*ft*sec²

Front Profile Information

Angle Front Bumper to Hood Front	=	54.5	deg
Angle Front of Hood to Windshield Base	=	25.7	deg
Angle Front of Hood to Windshield Top	=	28.9	deg
Angle of Windshield	=	31.0	deg
Angle of Steering Tires at Max Turn	=	28.4	deg

First Approximation Crush Factors:

Speed Equivalent (mph) of Kinetic Energy (KE) used in causing crush of indentation may be evaluated using the following formula, the appropriated Crush Factor (CF), and Maximum Indentation Depth (MID), in feet:

$$V(mph) = \sqrt{(30 * CF * MID)}$$

KE Equivalent Speed (Front/Rear/Side)	=	21 CF
Bullet vehicle IMPACT SPEED estimation based on TARGET VEHICLE damage ONLY (Tested for Rear/Side Impact only)	=	27 CF

These CF values are based upon analysis of NHTSA Barrier Crash data, and from over 1000 vehicle accidents where independant evaluation of speed was possible. (These are NOT 'A', 'B', 'C', or 'G' values)

The rear Impact data with more then 2-3 inches of crush damage should be looked at carefully, since some vehicles have very weak trunk & fender strength. Therefore, on some cars, especially GM, you estimate from the rear crush data may be high by as much as 4-5 mph (on a crush of 18 inches).

Expert VIN DeCoder®

Version Number 3.0.2.4

DeCoded VIN: 1GNDX03E9YD119889

Model:	2000 Chevrolet Venture APV 4x2 Extended Wheelbase Four Door Cab/Utility
Engine Size:	3.4 L / 207 cu.in.
Engine Description:	V6 Cylinder with Over Head Valves
Horse Power:	185 @ 5200 rpm
Torque:	210 lb-ft @ 4000 rpm
Injection System:	Sequential Fuel Injection (SFI)
PSI:	41-47 psi
Ignition:	electronic
Manufacturer:	Chevrolet, Pontiac, GM Canada
Assembly Plant:	Doraville, GA
Drive Wheels:	This is a Front Wheel Drive vehicle

The First through Third characters (1GN) indicate a Chevrolet MPV made in the U.S.A.

The Fourth character (D) indicates a GVWR of 5001 - 6000 lbs.; Hydraulic Brakes

The Fifth and Sixth characters (X0) indicate a Venture APV 4x2 Extended Wheelbase

The Seventh character (3) indicates a Four Door Cab/Utility

The Eighth character (E) indicates the OEM engine: 3.4 L / 207 cu.in., V6, OHV

The Ninth character (the check digit) is entered as 9.
The VIN appears Valid, the calculated value is 9.

The Tenth character (Y) indicates the model year 2000

The Eleventh character (D) indicates the vehicle was made in the assembly plant in Doraville, GA

The Twelfth through Seventeenth characters (119889) indicate the Serial Number and are unique to this vehicle.

Expert AutoStats®

Version 5.1.0.6

PROVIDED BY:
4N6XPRT Systems
8387 University Avenue
La Mesa CA 91941

3/11/2011

2000 CHEVROLET VENTURE EXTENDED 4 DOOR MINI VAN

Curb Weight:		3792	lbs.	1720	kg.
Curb Weight Distribution -	Front:	58	% Rear:	42	%
Gross Vehicle Weight Rating:		5357	lbs.	2430	kg.
Number of Tires on Vehicle:		4			
Drive Wheels:		FRONT			

Horizontal Dimensions	Inches	Feet	Meters
Total Length	201	16.75	5.11
Wheelbase:	120	10.00	3.05
Front Bumper to Front Axle:	38	3.17	0.97
Front Bumper to Front of Front Well:	22	1.83	0.56
Front Bumper to Front of Hood:	7	0.58	0.18
Front Bumper to Base of Windshield:	37	3.08	0.94
Front Bumper to Top of Windshield:	70	5.83	1.78
Rear Bumper to Rear Axle:	43	3.58	1.09
Rear Bumper to Rear of Rear Well:	26	2.17	0.66
Rear Bumper to Rear of Trunk:	4	0.33	0.10
Rear Bumper to Base of Rear Window:	5	0.42	0.13
Width Dimensions			
Maximum Width:	72	6.00	1.83
Front Track:	62	5.17	1.57
Rear Track:	62	5.17	1.57
Vertical Dimensions			
Height:	68	5.67	1.73
Ground to -			
Front Bumper (Top)	22	1.83	0.56
Headlight - center	29	2.42	0.74
Hood - top front:	33	2.75	0.84
Base of Windshield	33	2.75	0.84
Rear Bumper - top:	23	1.92	0.58
Trunk - top rear:	36	3.00	0.91
Base of Rear Window:	46	3.83	1.17

2000 CHEVROLET VENTURE EXTENDED 4 DOOR MINI VAN

Interior Dimensions	Inches	Feet	Meters
Front Seat Shoulder Width	60	5.00	1.52
Front Seat to Headliner	40	3.33	1.02
Front Leg Room - seatback to floor (max)	40	3.33	1.02
Rear Seat Shoulder Width	62	5.17	1.57
Rear Seat to Headliner	39	3.25	0.99
Front Leg Room - seatback to floor (min)	37	3.08	0.94

Seatbelts: 3pt - front and rear

Airbags: FRONT SEAT AIRBAGS

Steering Data			
Turning Circle (Diameter)	480	40.00	12.19
Steering Ratio:	:1		
Wheel Radius:			
Tire Size (OEM):	P215/70R15		

Acceleration & Braking Information

Brake Type: FRONT DISC - REAR DRUM

ABS System: ALL WHEEL ABS

Braking, 60 mph to 0 (Hard pedal, no skid, dry pavement):

d = 147.0 ft t = 3.3 sec a = -26.3 ft/sec² G-force = -0.82

Acceleration:

0 to 30mph	t =	3.4	sec	a =	12.9	ft/sec²	G-force = 0.40
0 to 60mph	t =	9.7	sec	a =	9.1	ft/sec²	G-force = 0.28
45 to 65mph	t =	6.6	sec	a =	4.4	ft/sec²	G-force = 0.14

Transmission Type: 4spd AUTOMATIC

Notes:

Federal Bumper Standard Requirements: No Requirement

N.S.D.C = 1997 - 2000

2000 CHEVROLET VENTURE EXTENDED 4 DOOR MINI VAN

Other Information

Tip-Over Stability Ratio =	1.16	Reasonably Stable
NHTSA Star Rating (calculated)		***

Center of Gravity (No Load):

Inches behind front axle	=	50.40
Inches in front of rear axle	=	69.60
Inches from side of vehicle	=	36.00
Inches from ground	=	26.62
Inches from front corner	=	95.45
Inches from rear corner	=	118.21
Inches from front bumper	=	88.40
Inches from rear bumper	=	112.60

Moments of Inertia Approximations (No Load):

Yaw Moment of Inertia	=	2562.76	lb*ft*sec²
Pitch Moment of Inertia	=	2590.04	lb*ft*sec²
Roll Moment of Inertia	=	599.24	lb*ft*sec²

Front Profile Information

Angle Front Bumper to Hood Front	=	57.5	deg
Angle Front of Hood to Windshield Base	=		deg
Angle Front of Hood to Windshield Top	=	27.6	deg
Angle of Windshield	=	45.0	deg
Angle of Steering Tires at Max Turn	=	28.6	deg

First Approximation Crush Factors:

Speed Equivalent (mph) of Kinetic Energy (KE) used in causing crush of indentation may be evaluated using the following formula, the appropriated Crush Factor (CF), and Maximum Indentation Depth (MID), in feet:

$$V(mph) = \sqrt{(30 * CF * MID)}$$

KE Equivalent Speed (Front/Rear/Side)	=	21 CF
Bullet vehicle IMPACT SPEED estimation based on TARGET VEHICLE damage ONLY (Tested for Rear/Side Impact only)	=	27 CF

These CF values are based upon analysis of NHTSA Barrier Crash data, and from over 1000 vehicle accidents where independant evaluation of speed was possible. (These are NOT 'A', 'B', 'C', or 'G' values)

The rear Impact data with more then 2-3 inches of crush damage should be looked at carefully, since some vehicles have very weak trunk & fender strength. Therefore, on some cars, especially GM, you estimate from the rear crush data may be high by as much as 4-5 mph (on a crush of 18 inches).

Expert VIN DeCoder®

Version Number 3.0.2.4

DeCoded VIN:	2G1WX12K4W9128257
Model:	1998 Chevrolet Monte Carlo Z34 2 Door Coupe
Engine Size:	3.8 L/ 231 cu.in.
Engine Description:	V-6 cylinder with Overhead Valves
Horse Power:	205 @ 5200 rpm
Torque:	230 lb-ft at 4000 rpm
Injection System:	Multiport Fuel Injection (MFI)
PSI:	41-47 psi
Ignition:	Electronic
Manufacturer:	Buick-Oldsmobile-Cadillac
Assembly Plant:	Oshawa #1, ON
Drive Wheels:	This is a Rear Wheel Drive vehicle

The First through Third characters (2G1) indicate a Chevrolet Car made in Canada

The Fourth and Fifth characters (WX) indicate a Monte Carlo Z34

The Sixth character (1) indicates a 2 Door Coupe

The Seventh character (2) indicates Manual Seatbelts + Driver & Passenger Air Bags

The Eighth character (K) indicates the OEM engine: 3.8 L/ 231 cu.in., V6, OHV

The Ninth character (the check digit) is entered as 4.
The VIN appears Valid, the calculated value is 4.

The Tenth character (W) indicates the model year 1998

The Eleventh character (9) indicates the vehicle was made in the assembly plant in Oshawa #1, ON

The Twelfth through Seventeenth characters (128257) indicate the Serial Number and are unique to this vehicle.

Expert AutoStats®

Version 5.1.0.6

PROVIDED BY:
4N6XPRT Systems
8387 University Avenue
La Mesa CA 91941

3/11/2011

1998 CHEVROLET MONTE CARLO Z34 2 DOOR COUPE

Curb Weight:		3436	lbs.	1559	kg.
Curb Weight Distribution -	Front:	65	% Rear:	35	%
Gross Vehicle Weight Rating:		4383	lbs.	1988	kg.
Number of Tires on Vehicle:		4			
Drive Wheels:		FRONT			

Horizontal Dimensions	Inches	Feet	Meters
Total Length	201	16.75	5.11
Wheelbase:	108	9.00	2.74
Front Bumper to Front Axle:	46	3.83	1.17
Front Bumper to Front of Front Well:	32	2.67	0.81
Front Bumper to Front of Hood:	6	0.50	0.15
Front Bumper to Base of Windshield:	57	4.75	1.45
Front Bumper to Top of Windshield:	79	6.58	2.01
Rear Bumper to Rear Axle:	47	3.92	1.19
Rear Bumper to Rear of Rear Well:	32	2.67	0.81
Rear Bumper to Rear of Trunk:	6	0.50	0.15
Rear Bumper to Base of Rear Window:	30	2.50	0.76
Width Dimensions			
Maximum Width:	73	6.08	1.85
Front Track:	60	5.00	1.52
Rear Track:	59	4.92	1.50
Vertical Dimensions			
Height:	54	4.50	1.37
Ground to -			
Front Bumper (Top)	23	1.92	0.58
Headlight - center	26	2.17	0.66
Hood - top front:	31	2.58	0.79
Base of Windshield	37	3.08	0.94
Rear Bumper - top:	28	2.33	0.71
Trunk - top rear:	38	3.17	0.97
Base of Rear Window:	41	3.42	1.04

1998 CHEVROLET MONTE CARLO Z34 2 DOOR COUPE

Interior Dimensions	Inches	Feet	Meters
Front Seat Shoulder Width	58	4.83	1.47
Front Seat to Headliner	38	3.17	0.97
Front Leg Room - seatback to floor (max)	42	3.50	1.07
Rear Seat Shoulder Width	58	4.83	1.47
Rear Seat to Headliner	37	3.08	0.94
Front Leg Room - seatback to floor (min)	35	2.92	0.89

Seatbelts: 3pt - front and rear
Airbags: FRONT SEAT AIRBAGS

Steering Data

Turning Circle (Diameter)	516	43.00	13.11
Steering Ratio:	:1		
Wheel Radius:	17	1.42	0.43
Tire Size (OEM):	225-60R16		

Acceleration & Braking Information

Brake Type: FRONT DISC - REAR DRUM
ABS System: ALL WHEEL ABS

Braking, 60 mph to 0 (Hard pedal, no skid, dry pavement):
d = 139.0 ft t = 3.2 sec a = -27.8 ft/sec² G-force = -0.86

Acceleration:

0 to 30mph	t =	3.1	sec	a =	14.2	ft/sec²	G-force = 0.44
0 to 60mph	t =	8.5	sec	a =	10.4	ft/sec²	G-force = 0.32
45 to 65mph	t =	5.4	sec	a =	5.4	ft/sec²	G-force = 0.17

Transmission Type: AUTOMATIC

Notes:
Federal Bumper Standard Requirements: 2.5 mph
This vehicles Rated Bumper Strength: 5 mph

N.S.D.C = 1995 - 1999

1998 CHEVROLET MONTE CARLO Z34 2 DOOR COUPE

Other Information

Tip-Over Stability Ratio =	1.35	Stable
NHTSA Star Rating (calculated)		****

Center of Gravity (No Load):

Inches behind front axle	=	37.80
Inches in front of rear axle	=	70.20
Inches from side of vehicle	=	36.50
Inches from ground	=	22.06
Inches from front corner	=	91.40
Inches from rear corner	=	122.75
Inches from front bumper	=	83.80
Inches from rear bumper	=	117.20

Moments of Inertia Approximations (No Load):

Yaw Moment of Inertia	=	2333.08	lb*ft*sec²
Pitch Moment of Inertia	=	2252.64	lb*ft*sec²
Roll Moment of Inertia	=	468.48	lb*ft*sec²

Front Profile Information

Angle Front Bumper to Hood Front	=	53.1	deg
Angle Front of Hood to Windshield Base	=	6.7	deg
Angle Front of Hood to Windshield Top	=	16.0	deg
Angle of Windshield	=	34.3	deg
Angle of Steering Tires at Max Turn	=	24.0	deg

First Approximation Crush Factors:

Speed Equivalent (mph) of Kinetic Energy (KE) used in causing crush of indentation may be evaluated using the following formula, the appropriated Crush Factor (CF), and Maximum Indentation Depth (MID), in feet:

$$V(mph) = \sqrt{(30 * CF * MID)}$$

KE Equivalent Speed (Front/Rear/Side)	=	21 CF
Bullet vehicle IMPACT SPEED estimation based on TARGET VEHICLE damage ONLY (Tested for Rear/Side Impact only)	=	27 CF

These CF values are based upon analysis of NHTSA Barrier Crash data, and from over 1000 vehicle accidents where independant evaluation of speed was possible. (These are NOT 'A', 'B', 'C', or 'G' values)

The rear Impact data with more then 2-3 inches of crush damage should be looked at carefully, since some vehicles have very weak trunk & fender strength. Therefore, on some cars, especially GM, you estimate from the rear crush data may be high by as much as 4-5 mph (on a crush of 18 inches).

Stiffness Values and Test Data

Derived from

NHTSA Crash Test

#2159

1995 CHEVROLET MONTE CARLO

Provided By

4N6XPRT StifCalcs®

Registered to:

4N6XPRT SYSTEMS
8387 UNIVERSITY AVENUE
LA MESA CA 91941-3842
10R-030201SC02301

4N6XPRT Systems | 8387 University Avenue | La Mesa, CA 91942 | USA
(800) 266-9778 | (619) 464-3478 | FAX: (619) 464-2206 | Email: 4n6@4n6xprt.com

Sister/Clone database reader

You entered: **1998 CHEVROLET MONTE CARLO**

The Sister/Clone Vehicle Year/Model Interchange list indicates the following are Similar Models

Year Range	Make	Model	Body Styles	Wheelbase
1995 - 2001	CHEVROLET	LUMINA	2D, 4D	107.5
Remarks: "Older Cars"				
1995 - 1999	CHEVROLET	MONTE CARLO	2D	108
Remarks: "Older Cars"				

If you have suggestions, corrections, etc., you should contact Greg Anderson at Scalia Safety Engineering,
521 East Washington Avenue, Suite 200, Madison, WI 53703-2914, (608) 256-0820, FAX (608) 256-0212, E-mail: greganderson@cs.com.

Test Information

Test #	2159	NHTSA Test Reference Guide Version #	3			
Test Date	1994-11-21	Contract #	DTNH22-90-D-12121			
Contract/Study Title	NCAP TEST - 1995 CHEVROLET MONTE CARLO 2 DOOR COUPE					
Test Objective(s)	VEHICLE CRASHWORTHINESS AND OCCUPANT RESTRAINT PERFORMANCE DATA					
Test Type	NEW CAR ASSESSMENT TEST	Configuration	VEHICLE INTO BARRIER			
Impact Angle	0	Side Impact Point	0	mm	0.0	inches
			0	mm	0.0	inches
		Closing Speed	56.2	Km/Hr	34.92	MPH
Test Performer	MGA RESEARCH					
Test Reference #	BT94112101					
Test Track Surface	CONCRETE	Condition	DRY			
Ambient Temperature	21 C	69.8 F	Total Number of Curves	65		
Data Recorder Type	OTHER	Data Link	UMBILICAL CABLE			
Test Commentary	HIGH SPEED ANALOG TO DIGITAL RECORDER					

Fixed Barrier Information

Barrier Type	RIGID	Pole Barrier Diameter	0	mm	0 inches
Barrier Shape	LOAD CELL BARRIER				
Barrier Commentary	NO COMMENTS				

1995 CHEVROLET MONTE CARLO LEFT FRONT SEAT OCCUPANT

Test #	2159		
Vehicle #	1	Sex	MALE
Location	LEFT FRONT SEAT	Age	0
Position	CENTER POSITION	Height	0 mm 0.0 inches
Type	HYBRID III DUMMY	Weight	0.0 kg 0 pounds
Size	50 PERCENTILE		
Calibration Method	PART 572		
Occupant Manufacturer	VECTOR S/N: 37		
Occupant Modification	NO COMMENTS		
Occupant Description	NO COMMENTS		
Occupant Commentary	NO COMMENTS		

Head

Head to -

Windshielder Header	324	mm	12.8	inches	Head Injury Criteria (HIC)	684	
WindShield	517	mm	20.4	inches	HIC Lower Time Interval (ms)	64.63	
Seatback	0	mm	0.0	inches	HIC Upper Time Interval (ms)	98.78	
Side Header	248	mm	9.8	inches			
Side Window	320	mm	12.6	inches			

Neck to Seatback 0 mm 0.0 inches

First Contact Region (Head): AIR BAG

Second Contact Region (Head):

Chest

Chest to -

Dash	514	mm	20.2	inches	Arm to Door	141	mm	5.6	inches
Steering Wheel	300	mm	11.8	inches	Hip to Door	192	mm	7.6	inches
Seatback	0	mm	0.0	inches					

Chest Severity Index	437	Pelvic Peak Lateral Acceleration (g's)	
Thoracic Trauma Index		Thorax Peak Acceleration (g's)	48.2

Lap Belt Peak Load	3693	Newtons	830.2	pound Force
Shoulder Belt Peak Load	6013	Newtons	1351.8	pound Force

First Contact Region (Chest/Abdomen): AIR BAG

Second Contact Region (Chest/Abdomen): NONE

Legs

Knees to Dash	182	mm	7.2	inches	Knees to Seatback	0	mm	0.0	inches

Left Femur Peak Load	-3555	Newtons	-799.2	pounds Force
Right Femur Peak Load	-4987	Newtons	-1121.1	pounds Force

First Contact Region (Legs): DASHPANEL

Second Contact Region (Legs):

1995 CHEVROLET MONTE CARLO LEFT FRONT SEAT OCCUPANT

Test #	2159					
Vehicle #	1	Sex	MALE			
Location	LEFT FRONT SEAT	Age	0			
Position	CENTER POSITION	Height	0	mm	0.0	inches
Type	HYBRID III DUMMY	Weight	0.0	kg	0	pounds
Size	50 PERCENTILE					

Calibration Method	PART 572
Occupant Manufacturer	VECTOR S/N: 37
Occupant Modification	NO COMMENTS
Occupant Description	NO COMMENTS
Occupant Commentary	NO COMMENTS

Restraints

Restraint # 1	AIR BAG
Mounted	
Deployment	DEPLOYED PROPERLY
Restraint Commentary	NO COMMENTS
Restraint # 2	3 POINT BELT
Mounted	
Deployment	NOT APPLICABLE
Restraint Commentary	NO COMMENTS

1995 CHEVROLET MONTE CARLO RIGHT FRONT SEAT OCCUPANT

Test #	2159		
Vehicle #	1	Sex	MALE
Location	RIGHT FRONT SEAT	Age	0
Position	CENTER POSITION	Height	0 mm 0.0 inches
Type	HYBRID III DUMMY	Weight	0.0 kg 0 pounds
Size	50 PERCENTILE		
Calibration Method	PART 572		
Occupant Manufacturer	VECTOR: S/N 36		
Occupant Modification	NO COMMENTS		
Occupant Description	NO COMMENTS		
Occupant Commentary	NO COMMENTS		

Head

Head to -

Windshielder Header	300	mm	11.8	inches	Head Injury Criteria (HIC)	783	
WindShield	504	mm	19.8	inches	HIC Lower Time Interval (ms)	64.75	
Seatback	0	mm	0.0	inches	HIC Upper Time Interval (ms)	93.39	
Side Header	265	mm	10.4	inches			
Side Window	314	mm	12.4	inches			

Neck to Seatback 0 mm 0.0 inches

First Contact Region (Head): AIR BAG

Second Contact Region (Head):

Chest

Chest to -

Dash	490	mm	19.3	inches	Arm to Door	148	mm	5.8	inches
Steering Wheel	0	mm	0.0	inches	Hip to Door	180	mm	7.1	inches
Seatback	0	mm	0.0	inches					

Chest Severity Index: 431 — Pelvic Peak Lateral Acceleration (g's):

Thoracic Trauma Index: — Thorax Peak Acceleration (g's): 46.3

Lap Belt Peak Load: 4482 Newtons 1007.6 pound Force

Shoulder Belt Peak Load: 5027 Newtons 1130.1 pound Force

First Contact Region (Chest/Abdomen): AIR BAG

Second Contact Region (Chest/Abdomen): NONE

Legs

Knees to Dash: 164 mm 6.5 inches — Knees to Seatback: 0 mm 0.0 inches

Left Femur Peak Load: -3451 Newtons -775.8 pounds Force

Right Femur Peak Load: -2169 Newtons -487.6 pounds Force

First Contact Region (Legs): DASHPANEL

Second Contact Region (Legs):

1995 CHEVROLET MONTE CARLO RIGHT FRONT SEAT OCCUPANT

Test #	2159					
Vehicle #	1	Sex	MALE			
Location	RIGHT FRONT SEAT	Age	0			
Position	CENTER POSITION	Height	0	mm	0.0	inches
Type	HYBRID III DUMMY	Weight	0.0	kg	0	pounds
Size	50 PERCENTILE					

Calibration Method	PART 572
Occupant Manufacturer	VECTOR: S/N 36
Occupant Modification	NO COMMENTS
Occupant Description	NO COMMENTS
Occupant Commentary	NO COMMENTS

Restraints

Restraint # 1	AIR BAG
Mounted	
Deployment	DEPLOYED PROPERLY
Restraint Commentary	NO COMMENTS
Restraint # 2	3 POINT BELT
Mounted	
Deployment	NOT APPLICABLE
Restraint Commentary	NO COMMENTS

Vehicle 1 1995 CHEVROLET MONTE CARLO

Test #	2159		
VIN	2G1WW12M6S9159850	NHTSA Test Vehicle Number	1
Year	1995	Vehicle Modification Indicator	PRODUCTION VEHICLE
Make	CHEVROLET	Post-test Steering Column Shear Capsule Seperation	UNKNOWN
Model	MONTE CARLO	Steering Column Collapse Mechanism	UNKNOWN
Body	TWO DOOR COUPE		
Engine	V6 TRANSVERSE FRONT		
Displacement	3.1 Liter	Transmission	AUTOMATIC - FRONT WHEEL DRIVE
Vehicle Modification(s) Description	NO COMMENTS		
Vehicle Commentary	NO COMMENTS		

Vehicle Length	5039	mm	198.4	inches	CG behind Front Axle	1112	mm	43.8	inches
Vehicle Width	1835	mm	72.2	inches	Center of Damage to CG Axis	0	mm	0.0	inches
Vehicle Wheelbase	2743	mm	108.0	inches	Total Length of Indentation	1397	mm	55.0	inches
Vehicle Test Weight	1705	KG	3758	pounds	Maximum Static Crush Depth	625	mm	24.6	inches
					Pre-Impact Speed	56	kph	34.9	mph

Vehicle Damage Index 12FDEW6 — Principal Direction of Force 0

Damage Profile Distance Measurements

(Measured Left-to-Right, Rear-to-Front)

DPD 1	527	mm	20.7	inches
DPD 2	587	mm	23.1	inches
DPD 3	622	mm	24.5	inches
DPD 4	625	mm	24.6	inches
DPD 5	613	mm	24.1	inches
DPD 6	552	mm	21.7	inches

Crush from Pre & Post Test Damage Measurements

	Pre-Test		Post-Test		Crush Depth	
Left Bumper Corner	190.5	inches	169.8	inches	20.7	inches
	4839	mm	4312	mm	527	mm
Centerline	198.4	inches	175.1	inches	23.3	inches
	5039	mm	4448	mm	591	mm
Right Bumper Corner	190.7	inches	169.0	inches	21.7	inches
	4845	mm	4293	mm	552	mm

Bumper Engagement (Inline Impact Only)	Sill Engagement (Side Impact Only)	A-pillar Engagement (Side Impact Only)
0.0	NOT APPLICABLE	0.0

Moving Test Cart Angle	Moving Test Cart/Vehicle Crabbed Angle	Vehicle Orientation on Cart Moving Test Cart
NOT APPLICABLE	0.0	NOT APPLICABLE
Magnitude of the Tilt Angle Measured between surface of a Rollover Test Cart and the Ground	*Magniture of the Crabbed Angle Measure Clockwise from Longitudinal Vector to Velocity Vector of Vehicle*	*Magnitude of the Angle Measured between the Vehicle Orientation and Direction of Test Cart Motion*

Vehicle 1 1995 CHEVROLET MONTE CARLO

Test #	2159		
VIN	2G1WW12M6S9159850	NHTSA Test Vehicle Number	1
Year	1995	Vehicle Modification Indicator	PRODUCTION VEHICLE
Make	CHEVROLET	Post-test Steering Column Shear Capsule Seperation	UNKNOWN
Model	MONTE CARLO	Steering Column Collapse Mechanism	UNKNOWN
Body	TWO DOOR COUPE		
Engine	V6 TRANSVERSE FRONT		
Displacement	3.1 Liter	Transmission	AUTOMATIC - FRONT WHEEL DRIVE
Vehicle Modification(s) Description	NO COMMENTS		
Vehicle Commentary	NO COMMENTS		

Vehicle Length	5039	mm	198.4	inches	CG behind Front Axle	1112	mm	43.8	inches
Vehicle Width	1835	mm	72.2	inches	Center of Damage to CG Axis	0	mm	0.0	inches
Vehicle Wheelbase	2743	mm	108.0	inches	Total Length of Indentation	1397	mm	55.0	inches
Vehicle Test Weight	1705	KG	3758	pounds	Maximum Static Crush Depth	625	mm	24.6	inches
					Pre-Impact Speed	56	kph	34.9	mph

Vehicle Damage Index	12FDEW6	Principal Direction of Force	0

Pre & Post Test Damage Measurements

(Measurements are taken in a longitudinaldirection. Except for Engine Block, all measurements are take from the Rear Vehicle Surface forward.)

Left Side				Centerline				Right Side			
Pre-Test		Post-Test		Pre-Test		Post-Test		Pre-Test		Post-Test	
mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches
				Length of Vehicle at Centerline							
				5039	198.4	4448	175.1				
				Engine Block							
				381	15.0	381	15.0				
4839	190.5	4312	169.8	Front Bumper Corner				4845	190.7	4293	169.0
				Front of Engine							
				4251	167.4	4042	159.1				
3747	147.5	3658	144.0	Firewall				3753	147.8	3670	144.5
				3718	146.4	3699	145.6				
3391	133.5	3378	133.0	Upper Leading Edge of Door				3397	133.7	3391	133.5
3359	132.2	3353	132.0	Lower Leading Edge of Door				3366	132.5	3359	132.2
3315	130.5	3313	130.4	Bottom of 'A' Post				3305	130.1	3305	130.1
2035	80.1	2026	79.8	Upper Trailing Edge of Door				2045	80.5	2038	80.2
2051	80.7	2042	80.4	Lower Trailing Edge of Door				2057	81.0	2057	81.0
				Steering Column							
				2832	111.5	2908	114.5				
				Center of Seering Column to 'A' Post (Horizontal)							
				381	15.0	324	12.8				
				Center of Steering Column to Headliner (Vertical)							
				391	15.4	318	12.5				

1995 CHEVROLET MONTE CARLO

NHTSA Crash Test - #2159 - Front Impact

Pre/Post Depths - Vehicle Width - Closing Speed - Trapezoidal Average

Test Vehicle Weight = 3758 pounds
Vehicle Closing Speed = 34.9 mph
Test Crush Length = 72.2 inches

Pre/Post Collision Crush Depths (inches)

	Left Side Crush	Centerline Crush	Right Side Crush	
(Driver Side)	20.7	23.3	21.7	(Pass. Side)

		CRASH 3 Stiffness Coefficents			SMAC Stiffness
		A	B	G	Kv
Minimum Crush = 20.7 inches					118.7
Using a Rated No Damage Speed of	2.5 mph	163.3	102.3	130.3	
Using a Rated No Damage Speed of	5.0 mph	301.4	87.1	521.3	
Using a Rated No Damage Speed of	7.5 mph	414.3	73.2	1172.9	
Using a Rated No Damage Speed of	10.0 mph	502.1	60.4	2085.1	
Average Crush = 22.3 inches					102.3
Using a Rated No Damage Speed of	2.5 mph	151.6	88.1	130.3	
Using a Rated No Damage Speed of	5.0 mph	279.8	75.1	521.3	
Using a Rated No Damage Speed of	7.5 mph	384.6	63.1	1172.9	
Using a Rated No Damage Speed of	10.0 mph	466.0	52.1	2085.1	
Maximum Crush = 23.3 inches					93.7
Using a Rated No Damage Speed of	2.5 mph	145.1	80.7	130.3	
Using a Rated No Damage Speed of	5.0 mph	267.8	68.8	521.3	
Using a Rated No Damage Speed of	7.5 mph	368.1	57.8	1172.9	
Using a Rated No Damage Speed of	10.0 mph	446.0	47.7	2085.1	

Rated No Damage Speed = Impact speed with a barrier resulting in no permanant vehicle deformation
Normal "Rated No Damage Speed" is 2.5 or 5 mph. Some Specific vehicles may, however, have a higher rating

A = Maximum force per inch of damage without permanent damage, lb/in
B = Crush resistance per inch of damage width (Crash), lb/in^2
G = Energy dissipated without permanent damage, lb
Kv = Crush resistance per inch of damage width (SMAC), lb/in^2

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4N6XPRT System's First Approximation Crush Factor (CF)

Speed from Crush calculation using a generic CF of 21 as suggested in Expert AutoStats

Impact Speed (mph) = SQRT(30 * CF * max crush in feet)

Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	23.3	35.0	0.1	0.2

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 20.9

CF = (mph * mph) / (30 * max crush in feet), dimensionless

4N6XPRT Systems CF is calculated based upon the data reported and is specific to this vehicle and this test

1995 CHEVROLET MONTE CARLO

NHTSA Crash Test - #2159 - Front Impact

Pre/Post Depths - Indention Length - Closing Speed - Trapezoidal Average

Test Vehicle Weight = 3758 pounds
Vehicle Closing Speed = 34.9 mph
Test Crush Length = 55.0 inches

Pre/Post Collision Crush Depths (inches)

	Left Side Crush	Centerline Crush	Right Side Crush	
(Driver Side)	20.7	23.3	21.7	(Pass. Side)

		CRASH 3 Stiffness Coefficents			SMAC Stiffness
		A	B	G	Kv
Minimum Crush = 20.7 inches					155.9
Using a Rated No Damage Speed of	2.5 mph	214.5	134.4	171.2	
Using a Rated No Damage Speed of	5.0 mph	395.9	114.4	684.7	
Using a Rated No Damage Speed of	7.5 mph	544.2	96.1	1540.6	
Using a Rated No Damage Speed of	10.0 mph	659.5	79.4	2738.8	
Average Crush = 22.3 inches					134.3
Using a Rated No Damage Speed of	2.5 mph	199.1	115.8	171.2	
Using a Rated No Damage Speed of	5.0 mph	367.5	98.6	684.7	
Using a Rated No Damage Speed of	7.5 mph	505.2	82.8	1540.6	
Using a Rated No Damage Speed of	10.0 mph	612.1	68.4	2738.8	
Maximum Crush = 23.3 inches					123.0
Using a Rated No Damage Speed of	2.5 mph	190.5	106.1	171.2	
Using a Rated No Damage Speed of	5.0 mph	351.7	90.3	684.7	
Using a Rated No Damage Speed of	7.5 mph	483.5	75.9	1540.6	
Using a Rated No Damage Speed of	10.0 mph	585.9	62.7	2738.8	

Rated No Damage Speed = Impact speed with a barrier resulting in no permanant vehicle deformation
Normal "Rated No Damage Speed" is 2.5 or 5 mph. Some Specific vehicles may, however, have a higher rating

A = Maximum force per inch of damage without permanent damage, lb/in
B = Crush resistance per inch of damage width (Crash), lb/in^2
G = Energy dissipated without permanent damage, lb
Kv = Crush resistance per inch of damage width (SMAC), lb/in^2

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4N6XPRT System's First Approximation Crush Factor (CF)

Speed from Crush calculation using a generic CF of 21 as suggested in Expert AutoStats

Impact Speed (mph) = SQRT(30 * CF * max crush in feet)

Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	23.3	35.0	0.1	0.2

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 20.9

CF = (mph * mph) / (30 * max crush in feet), dimensionless

4N6XPRT Systems CF is calculated based upon the data reported and is specific to this vehicle and this test

1995 CHEVROLET MONTE CARLO

NHTSA Crash Test - #2159 - Front Impact

Damage Profile Distances - Vehicle Width - Closing Speed - Trapezoidal Average

Test Vehicle Weight = 3758 pounds
Vehicle Closing Speed = 34.9 MPH
Test Crush Length = 72.2 inches

Damage Profile Distance Collision Crush Depths (inches)

	DPD1	DPD2	DPD3	DPD4	DPD5	DPD6	
(Driver Side)	20.7	23.1	24.5	24.6	24.1	21.7	(Pass Side)

		CRASH 3 Stiffness Coefficents			SMAC Stiffness
		A	B	G	Kv
Minimum Crush = 20.7 inches					118.7
Using a Rated No Damage Speed of	2.5mph	163.3	102.3	130.3	
Using a Rated No Damage Speed of	5.0mph	301.4	87.1	521.3	
Using a Rated No Damage Speed of	7.5mph	414.3	73.2	1172.9	
Using a Rated No Damage Speed of	10.0mph	502.1	60.4	2085.1	
Average Crush = 23.5 inches					92.1
Using a Rated No Damage Speed of	2.5mph	143.8	79.4	130.3	
Using a Rated No Damage Speed of	5.0mph	265.5	67.6	521.3	
Using a Rated No Damage Speed of	7.5mph	364.9	56.8	1172.9	
Using a Rated No Damage Speed of	10.0mph	442.2	46.9	1446.5	
Maximum Crush = 24.6 inches					84.0
Using a Rated No Damage Speed of	2.5mph	137.4	72.4	130.3	
Using a Rated No Damage Speed of	5.0mph	253.6	61.7	521.3	
Using a Rated No Damage Speed of	7.5mph	348.6	51.8	1172.9	
Using a Rated No Damage Speed of	10.0mph	422.5	42.8	2085.1	

Rated No Damage Speed = Impact speed with a barrier resulting in no permanant vehicle deformation
Normal "Rated No Damage Speed" is 2.5 or 5 mph. Some Specific vehicles may, however, have a higher rating

A = Maximum force per inch of damage without permanent damage, lb/in
B = Crush resistance per inch of damage width (Crash), lb/in^2
G = Energy dissipated without permanent damage, lb
Kv = Crush resistance per inch of damage width (SMAC), lb/in^2

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4N6XPRT System's First Approximation Crush Factor (CF)

Speed from Crush calculation using a generic CF of 21 as suggested in Expert AutoStats

Impact Speed (mph) = SQRT(30 * CF * max crush in feet)

Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	24.6	35.9	1.0	2.8

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 19.8

CF = (mph * mph) / (30 * max crush in feet), dimensionless

4N6XPRT Systems CF is calculated based upon the data reported and is specific to this vehicle and this test

1995 CHEVROLET MONTE CARLO

NHTSA Crash Test - #2159 - Front Impact

Damage Profile Distances - Indention Length - Closing Speed - Trapezoidal Average

Test Vehicle Weight = 3758 pounds
Vehicle Closing Speed = 34.9 MPH
Test Crush Length = 55.0 inches

Damage Profile Distance Collision Crush Depths (inches)

	DPD1	DPD2	DPD3	DPD4	DPD5	DPD6	
(Driver Side)	20.7	23.1	24.5	24.6	24.1	21.7	(Pass Side)

		CRASH 3 Stiffness Coefficents			SMAC Stiffness
		A	B	G	Kv
Minimum Crush = 20.7 inches					155.9
Using a Rated No Damage Speed of	2.5mph	214.5	134.4	171.2	
Using a Rated No Damage Speed of	5.0mph	395.9	114.4	684.7	
Using a Rated No Damage Speed of	7.5mph	544.2	96.1	1540.6	
Using a Rated No Damage Speed of	10.0mph	659.5	79.4	2738.8	
Average Crush = 23.5 inches					121.0
Using a Rated No Damage Speed of	2.5mph	188.9	104.3	171.2	
Using a Rated No Damage Speed of	5.0mph	348.7	88.8	684.7	
Using a Rated No Damage Speed of	7.5mph	479.4	74.6	1540.6	
Using a Rated No Damage Speed of	10.0mph	580.9	61.6	1900.0	
Maximum Crush = 24.6 inches					110.4
Using a Rated No Damage Speed of	2.5mph	180.5	95.1	171.2	
Using a Rated No Damage Speed of	5.0mph	333.1	81.0	684.7	
Using a Rated No Damage Speed of	7.5mph	457.9	68.1	1540.6	
Using a Rated No Damage Speed of	10.0mph	554.9	56.2	2738.8	

Rated No Damage Speed = Impact speed with a barrier resulting in no permanant vehicle deformation
Normal "Rated No Damage Speed" is 2.5 or 5 mph. Some Specific vehicles may, however, have a higher rating

A = Maximum force per inch of damage without permanent damage, lb/in
B = Crush resistance per inch of damage width (Crash), lb/in^2
G = Energy dissipated without permanent damage, lb
Kv = Crush resistance per inch of damage width (SMAC), lb/in^2

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4N6XPRT System's First Approximation Crush Factor (CF)

Speed from Crush calculation using a generic CF of 21 as suggested in Expert AutoStats

Impact Speed (mph) = SQRT(30 * CF * max crush in feet)

Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	24.6	35.9	1.0	2.8

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 19.8

CF = (mph * mph) / (30 * max crush in feet), dimensionless

4N6XPRT Systems CF is calculated based upon the data reported and is specific to this vehicle and this test

Available Test Results
Front Impact Test Summary

Report Filter Settings

Year Range: 1995 - 1999
Make: CHEVROLET
Model: MONTE CARLO

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	Closing Speed (mph)	Vehicle Stiffness A	Vehicle Stiffness B	Vehicle Width Values G	Vehicle Width Values Kv	Crush Factor
2159	1995 CHEVROLET MONTE CARLO TWO DOOR C...	5.0	23.5	34.9	265.3	67.5	521.3	92.0	20.7
2222	1995 CHEVROLET LUMINA FOUR DOOR SEDAN	5.0	18.5	34.9	343.6	111.0	531.7	151.2	26.3
	Average (AVG)				**304.5**	**89.3**	**526.5**	**121.6**	**23.5**
	Minimum (MIN)				**265.3**	**67.5**	**521.3**	**92.0**	**20.7**
	Maximum (MAX)				**343.6**	**111.0**	**531.7**	**151.2**	**26.3**
	Standard Deviation (STDev-sample)				**55.4**	**30.8**	**7.4**	**41.9**	**4.0**
	Number of Tests (n)			**2**					

Available Test Results
Front Impact Test Summary

Report Filter Settings

Year Range: 1995 - 1999
Make: CHEVROLET
Model: MONTE CARLO

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	Closing Speed (mph)	Vehicle Stiffness A	Vehicle Stiffness B	Vehicle Width Values G	Vehicle Width Values Kv	Crush Factor
2159	1995 CHEVROLET MONTE CARLO TWO DOOR C...	5.0	24.6	34.9	253.5	61.7	521.3	84.0	19.8
2222	1995 CHEVROLET LUMINA FOUR DOOR SEDAN	5.0	21.7	34.9	292.8	80.6	531.7	109.8	22.4
	Average (AVG)				**273.1**	**71.2**	**526.5**	**96.9**	**21.1**
	Minimum (MIN)				**253.5**	**61.7**	**521.3**	**84.0**	**19.8**
	Maximum (MAX)				**292.8**	**80.6**	**531.7**	**109.8**	**22.4**
	Standard Deviation (STDev-sample)				**27.8**	**13.4**	**7.4**	**18.2**	**1.8**
	Number of Tests (n)			**2**					

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The NHTSA Crash Test database contains TWO FRONT Impact test for the Chevrolet Monte Carlo Four door Sedan and its Sisters/Clones..

To create a SIMILAR class of vehicle for comparison with the two tests that are available, we first looked at the test weight of the Monte Carlo impact test, which was reported as 33758 pounds.

We then looked at the NHTSA database for cars that have FRONT IMPACT TESTS and had a Weight of 3733-3783 pounds (+/- 25 pounds of the Front test vehicle).

The Test Summary Reports based on the Average and Maximum crush depths follow.

Available Test Results
Front Impact Test Summary

Report Filter Settings

Year Range: 1965 - 2010

Bodystyle: FOUR DOOR SEDAN

Vehicle Weight Range: 3733-3783

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	Closing Speed (mph)	Vehicle Stiffness A	Vehicle Stiffness B	Vehicle Width Values G	Vehicle Width Values Kv	Crush Factor
1283	1989 PONTIAC BONNEVILLE FOUR DOOR SEDAN	5.0	22.4	29.3	225.5	48.9	519.7	71.1	15.3
1381	1990 LEXUS ES250 FOUR DOOR SEDAN	5.0	18.1	35.1	374.9	124.4	564.6	169.2	27.2
1443	1990 CHEVROLET LUMINA FOUR DOOR SEDAN	5.0	16.4	29.8	320.0	97.0	528.1	140.0	21.7
1890	1993 FORD TAURUS FOUR DOOR SEDAN	5.0	18.3	35.0	352.3	115.7	536.3	157.5	26.8
2049	1994 BUICK REGAL FOUR DOOR SEDAN	5.0	23.7	35.1	262.6	66.9	515.9	90.9	20.8
2053	1994 VOLVO 850 FOUR DOOR SEDAN	5.0	18.4	35.0	355.7	116.1	545.0	158.0	26.6
2248	1995 TOYOTA AVALON FOUR DOOR SEDAN	5.0	15.9	29.3	324.5	99.2	530.4	144.2	21.6
2282	1995 TOYOTA AVALON FOUR DOOR SEDAN	5.0	21.2	35.1	305.8	86.8	538.7	118.0	23.2
2675	1996 FORD TAURUS FOUR DOOR SEDAN	5.0	13.9	37.5	486.6	228.5	518.0	304.1	40.7
4156	2001 LEXUS IS300 FOUR DOOR SEDAN	5.0	12.9	29.4	418.8	158.0	555.1	229.4	26.7
4165	2000 BMW 323 I FOUR DOOR SEDAN	5.0	13.8	29.7	395.8	142.0	551.7	205.3	25.6
4684	2000 TOYOTA CAMRY FOUR DOOR SEDAN	5.0	10.4	21.8	348.4	112.3	540.2	189.4	18.2
4686	2003 HONDA ACCORD FOUR DOOR SEDAN	5.0	16.1	29.6	321.0	97.9	526.2	141.8	21.7
4871	2004 TOYOTA CAMRY FOUR DOOR SEDAN	5.0	19.4	35.3	331.9	103.7	531.0	140.7	25.7
5271	2005 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	17.4	35.0	387.8	133.5	563.3	181.7	28.1
5453	2006 HYUNDAI SONATA FOUR DOOR SEDAN	5.0	14.5	35.2	436.4	181.8	523.7	247.0	34.2
6056	2007 SAAB 9-3 FOUR DOOR SEDAN	5.0	19.4	34.7	334.5	102.4	546.6	139.8	24.8
6225	2008 FORD FUSION FOUR DOOR SEDAN	5.0	23.4	35.0	268.9	68.9	524.3	93.8	20.9
6362	2009 HYUNDAI SONATA FOUR DOOR SEDAN	5.0	17.1	35.0	374.6	131.7	532.7	179.3	28.7
6513	2009 MAZDA 6I FOUR DOOR SEDAN	5.0	20.7	35.1	300.5	87.4	516.8	118.8	23.8
6750	2010 TOYOTA CAMRY FOUR DOOR SEDAN	5.0	21.4	35.1	295.7	83.1	526.1	113.0	23.0
	Average (AVG)				**343.9**	**113.6**	**535.0**	**158.7**	**25.0**
	Minimum (MIN)				**225.5**	**48.9**	**515.9**	**71.1**	**15.3**
	Maximum (MAX)				**486.6**	**228.5**	**564.6**	**304.1**	**40.7**
	Standard Deviation (STDev-sample)				**61.2**	**40.7**	**14.7**	**55.4**	**5.4**
	Number of Tests (n)			**21**					

Available Test Results
Front Impact Test Summary

Report Filter Settings

Year Range: 1965 - 2010

Bodystyle: FOUR DOOR SEDAN

Vehicle Weight Range: 3733-3783

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	Closing Speed (mph)	Vehicle Stiffness A	Vehicle Stiffness B	Vehicle Width Values G	Vehicle Width Values Kv	Crush Factor
326	1978 PEUGEOT 604 FOUR DOOR SEDAN	5.0	17.9	29.4	295.7	80.5	543.0	116.9	19.3
1283	1989 PONTIAC BONNEVILLE FOUR DOOR SEDAN	5.0	23.5	29.3	215.2	44.5	519.7	64.7	14.6
1381	1990 LEXUS ES250 FOUR DOOR SEDAN	5.0	19.5	35.1	348.2	107.4	564.6	146.0	25.2
1443	1990 CHEVROLET LUMINA FOUR DOOR SEDAN	5.0	19.4	29.8	270.2	69.1	528.1	99.8	18.3
1890	1993 FORD TAURUS FOUR DOOR SEDAN	5.0	19.3	35.0	333.4	103.6	536.3	141.1	25.4
2049	1994 BUICK REGAL FOUR DOOR SEDAN	5.0	25.1	35.1	247.4	59.3	515.9	80.6	19.6
2053	1994 VOLVO 850 FOUR DOOR SEDAN	5.0	47.0	35.0	139.0	17.7	545.0	24.1	10.4
2248	1995 TOYOTA AVALON FOUR DOOR SEDAN	5.0	17.1	29.3	302.1	86.0	530.4	125.0	20.1
2282	1995 TOYOTA AVALON FOUR DOOR SEDAN	5.0	22.2	35.1	292.7	79.5	538.7	108.1	22.2
2675	1996 FORD TAURUS FOUR DOOR SEDAN	5.0	23.6	37.5	285.4	78.6	518.0	104.6	23.9
3190	1999 DODGE INTREPID FOUR DOOR SEDAN	5.0	20.6	30.1	243.3	59.4	498.5	85.4	17.6
4156	2001 LEXUS IS300 FOUR DOOR SEDAN	5.0	15.5	29.4	350.1	110.4	555.1	160.3	22.3
4165	2000 BMW 323 I FOUR DOOR SEDAN	5.0	16.7	29.7	327.3	97.1	551.7	140.4	21.2
4491	2003 MERCEDES C230 FOUR DOOR SEDAN	5.0	19.7	35.0	339.0	103.3	556.1	140.6	24.9
4684	2000 TOYOTA CAMRY FOUR DOOR SEDAN	5.0	12.6	21.8	288.4	77.0	540.2	129.7	15.1
4686	2003 HONDA ACCORD FOUR DOOR SEDAN	5.0	19.2	29.6	269.5	69.0	526.2	99.9	18.2
4871	2004 TOYOTA CAMRY FOUR DOOR SEDAN	5.0	22.2	35.3	289.3	78.8	531.0	107.0	22.4
5092	2004 VOLVO S40 FOUR DOOR SEDAN	5.0	13.3	34.9	482.3	216.1	538.2	294.4	36.5
5271	2005 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	19.9	35.0	339.7	102.4	563.3	139.4	24.6
5453	2006 HYUNDAI SONATA FOUR DOOR SEDAN	5.0	17.0	35.2	372.8	132.7	523.7	180.3	29.2
6056	2007 SAAB 9-3 FOUR DOOR SEDAN	5.0	20.9	34.7	310.9	88.4	546.6	120.7	23.0
6225	2008 FORD FUSION FOUR DOOR SEDAN	5.0	26.1	35.0	241.3	55.5	524.3	75.6	18.8
6362	2009 HYUNDAI SONATA FOUR DOOR SEDAN	5.0	20.7	35.0	309.6	89.9	532.7	122.4	23.7
6511	2009 HYUNDAI SONATA FOUR DOOR SEDAN	5.0	14.0	35.0	454.9	195.4	529.4	265.9	35.1
6513	2009 MAZDA 6I FOUR DOOR SEDAN	5.0	22.5	35.1	276.9	74.2	516.8	100.8	21.9
6750	2010 TOYOTA CAMRY FOUR DOOR SEDAN	5.0	23.1	35.1	274.2	71.4	526.1	97.1	21.3
	Average (AVG)				**303.8**	**90.3**	**534.6**	**125.8**	**22.1**
	Minimum (MIN)				**139.0**	**17.7**	**498.5**	**24.1**	**10.4**
	Maximum (MAX)				**482.3**	**216.1**	**564.6**	**294.4**	**36.5**
	Standard Deviation (STDev-sample)				**68.8**	**41.3**	**15.8**	**55.8**	**5.6**
	Number of Tests (n)			**26**					

Expert VIN DeCoder®

Version Number 3.0.2.4

DeCoded VIN: 2FMDA53401BB16000

Model:	2001 Ford Windstar SEL Minivan
Engine Size:	3.8 L / 231 cu.in.
Engine Description:	V6 cylinder with Overhead Valve
Horse Power:	200 @ 5000 rpm
Torque:	230 lb-ft at 3000 rpm
Injection System:	Sequential Port Fuel Injection (SEFI)
PSI:	28-45 psi
Ignition:	electronic
Manufacturer:	Ford
Assembly Plant:	Oakville, Ontario (Canada)
Drive Wheels:	This is a Front Wheel Drive vehicle

The First through Third characters (2FM) indicate a Ford Multi-Purpose Vehicle (MPV) made in Canada

The Fourth character (D) indicates a GVWR of 5001-6000 lbs.

The Fifth through Seventh characters (A53) indicate a Windstar SEL and a Minivan

The Eighth character (4) indicates the OEM engine: 3.8 L / 231 cu.in., V6, OHV

The Ninth character (the check digit) is entered as 0.
The VIN appears Valid, the calculated value is 0.

The Tenth character (1) indicates the model year 2001

The Eleventh character (B) indicates the vehicle was made in the assembly plant in Oakville, Ontario (Canada)

The Twelfth through Seventeenth characters (B16000) indicate the Serial Number and are unique to this vehicle.

Expert AutoStats®

Version 5.1.0.6

PROVIDED BY:
4N6XPRT Systems
8387 University Avenue
La Mesa CA 91941

3/21/2011

2001 FORD WINDSTAR 4 DOOR MINI VAN

Curb Weight:	4150	lbs.	1882	kg.
Curb Weight Distribution - Front:	59	% Rear:	41	%
Gross Vehicle Weight Rating:	5360	lbs.	2431	kg.
Number of Tires on Vehicle:	4			
Drive Wheels:	FRONT			

Horizontal Dimensions	Inches	Feet	Meters
Total Length	201	16.75	5.11
Wheelbase:	121	10.08	3.07
Front Bumper to Front Axle:	40	3.33	1.02
Front Bumper to Front of Front Well:	24	2.00	0.61
Front Bumper to Front of Hood:	6	0.50	0.15
Front Bumper to Base of Windshield:	43	3.58	1.09
Front Bumper to Top of Windshield:	75	6.25	1.91
Rear Bumper to Rear Axle:	40	3.33	1.02
Rear Bumper to Rear of Rear Well:	24	2.00	0.61
Rear Bumper to Rear of Trunk:	5	0.42	0.13
Rear Bumper to Base of Rear Window:	7	0.58	0.18
Width Dimensions			
Maximum Width:	77	6.42	1.96
Front Track:	64	5.33	1.63
Rear Track:	64	5.33	1.63
Vertical Dimensions			
Height:	68	5.67	1.73
Ground to -			
Front Bumper (Top)	21	1.75	0.53
Headlight - center	29	2.42	0.74
Hood - top front:	30	2.50	0.76
Base of Windshield	43	3.58	1.09
Rear Bumper - top:	21	1.75	0.53
Trunk - top rear:	38	3.17	0.97
Base of Rear Window:	42	3.50	1.07

2001 FORD WINDSTAR 4 DOOR MINI VAN

Interior Dimensions	Inches	Feet	Meters
Front Seat Shoulder Width	61	5.08	1.55
Front Seat to Headliner	39	3.25	0.99
Front Leg Room - seatback to floor (max)	40	3.33	1.02
Rear Seat Shoulder Width	63	5.25	1.60
Rear Seat to Headliner	41	3.42	1.04
Front Leg Room - seatback to floor (min)	30	2.50	0.76

Seatbelts: 3pt - front and rear
Airbags: FRONT SEAT AIRBAGS

Steering Data

Turning Circle (Diameter)	504	42.00	12.80
Steering Ratio:	:1		
Wheel Radius:	12	1.00	0.30
Tire Size (OEM):	P215/70R15		

Acceleration & Braking Information

Brake Type: FRONT DISC - REAR DRUM
ABS System: ALL WHEEL ABS

Braking, 60 mph to 0 (Hard pedal, no skid, dry pavement):
d = 133.0 ft t = 3.0 sec a = -29.1 ft/sec² G-force = -0.90

Acceleration:

0 to 30mph	t =	3.3	sec	a =	13.3	ft/sec²	G-force = 0.41
0 to 60mph	t =	9.7	sec	a =	9.1	ft/sec²	G-force = 0.28
45 to 65mph	t =	5.3	sec	a =	5.5	ft/sec²	G-force = 0.17

Transmission Type: 4spd AUTOMATIC

Notes:
Federal Bumper Standard Requirements: No Requirement
This vehicles Rated Bumper Strength: 5 mph

N.S.D.C = 1999 - 2003

2001 FORD WINDSTAR 4 DOOR MINI VAN

Other Information

Tip-Over Stability Ratio =	1.20	Reasonably Stable
NHTSA Star Rating (calculated)		***

Center of Gravity (No Load):

Inches behind front axle	=	49.61
Inches in front of rear axle	=	71.39
Inches from side of vehicle	=	38.50
Inches from ground	=	26.62
Inches from front corner	=	97.53
Inches from rear corner	=	117.86
Inches from front bumper	=	89.61
Inches from rear bumper	=	111.39

Moments of Inertia Approximations (No Load):

Yaw Moment of Inertia	=	2931.50	lb*ft*sec²
Pitch Moment of Inertia	=	2991.00	lb*ft*sec²
Roll Moment of Inertia	=	678.00	lb*ft*sec²

Front Profile Information

Angle Front Bumper to Hood Front	=	56.3	deg
Angle Front of Hood to Windshield Base	=	19.4	deg
Angle Front of Hood to Windshield Top	=	27.6	deg
Angle of Windshield	=	35.7	deg
Angle of Steering Tires at Max Turn	=	27.5	deg

First Approximation Crush Factors:

Speed Equivalent (mph) of Kinetic Energy (KE) used in causing crush of indentation may be evaluated using the following formula, the appropriated Crush Factor (CF), and Maximum Indentation Depth (MID), in feet:

$$V(mph) = \sqrt{(30 * CF * MID)}$$

KE Equivalent Speed (Front/Rear/Side)	=	21 CF
Bullet vehicle IMPACT SPEED estimation based on TARGET VEHICLE damage ONLY (Tested for Rear/Side Impact only)	=	27 CF

These CF values are based upon analysis of NHTSA Barrier Crash data, and from over 1000 vehicle accidents where independant evaluation of speed was possible. (These are NOT 'A', 'B', 'C', or 'G' values)

The rear Impact data with more then 2-3 inches of crush damage should be looked at carefully, since some vehicles have very weak trunk & fender strength. Therefore, on some cars, especially GM, you estimate from the rear crush data may be high by as much as 4-5 mph (on a crush of 18 inches).

Stiffness Values and Test Data

Derived from

NHTSA Crash Test

#3594

2001 FORD WINDSTAR

Provided By

4N6XPRT StifCalcs®

Registered to:

4N6XPRT SYSTEMS
8387 UNIVERSITY AVENUE
LA MESA CA 91941-3842
10R-030201SC02301

4N6XPRT Systems | 8387 University Avenue | La Mesa, CA 91942 | USA
(800) 266-9778 | (619) 464-3478 | FAX: (619) 464-2206 | Email: 4n6@4n6xprt.com

Sister/Clone database reader

You entered: **2001 FORD WINDSTAR**

The Sister/Clone Vehicle Year/Model Interchange list indicates the following are Similar Models

Year Range	Make	Model	Body Styles	Wheelbase
1994 - 1998	FORD	WINDSTAR	MiniVan	120.7
Remarks: TAURUS BASED.				
1999 - 2003	FORD	WINDSTAR	MiniVan	120.7
Remarks: NEW(W/4TH DOOR) added in 99				

If you have suggestions, corrections, etc., you should contact Greg Anderson at Scalia Safety Engineering,
521 East Washington Avenue, Suite 200, Madison, WI 53703-2914, (608) 256-0820, FAX (608) 256-0212, E-mail: greganderson@cs.com.

Test Information

Test #	3594	NHTSA Test Reference Guide Version #	V5				
Test Date	2001-03-05	Contract #	DTNH22-01-D-12005				
Contract/Study Title	NCAP - 2001 FORD WINDSTAR SE SPORT						
Test Objective(s)	VEHICLE CRASHWORTHINESS AND OCCUPANT RESTRAINT PERFORMANCE DATA						
Test Type	NEW CAR ASSESSMENT TEST	Configuration	VEHICLE INTO BARRIER				
Impact Angle	0	Side Impact Point	0	mm	0.0	inches	
			0	mm	0.0	inches	
		Closing Speed	56.6	Km/Hr	35.17	MPH	
Test Performer	MGA RESEARCH						
Test Reference #	BT01030501						
Test Track Surface	CONCRETE	Condition	DRY				
Ambient Temperature	21 C	69.8 F	Total Number of Curves	147			
Data Recorder Type	OTHER	Data Link	OTHER				
Test Commentary	EME ON BOARD DAS 3200						

Fixed Barrier Information

Barrier Type	RIGID	Pole Barrier Diameter	0	mm	0	inches
Barrier Shape	LOAD CELL BARRIER					
Barrier Commentary						

2001 FORD WINDSTAR LEFT FRONT SEAT OCCUPANT

Test #	3594		
Vehicle #	1	Sex	MALE
Location	LEFT FRONT SEAT	Age	0
Position	CENTER POSITION	Height	0 mm 0.0 inches
Type	HYBRID III DUMMY	Weight	0.0 kg 0 pounds
Size	50 PERCENTILE		
Calibration Method	HYBRID III		
Occupant Manufacturer	ALDERSON LABS S/N 192		
Occupant Modification			
Occupant Description			
Occupant Commentary			

Head

Head to -

Windshielder Header	399	mm	15.7	inches	Head Injury Criteria (HIC)	256	
WindShield	690	mm	27.2	inches	HIC Lower Time Interval (ms)	58	
Seatback	0	mm	0.0	inches	HIC Upper Time Interval (ms)	94	
Side Header	271	mm	10.7	inches			
Side Window	373	mm	14.7	inches			
Neck to Seatback	0	mm	0.0	inches			
First Contact Region (Head)	AIR BAG						
Second Contact Region (Head)							

Chest

Chest to -

Dash	561	mm	22.1	inches	Arm to Door	138	mm	5.4	inches
Steering Wheel	299	mm	11.8	inches	Hip to Door	182	mm	7.2	inches
Seatback	0	mm	0.0	inches					
Chest Severity Index	258				Pelvic Peak Lateral Acceleration (g's)	0			
Thoracic Trauma Index	0				Thorax Peak Acceleration (g's)	30.9			
Lap Belt Peak Load	4070	Newtons	915.0	pound Force					
Shoulder Belt Peak Load	0	Newtons	0.0	pound Force					
First Contact Region (Chest/Abdomen)	AIR BAG								
Second Contact Region (Chest/Abdomen)	NONE								

Legs

Knees to Dash	145	mm	5.7	inches	Knees to Seatback	0	mm	0.0	inches
Left Femur Peak Load	-1720	Newtons	-386.7	pounds Force					
Right Femur Peak Load	-457	Newtons	-102.7	pounds Force					
First Contact Region (Legs)	DASHPANEL								
Second Contact Region (Legs)									

2001 FORD WINDSTAR LEFT FRONT SEAT OCCUPANT

Test #	3594					
Vehicle #	1	Sex	MALE			
Location	LEFT FRONT SEAT	Age	0			
Position	CENTER POSITION	Height	0	mm	0.0	inches
Type	HYBRID III DUMMY	Weight	0.0	kg	0	pounds
Size	50 PERCENTILE					

Calibration Method	HYBRID III
Occupant Manufacturer	ALDERSON LABS S/N 192
Occupant Modification	
Occupant Description	
Occupant Commentary	

Restraints

Restraint # 1	AIR BAG
Mounted	STEERING WHEEL
Deployment	DEPLOYED PROPERLY
Restraint Commentary	PRIMARY
Restraint # 2	3 POINT BELT
Mounted	BELT - CONVENTIONAL MOUNT
Deployment	NOT APPLICABLE
Restraint Commentary	SECONDARY - BELT WITH PRETENSIONERS

2001 FORD WINDSTAR RIGHT FRONT SEAT OCCUPANT

Test #	3594		
Vehicle #	1	Sex	MALE
Location	RIGHT FRONT SEAT	Age	0
Position	CENTER POSITION	Height	0 mm 0.0 inches
Type	HYBRID III DUMMY	Weight	0.0 kg 0 pounds
Size	50 PERCENTILE		
Calibration Method	HYBRID III		
Occupant Manufacturer	HUMANOID SYSTEMS S/N 142		
Occupant Modification			
Occupant Description			
Occupant Commentary			

Head

Head to -

Windshielder Header	385	mm	15.2	inches	Head Injury Criteria (HIC)	516	
WindShield	657	mm	25.9	inches	HIC Lower Time Interval (ms)	76.1	
Seatback	0	mm	0.0	inches	HIC Upper Time Interval (ms)	111.9	
Side Header	236	mm	9.3	inches			
Side Window	330	mm	13.0	inches			

Neck to Seatback 0 mm 0.0 inches

First Contact Region (Head): AIR BAG

Second Contact Region (Head):

Chest

Chest to -

Dash	544	mm	21.4	inches	Arm to Door	117	mm	4.6	inches
Steering Wheel	0	mm	0.0	inches	Hip to Door	150	mm	5.9	inches
Seatback	0	mm	0.0	inches					

Chest Severity Index	259	Pelvic Peak Lateral Acceleration (g's)	0
Thoracic Trauma Index	0	Thorax Peak Acceleration (g's)	32

Lap Belt Peak Load	4005	Newtons	900.4	pound Force
Shoulder Belt Peak Load	0	Newtons	0.0	pound Force

First Contact Region (Chest/Abdomen): AIR BAG

Second Contact Region (Chest/Abdomen): NONE

Legs

Knees to Dash	160	mm	6.3	inches	Knees to Seatback	0	mm	0.0	inches

Left Femur Peak Load	-2493	Newtons	-560.5	pounds Force
Right Femur Peak Load	-1833	Newtons	-412.1	pounds Force

First Contact Region (Legs): DASHPANEL

Second Contact Region (Legs):

2001 FORD WINDSTAR RIGHT FRONT SEAT OCCUPANT

Test #	3594					
Vehicle #	1	Sex	MALE			
Location	RIGHT FRONT SEAT	Age	0			
Position	CENTER POSITION	Height	0	mm	0.0	inches
Type	HYBRID III DUMMY	Weight	0.0	kg	0	pounds
Size	50 PERCENTILE					

Calibration Method	HYBRID III
Occupant Manufacturer	HUMANOID SYSTEMS S/N 142
Occupant Modification	
Occupant Description	
Occupant Commentary	

Restraints

Restraint # 1	AIR BAG
Mounted	DASH PANEL - UNSPECIFIED
Deployment	DEPLOYED PROPERLY
Restraint Commentary	PRIMARY
Restraint # 2	3 POINT BELT
Mounted	BELT - CONVENTIONAL MOUNT
Deployment	NOT APPLICABLE
Restraint Commentary	SECONDARY - BELT WITH PRETENSIONERS

2001 FORD WINDSTAR RIGHT REAR SEAT OCCUPANT

Test #	3594		
Vehicle #	1	Sex	NOT APPLICABLE
Location	RIGHT REAR SEAT	Age	0
Position	NOT APPLICABLE	Height	0 mm 0.0 inches
Type	CHILD DUMMY	Weight	0.0 kg 0 pounds
Size	3 YEAR OLD CHILD		
Calibration Method	PART 572		
Occupant Manufacturer	FIRST TECHNOLOGY S/N 039		
Occupant Modification			
Occupant Description			
Occupant Commentary			

Head

Head to -

Windshielder Header	0	mm	0.0	inches	Head Injury Criteria (HIC)	653	
WindShield	0	mm	0.0	inches	HIC Lower Time Interval (ms)	78	
Seatback	633	mm	24.9	inches	HIC Upper Time Interval (ms)	114	
Side Header	0	mm	0.0	inches			
Side Window	451	mm	17.8	inches			
Neck to Seatback	0	mm	0.0	inches			
First Contact Region (Head)	NONE						
Second Contact Region (Head)							

Chest

Chest to -

Dash	0	mm	0.0	inches	Arm to Door	0	mm	0.0	inches
Steering Wheel	0	mm	0.0	inches	Hip to Door	0	mm	0.0	inches
Seatback	0	mm	0.0	inches					
Chest Severity Index	390				Pelvic Peak Lateral Acceleration (g's)	0			
Thoracic Trauma Index	0				Thorax Peak Acceleration (g's)	37.6			
Lap Belt Peak Load	0	Newtons	0.0	pound Force					
Shoulder Belt Peak Load	0	Newtons	0.0	pound Force					
First Contact Region (Chest/Abdomen)	NONE								
Second Contact Region (Chest/Abdomen)	NONE								

Legs

Knees to Dash	0	mm	0.0	inches	Knees to Seatback	394	mm	15.5	inches
Left Femur Peak Load	0	Newtons	0.0	pounds Force					
Right Femur Peak Load	0	Newtons	0.0	pounds Force					
First Contact Region (Legs)	SEAT BACK								
Second Contact Region (Legs)									

2001 FORD WINDSTAR RIGHT REAR SEAT OCCUPANT

Test #	3594					
Vehicle #	1	Sex	NOT APPLICABLE			
Location	RIGHT REAR SEAT	Age	0			
Position	NOT APPLICABLE	Height	0	mm	0.0	inches
Type	CHILD DUMMY	Weight	0.0	kg	0	pounds
Size	3 YEAR OLD CHILD					

Calibration Method	PART 572
Occupant Manufacturer	FIRST TECHNOLOGY S/N 039
Occupant Modification	
Occupant Description	
Occupant Commentary	

Restraints

Restraint # 1	CONVERTIBLE CHILD SAFETY SEAT, FRONT FACING
Mounted	LATCH - LOWER ANCHORAGES AND TOP TETHER
Deployment	NOT APPLICABLE
Restraint Commentary	FISHER PRICE SAFE EMBRACE II LATCH
Restraint # 2	5 POINT BELT
Mounted	CHILD SEAT
Deployment	NOT APPLICABLE
Restraint Commentary	

2001 FORD WINDSTAR LEFT REAR SEAT OCCUPANT

Test #	3594		
Vehicle #	1	Sex	NOT APPLICABLE
Location	LEFT REAR SEAT	Age	0
Position	NOT APPLICABLE	Height	0 mm 0.0 inches
Type	CHILD DUMMY	Weight	0.0 kg 0 pounds
Size	3 YEAR OLD CHILD		
Calibration Method	PART 572		
Occupant Manufacturer	FIRST TECHNOLOGY S/N 039		
Occupant Modification			
Occupant Description			
Occupant Commentary			

Head

Head to -

Windshielder Header	0	mm	0.0	inches	Head Injury Criteria (HIC)	606	
WindShield	0	mm	0.0	inches	HIC Lower Time Interval (ms)	74.4	
Seatback	627	mm	24.7	inches	HIC Upper Time Interval (ms)	110.4	
Side Header	0	mm	0.0	inches			
Side Window	566	mm	22.3	inches			
Neck to Seatback	0	mm	0.0	inches			
First Contact Region (Head)	NONE						
Second Contact Region (Head)							

Chest

Chest to -

Dash	0	mm	0.0	inches	Arm to Door	0	mm	0.0	inches
Steering Wheel	0	mm	0.0	inches	Hip to Door	0	mm	0.0	inches
Seatback	0	mm	0.0	inches					
Chest Severity Index	347				Pelvic Peak Lateral Acceleration (g's)	0			
Thoracic Trauma Index	0				Thorax Peak Acceleration (g's)	37.8			
Lap Belt Peak Load	0	Newtons	0.0	pound Force					
Shoulder Belt Peak Load	0	Newtons	0.0	pound Force					
First Contact Region (Chest/Abdomen)	NONE								
Second Contact Region (Chest/Abdomen)	NONE								

Legs

Knees to Dash	0	mm	0.0	inches	Knees to Seatback	352	mm	13.9	inches
Left Femur Peak Load	0	Newtons	0.0	pounds Force					
Right Femur Peak Load	0	Newtons	0.0	pounds Force					
First Contact Region (Legs)	SEAT BACK								
Second Contact Region (Legs)									

2001 FORD WINDSTAR LEFT REAR SEAT OCCUPANT

Test #	3594					
Vehicle #	1	Sex	NOT APPLICABLE			
Location	LEFT REAR SEAT	Age	0			
Position	NOT APPLICABLE	Height	0	mm	0.0	inches
Type	CHILD DUMMY	Weight	0.0	kg	0	pounds
Size	3 YEAR OLD CHILD					

Calibration Method	PART 572
Occupant Manufacturer	FIRST TECHNOLOGY S/N 039
Occupant Modification	
Occupant Description	
Occupant Commentary	

Restraints

Restraint # 1	CONVERTIBLE CHILD SAFETY SEAT, FRONT FACING
Mounted	LAP/SHOULDER BELT, TOP TETHER
Deployment	NOT APPLICABLE
Restraint Commentary	FISHER PRICE SAFE EMBRACE II BELTED
Restraint # 2	5 POINT BELT
Mounted	CHILD SEAT
Deployment	NOT APPLICABLE
Restraint Commentary	

Vehicle 1 2001 FORD WINDSTAR

Test #	3594		
VIN	2FMZA57411BB19603	NHTSA Test Vehicle Number	1
Year	2001	Vehicle Modification Indicator	PRODUCTION VEHICLE
Make	FORD	Post-test Steering Column Shear Capsule Seperation	UNKNOWN
Model	WINDSTAR	Steering Column Collapse Mechanism	UNKNOWN
Body	VAN		
Engine	V6 TRANSVERSE FRONT		
Displacement	3.8 Liter	Transmission	AUTOMATIC - FRONT WHEEL DRIVE
Vehicle Modification(s) Description			
Vehicle Commentary			

Vehicle Length	4997	mm	196.7	inches	CG behind Front Axle	1271	mm	50.0	inches
Vehicle Width	1870	mm	73.6	inches	Center of Damage to CG Axis	0	mm	0.0	inches
Vehicle Wheelbase	3075	mm	121.1	inches	Total Length of Indentation	1870	mm	73.6	inches
Vehicle Test Weight	2135	KG	4706	pounds	Maximum Static Crush Depth	567	mm	22.3	inches
					Pre-Impact Speed	57	kph	35.2	mph

Vehicle Damage Index 12FDEW6 — Principal Direction of Force 0

Damage Profile Distance Measurements

(Measured Left-to-Right, Rear-to-Front)

DPD 1	513	mm	20.2	inches
DPD 2	567	mm	22.3	inches
DPD 3	549	mm	21.6	inches
DPD 4	550	mm	21.7	inches
DPD 5	551	mm	21.7	inches
DPD 6	485	mm	19.1	inches

Crush from Pre & Post Test Damage Measurements

	Pre-Test		Post-Test		Crush Depth	
Left Bumper Corner	191.1	inches	170.9	inches	20.2	inches
	4855	mm	4342	mm	513	mm
Centerline	196.7	inches	175.2	inches	21.5	inches
	4997	mm	4450	mm	547	mm
Right Bumper Corner	190.9	inches	171.8	inches	19.1	inches
	4848	mm	4363	mm	485	mm

Bumper Engagement (Inline Impact Only)	Sill Engagement (Side Impact Only)	A-pillar Engagement (Side Impact Only)
0.0	NOT APPLICABLE	0.0

Moving Test Cart Angle	Moving Test Cart/Vehicle Crabbed Angle	Vehicle Orientation on Cart Moving Test Cart
DIRECT ENGAGEMENT	0.0	NOT APPLICABLE
Magnitude of the Tilt Angle Measured between surface of a Rollover Test Cart and the Ground	*Magniture of the Crabbed Angle Measure Clockwise from Longitudinal Vector to Velocity Vector of Vehicle*	*Magnitude of the Angle Measured between the Vehicle Orientation and Direction of Test Cart Motion*

Vehicle 1 2001 FORD WINDSTAR

Test #	3594		
VIN	2FMZA57411BB19603	NHTSA Test Vehicle Number	1
Year	2001	Vehicle Modification Indicator	PRODUCTION VEHICLE
Make	FORD	Post-test Steering Column Shear Capsule Seperation	UNKNOWN
Model	WINDSTAR	Steering Column Collapse Mechanism	UNKNOWN
Body	VAN		
Engine	V6 TRANSVERSE FRONT		
Displacement	3.8 Liter	Transmission	AUTOMATIC - FRONT WHEEL DRIVE
Vehicle Modification(s) Description			
Vehicle Commentary			

Vehicle Length	4997	mm	196.7	inches	CG behind Front Axle	1271	mm	50.0	inches
Vehicle Width	1870	mm	73.6	inches	Center of Damage to CG Axis	0	mm	0.0	inches
Vehicle Wheelbase	3075	mm	121.1	inches	Total Length of Indentation	1870	mm	73.6	inches
Vehicle Test Weight	2135	KG	4706	pounds	Maximum Static Crush Depth	567	mm	22.3	inches
					Pre-Impact Speed	57	kph	35.2	mph

Vehicle Damage Index 12FDEW6 Principal Direction of Force 0

Pre & Post Test Damage Measurements

(Measurements are taken in a longitudinaldirection. Except for Engine Block, all measurements are take from the Rear Vehicle Surface forward.)

Left Side Pre-Test mm	Left Side Pre-Test inches	Left Side Post-Test mm	Left Side Post-Test inches	Centerline	Centerline Pre-Test mm	Centerline Pre-Test inches	Centerline Post-Test mm	Centerline Post-Test inches	Right Side Pre-Test mm	Right Side Pre-Test inches	Right Side Post-Test mm	Right Side Post-Test inches
				Length of Vehicle at Centerline	4997	196.7	4450	175.2				
				Engine Block	385	15.2	385	15.2				
4855	191.1	4342	170.9	Front Bumper Corner					4848	190.9	4363	171.8
				Front of Engine	4502	177.2	4130	162.6				
4151	163.4	4088	160.9	Firewall					4143	163.1	4072	160.3
					3792	149.3	3755	147.8				
3600	141.7	3580	140.9	Upper Leading Edge of Door					3595	141.5	3582	141.0
3489	137.4	3487	137.3	Lower Leading Edge of Door					3489	137.4	3479	137.0
3463	136.3	3455	136.0	Bottom of 'A' Post					3456	136.1	3448	135.7
2382	93.8	2375	93.5	Upper Trailing Edge of Door					2380	93.7	2360	92.9
2402	94.6	2398	94.4	Lower Trailing Edge of Door					2398	94.4	2388	94.0
				Steering Column	3044	119.8	3067	120.7				
				Center of Seering Column to 'A' Post (Horizontal)	345	13.6	340	13.4				
				Center of Steering Column to Headliner (Vertical)	404	15.9	430	16.9				

2001 FORD WINDSTAR

NHTSA Crash Test - #3594 - Front Impact

Pre/Post Depths - Vehicle Width - Closing Speed - Trapezoidal Average

Test Vehicle Weight = 4706 pounds
Vehicle Closing Speed = 35.2 mph
Test Crush Length = 73.6 inches

Pre/Post Collision Crush Depths (inches)

	Left Side Crush	Centerline Crush	Right Side Crush	
(Driver Side)	20.2	21.5	19.1	(Pass. Side)

		CRASH 3 Stiffness Coefficents			SMAC Stiffness
		A	B	G	Kv
Minimum Crush = 19.1 inches					173.7
Using a Rated No Damage Speed of	2.5 mph	219.1	149.9	160.1	
Using a Rated No Damage Speed of	5.0 mph	404.7	127.8	640.5	
Using a Rated No Damage Speed of	7.5 mph	556.7	107.5	1441.2	
Using a Rated No Damage Speed of	10.0 mph	675.3	89.0	2562.1	
Average Crush = 20.6 inches					149.4
Using a Rated No Damage Speed of	2.5 mph	203.2	128.9	160.1	
Using a Rated No Damage Speed of	5.0 mph	375.2	109.9	640.5	
Using a Rated No Damage Speed of	7.5 mph	516.2	92.4	1441.2	
Using a Rated No Damage Speed of	10.0 mph	626.1	76.5	2562.1	
Maximum Crush = 21.5 inches					137.1
Using a Rated No Damage Speed of	2.5 mph	194.7	118.3	160.1	
Using a Rated No Damage Speed of	5.0 mph	359.5	100.9	640.5	
Using a Rated No Damage Speed of	7.5 mph	494.6	84.9	1441.2	
Using a Rated No Damage Speed of	10.0 mph	599.9	70.2	2562.1	

Rated No Damage Speed = Impact speed with a barrier resulting in no permanant vehicle deformation
Normal "Rated No Damage Speed" is 2.5 or 5 mph. Some Specific vehicles may, however, have a higher rating

A = Maximum force per inch of damage without permanent damage, lb/in
B = Crush resistance per inch of damage width (Crash), lb/in^2
G = Energy dissipated without permanent damage, lb
Kv = Crush resistance per inch of damage width (SMAC), lb/in^2

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4N6XPRT System's First Approximation Crush Factor (CF)

Speed from Crush calculation using a generic CF of 21 as suggested in Expert AutoStats

Impact Speed (mph) = SQRT(30 * CF * max crush in feet)

Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	21.5	33.6	-1.6	-4.7

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 23.0

CF = (mph * mph) / (30 * max crush in feet), dimensionless

4N6XPRT Systems CF is calculated based upon the data reported and is specific to this vehicle and this test

2001 FORD WINDSTAR

NHTSA Crash Test - #3594 - Front Impact

Pre/Post Depths - Indention Length - Closing Speed - Trapezoidal Average

Test Vehicle Weight = 4706 pounds
Vehicle Closing Speed = 35.2 mph
Test Crush Length = 73.6 inches

Pre/Post Collision Crush Depths (inches)

	Left Side Crush	Centerline Crush	Right Side Crush	
(Driver Side)	20.2	21.5	19.1	(Pass. Side)

		CRASH 3 Stiffness Coefficents			SMAC Stiffness
		A	B	G	Kv
Minimum Crush = 19.1 inches					173.7
Using a Rated No Damage Speed of	2.5 mph	219.1	149.9	160.1	
Using a Rated No Damage Speed of	5.0 mph	404.7	127.8	640.5	
Using a Rated No Damage Speed of	7.5 mph	556.7	107.5	1441.2	
Using a Rated No Damage Speed of	10.0 mph	675.3	89.0	2562.1	
Average Crush = 20.6 inches					149.4
Using a Rated No Damage Speed of	2.5 mph	203.2	128.9	160.1	
Using a Rated No Damage Speed of	5.0 mph	375.2	109.9	640.5	
Using a Rated No Damage Speed of	7.5 mph	516.2	92.4	1441.2	
Using a Rated No Damage Speed of	10.0 mph	626.1	76.5	2562.1	
Maximum Crush = 21.5 inches					137.1
Using a Rated No Damage Speed of	2.5 mph	194.7	118.3	160.1	
Using a Rated No Damage Speed of	5.0 mph	359.5	100.9	640.5	
Using a Rated No Damage Speed of	7.5 mph	494.6	84.9	1441.2	
Using a Rated No Damage Speed of	10.0 mph	599.9	70.2	2562.1	

Rated No Damage Speed = Impact speed with a barrier resulting in no permanant vehicle deformation
Normal "Rated No Damage Speed" is 2.5 or 5 mph. Some Specific vehicles may, however, have a higher rating

A = Maximum force per inch of damage without permanent damage, lb/in
B = Crush resistance per inch of damage width (Crash), lb/in^2
G = Energy dissipated without permanent damage, lb
Kv = Crush resistance per inch of damage width (SMAC), lb/in^2

****

4N6XPRT System's First Approximation Crush Factor (CF)

Speed from Crush calculation using a generic CF of 21 as suggested in Expert AutoStats

Impact Speed (mph) = SQRT(30 * CF * max crush in feet)

Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	21.5	33.6	-1.6	-4.7

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 23.0

CF = (mph * mph) / (30 * max crush in feet), dimensionless

4N6XPRT Systems CF is calculated based upon the data reported and is specific to this vehicle and this test

2001 FORD WINDSTAR

NHTSA Crash Test - #3594 - Front Impact

Damage Profile Distances - Vehicle Width - Closing Speed - Trapezoidal Average

Test Vehicle Weight = 4706 pounds
Vehicle Closing Speed = 35.2 MPH
Test Crush Length = 73.6 inches

Damage Profile Distance Collision Crush Depths (inches)

	DPD1	DPD2	DPD3	DPD4	DPD5	DPD6	
(Driver Side)	20.2	22.3	21.6	21.7	21.7	19.1	(Pass Side)

		CRASH 3 Stiffness Coefficents			SMAC Stiffness
		A	B	G	Kv
Minimum Crush = 19.1 inches					173.7
Using a Rated No Damage Speed of	2.5mph	219.1	149.9	160.1	
Using a Rated No Damage Speed of	5.0mph	404.7	127.8	640.5	
Using a Rated No Damage Speed of	7.5mph	556.7	107.5	1441.2	
Using a Rated No Damage Speed of	10.0mph	675.3	89.0	2562.1	
Average Crush = 21.4 inches					138.4
Using a Rated No Damage Speed of	2.5mph	195.6	119.4	160.1	
Using a Rated No Damage Speed of	5.0mph	361.2	101.8	640.5	
Using a Rated No Damage Speed of	7.5mph	496.9	85.7	1441.2	
Using a Rated No Damage Speed of	10.0mph	602.7	70.9	1783.2	
Maximum Crush = 22.3 inches					127.5
Using a Rated No Damage Speed of	2.5mph	187.7	110.0	160.1	
Using a Rated No Damage Speed of	5.0mph	346.6	93.8	640.5	
Using a Rated No Damage Speed of	7.5mph	476.8	78.9	1441.2	
Using a Rated No Damage Speed of	10.0mph	578.4	65.3	2562.1	

Rated No Damage Speed = Impact speed with a barrier resulting in no permanant vehicle deformation
Normal "Rated No Damage Speed" is 2.5 or 5 mph. Some Specific vehicles may, however, have a higher rating

A = Maximum force per inch of damage without permanent damage, lb/in
B = Crush resistance per inch of damage width (Crash), lb/in^2
G = Energy dissipated without permanent damage, lb
Kv = Crush resistance per inch of damage width (SMAC), lb/in^2

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4N6XPRT System's First Approximation Crush Factor (CF)

Speed from Crush calculation using a generic CF of 21 as suggested in Expert AutoStats

Impact Speed (mph) = SQRT(30 * CF * max crush in feet)

Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	22.3	34.2	-1.0	-2.8

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 22.2

CF = (mph * mph) / (30 * max crush in feet), dimensionless

4N6XPRT Systems CF is calculated based upon the data reported and is specific to this vehicle and this test

2001 FORD WINDSTAR

NHTSA Crash Test - #3594 - Front Impact

Damage Profile Distances - Indention Length - Closing Speed - Trapezoidal Average

Test Vehicle Weight = 4706 pounds
Vehicle Closing Speed = 35.2 MPH
Test Crush Length = 73.6 inches

Damage Profile Distance Collision Crush Depths (inches)

	DPD1	DPD2	DPD3	DPD4	DPD5	DPD6	
(Driver Side)	20.2	22.3	21.6	21.7	21.7	19.1	(Pass Side)

		CRASH 3 Stiffness Coefficents			SMAC Stiffness
		A	B	G	Kv
Minimum Crush = 19.1 inches					173.7
Using a Rated No Damage Speed of	2.5mph	219.1	149.9	160.1	
Using a Rated No Damage Speed of	5.0mph	404.7	127.8	640.5	
Using a Rated No Damage Speed of	7.5mph	556.7	107.5	1441.2	
Using a Rated No Damage Speed of	10.0mph	675.3	89.0	2562.1	
Average Crush = 21.4 inches					138.4
Using a Rated No Damage Speed of	2.5mph	195.6	119.4	160.1	
Using a Rated No Damage Speed of	5.0mph	361.2	101.8	640.5	
Using a Rated No Damage Speed of	7.5mph	496.9	85.7	1441.2	
Using a Rated No Damage Speed of	10.0mph	602.7	70.9	1783.2	
Maximum Crush = 22.3 inches					127.5
Using a Rated No Damage Speed of	2.5mph	187.7	110.0	160.1	
Using a Rated No Damage Speed of	5.0mph	346.6	93.8	640.5	
Using a Rated No Damage Speed of	7.5mph	476.8	78.9	1441.2	
Using a Rated No Damage Speed of	10.0mph	578.4	65.3	2562.1	

Rated No Damage Speed = Impact speed with a barrier resulting in no permanant vehicle deformation
Normal "Rated No Damage Speed" is 2.5 or 5 mph. Some Specific vehicles may, however, have a higher rating

A = Maximum force per inch of damage without permanent damage, lb/in
B = Crush resistance per inch of damage width (Crash), lb/in^2
G = Energy dissipated without permanent damage, lb
Kv = Crush resistance per inch of damage width (SMAC), lb/in^2

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4N6XPRT System's First Approximation Crush Factor (CF)

Speed from Crush calculation using a generic CF of 21 as suggested in Expert AutoStats

Impact Speed (mph) = SQRT(30 * CF * max crush in feet)

Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	22.3	34.2	-1.0	-2.8

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 22.2

CF = (mph * mph) / (30 * max crush in feet), dimensionless

4N6XPRT Systems CF is calculated based upon the data reported and is specific to this vehicle and this test

Available Test Results
Front Impact Test Summary

Report Filter Settings

Year Range: 1999 - 2003
Make: FORD
Model: WINDSTAR

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	Closing Speed (mph)	Vehicle Stiffness A	Vehicle Stiffness B	Vehicle Width Values G	Vehicle Width Values Kv	Crush Factor
2130	1995 FORD WINDSTAR VAN	5.0	18.2	34.9	441.3	145.2	670.7	197.9	26.8
2155	1995 FORD WINDSTAR VAN	5.0	12.9	29.6	441.3	168.7	577.2	244.3	27.2
2643	1998 FORD WINDSTAR VAN	5.0	15.9	34.9	437.4	164.2	582.7	223.6	30.6
2691	1998 FORD WINDSTAR VAN	5.0	21.3	35.1	330.1	93.4	583.3	127.0	23.2
2959	1999 FORD WINDSTAR VAN	5.0	15.8	35.1	489.4	186.4	642.4	253.5	31.2
3069	1998 FORD WINDSTAR VAN	5.0	16.5	29.7	486.4	145.1	815.0	209.9	21.3
3090	1999 FORD WINDSTAR VAN	5.0	19.0	29.5	302.2	77.8	587.0	112.8	18.3
3594	2001 FORD WINDSTAR VAN	5.0	21.4	35.2	361.4	102.0	640.5	138.6	23.1
3650	2001 FORD WINDSTAR VAN	5.0	23.3	35.0	310.6	79.8	604.2	108.7	21.0
3845	1999 FORD WINDSTAR VAN	5.0	7.3	17.5	395.9	136.0	576.3	266.3	16.8
4157	2001 FORD WINDSTAR VAN	5.0	19.9	29.5	299.4	73.9	606.0	107.2	17.6
	Average (AVG)				**390.5**	**124.8**	**625.9**	**180.9**	**23.4**
	Minimum (MIN)				**299.4**	**73.9**	**576.3**	**107.2**	**16.8**
	Maximum (MAX)				**489.4**	**186.4**	**815.0**	**266.3**	**31.2**
	Standard Deviation (STDev-sample)				**73.0**	**40.7**	**70.1**	**62.9**	**5.0**
	Number of Tests (n)			**11**					

Available Test Results
Front Impact Test Summary

Report Filter Settings

Year Range: 1999 - 2003
Make: FORD
Model: WINDSTAR

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	Closing Speed (mph)	Vehicle Stiffness A	Vehicle Stiffness B	Width Values G	Width Values Kv	Crush Factor
2130	1995 FORD WINDSTAR VAN	5.0	19.1	34.9	418.7	130.7	670.7	178.1	25.4
2155	1995 FORD WINDSTAR VAN	5.0	13.4	29.6	423.9	155.7	577.2	225.4	26.1
2643	1998 FORD WINDSTAR VAN	5.0	17.1	34.9	407.2	142.3	582.7	193.8	28.5
2691	1998 FORD WINDSTAR VAN	5.0	26.4	35.1	266.3	60.8	583.3	82.7	18.7
2959	1999 FORD WINDSTAR VAN	5.0	16.7	35.1	463.4	167.2	642.4	227.3	29.5
3069	1998 FORD WINDSTAR VAN	5.0	27.5	29.7	292.7	52.5	815.0	76.0	12.8
3090	1999 FORD WINDSTAR VAN	5.0	21.0	29.5	273.7	63.8	587.0	92.5	16.5
3594	2001 FORD WINDSTAR VAN	5.0	22.3	35.2	346.3	93.6	640.5	127.2	22.2
3650	2001 FORD WINDSTAR VAN	5.0	25.3	35.0	286.7	68.0	604.2	92.6	19.4
3845	1999 FORD WINDSTAR VAN	5.0	23.5	17.5	122.8	13.1	576.3	25.6	5.2
4157	2001 FORD WINDSTAR VAN	5.0	21.4	29.5	278.0	63.8	606.0	92.4	16.3
5193	2002 FORD WINDSTAR VAN	5.0	11.6	24.9	417.7	143.3	608.9	224.2	21.4
	Average (AVG)				**333.1**	**96.2**	**624.5**	**136.5**	**20.2**
	Minimum (MIN)				**122.8**	**13.1**	**576.3**	**25.6**	**5.2**
	Maximum (MAX)				**463.4**	**167.2**	**815.0**	**227.3**	**29.5**
	Standard Deviation (STDev-sample)				**97.4**	**49.6**	**67.0**	**69.8**	**7.0**
	Number of Tests (n)			**12**					

Expert VIN DeCoder®

Version Number 3.0.2.4

DeCoded VIN: 1LNLM97V3SY736244

Model:	1995 Lincoln Continental 4 door Sedan
Engine Size:	4.6L / 281 cu.in.
Engine Description:	V8 Cylinder with Dual Overhead Cam
Horse Power:	275 @ 5750rpm
Torque:	275 lb-ft @ 4750rpm
Injection System:	Sequential Fuel Injection (SFI)
PSI:	N/A
Ignition:	electronic
Manufacturer:	Ford
Assembly Plant:	Wixom, MI
Drive Wheels:	This is a Front Wheel Drive vehicle

The First through Third characters (1LN) indicate a Lincoln Passenger car made in the U.S.A.

The Fourth character (L) indicates Manual belts + Driver/Passgr Air Bag

The Fifth through Seventh characters (M97) indicate a Continental

The Eighth character (V) indicates the OEM engine: 4.6L / 281 cu.in., V8, DOHC

The Ninth character (the check digit) is entered as 3.
The VIN appears Valid, the calculated value is 3.

The Tenth character (S) indicates the model year 1995

The Eleventh character (Y) indicates the vehicle was made in the assembly plant in Wixom, MI

The Twelfth through Seventeenth characters (736244) indicate the Serial Number and are unique to this vehicle.

Expert AutoStats®

Version 5.1.0.6

PROVIDED BY:
4N6XPRT Systems
8387 University Avenue
La Mesa CA 91941

3/11/2011

1995 LINCOLN CONTINENTAL 4 DOOR SEDAN

Curb Weight:	3971 lbs.		1801	kg.
Curb Weight Distribution - Front:	63 %	Rear:	37	%
Gross Vehicle Weight Rating:	5317 lbs.		2412	kg.
Number of Tires on Vehicle:	4			
Drive Wheels:	FRONT			

Horizontal Dimensions	Inches	Feet	Meters
Total Length	206	17.17	5.23
Wheelbase:	109	9.08	2.77
Front Bumper to Front Axle:	46	3.83	1.17
Front Bumper to Front of Front Well:	23	1.92	0.58
Front Bumper to Front of Hood:	4	0.33	0.10
Front Bumper to Base of Windshield:	56	4.67	1.42
Front Bumper to Top of Windshield:	83	6.92	2.11
Rear Bumper to Rear Axle:	51	4.25	1.30
Rear Bumper to Rear of Rear Well:	35	2.92	0.89
Rear Bumper to Rear of Trunk:	6	0.50	0.15
Rear Bumper to Base of Rear Window:	32	2.67	0.81
Width Dimensions			
Maximum Width:	74	6.17	1.88
Front Track:	63	5.25	1.60
Rear Track:	62	5.17	1.57
Vertical Dimensions			
Height:	56	4.67	1.42
Ground to -			
Front Bumper (Top)	20	1.67	0.51
Headlight - center	25	2.08	0.64
Hood - top front:	30	2.50	0.76
Base of Windshield	37	3.08	0.94
Rear Bumper - top:	23	1.92	0.58
Trunk - top rear:	39	3.25	0.99
Base of Rear Window:	39	3.25	0.99

1995 LINCOLN CONTINENTAL 4 DOOR SEDAN

Interior Dimensions

	Inches	Feet	Meters
Front Seat Shoulder Width	57	4.75	1.45
Front Seat to Headliner	39	3.25	0.99
Front Leg Room - seatback to floor (max)	42	3.50	1.07
Rear Seat Shoulder Width	57	4.75	1.45
Rear Seat to Headliner	38	3.17	0.97
Front Leg Room - seatback to floor (min)	39	3.25	0.99

Seatbelts: 3pt - front and rear

Airbags: FRONT SEAT AIRBAGS

Steering Data

Turning Circle (Diameter)	492	41.00	12.50
Steering Ratio:	16.00:1		
Wheel Radius:	13	1.08	0.33
Tire Size (OEM):	225-60SR16		

Acceleration & Braking Information

Brake Type: ALL DISC

ABS System: ABS UNKNOWN

Braking, 60 mph to 0 (Hard pedal, no skid, dry pavement):

d = 130.0 ft t = 3.0 sec a = -29.7 ft/sec² G-force = -0.92

Acceleration:

0 to 30mph	t =	2.9	sec	a =	15.2	ft/sec²	G-force = 0.47
0 to 60mph	t =	8.2	sec	a =	10.7	ft/sec²	G-force = 0.33
45 to 65mph	t =		sec	a =		ft/sec²	G-force =

Transmission Type: AUTOMATIC

Notes:

Federal Bumper Standard Requirements: 2.5 mph

This vehicles Rated Bumper Strength: 5 mph

N.S.D.C = 1995 - 1997

1995 LINCOLN CONTINENTAL 4 DOOR SEDAN

Other Information

Tip-Over Stability Ratio =	1.42	Stable
NHTSA Star Rating (calculated)		****

Center of Gravity (No Load):

Inches behind front axle	=	40.33
Inches in front of rear axle	=	68.67
Inches from side of vehicle	=	37.00
Inches from ground	=	21.98
Inches from front corner	=	93.92
Inches from rear corner	=	125.26
Inches from front bumper	=	86.33
Inches from rear bumper	=	119.67

Moments of Inertia Approximations (No Load):

Yaw Moment of Inertia	=	2884.13	lb*ft*sec²
Pitch Moment of Inertia	=	2782.29	lb*ft*sec²
Roll Moment of Inertia	=	564.78	lb*ft*sec²

Front Profile Information

Angle Front Bumper to Hood Front	=	68.2	deg
Angle Front of Hood to Windshield Base	=	7.7	deg
Angle Front of Hood to Windshield Top	=	16.9	deg
Angle of Windshield	=	32.2	deg
Angle of Steering Tires at Max Turn	=	25.4	deg

First Approximation Crush Factors:

Speed Equivalent (mph) of Kinetic Energy (KE) used in causing crush of indentation may be evaluated using the following formula, the appropriated Crush Factor (CF), and Maximum Indentation Depth (MID), in feet:

$$V(mph) = \sqrt{(30 * CF * MID)}$$

KE Equivalent Speed (Front/Rear/Side)	=	21 CF
Bullet vehicle IMPACT SPEED estimation based on TARGET VEHICLE damage ONLY (Tested for Rear/Side Impact only)	=	27 CF

These CF values are based upon analysis of NHTSA Barrier Crash data, and from over 1000 vehicle accidents where independant evaluation of speed was possible. (These are NOT 'A', 'B', 'C', or 'G' values)

The rear Impact data with more then 2-3 inches of crush damage should be looked at carefully, since some vehicles have very weak trunk & fender strength. Therefore, on some cars, especially GM, you estimate from the rear crush data may be high by as much as 4-5 mph (on a crush of 18 inches).

4N6XPRT StifCalcs - Selected Vehicle: 1995 LINCOLN CONTINENTAL

File Print Reports Settings Help Reg To: 4N6XPRT SYSTEMS

Basic Vehicle Search | NHTSA Test Selection | Advanced Vehicle Search | Force Balance

Available Test | Test Information | Occupant Information | Vehicle Information | Stiffness Calcs

Available Tests in the NHTSA database for a 1995 - 1997 LINCOLN CONTINENTAL

Sister Clone Searched Year Range (1995 - 1997)

Print

Frontal Test(s)

Test No.	Year	Make	Model	Impact Speed	Max Crush	Crush Factor	VDI	PDOF	Test Config	VIN
2260	1995	LINCOLN	CONTINENT	29.3	13.3	25.8	12FDEW	0	VEHICLE INTO BARRIER	1LNLM97V7SY638396

Rear Test(s)

No Rear Tests: 1995 - 1997

Side Test(s)

No Side Tests: 1995 - 1997

Other Test(s)

Sister/Clone database reader

You entered: **1995 LINCOLN CONTINENTAL**

The Sister/Clone Vehicle Year/Model Interchange list indicates the following are Similar Models

Year Range	Make	Model	Body Styles	Wheelbase
1995 - 1997	LINCOLN	CONTINENTAL	2D, 4D	109
Remarks: TAURUS?				
1995 - 1997	LINCOLN	CONTINENTAL	2D, 4D	109
Remarks: TAURUS?				

If you have suggestions, corrections, etc., you should contact Greg Anderson at Scalia Safety Engineering,
521 East Washington Avenue, Suite 200, Madison, WI 53703-2914, (608) 256-0820, FAX (608) 256-0212, E-mail: greganderson@cs.com.

4N6XPRT Systems
Expert System Software for Litigation

8387 University Avenue
La Mesa, CA 91941-3842

Phone: (619) 464-3478
Fax: (619) 464-2206
Toll Free: 1- 800-266-9778

Web Site: http://www.4n6xprt.com

E-Mail: 4n6@4n6xprt.com

The NHTSA Crash Test database contains NO SIDE Impact tests for the Lincoln Continental.

To create a SIMILAR class of vehicle, we first looked at the Wheelbase length of the frontal impact test for the Continental, which was reported as 109.3 inches.

We then looked at the NHTSA database for FOUR DOOR SEDANS that have SIDE IMPACT TESTS and had a wheelbase range of 108.3-110.3 inches (+/- 1 inch).

The Test Summary Reports based on the Average and Maximum crush depths follow.

In addition, since the Motorcycles were targeted to hit on the wheels, a second set of Test Summary Reports were run with a No Damage speed of 10 mph.

Available Test Results
Side Impact Test Summary

Report Filter Settings

Year Range: 1965 - 2010

Bodystyle: FOUR DOOR SEDAN

Wheelbase Range: 108.3-110.3

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	KEES (mph)	Indention Stiffness A	Indention Stiffness B	Length Values G	Length Values Kv	Crush Factor
1859	1992 VOLVO 940 FOUR DOOR SEDAN	2.0	10.6	22.0	126.2	119.3	66.7	144.3	18.3
1860	1992 VOLVO 940 FOUR DOOR SEDAN	2.0	13.0	25.5	103.5	93.5	57.2	110.1	20.0
2340	1996 FORD TAURUS FOUR DOOR SEDAN	2.0	6.6	21.8	287.6	428.4	96.6	519.3	28.6
2483	1997 FORD TAURUS FOUR DOOR SEDAN	2.0	5.6	25.1	384.2	784.6	94.0	926.6	44.5
2680	1998 BUICK CENTURY FOUR DOOR SEDAN	2.0	9.5	25.1	88.9	108.4	36.4	128.0	26.6
2694	1998 OLDSMOBILE INTRIGUE FOUR DOOR SEDAN	2.0	5.1	21.5	137.0	260.6	36.0	316.7	36.1
2753	1998 OLDSMOBILE INTRIGUE FOUR DOOR SEDAN	2.0	7.2	24.9	119.1	190.8	37.2	225.5	34.7
2761	1998 AUDI A6 FOUR DOOR SEDAN	2.0	5.0	20.6	179.0	334.8	47.8	410.6	34.2
2935	1996 FORD TAURUS FOUR DOOR SEDAN	2.0	5.7	21.7	128.5	220.5	37.4	267.6	32.8
2975	1999 FORD TAURUS FOUR DOOR SEDAN	2.0	6.4	21.6	117.2	179.3	38.3	217.7	29.1
3132	1999 VOLVO S80 FOUR DOOR SEDAN	2.0	7.3	24.8	170.9	266.2	54.8	314.9	33.7
3445	1996 FORD TAURUS FOUR DOOR SEDAN	2.0	6.4	18.3	110.6	141.4	43.3	178.2	21.0
3522	1996 FORD TAURUS FOUR DOOR SEDAN	2.0	5.3	21.4	137.9	250.5	38.0	304.8	34.3
4433	1999 AUDI A6 FOUR DOOR SEDAN	2.0	9.5	21.2	200.6	203.2	99.1	247.8	19.0
	Average (AVG)				**163.7**	**255.8**	**55.9**	**308.0**	**29.5**
	Minimum (MIN)				**88.9**	**93.5**	**36.0**	**110.1**	**18.3**
	Maximum (MAX)				**384.2**	**784.6**	**99.1**	**926.6**	**44.5**
	Standard Deviation (STDev-sample)				**81.3**	**177.5**	**23.9**	**210.0**	**7.7**
	Number of Tests (n)			**14**					

Available Test Results
Side Impact Test Summary

Report Filter Settings

Year Range: 1965 - 2010

Bodystyle: FOUR DOOR SEDAN

Wheelbase Range: 108.3-110.3

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	KEES (mph)	Indention Stiffness A	Indention Stiffness B	Length Values G	Length Values Kv	Crush Factor
1859	1992 VOLVO 940 FOUR DOOR SEDAN	2.0	15.5	22.0	86.2	55.7	66.7	67.4	12.5
1860	1992 VOLVO 940 FOUR DOOR SEDAN	2.0	17.9	25.5	75.1	49.3	57.2	58.0	14.5
2340	1996 FORD TAURUS FOUR DOOR SEDAN	2.0	12.1	21.8	157.6	128.7	96.6	156.0	15.7
2483	1997 FORD TAURUS FOUR DOOR SEDAN	2.0	18.1	25.1	119.5	75.9	94.0	89.7	13.8
2680	1998 BUICK CENTURY FOUR DOOR SEDAN	2.0	19.8	25.1	42.5	24.8	36.4	29.3	12.7
2694	1998 OLDSMOBILE INTRIGUE FOUR DOOR SEDAN	2.0	14.9	21.5	47.3	31.0	36.0	37.7	12.5
2753	1998 OLDSMOBILE INTRIGUE FOUR DOOR SEDAN	2.0	17.3	24.9	49.3	32.7	37.2	38.7	14.4
2761	1998 AUDI A6 FOUR DOOR SEDAN	2.0	11.5	20.6	77.7	63.2	47.8	77.5	14.8
2935	1996 FORD TAURUS FOUR DOOR SEDAN	2.0	14.0	21.7	52.5	36.9	37.4	44.8	13.4
2975	1999 FORD TAURUS FOUR DOOR SEDAN	2.0	16.1	21.6	46.5	28.3	38.3	34.3	11.6
3132	1999 VOLVO S80 FOUR DOOR SEDAN	2.0	13.6	24.8	92.0	77.1	54.8	91.2	18.1
3445	1996 FORD TAURUS FOUR DOOR SEDAN	2.0	16.3	18.3	43.2	21.5	43.3	27.1	8.2
3522	1996 FORD TAURUS FOUR DOOR SEDAN	2.0	14.5	21.4	50.9	34.1	38.0	41.4	12.7
4433	1999 AUDI A6 FOUR DOOR SEDAN	2.0	11.5	21.2	165.9	138.9	99.1	169.4	15.7
	Average (AVG)				**79.0**	**57.0**	**55.9**	**68.7**	**13.6**
	Minimum (MIN)				**42.5**	**21.5**	**36.0**	**27.1**	**8.2**
	Maximum (MAX)				**165.9**	**138.9**	**99.1**	**169.4**	**18.1**
	Standard Deviation (STDev-sample)				**41.7**	**37.2**	**23.9**	**45.2**	**2.3**
	Number of Tests (n)			**14**					

Available Test Results
Side Impact Test Summary

Report Filter Settings

Year Range: 1965 - 2010

Bodystyle: FOUR DOOR SEDAN

Wheelbase Range: 108.3-110.3

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	KEES (mph)	Indention Stiffness A	Indention Stiffness B	Length Values G	Length Values Kv	Crush Factor
1859	1992 VOLVO 940 FOUR DOOR SEDAN	10.0	10.6	22.0	379.0	43.1	1667.8	144.3	18.3
1860	1992 VOLVO 940 FOUR DOOR SEDAN	10.0	13.0	25.5	341.2	40.7	1430.4	110.1	20.0
2935	1996 FORD TAURUS FOUR DOOR SEDAN	10.0	5.7	21.7	381.2	77.7	935.6	267.6	32.8
3522	1996 FORD TAURUS FOUR DOOR SEDAN	10.0	5.3	21.4	405.3	86.6	948.9	304.8	34.3
3445	1996 FORD TAURUS FOUR DOOR SEDAN	10.0	6.4	18.3	281.5	36.6	1082.1	178.2	21.0
2753	1998 OLDSMOBILE INTRIGUE FOUR DOOR SEDAN	10.0	7.2	24.9	387.8	80.8	930.1	225.5	34.7
2694	1998 OLDSMOBILE INTRIGUE FOUR DOOR SEDAN	10.0	5.1	21.5	404.4	90.9	900.1	316.7	36.1
2680	1998 BUICK CENTURY FOUR DOOR SEDAN	10.0	9.5	25.1	290.5	46.3	911.0	128.0	26.6
2761	1998 AUDI A6 FOUR DOOR SEDAN	10.0	5.0	20.6	510.4	108.9	1195.7	410.6	34.2
2975	1999 FORD TAURUS FOUR DOOR SEDAN	10.0	6.4	21.6	346.9	62.8	958.0	217.7	29.1
3132	1999 VOLVO S80 FOUR DOOR SEDAN	10.0	7.3	24.8	555.2	112.4	1371.1	314.9	33.7
4433	1999 AUDI A6 FOUR DOOR SEDAN	10.0	9.5	21.2	585.0	69.1	2476.6	247.8	19.0
	Average (AVG)				**405.7**	**71.3**	**1234.0**	**238.9**	**28.3**
	Minimum (MIN)				**281.5**	**36.6**	**900.1**	**110.1**	**18.3**
	Maximum (MAX)				**585.0**	**112.4**	**2476.6**	**410.6**	**36.1**
	Standard Deviation (STDev-sample)				**97.0**	**26.1**	**464.1**	**89.8**	**7.0**
	Number of Tests (n)			**12**					

Available Test Results
Side Impact Test Summary

Report Filter Settings

Year Range: 1965 - 2010

Bodystyle: FOUR DOOR SEDAN

Wheelbase Range: 108.3-110.3

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	KEES (mph)	Indention Stiffness A	Indention Stiffness B	Length Values G	Length Values Kv	Crush Factor
1859	1992 VOLVO 940 FOUR DOOR SEDAN	10.0	15.5	22.0	259.0	20.1	1667.8	67.4	12.5
1860	1992 VOLVO 940 FOUR DOOR SEDAN	10.0	17.9	25.5	247.6	21.4	1430.4	58.0	14.5
2340	1996 FORD TAURUS FOUR DOOR SEDAN	10.0	12.1	21.8	469.7	45.7	2414.1	156.0	15.7
2483	1997 FORD TAURUS FOUR DOOR SEDAN	10.0	18.1	25.1	390.2	32.4	2351.2	89.7	13.8
2680	1998 BUICK CENTURY FOUR DOOR SEDAN	10.0	19.8	25.1	139.0	10.6	911.0	29.3	12.7
2694	1998 OLDSMOBILE INTRIGUE FOUR DOOR SEDAN	10.0	14.9	21.5	139.5	10.8	900.1	37.7	12.5
2753	1998 OLDSMOBILE INTRIGUE FOUR DOOR SEDAN	10.0	17.3	24.9	160.6	13.9	930.1	38.7	14.4
2761	1998 AUDI A6 FOUR DOOR SEDAN	10.0	11.5	20.6	221.7	20.6	1195.7	77.5	14.8
2935	1996 FORD TAURUS FOUR DOOR SEDAN	10.0	14.0	21.7	155.9	13.0	935.6	44.8	13.4
2975	1999 FORD TAURUS FOUR DOOR SEDAN	10.0	16.1	21.6	137.8	9.9	958.0	34.3	11.6
3132	1999 VOLVO S80 FOUR DOOR SEDAN	10.0	13.6	24.8	298.8	32.6	1371.1	91.2	18.1
3445	1996 FORD TAURUS FOUR DOOR SEDAN	10.0	16.3	18.3	109.8	5.6	1082.1	27.1	8.2
3522	1996 FORD TAURUS FOUR DOOR SEDAN	10.0	14.5	21.4	149.5	11.8	948.9	41.4	12.7
4433	1999 AUDI A6 FOUR DOOR SEDAN	10.0	11.5	21.2	483.7	47.2	2476.6	169.4	15.7
	Average (AVG)				**240.2**	**21.1**	**1398.1**	**68.7**	**13.6**
	Minimum (MIN)				**109.8**	**5.6**	**900.1**	**27.1**	**8.2**
	Maximum (MAX)				**483.7**	**47.2**	**2476.6**	**169.4**	**18.1**
	Standard Deviation (STDev-sample)				**126.5**	**13.4**	**597.0**	**45.2**	**2.3**
	Number of Tests (n)			**14**					

Expert VIN DeCoder®

Version Number 3.0.2.4

DeCoded VIN: 1FMDU32X6TUD15945

Model:	1996 Ford Explorer XLT 4x2 4-door SUV
Engine Size:	4.0 L/ 244 cu.in.
Engine Description:	V-6 cylinder with Overhead Valve
Horse Power:	160 @ 4000 rpm
Torque:	225 lb-ft at 2500 rpm
Injection System:	Multi-Port Fuel Injection (MFI)
PSI:	35-45 psi
Ignition:	electronic
Manufacturer:	Ford
Assembly Plant:	Louisville, KY
Drive Wheels:	This is a Rear Wheel Drive vehicle

The First through Third characters (1FM) indicate a Ford Multi-Purpose Vehicle (MPV) made in the U.S.A.

The Fourth character (D) indicates a GVWR of 5001-6000 lbs.

The Fifth through Seventh characters (U32) indicate an Explorer XLT 4x2 and a 4-door SUV

The Eighth character (X) indicates the OEM engine: 4.0 L/ 244 cu.in., V6, OHV

The Ninth character (the check digit) is entered as 6.
The VIN appears Valid, the calculated value is 6.

The Tenth character (T) indicates the model year 1996

The Eleventh character (U) indicates the vehicle was made in the assembly plant in Louisville, KY

The Twelfth through Seventeenth characters (D15945) indicate the Serial Number and are unique to this vehicle.

Expert AutoStats®

Version 5.1.0.6

PROVIDED BY:
4N6XPRT Systems
8387 University Avenue
La Mesa CA 91941

3/21/2011

1996 FORD EXPLORER XLT 4 DOOR 4X2 UTILITY

Curb Weight:	3931	lbs.	1783	kg.
Curb Weight Distribution - Front:	52	% Rear:	48	%
Gross Vehicle Weight Rating:	5340	lbs.	2422	kg.
Number of Tires on Vehicle:	4			
Drive Wheels:	REAR			

Horizontal Dimensions	Inches	Feet	Meters
Total Length	189	15.75	4.80
Wheelbase:	112	9.33	2.84
Front Bumper to Front Axle:	34	2.83	0.86
Front Bumper to Front of Front Well:	12	1.00	0.30
Front Bumper to Front of Hood:	3	0.25	0.08
Front Bumper to Base of Windshield:	45	3.75	1.14
Front Bumper to Top of Windshield:	66	5.50	1.68
Rear Bumper to Rear Axle:	43	3.58	1.09
Rear Bumper to Rear of Rear Well:	24	2.00	0.61
Rear Bumper to Rear of Trunk:	5	0.42	0.13
Rear Bumper to Base of Rear Window:	5	0.42	0.13
Width Dimensions			
Maximum Width:	70	5.83	1.78
Front Track:	58	4.83	1.47
Rear Track:	58	4.83	1.47
Vertical Dimensions			
Height:	67	5.58	1.70
Ground to -			
Front Bumper (Top)	24	2.00	0.61
Headlight - center	35	2.92	0.89
Hood - top front:	42	3.50	1.07
Base of Windshield	47	3.92	1.19
Rear Bumper - top:	26	2.17	0.66
Trunk - top rear:			
Base of Rear Window:			

1996 FORD EXPLORER XLT 4 DOOR 4X2 UTILITY

Interior Dimensions

	Inches	Feet	Meters
Front Seat Shoulder Width	57	4.75	1.45
Front Seat to Headliner	40	3.33	1.02
Front Leg Room - seatback to floor (max)	42	3.50	1.07
Rear Seat Shoulder Width	57	4.75	1.45
Rear Seat to Headliner	39	3.25	0.99
Front Leg Room - seatback to floor (min)	37	3.08	0.94

Seatbelts: 3pt - front and rear

Airbags: FRONT SEAT AIRBAGS

Steering Data

Turning Circle (Diameter)	564	47.00	14.33
Steering Ratio:	17.00:1		
Wheel Radius:	14	1.17	0.36
Tire Size (OEM):	P225/70R15		

Acceleration & Braking Information

Brake Type: FRONT DISC - REAR DRUM

ABS System: ABS

Braking, 60 mph to 0 (Hard pedal, no skid, dry pavement):

d = 141.0 ft t = 3.2 sec a = -27.4 ft/sec² G-force = -0.85

Acceleration:

0 to 30mph	t =	4.0	sec	a =	11.0	ft/sec²	G-force = 0.34
0 to 60mph	t =	11.8	sec	a =	7.5	ft/sec²	G-force = 0.23
45 to 65mph	t =	7.2	sec	a =	4.1	ft/sec²	G-force = 0.13

Transmission Type: 5spd MANUAL

Notes:

Federal Bumper Standard Requirements: No Requirement

This vehicles Rated Bumper Strength: 5 mph

N.S.D.C = 1995 - 1997

1996 FORD EXPLORER XLT 4 DOOR 4X2 UTILITY

Other Information

Tip-Over Stability Ratio =	1.08	Reasonably Stable
NHTSA Star Rating (calculated)		**

Center of Gravity (No Load):

Inches behind front axle	=	53.76
Inches in front of rear axle	=	58.24
Inches from side of vehicle	=	35.00
Inches from ground	=	26.73
Inches from front corner	=	94.48
Inches from rear corner	=	107.12
Inches from front bumper	=	87.76
Inches from rear bumper	=	101.24

Moments of Inertia Approximations (No Load):

Yaw Moment of Inertia	=	2705.93	lb*ft*sec²
Pitch Moment of Inertia	=	2745.72	lb*ft*sec²
Roll Moment of Inertia	=	629.82	lb*ft*sec²

Front Profile Information

Angle Front Bumper to Hood Front	=	80.5	deg
Angle Front of Hood to Windshield Base	=	6.8	deg
Angle Front of Hood to Windshield Top	=	20.1	deg
Angle of Windshield	=	40.6	deg
Angle of Steering Tires at Max Turn	=	22.8	deg

First Approximation Crush Factors:

Speed Equivalent (mph) of Kinetic Energy (KE) used in causing crush of indentation may be evaluated using the following formula, the appropriated Crush Factor (CF), and Maximum Indentation Depth (MID), in feet:

$$V(mph) = \sqrt{(30 * CF * MID)}$$

KE Equivalent Speed (Front/Rear/Side)	=	21 CF
Bullet vehicle IMPACT SPEED estimation based on TARGET VEHICLE damage ONLY (Tested for Rear/Side Impact only)	=	27 CF

These CF values are based upon analysis of NHTSA Barrier Crash data, and from over 1000 vehicle accidents where independant evaluation of speed was possible. (These are NOT 'A', 'B', 'C', or 'G' values)

The rear Impact data with more then 2-3 inches of crush damage should be looked at carefully, since some vehicles have very weak trunk & fender strength. Therefore, on some cars, especially GM, you estimate from the rear crush data may be high by as much as 4-5 mph (on a crush of 18 inches).

Stiffness Values and Test Data

Derived from

NHTSA Crash Test

#3503

2001 FORD EXPLORER

Provided By

4N6XPRT StifCalcs®

Registered to:

4N6XPRT SYSTEMS
8387 UNIVERSITY AVENUE
LA MESA CA 91941-3842
10R-030201SC02301

4N6XPRT Systems | 8387 University Avenue | La Mesa, CA 91942 | USA
(800) 266-9778 | (619) 464-3478 | FAX: (619) 464-2206 | Email: 4n6@4n6xprt.com

Sister/Clone database reader

You entered: **1996 FORD EXPLORER**

The Sister/Clone Vehicle Year/Model Interchange list indicates the following are Similar Models

Year Range	Make	Model	Body Styles	Wheelbase
1995 - 2001	FORD	EXPLORER	SW, SUV	114, 111.5
Remarks: FRONT RESTYLE LIKE 93 RANGER				
1996 - 2001	MERCURY	MOUNTAINEER	SUV	114
Remarks:				
2001 - 2003	FORD	EXPLORER SPORT	SUV	101.8
Remarks: RESTYLED 2D EXPLORER				
2001 - 2005	FORD	EXPLORER SPORTTRAC	P/U	125.9
Remarks: 4D EXPL SPORT W/PICKUP BED				

If you have suggestions, corrections, etc., you should contact Greg Anderson at Scalia Safety Engineering,
521 East Washington Avenue, Suite 200, Madison, WI 53703-2914, (608) 256-0820, FAX (608) 256-0212, E-mail: greganderson@cs.com.

Test Information

Test #	3503	NHTSA Test Reference Guide Version #	V5			
Test Date	2000-11-30	Contract #	DTNH22-99-D-02041			
Contract/Study Title	NCAP SIDE IMPACT - 2001 FORD EXPLORER 4WD SUV - M10204					
Test Objective(s)	TO GENERATE COMPARATIVE SIDE IMPACT PERFORMANCE INFORMATION					
Test Type	NEW CAR ASSESSMENT TEST	Configuration	IMPACTOR INTO VEHICLE			
Impact Angle	270	Side Impact Point	86	mm	3.4	inches
			0	mm	0.0	inches
		Closing Speed	61.5	Km/Hr	38.22	MPH
Test Performer	KARCO ENGINEERING					
Test Reference #	M10204					
Test Track Surface	CONCRETE	Condition	DRY			
Ambient Temperature	17 C	62.6 F	Total Number of Curves	58		
Data Recorder Type	DIGITAL DATA ACQUISITION	Data Link	OTHER			
Test Commentary	NO COMMENTS					

Fixed Barrier Information

Barrier Type		Pole Barrier Diameter		mm	inches
Barrier Shape					
Barrier Commentary					

2001 FORD EXPLORER LEFT FRONT SEAT OCCUPANT

Test #	3503		
Vehicle #	2	Sex	MALE
Location	LEFT FRONT SEAT	Age	0
Position	CENTER POSITION	Height	0 mm 0.0 inches
Type	NHTSA SIDE IMPACT DUMMY	Weight	0.0 kg 0 pounds
Size	50 PERCENTILE		
Calibration Method	SIDE IMPACT DUMMY		
Occupant Manufacturer	MFG: FTSS, MODEL: SA-SID-M001, S/N: 274		
Occupant Modification	NO COMMENTS		
Occupant Description	PART 572F SIDE IMPACT DUMMY (SID)		
Occupant Commentary	CNTRC1: DOOR PANEL, CNTRL1: DOOR PANEL		

Head

Head to -

Windshielder Header	341	mm	13.4	inches	Head Injury Criteria (HIC)	194	
WindShield	512	mm	20.2	inches	HIC Lower Time Interval (ms)	72.6	
Seatback	0	mm	0.0	inches	HIC Upper Time Interval (ms)	108.5	
Side Header	275	mm	10.8	inches			
Side Window	330	mm	13.0	inches			

Neck to Seatback 0 mm 0.0 inches

First Contact Region (Head): HEADER - SIDE

Second Contact Region (Head):

Chest

Chest to -

Dash	435	mm	17.1	inches	Arm to Door	185	mm	7.3	inches
Steering Wheel	240	mm	9.4	inches	Hip to Door	142	mm	5.6	inches
Seatback	0	mm	0.0	inches					

Chest Severity Index: 0 — Pelvic Peak Lateral Acceleration (g's): 51

Thoracic Trauma Index: 32 — Thorax Peak Acceleration (g's): 0

Lap Belt Peak Load: 0 Newtons 0.0 pound Force

Shoulder Belt Peak Load: 0 Newtons 0.0 pound Force

First Contact Region (Chest/Abdomen): OTHER

Second Contact Region (Chest/Abdomen): NONE

Legs

Knees to Dash: 95 mm 3.7 inches — Knees to Seatback: 0 mm 0.0 inches

Left Femur Peak Load: 0 Newtons 0.0 pounds Force

Right Femur Peak Load: 0 Newtons 0.0 pounds Force

First Contact Region (Legs): OTHER

Second Contact Region (Legs):

2001 FORD EXPLORER LEFT FRONT SEAT OCCUPANT

Test #	3503					
Vehicle #	2	Sex	MALE			
Location	LEFT FRONT SEAT	Age	0			
Position	CENTER POSITION	Height	0	mm	0.0	inches
Type	NHTSA SIDE IMPACT DUMMY	Weight	0.0	kg	0	pounds
Size	50 PERCENTILE					

Calibration Method	SIDE IMPACT DUMMY
Occupant Manufacturer	MFG: FTSS, MODEL: SA-SID-M001, S/N: 274
Occupant Modification	NO COMMENTS
Occupant Description	PART 572F SIDE IMPACT DUMMY (SID)
Occupant Commentary	CNTRC1: DOOR PANEL, CNTRL1: DOOR PANEL

Restraints

Restraint # 1	3 POINT BELT
Mounted	BELT - CONVENTIONAL MOUNT
Deployment	NOT APPLICABLE
Restraint Commentary	
Restraint # 2	AIR BAG
Mounted	STEERING WHEEL
Deployment	NOT APPLICABLE
Restraint Commentary	FRONTAL PROTECTION AIRBAG

2001 FORD EXPLORER LEFT REAR SEAT OCCUPANT

Test #	3503		
Vehicle #	2	Sex	MALE
Location	LEFT REAR SEAT	Age	0
Position	NON-ADJUSTABLE SEAT	Height	0 mm 0.0 inches
Type	NHTSA SIDE IMPACT DUMMY	Weight	0.0 kg 0 pounds
Size	50 PERCENTILE		
Calibration Method	SIDE IMPACT DUMMY		
Occupant Manufacturer	MFG: FTSS, MODEL: SA-SID-M001, S/N: 057		
Occupant Modification	NO COMMENTS		
Occupant Description	PART 572F SIDE IMPACT DUMMY (SID)		
Occupant Commentary	CNTRC1: DOOR PANEL, CNTRL1: DOOR PANEL		

Head

Head to -

Windshielder Header	0	mm	0.0	inches	Head Injury Criteria (HIC)	153	
WindShield	0	mm	0.0	inches	HIC Lower Time Interval (ms)	89.2	
Seatback	630	mm	24.8	inches	HIC Upper Time Interval (ms)	102.5	
Side Header	241	mm	9.5	inches			
Side Window	295	mm	11.6	inches			
Neck to Seatback	0	mm	0.0	inches			
First Contact Region (Head)	C PILLAR						
Second Contact Region (Head)							

Chest

Chest to -

Dash	0	mm	0.0	inches	Arm to Door	52	mm	2.0	inches
Steering Wheel	0	mm	0.0	inches	Hip to Door	76	mm	3.0	inches
Seatback	622	mm	24.5	inches					
Chest Severity Index	0				Pelvic Peak Lateral Acceleration (g's)	44			
Thoracic Trauma Index	32				Thorax Peak Acceleration (g's)	0			
Lap Belt Peak Load	0	Newtons	0.0	pound Force					
Shoulder Belt Peak Load	0	Newtons	0.0	pound Force					
First Contact Region (Chest/Abdomen)	OTHER								
Second Contact Region (Chest/Abdomen)	NONE								

Legs

Knees to Dash	0	mm	0.0	inches	Knees to Seatback	295	mm	11.6	inches
Left Femur Peak Load	0	Newtons	0.0	pounds Force					
Right Femur Peak Load	0	Newtons	0.0	pounds Force					
First Contact Region (Legs)	OTHER								
Second Contact Region (Legs)									

2001 FORD EXPLORER LEFT REAR SEAT OCCUPANT

Test #	3503					
Vehicle #	2	Sex	MALE			
Location	LEFT REAR SEAT	Age	0			
Position	NON-ADJUSTABLE SEAT	Height	0	mm	0.0	inches
Type	NHTSA SIDE IMPACT DUMMY	Weight	0.0	kg	0	pounds
Size	50 PERCENTILE					

Calibration Method	SIDE IMPACT DUMMY
Occupant Manufacturer	MFG: FTSS, MODEL: SA-SID-M001, S/N: 057
Occupant Modification	NO COMMENTS
Occupant Description	PART 572F SIDE IMPACT DUMMY (SID)
Occupant Commentary	CNTRC1: DOOR PANEL, CNTRL1: DOOR PANEL

Restraints

Restraint # 1	3 POINT BELT
Mounted	BELT - CONVENTIONAL MOUNT
Deployment	NOT APPLICABLE
Restraint Commentary	LEFT REAR PASSENGER, BELT ONLY

Vehicle 1 0 NHTSA DEFORMABLE IMPACTOR

Test #	3503		
VIN		NHTSA Test Vehicle Number	1
Year	0	Vehicle Modification Indicator	RESEARCH VEHICLE
Make	NHTSA	Post-test Steering Column Shear Capsule Seperation	NOT APPLICABLE
Model	DEFORMABLE IMPACTOR	Steering Column Collapse Mechanism	NOT APPLICABLE
Body	NOT APPLICABLE		
Engine	NOT APPLICABLE		
Displacement	0 Liter	Transmission	NOT APPLICABLE
Vehicle Modification(s) Description	NO COMMENTS		
Vehicle Commentary	NHTSA SIDE IMPACT MOVING DEFORMABLE BARRIER (MDB) 27 DEG. CRAB ANGLE		

Vehicle Length	4120	mm	162.2	inches	CG behind Front Axle	1104	mm	43.5	inches
Vehicle Width	1676	mm	66.0	inches	Center of Damage to CG Axis	0	mm	0.0	inches
Vehicle Wheelbase	2590	mm	102.0	inches	Total Length of Indentation	0	mm	0.0	inches
Vehicle Test Weight	1361	KG	3000	pounds	Maximum Static Crush Depth	0	mm	0.0	inches
					Pre-Impact Speed	62	kph	38.2	mph

Vehicle Damage Index: | Principal Direction of Force: 0

Damage Profile Distance Measurements

(Measured Left-to-Right, Rear-to-Front)

DPD 1	0	mm	0.0	inches
DPD 2	0	mm	0.0	inches
DPD 3	0	mm	0.0	inches
DPD 4	0	mm	0.0	inches
DPD 5	0	mm	0.0	inches
DPD 6	0	mm	0.0	inches

Crush from Pre & Post Test Damage Measurements

	Pre-Test		Post-Test		Crush Depth	
Left Bumper Corner	0.0	inches	0.0	inches	0.0	inches
	0	mm	0	mm	0	mm
Centerline	0.0	inches	0.0	inches	0.0	inches
	0	mm	0	mm	0	mm
Right Bumper Corner	0.0	inches	0.0	inches	0.0	inches
	0	mm	0	mm	0	mm

Bumper Engagement (Inline Impact Only)	Sill Engagement (Side Impact Only)	A-pillar Engagement (Side Impact Only)
0.0	NOT APPLICABLE	0.0

Moving Test Cart Angle	Moving Test Cart/Vehicle Crabbed Angle	Vehicle Orientation on Cart Moving Test Cart
DIRECT ENGAGEMENT	27.0	NOT APPLICABLE
Magnitude of the Tilt Angle Measured between surface of a Rollover Test Cart and the Ground	*Magniture of the Crabbed Angle Measure Clockwise from Longitudinal Vector to Velocity Vector of Vehicle*	*Magnitude of the Angle Measured between the Vehicle Orientation and Direction of Test Cart Motion*

Vehicle 1 0 NHTSA DEFORMABLE IMPACTOR

Test #	3503		
VIN		NHTSA Test Vehicle Number	1
Year	0	Vehicle Modification Indicator	RESEARCH VEHICLE
Make	NHTSA	Post-test Steering Column Shear Capsule Seperation	NOT APPLICABLE
Model	DEFORMABLE IMPACTOR	Steering Column Collapse Mechanism	NOT APPLICABLE
Body	NOT APPLICABLE		
Engine	NOT APPLICABLE		
Displacement	0 Liter	Transmission	NOT APPLICABLE
Vehicle Modification(s) Description	NO COMMENTS		
Vehicle Commentary	NHTSA SIDE IMPACT MOVING DEFORMABLE BARRIER (MDB) 27 DEG. CRAB ANGLE		

Vehicle Length	4120	mm	162.2	inches	CG behind Front Axle	1104	mm	43.5	inches
Vehicle Width	1676	mm	66.0	inches	Center of Damage to CG Axis	0	mm	0.0	inches
Vehicle Wheelbase	2590	mm	102.0	inches	Total Length of Indentation	0	mm	0.0	inches
Vehicle Test Weight	1361	KG	3000	pounds	Maximum Static Crush Depth	0	mm	0.0	inches
					Pre-Impact Speed	62	kph	38.2	mph

Vehicle Damage Index		Principal Direction of Force	0

Pre & Post Test Damage Measurements

(Measurements are taken in a longitudinaldirection. Except for Engine Block, all measurements are take from the Rear Vehicle Surface forward.)

Left Side				Centerline				Right Side			
Pre-Test		Post-Test		Pre-Test		Post-Test		Pre-Test		Post-Test	
mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches
				Length of Vehicle at Centerline							
				0	0.0	0	0.0				
				Engine Block							
				0	0.0	0	0.0				
0	0.0	0	0.0	Front Bumper Corner				0	0.0	0	0.0
				Front of Engine							
				0	0.0	0	0.0				
0	0.0	0	0.0	Firewall				0	0.0	0	0.0
				0	0.0	0	0.0				
0	0.0	0	0.0	Upper Leading Edge of Door				0	0.0	0	0.0
0	0.0	0	0.0	Lower Leading Edge of Door				0	0.0	0	0.0
0	0.0	0	0.0	Bottom of 'A' Post				0	0.0	0	0.0
0	0.0	0	0.0	Upper Trailing Edge of Door				0	0.0	0	0.0
0	0.0	0	0.0	Lower Trailing Edge of Door				0	0.0	0	0.0
				Steering Column							
				0	0.0	0	0.0				
				Center of Seering Column to 'A' Post (Horizontal)							
				0	0.0	0	0.0				
				Center of Steering Column to Headliner (Vertical)							
				0	0.0	0	0.0				

Vehicle 2 2001 FORD EXPLORER

Test #	3503		
VIN	1FMZU73E61ZA12142	NHTSA Test Vehicle Number	2
Year	2001	Vehicle Modification Indicator	PRODUCTION VEHICLE
Make	FORD	Post-test Steering Column Shear Capsule Seperation	UNKNOWN
Model	EXPLORER	Steering Column Collapse Mechanism	UNKNOWN
Body	UTILITY VEHICLE		
Engine	V6 INLINE FRONT		
Displacement	4 Liter	Transmission	AUTOMATIC - FOUR WHEEL DRIVE
Vehicle Modification(s) Description	NO COMMENTS		
Vehicle Commentary	NO COMMENTS		

Vehicle Length	4841	mm	190.6	inches	CG behind Front Axle	1435	mm	56.5	inches
Vehicle Width	1776	mm	69.9	inches	Center of Damage to CG Axis	-246	mm	-9.7	inches
Vehicle Wheelbase	2842	mm	111.9	inches	Total Length of Indentation	3600	mm	141.7	inches
Vehicle Test Weight	2237	KG	4931	pounds	Maximum Static Crush Depth	346	mm	13.6	inches
					Pre-Impact Speed	0	kph	0.0	mph

Vehicle Damage Index: 10LPAW3

Principal Direction of Force: 297

Damage Profile Distance Measurements

(Measured Left-to-Right, Rear-to-Front)

DPD 1	40	mm	1.6	inches
DPD 2	197	mm	7.8	inches
DPD 3	296	mm	11.7	inches
DPD 4	336	mm	13.2	inches
DPD 5	91	mm	3.6	inches
DPD 6	42	mm	1.7	inches

Crush from Pre & Post Test Damage Measurements

	Pre-Test		Post-Test		Crush Depth	
Left Bumper Corner	0.0	inches	0.0	inches	0.0	inches
	0	mm	0	mm	0	mm
Centerline	0.0	inches	0.0	inches	0.0	inches
	0	mm	0	mm	0	mm
Right Bumper Corner	0.0	inches	0.0	inches	0.0	inches
	0	mm	0	mm	0	mm

Bumper Engagement (Inline Impact Only)	Sill Engagement (Side Impact Only)	A-pillar Engagement (Side Impact Only)
27.0	DIRECT ENGAGEMENT	90.0

Moving Test Cart Angle	Moving Test Cart/Vehicle Crabbed Angle	Vehicle Orientation on Cart Moving Test Cart
NOT APPLICABLE	0.0	DIRECT ENGAGEMENT
Magnitude of the Tilt Angle Measured between surface of a Rollover Test Cart and the Ground	*Magniture of the Crabbed Angle Measure Clockwise from Longitudinal Vector to Velocity Vector of Vehicle*	*Magnitude of the Angle Measured between the Vehicle Orientation and Direction of Test Cart Motion*

Vehicle 2 2001 FORD EXPLORER

Test #	3503		
VIN	1FMZU73E61ZA12142	NHTSA Test Vehicle Number	2
Year	2001	Vehicle Modification Indicator	PRODUCTION VEHICLE
Make	FORD	Post-test Steering Column Shear Capsule Seperation	UNKNOWN
Model	EXPLORER	Steering Column Collapse Mechanism	UNKNOWN
Body	UTILITY VEHICLE		
Engine	V6 INLINE FRONT		
Displacement	4 Liter	Transmission	AUTOMATIC - FOUR WHEEL DRIVE
Vehicle Modification(s) Description	NO COMMENTS		
Vehicle Commentary	NO COMMENTS		

Vehicle Length	4841	mm	190.6	inches	CG behind Front Axle	1435	mm	56.5	inches
Vehicle Width	1776	mm	69.9	inches	Center of Damage to CG Axis	-246	mm	-9.7	inches
Vehicle Wheelbase	2842	mm	111.9	inches	Total Length of Indentation	3600	mm	141.7	inches
Vehicle Test Weight	2237	KG	4931	pounds	Maximum Static Crush Depth	346	mm	13.6	inches
					Pre-Impact Speed	0	kph	0.0	mph

Vehicle Damage Index	10LPAW3	Principal Direction of Force	297

Pre & Post Test Damage Measurements

(Measurements are taken in a longitudinaldirection. Except for Engine Block, all measurements are take from the Rear Vehicle Surface forward.)

Left Side				Centerline				Right Side			
Pre-Test		Post-Test		Pre-Test		Post-Test		Pre-Test		Post-Test	
mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches
				Length of Vehicle at Centerline							
				0	0.0	0	0.0				
				Engine Block							
				0	0.0	0	0.0				
0	0.0	0	0.0	Front Bumper Corner				0	0.0	0	0.0
				Front of Engine							
				0	0.0	0	0.0				
0	0.0	0	0.0	Firewall				0	0.0	0	0.0
				0	0.0	0	0.0				
0	0.0	0	0.0	Upper Leading Edge of Door				0	0.0	0	0.0
0	0.0	0	0.0	Lower Leading Edge of Door				0	0.0	0	0.0
0	0.0	0	0.0	Bottom of 'A' Post				0	0.0	0	0.0
0	0.0	0	0.0	Upper Trailing Edge of Door				0	0.0	0	0.0
0	0.0	0	0.0	Lower Trailing Edge of Door				0	0.0	0	0.0
				Steering Column							
				0	0.0	0	0.0				
				Center of Seering Column to 'A' Post (Horizontal)							
				0	0.0	0	0.0				
				Center of Steering Column to Headliner (Vertical)							
				0	0.0	0	0.0				

2001 FORD EXPLORER

NHTSA Crash Test - #3503 - Side Impact

Damage Profile Distances - Indention Length - KE Equivalent Speed - Trapezoidal Average

Test Vehicle Weight =	4931 pounds	Impactor Weight =	3000
KE Equivalent Speed =	23.5 MPH	Impactor Test Speed =	38.2
Test Crush Length =	141.7 inches		

Damage Profile Distance Collision Crush Depths (inches)

	DPD1	DPD2	DPD3	DPD4	DPD5	DPD6	
(Rear)	1.6	7.8	11.7	13.2	3.6	1.7	(Front)

		CRASH 3 Stiffness Coefficents			SMAC Stiffness
		A	B	G	Kv
Minimum Crush = 1.6 inches					6019.8
Using a Rated No Damage Speed of	1.0mph	392.3	5518.5	13.9	
Using a Rated No Damage Speed of	2.0mph	749.7	5039.0	55.8	
Using a Rated No Damage Speed of	3.0mph	1072.3	4581.3	125.5	
Using a Rated No Damage Speed of	5.0mph	1612.9	3731.3	348.6	
Average Crush = 7.6 inches					266.8
Using a Rated No Damage Speed of	1.0mph	82.6	244.6	13.9	
Using a Rated No Damage Speed of	2.0mph	157.8	223.3	55.8	
Using a Rated No Damage Speed of	3.0mph	225.8	203.0	125.5	
Using a Rated No Damage Speed of	5.0mph	339.6	165.4	258.1	
Maximum Crush = 13.2 inches					88.4
Using a Rated No Damage Speed of	1.0mph	47.6	81.1	13.9	
Using a Rated No Damage Speed of	2.0mph	90.9	74.0	55.8	
Using a Rated No Damage Speed of	3.0mph	130.0	67.3	125.5	
Using a Rated No Damage Speed of	5.0mph	195.5	54.8	348.6	

Rated No Damage Speed = Impact speed with a barrier resulting in no permanant vehicle deformation

Normal "Rated No Damage Speed" is 2.5 or 5 mph. Some Specific vehicles may, however, have a higher rating

A = Maximum force per inch of damage without permanent damage, lb/in

B = Crush resistance per inch of damage width (Crash), lb/in^2

G = Energy dissipated without permanent damage, lb

Kv = Crush resistance per inch of damage width (SMAC), lb/in^2

****

4N6XPRT System's First Approximation Crush Factor (CF)

Speed from Crush calculation using a generic CF of 21 as suggested in Expert AutoStats

Impact Speed (mph) = SQRT(30 * CF * max crush in feet)

Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	13.2	26.3	2.8	10.7

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 16.7

CF = (mph * mph) / (30 * max crush in feet), dimensionless

4N6XPRT Systems CF is calculated based upon the data reported and is specific to this vehicle and this test

4N6XPRT Systems
Expert System Software for Litigation

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La Mesa, CA 91941-3842

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Toll Free: 1- 800-266-9778

Web Site: http://www.4n6xprt.com

E-Mail: 4n6@4n6xprt.com

The Test Summary Reports based on the Average and Maximum crush depths follow.

In addition, since the Motorcycles were targeted to hit on the wheels, a second set of Test Summary Reports were run with a No Damage speed of 10 mph.

Available Test Results
Side Impact Test Summary

Report Filter Settings

Year Range: 1995 - 2001
Make: FORD
Model: EXPLORER

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	KEES (mph)	Indention Stiffness A	Indention Stiffness B	Length Values G	Length Values Kv	Crush Factor
3056	1999 FORD EXPLORER UTILITY VEHICLE	2.0	6.3	23.9	183.1	318.4	52.6	379.3	36.2
3503	2001 FORD EXPLORER UTILITY VEHICLE	2.0	7.6	23.5	158.5	225.3	55.8	269.1	29.2
4087	2002 FORD EXPLORER UTILITY VEHICLE	2.0	5.1	23.8	219.2	471.6	50.9	562.1	44.7
4091	2002 FORD EXPLORER SPORT UTILITY VEHICLE	2.0	6.0	24.1	250.6	461.0	68.1	548.3	38.6
	Average (AVG)				**202.8**	**369.1**	**56.9**	**439.7**	**37.2**
	Minimum (MIN)				**158.5**	**225.3**	**50.9**	**269.1**	**29.2**
	Maximum (MAX)				**250.6**	**471.6**	**68.1**	**562.1**	**44.7**
	Standard Deviation (STDev-sample)				**40.4**	**118.6**	**7.8**	**140.9**	**6.4**
	Number of Tests (n)			**4**					

Available Test Results
Side Impact Test Summary

Report Filter Settings

Year Range: 1995 - 2001
Make: FORD
Model: EXPLORER

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	KEES (mph)	Indention Stiffness A	Indention Stiffness B	Length Values G	Length Values Kv	Crush Factor
3056	1999 FORD EXPLORER UTILITY VEHICLE	2.0	13.9	23.9	82.8	65.1	52.6	77.5	16.4
3503	2001 FORD EXPLORER UTILITY VEHICLE	2.0	13.6	23.5	88.1	69.5	55.8	83.0	16.2
4087	2002 FORD EXPLORER UTILITY VEHICLE	2.0	12.8	23.8	86.8	74.0	50.9	88.1	17.7
4091	2002 FORD EXPLORER SPORT UTILITY VEHICLE	2.0	12.6	24.1	119.4	104.6	68.1	124.4	18.4
	Average (AVG)				**94.3**	**78.3**	**56.9**	**93.3**	**17.2**
	Minimum (MIN)				**82.8**	**65.1**	**50.9**	**77.5**	**16.2**
	Maximum (MAX)				**119.4**	**104.6**	**68.1**	**124.4**	**18.4**
	Standard Deviation (STDev-sample)				**16.9**	**17.9**	**7.8**	**21.2**	**1.1**
	Number of Tests (n)			**4**					

Available Test Results
Side Impact Test Summary

Report Filter Settings

Year Range: 1995 - 2001
Make: FORD
Model: EXPLORER

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	KEES (mph)	Indention Stiffness A	Indention Stiffness B	Length Values G	Length Values Kv	Crush Factor
3056	1999 FORD EXPLORER UTILITY VEHICLE	10.0	6.3	23.9	580.3	127.9	1315.9	379.3	36.2
3503	2001 FORD EXPLORER UTILITY VEHICLE	10.0	7.6	23.5	497.8	88.9	1394.4	269.1	29.2
4087	2002 FORD EXPLORER UTILITY VEHICLE	10.0	5.1	23.8	693.8	189.0	1273.3	562.1	44.7
4091	2002 FORD EXPLORER SPORT UTILITY VEHICLE	10.0	6.0	24.1	799.0	187.4	1703.0	548.3	38.6
	Average (AVG)				**642.7**	**148.3**	**1421.7**	**439.7**	**37.2**
	Minimum (MIN)				**497.8**	**88.9**	**1273.3**	**269.1**	**29.2**
	Maximum (MAX)				**799.0**	**189.0**	**1703.0**	**562.1**	**44.7**
	Standard Deviation (STDev-sample)				**131.6**	**48.8**	**194.2**	**140.9**	**6.4**
	Number of Tests (n)			**4**					

Available Test Results
Side Impact Test Summary

Report Filter Settings

Year Range: 1995 - 2001
Make: FORD
Model: EXPLORER

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	KEES (mph)	Indention Stiffness A	Indention Stiffness B	Length Values G	Length Values Kv	Crush Factor
3056	1999 FORD EXPLORER UTILITY VEHICLE	10.0	13.9	23.9	262.4	26.2	1315.9	77.5	16.4
3503	2001 FORD EXPLORER UTILITY VEHICLE	10.0	13.6	23.5	276.5	27.4	1394.4	83.0	16.2
4087	2002 FORD EXPLORER UTILITY VEHICLE	10.0	12.8	23.8	274.7	29.6	1273.3	88.1	17.7
4091	2002 FORD EXPLORER SPORT UTILITY VEHICLE	10.0	12.6	24.1	380.5	42.5	1703.0	124.4	18.4
	Average (AVG)				**298.5**	**31.4**	**1421.7**	**93.3**	**17.2**
	Minimum (MIN)				**262.4**	**26.2**	**1273.3**	**77.5**	**16.2**
	Maximum (MAX)				**380.5**	**42.5**	**1703.0**	**124.4**	**18.4**
	Standard Deviation (STDev-sample)				**55.0**	**7.5**	**194.2**	**21.2**	**1.1**
	Number of Tests (n)			**4**					

Expert VIN DeCoder®

Version Number 3.0.2.4

DeCoded VIN:	1G8JU84F32Y574077
Model:	2002 Saturn LW200 Auto 4 Door Station Wagon
Engine Size:	2.2L / 134cu.in.
Engine Description:	Inline 4 With Dual Overhead Camshaft
Horse Power:	145 @ 5600 rpm
Torque:	150 lb-ft at 4000 rpm
Injection System:	Sequential Fuel Injection (SFI)
PSI:	55-65 psi
Ignition:	Electronic
Manufacturer:	Saturn
Assembly Plant:	Wilmington, DE
Drive Wheels:	This is a Front Wheel Drive vehicle

The First through Third characters (1G8) indicate a Saturn Car made in the U.S.A.

The Fourth and Fifth characters (JU) indicate a LW200 Auto

The Sixth character (8) indicates a 4 Door Station Wagon

The Seventh character (4) indicates Active (Manual) Seatbelts + Front and Side Air Bags

The Eighth character (F) indicates the OEM engine: 2.2L / 134cu.in., L4 DOHC

The Ninth character (the check digit) is entered as 3.
The VIN appears Valid, the calculated value is 3.

The Tenth character (2) indicates the model year 2002

The Eleventh character (Y) indicates the vehicle was made in the assembly plant in Wilmington, DE

The Twelfth through Seventeenth characters (574077) indicate the Serial Number and are unique to this vehicle.

Expert AutoStats®

Version 5.1.0.6

PROVIDED BY:
4N6XPRT Systems
8387 University Avenue
La Mesa CA 91941

3/18/2011

2002 SATURN LW1 (LW200) 4 DOOR WAGON

Curb Weight:	3075 lbs.		1395	kg.
Curb Weight Distribution - Front:	61 %	Rear:	39	%
Gross Vehicle Weight Rating:	4025 lbs.		1826	kg.
Number of Tires on Vehicle:	4			
Drive Wheels:	FRONT			

Horizontal Dimensions	Inches	Feet	Meters
Total Length	190	15.83	4.83
Wheelbase:	106	8.83	2.69
Front Bumper to Front Axle:	39	3.25	0.99
Front Bumper to Front of Front Well:	25	2.08	0.64
Front Bumper to Front of Hood:	6	0.50	0.15
Front Bumper to Base of Windshield:	56	4.67	1.42
Front Bumper to Top of Windshield:	82	6.83	2.08
Rear Bumper to Rear Axle:	45	3.75	1.14
Rear Bumper to Rear of Rear Well:	28	2.33	0.71
Rear Bumper to Rear of Trunk:	5	0.42	0.13
Rear Bumper to Base of Rear Window:	7	0.58	0.18
Width Dimensions			
Maximum Width:	69	5.75	1.75
Front Track:	60	5.00	1.52
Rear Track:	59	4.92	1.50
Vertical Dimensions			
Height:	57	4.75	1.45
Ground to -			
Front Bumper (Top)	21	1.75	0.53
Headlight - center	24	2.00	0.61
Hood - top front:	26	2.17	0.66
Base of Windshield	37	3.08	0.94
Rear Bumper - top:	22	1.83	0.56
Trunk - top rear:	38	3.17	0.97
Base of Rear Window:	41	3.42	1.04

2002 SATURN LW1 (LW200) 4 DOOR WAGON

Interior Dimensions	Inches	Feet	Meters
Front Seat Shoulder Width	56	4.67	1.42
Front Seat to Headliner	39	3.25	0.99
Front Leg Room - seatback to floor (max)	42	3.50	1.07
Rear Seat Shoulder Width	56	4.67	1.42
Rear Seat to Headliner	40	3.33	1.02
Front Leg Room - seatback to floor (min)	37	3.08	0.94

Seatbelts: 3pt - front and rear
Airbags: FRONT SEAT AIRBAGS

Steering Data			
Turning Circle (Diameter)	444	37.00	11.28
Steering Ratio: 15.70:1			
Wheel Radius:	11	0.92	0.28
Tire Size (OEM): 28			

Acceleration & Braking Information

Brake Type: FRONT DISC - REAR DRUM
ABS System: ALL WHEEL ABS - OPTIONAL

Braking, 60 mph to 0 (Hard pedal, no skid, dry pavement):
d = 139.0 ft t = 3.2 sec a = -27.8 ft/sec² G-force = -0.86

Acceleration:

0 to 30mph	t =	3.2	sec	a =	13.8	ft/sec²	G-force = 0.43
0 to 60mph	t =	9.6	sec	a =	9.2	ft/sec²	G-force = 0.28
45 to 65mph	t =	5.0	sec	a =	5.9	ft/sec²	G-force = 0.18

Transmission Type: 4spd AUTOMATIC

Notes:
Federal Bumper Standard Requirements: 2.5 mph
This vehicles Rated Bumper Strength: 5 mph

N.S.D.C = 2000 - 2002

2002 SATURN LW1 (LW200) 4 DOOR WAGON

Other Information

Tip-Over Stability Ratio =	1.33	Stable
NHTSA Star Rating (calculated)		****

Center of Gravity (No Load):

Inches behind front axle	=	41.34
Inches in front of rear axle	=	64.66
Inches from side of vehicle	=	34.50
Inches from ground	=	22.49
Inches from front corner	=	87.43
Inches from rear corner	=	114.96
Inches from front bumper	=	80.34
Inches from rear bumper	=	109.66

Moments of Inertia Approximations (No Load):

Yaw Moment of Inertia	=	1961.25	lb*ft*sec²
Pitch Moment of Inertia	=	1895.25	lb*ft*sec²
Roll Moment of Inertia	=	403.50	lb*ft*sec²

Front Profile Information

Angle Front Bumper to Hood Front	=	39.8	deg
Angle Front of Hood to Windshield Base	=	12.4	deg
Angle Front of Hood to Windshield Top	=	20.9	deg
Angle of Windshield	=	34.7	deg
Angle of Steering Tires at Max Turn	=	27.4	deg

First Approximation Crush Factors:

Speed Equivalent (mph) of Kinetic Energy (KE) used in causing crush of indentation may be evaluated using the following formula, the appropriated Crush Factor (CF), and Maximum Indentation Depth (MID), in feet:

$$V(mph) = \sqrt{(30 * CF * MID)}$$

KE Equivalent Speed (Front/Rear/Side)	=	21 CF
Bullet vehicle IMPACT SPEED estimation based on TARGET VEHICLE damage ONLY (Tested for Rear/Side Impact only)	=	27 CF

These CF values are based upon analysis of NHTSA Barrier Crash data, and from over 1000 vehicle accidents where independant evaluation of speed was possible. (These are NOT 'A', 'B', 'C', or 'G' values)

The rear Impact data with more then 2-3 inches of crush damage should be looked at carefully, since some vehicles have very weak trunk & fender strength. Therefore, on some cars, especially GM, you estimate from the rear crush data may be high by as much as 4-5 mph (on a crush of 18 inches).

Stiffness Values and Test Data

Derived from

NHTSA Crash Test

#3797

2002 SATURN L100

Provided By

4N6XPRT StifCalcs®

Registered to:

4N6XPRT SYSTEMS
8387 UNIVERSITY AVENUE
LA MESA CA 91941-3842
10R-030201SC01301

4N6XPRT Systems | 8387 University Avenue | La Mesa, CA 91942 | USA
(800) 266-9778 | (619) 464-3478 | FAX: (619) 464-2206 | Email: 4n6@4n6xprt.com

Sister/Clone databse reader

You entered: **2002 SATURN L, LW**

The Sister/Clone Vehicle Year/Mode l Interchange list indicates the following are Similar Models

Year Range	Make	Model	Body Styles	Wheelbase
2000 - 2000	SATURN	LS, LW		106.5
Remarks: ls, ls1, ls2, lw1, lw2				
2001 - 2003	SATURN	L, LW		106.5
Remarks: l100, l200, l300, lw200, lw300. Mild Restyle in 03.				
2004 - 2005	SATURN	L300	4D, SW	106.5
Remarks: L300 1, L300 2, L300 3.				

If you have suggestions, corrections, etc., you should contact Greg Anderson at Scalia Safety Engineering,
521 East Washington Avenue, Suite 200, Madison, WI 53703-2914, (608) 256-0820, FAX (608) 256-0212, E-mail: greganderson@cs.com.

Test Information

Test #	3797	NHTSA Test Reference Guide Version #	V5			
Test Date	2001-09-25	Contract #	DTNH22-99-D-02041			
Contract/Study Title	NCAP SIDE IMPACT - 2002 SATURN L100 4 DOOR SEDAN - GM0005					
Test Objective(s)	TO GENERATE COMPARATIVE SIDE IMPACT PERFORMANCE INFORMATION					
Test Type	OPTIONAL NEW CAR ASSESSMENT TEST	Configuration	IMPACTOR INTO VEHICLE			
Impact Angle	270	Side Impact Point	22	mm	0.9	inches
		Offset Distance	0	mm	0.0	inches
		Closing Speed	62.3	Km/Hr	38.7	MPH
Test Performer	KARCO ENGINEERING					
Test Reference #	GM0005					
Test Track Surface	CONCRETE	Condition	DRY			
Ambient Temperature	33 C	91.4 F	Total Number of Curves	58		
Data Recorder Type	DIGITAL DATA ACQUISITION	Data Link	OTHER			
Test Commentary						

2002 SATURN L100 LEFT FRONT SEAT OCCUPANT

Test #	3797		
Vehicle #	2	Sex	MALE
Location	LEFT FRONT SEAT	Age	0
Position	CENTER POSITION	Height	0 mm 0.0 inches
Type	NHTSA SIDE IMPACT DUMMY	Weight	0.0 kg 0 pounds
Size	50 PERCENTILE		
Calibration Method	SIDE IMPACT DUMMY		
Occupant Manufacturer	MFG: FTSS, MODEL: SA-SID-M001, S/N: 274		
Occupant Modification	NO COMMENTS		
Occupant Description	PART 572F SIDE IMPACT DUMMY (SID)		
Occupant Commentary	CNTRC1: DOOR PANEL, CNTRL1: DOOR PANEL		

Head

Head to -

Windshielder Header	380	mm	15.0	inches	Head Injury Criteria (HIC)	433	
WindShield	535	mm	21.1	inches	HIC Lower Time Interval (ms)	35.8	
Seatback	0	mm	0.0	inches	HIC Upper Time Interval (ms)	54.9	
Side Header	170	mm	6.7	inches			
Side Window	312	mm	12.3	inches			

Neck to Seatback 0 mm 0.0 inches

First Contact Region (Head): AIR BAG

Second Contact Region (Head):

Chest

Chest to -

Dash	535	mm	21.1	inches	Arm to Door	91	mm	3.6	inches
Steering Wheel	353	mm	13.9	inches	Hip to Door	110	mm	4.3	inches
Seatback	0	mm	0.0	inches					

Chest Severity Index: 0 — Pelvic Peak Lateral Acceleration (g's): 86

Thoracic Trauma Index: 89 — Thorax Peak Acceleration (g's): 0

Lap Belt Peak Load: 0 Newtons 0.0 pound Force

Shoulder Belt Peak Load: 0 Newtons 0.0 pound Force

First Contact Region (Chest/Abdomen): OTHER

Second Contact Region (Chest/Abdomen): NONE

Legs

Knees to Dash: 170 mm 6.7 inches — Knees to Seatback: 0 mm 0.0 inches

Left Femur Peak Load: 0 Newtons 0.0 pounds Force

Right Femur Peak Load: 0 Newtons 0.0 pounds Force

First Contact Region (Legs): OTHER

Second Contact Region (Legs):

2002 SATURN L100 LEFT FRONT SEAT OCCUPANT

Test #	3797		
Vehicle #	2	Sex	MALE
Location	LEFT FRONT SEAT	Age	0
Position	CENTER POSITION	Height	0 mm 0.0 inches
Type	NHTSA SIDE IMPACT DUMMY	Weight	0.0 kg 0 pounds
Size	50 PERCENTILE		

Calibration Method	SIDE IMPACT DUMMY
Occupant Manufacturer	MFG: FTSS, MODEL: SA-SID-M001, S/N: 274
Occupant Modification	NO COMMENTS
Occupant Description	PART 572F SIDE IMPACT DUMMY (SID)
Occupant Commentary	CNTRC1: DOOR PANEL, CNTRL1: DOOR PANEL

Restraints

Restraint # 1	3 POINT BELT
Mounted	BELT - CONVENTIONAL MOUNT
Deployment	NOT APPLICABLE
Restraint Commentary	NO COMMENTS
Restraint # 2	AIR BAG
Mounted	HEADER - SIDE
Deployment	DEPLOYED PROPERLY
Restraint Commentary	RSTTYP: HEAD CURTAIN AIRBAG

2002 SATURN L100 LEFT REAR SEAT OCCUPANT

Test #	3797		
Vehicle #	2	Sex	MALE
Location	LEFT REAR SEAT	Age	0
Position	NON-ADJUSTABLE SEAT	Height	0 mm 0.0 inches
Type	NHTSA SIDE IMPACT DUMMY	Weight	0.0 kg 0 pounds
Size	50 PERCENTILE		
Calibration Method	SIDE IMPACT DUMMY		
Occupant Manufacturer	MFG: FTSS, MODEL: SA-SID-M001, S/N: 275		
Occupant Modification	NO COMMENTS		
Occupant Description	PART 572F SIDE IMPACT DUMMY (SID)		
Occupant Commentary	CNTRC1: DOOR PANEL, CNTRL1: DOOR PANEL		

Head

Head to -

Windshielder Header	0	mm	0.0	inches	Head Injury Criteria (HIC)	384	
WindShield	0	mm	0.0	inches	HIC Lower Time Interval (ms)	53.3	
Seatback	582	mm	22.9	inches	HIC Upper Time Interval (ms)	67.1	
Side Header	185	mm	7.3	inches			
Side Window	320	mm	12.6	inches			

Neck to Seatback 0 mm 0.0 inches

First Contact Region (Head): AIR BAG

Second Contact Region (Head):

Chest

Chest to -

Dash	0	mm	0.0	inches	Arm to Door	36	mm	1.4	inches
Steering Wheel	0	mm	0.0	inches	Hip to Door	134	mm	5.3	inches
Seatback	510	mm	20.1	inches					

Chest Severity Index	0	Pelvic Peak Lateral Acceleration (g's)	68
Thoracic Trauma Index	55	Thorax Peak Acceleration (g's)	0

Lap Belt Peak Load 0 Newtons 0.0 pound Force

Shoulder Belt Peak Load 0 Newtons 0.0 pound Force

First Contact Region (Chest/Abdomen): OTHER

Second Contact Region (Chest/Abdomen): NONE

Legs

Knees to Dash 0 mm 0.0 inches Knees to Seatback 220 mm 8.7 inches

Left Femur Peak Load 0 Newtons 0.0 pounds Force

Right Femur Peak Load 0 Newtons 0.0 pounds Force

First Contact Region (Legs): OTHER

Second Contact Region (Legs):

2002 SATURN L100 LEFT REAR SEAT OCCUPANT

Test #	3797					
Vehicle #	2	Sex	MALE			
Location	LEFT REAR SEAT	Age	0			
Position	NON-ADJUSTABLE SEAT	Height	0	mm	0.0	inches
Type	NHTSA SIDE IMPACT DUMMY	Weight	0.0	kg	0	pounds
Size	50 PERCENTILE					

Calibration Method	SIDE IMPACT DUMMY
Occupant Manufacturer	MFG: FTSS, MODEL: SA-SID-M001, S/N: 275
Occupant Modification	NO COMMENTS
Occupant Description	PART 572F SIDE IMPACT DUMMY (SID)
Occupant Commentary	CNTRC1: DOOR PANEL, CNTRL1: DOOR PANEL

Restraints

Restraint # 1	3 POINT BELT
Mounted	BELT - CONVENTIONAL MOUNT
Deployment	NOT APPLICABLE
Restraint Commentary	NO COMMENTS
Restraint # 2	AIR BAG
Mounted	HEADER - SIDE
Deployment	DEPLOYED PROPERLY
Restraint Commentary	RSTTYP: HEAD CURTAIN AIRBAG

Vehicle 1 NHTSA DEFORMABLE IMPACTOR

Test #	3797		
VIN		NHTSA Test Vehicle Number	1
Year		Vehicle Modification Indicator	RESEARCH VEHICLE
Make	NHTSA	Post-test Steering Column Shear Capsule Seperation	NOT APPLICABLE
Model	DEFORMABLE IMPACTOR	Steering Column Collapse Mechanism	NOT APPLICABLE
Body	NOT APPLICABLE		
Engine			
Displacement	0.0 Liter	Transmission	NOT APPLICABLE
Vehicle Modification(s) Description	NO COMMENTS		
Vehicle Commentary	NHTSA SIDE IMPACT MOVING DEFORMABLE BARRIER (MDB) 27 DEG. CRAB ANGLE		

Vehicle Length	4120	mm	162.2	inches	CG behind Front Axle	1104 mm	43.5 inches
Vehicle Width	1676	mm	66.0	inches	Center of Damage to CG Axis	0 mm	0.0 inches
Vehicle Wheelbase	2590	mm	102.0	inches	Total Length of Indentation	0 mm	0.0 inches
Vehicle Test Weight	1361	KG	3000	pounds	Maximum Static Crush Depth	0 mm	0.0 inches
					Pre-Impact Speed	62 kph	38.7 mph
Vehicle Damage Index					Principal Direction of Force	0	

Damage Profile Distance Measurements

(Measured Left-to-Right, Rear-to-Front)

DPD 1	0	mm	0.0	inches
DPD 2	0	mm	0.0	inches
DPD 3	0	mm	0.0	inches
DPD 4	0	mm	0.0	inches
DPD 5	0	mm	0.0	inches
DPD 6	0	mm	0.0	inches

Crush from Pre & Post Test Damage Measurements

	Pre-Test		Post-Test		Crush Depth	
Left Bumper Corner	0.0	inches	0.0	inches	0.0	inches
	0	mm	0	mm	0	mm
Centerline	0.0	inches	0.0	inches	0.0	inches
	0	mm	0	mm	0	mm
Right Bumper Corner	0.0	inches	0.0	inches	0.0	inches
	0	mm	0	mm	0	mm

Bumper Engagement (Inline Impact Only)	Sill Engagement (Side Impact Only)	A-pillar Engagement (Side Impact Only)
0.0	NOT APPLICABLE	0.0

Moving Test Cart Angle	Moving Test Cart/Vehicle Crabbed Angle	Vehicle Orientation on Cart Moving Test Cart
DIRECT ENGAGEMENT	27.0	NOT APPLICABLE
Magnitude of the Tilt Angle Measured between surface of a Rollover Test Cart and the Ground	*Magniture of the Crabbed Angle Measure Clockwise from Longitudinal Vector to Velocity Vector of Vehicle*	*Magnitude of the Angle Measured between the Vehicle Orientation and Direction of Test Cart Motion*

Vehicle 1 NHTSA DEFORMABLE IMPACTOR

Test #	3797		
VIN		NHTSA Test Vehicle Number	1
Year		Vehicle Modification Indicator	RESEARCH VEHICLE
Make	NHTSA	Post-test Steering Column Shear Capsule Seperation	NOT APPLICABLE
Model	DEFORMABLE IMPACTOR	Steering Column Collapse Mechanism	NOT APPLICABLE
Body	NOT APPLICABLE		
Engine			
Displacement	0.0 Liter	Transmission	NOT APPLICABLE
Vehicle Modification(s) Description	NO COMMENTS		
Vehicle Commentary	NHTSA SIDE IMPACT MOVING DEFORMABLE BARRIER (MDB) 27 DEG. CRAB ANGLE		

Vehicle Length	4120	mm	162.2	inches	CG behind Front Axle	1104	mm	43.5	inches
Vehicle Width	1676	mm	66.0	inches	Center of Damage to CG Axis	0	mm	0.0	inches
Vehicle Wheelbase	2590	mm	102.0	inches	Total Length of Indentation	0	mm	0.0	inches
Vehicle Test Weight	1361	KG	3000	pounds	Maximum Static Crush Depth	0	mm	0.0	inches
					Pre-Impact Speed	62	kph	38.7	mph
Vehicle Damage Index					Principal Direction of Force	0			

Pre & Post Test Damage Measurements

(Measurements are taken in a longitudinaldirection. Except for Engine Block, all measurements are take from the Rear Vehicle Surface forward.)

Left Side				Centerline				Right Side			
Pre-Test		Post-Test		Pre-Test		Post-Test		Pre-Test		Post-Test	
mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches
				Length of Vehicle at Centerline							
				0	0.0	0	0.0				
				Engine Block							
				0	0.0	0	0.0				
0	0.0	0	0.0	Front Bumper Corner				0	0.0	0	0.0
				Front of Engine							
				0	0.0	0	0.0				
0	0.0	0	0.0	Firewall				0	0.0	0	0.0
				0	0.0	0	0.0				
0	0.0	0	0.0	Upper Leading Edge of Door				0	0.0	0	0.0
0	0.0	0	0.0	Lower Leading Edge of Door				0	0.0	0	0.0
0	0.0	0	0.0	Bottom of 'A' Post				0	0.0	0	0.0
0	0.0	0	0.0	Upper Trailing Edge of Door				0	0.0	0	0.0
0	0.0	0	0.0	Lower Trailing Edge of Door				0	0.0	0	0.0
				Steering Column							
				0	0.0	0	0.0				
				Center of Seering Column to 'A' Post (Horizontal)							
				0	0.0	0	0.0				
				Center of Steering Column to Headliner (Vertical)							
				0	0.0	0	0.0				

Vehicle 2 2002 SATURN L100

Test #	3797		
VIN	1G8JS54F12Y502198	NHTSA Test Vehicle Number	2
Year	2002	Vehicle Modification Indicator	PRODUCTION VEHICLE
Make	SATURN	Post-test Steering Column Shear Capsule Seperation	UNKNOWN
Model	L100	Steering Column Collapse Mechanism	UNKNOWN
Body	FOUR DOOR SEDAN		
Engine	4 CYLINDER TRANSVERSE FRONT		
Displacement	2.2 Liter	Transmission	AUTOMATIC - FRONT WHEEL DRIVE
Vehicle Modification(s) Description	NO COMMENTS		
Vehicle Commentary	MODEL: L100		

Vehicle Length	4835	mm	190.4	inches	CG behind Front Axle	1249	mm	49.2	inches
Vehicle Width	1752	mm	69.0	inches	Center of Damage to CG Axis	-288	mm	-11.3	inches
Vehicle Wheelbase	2704	mm	106.5	inches	Total Length of Indentation	3450	mm	135.8	inches
Vehicle Test Weight	1598	KG	3522	pounds	Maximum Static Crush Depth	403	mm	15.9	inches
					Pre-Impact Speed	0	kph	0.0	mph

Vehicle Damage Index: 10LPAW3

Principal Direction of Force: 297

Damage Profile Distance Measurements

(Measured Left-to-Right, Rear-to-Front)

DPD 1	-39	mm	-1.5	inches
DPD 2	90	mm	3.5	inches
DPD 3	247	mm	9.7	inches
DPD 4	313	mm	12.3	inches
DPD 5	43	mm	1.7	inches
DPD 6	-56	mm	-2.2	inches

Crush from Pre & Post Test Damage Measurements

	Pre-Test		Post-Test		Crush Depth	
Left Bumper Corner	0.0	inches	0.0	inches	0.0	inches
	0	mm	0	mm	0	mm
Centerline	0.0	inches	0.0	inches	0.0	inches
	0	mm	0	mm	0	mm
Right Bumper Corner	0.0	inches	0.0	inches	0.0	inches
	0	mm	0	mm	0	mm

Bumper Engagement (Inline Impact Only)	Sill Engagement (Side Impact Only)	A-pillar Engagement (Side Impact Only)
27.0	DIRECT ENGAGEMENT	90.0

Moving Test Cart Angle	Moving Test Cart/Vehicle Crabbed Angle	Vehicle Orientation on Cart Moving Test Cart
NOT APPLICABLE	0.0	DIRECT ENGAGEMENT
Magnitude of the Tilt Angle Measured between surface of a Rollover Test Cart and the Ground	*Magniture of the Crabbed Angle Measure Clockwise from Longitudinal Vector to Velocity Vector of Vehicle*	*Magnitude of the Angle Measured between the Vehicle Orientation and Direction of Test Cart Motion*

Vehicle 2 2002 SATURN L100

Test #	3797		
VIN	1G8JS54F12Y502198	NHTSA Test Vehicle Number	2
Year	2002	Vehicle Modification Indicator	PRODUCTION VEHICLE
Make	SATURN	Post-test Steering Column Shear Capsule Seperation	UNKNOWN
Model	L100	Steering Column Collapse Mechanism	UNKNOWN
Body	FOUR DOOR SEDAN		
Engine	4 CYLINDER TRANSVERSE FRONT		
Displacement	2.2 Liter	Transmission	AUTOMATIC - FRONT WHEEL DRIVE
Vehicle Modification(s) Description	NO COMMENTS		
Vehicle Commentary	MODEL: L100		

Vehicle Length	4835	mm	190.4	inches	CG behind Front Axle	1249	mm	49.2	inches
Vehicle Width	1752	mm	69.0	inches	Center of Damage to CG Axis	-288	mm	-11.3	inches
Vehicle Wheelbase	2704	mm	106.5	inches	Total Length of Indentation	3450	mm	135.8	inches
Vehicle Test Weight	1598	KG	3522	pounds	Maximum Static Crush Depth	403	mm	15.9	inches
					Pre-Impact Speed	0	kph	0.0	mph

Vehicle Damage Index	10LPAW3	Principal Direction of Force	297

Pre & Post Test Damage Measurements

(Measurements are taken in a longitudinaldirection. Except for Engine Block, all measurements are take from the Rear Vehicle Surface forward.)

Left Side				Centerline				Right Side			
Pre-Test		Post-Test		Pre-Test		Post-Test		Pre-Test		Post-Test	
mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches
				Length of Vehicle at Centerline							
				0	0.0	0	0.0				
				Engine Block							
				0	0.0	0	0.0				
0	0.0	0	0.0	Front Bumper Corner				0	0.0	0	0.0
				Front of Engine							
				0	0.0	0	0.0				
0	0.0	0	0.0	Firewall				0	0.0	0	0.0
				0	0.0	0	0.0				
0	0.0	0	0.0	Upper Leading Edge of Door				0	0.0	0	0.0
0	0.0	0	0.0	Lower Leading Edge of Door				0	0.0	0	0.0
0	0.0	0	0.0	Bottom of 'A' Post				0	0.0	0	0.0
0	0.0	0	0.0	Upper Trailing Edge of Door				0	0.0	0	0.0
0	0.0	0	0.0	Lower Trailing Edge of Door				0	0.0	0	0.0
				Steering Column							
				0	0.0	0	0.0				
				Center of Seering Column to 'A' Post (Horizontal)							
				0	0.0	0	0.0				
				Center of Steering Column to Headliner (Vertical)							
				0	0.0	0	0.0				

2002 SATURN L100

NHTSA Crash Test - #3797 - Side

Damage Profile Distances - Indention Length - KE Equivalent Speed - Trapezoidal Average

Test Vehicle Weight =	3522 pounds	Impactor Weight =	3000
KE Equivalent Speed =	26.3 MPH	Impactor Test Speed =	38.7
Test Crush Length =	135.8 inches		

Damage Profile Distance Collision Crush Depths (inches)

	DPD1	DPD2	DPD3	DPD4	DPD5	DPD6	
(Rear)	-1.5	3.5	9.7	12.3	1.7	-2.2	(Front)

		CRASH 3 Stiffness Coefficents			SMAC Stiffness
		A	B	G	Kv
Minimum Crush = 1.7 inches					4958.1
Using a Rated No Damage Speed of	1.0mph	308.8	4587.6	10.4	
Using a Rated No Damage Speed of	2.0mph	593.2	4231.5	41.6	
Using a Rated No Damage Speed of	3.0mph	853.1	3889.7	93.5	
Using a Rated No Damage Speed of	5.0mph	1299.5	3249.4	259.9	
Average Crush = 5.5 inches					473.7
Using a Rated No Damage Speed of	1.0mph	95.5	438.3	10.4	
Using a Rated No Damage Speed of	2.0mph	183.3	404.3	41.6	
Using a Rated No Damage Speed of	3.0mph	263.7	371.6	93.5	
Using a Rated No Damage Speed of	5.0mph	401.7	310.4	199.5	
Maximum Crush = 12.3 inches					94.7
Using a Rated No Damage Speed of	1.0mph	42.7	87.6	10.4	
Using a Rated No Damage Speed of	2.0mph	82.0	80.8	41.6	
Using a Rated No Damage Speed of	3.0mph	117.9	74.3	93.5	
Using a Rated No Damage Speed of	5.0mph	179.6	62.1	259.9	

Rated No Damage Speed = Impact speed with a barrier resulting in no permanant vehicle deformation

Normal "Rated No Damage Speed" is 2.5 or 5 mph. Some Specific vehicles may, however, have a higher rating

A = Maximum force per inch of damage without permanent damage, lb/in

B = Crush resistance per inch of damage width (Crash), lb/in^2

G = Energy dissipated without permanent damage, lb

Kv = Crush resistance per inch of damage width (SMAC), lb/in^2

****

4N6XPRT System's First Approximation Crush Factor (CF)

Speed from Crush calculation using a generic CF of 21 as suggested in Expert AutoStats

Impact Speed (mph) = SQRT(30 * CF * max crush in feet)

Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	12.3	25.4	-0.8	-3.3

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 22.4

CF = (mph * mph) / (30 * max crush in feet), dimensionless

4N6XPRT Systems CF is calculated based upon the data reported and is specific to this vehicle and this test

---

Available Test Results
Side Impact Test Summary

Report Filter Settings

Year Range: 2001 - 2003
Make: SATURN
Model: L, LW

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	KEES (mph)	Indention Stiffness A	Indention Stiffness B	Length Values G	Length Values Kv	Crush Factor
3194	2000 SATURN LS FOUR DOOR SEDAN	2.0	9.9	26.3	135.0	165.9	54.9	194.3	28.0
3797	2002 SATURN L100 FOUR DOOR SEDAN	2.0	5.5	26.3	184.8	410.7	41.6	481.2	50.5
	Average (AVG)				**159.9**	**288.3**	**48.3**	**337.8**	**39.3**
	Minimum (MIN)				**135.0**	**165.9**	**41.6**	**194.3**	**28.0**
	Maximum (MAX)				**184.8**	**410.7**	**54.9**	**481.2**	**50.5**
	Standard Deviation (STDev-sample)				**35.2**	**173.1**	**9.4**	**202.9**	**15.9**
	Number of Tests (n)			**2**					

Available Test Results
Side Impact Test Summary

Report Filter Settings

Year Range: 2001 - 2003
Make: SATURN
Model: L, LW

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	KEES (mph)	Indention Stiffness A	Indention Stiffness B	Length Values G	Length Values Kv	Crush Factor
3194	2000 SATURN LS FOUR DOOR SEDAN	2.0	14.6	26.3	91.1	75.6	54.9	88.6	18.9
3797	2002 SATURN L100 FOUR DOOR SEDAN	2.0	15.9	26.3	63.6	48.6	41.6	56.9	17.4
	Average (AVG)				**77.3**	**62.1**	**48.3**	**72.8**	**18.1**
	Minimum (MIN)				**63.6**	**48.6**	**41.6**	**56.9**	**17.4**
	Maximum (MAX)				**91.1**	**75.6**	**54.9**	**88.6**	**18.9**
	Standard Deviation (STDev-sample)				**19.4**	**19.1**	**9.4**	**22.4**	**1.1**
	Number of Tests (n)			**2**					

4N6XPRT Systems
Expert System Software for Litigation

8387 University Avenue
La Mesa, CA 91941-3842

Phone: (619) 464-3478
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Toll Free: 1- 800-266-9778

Web Site: http://www.4n6xprt.com

E-Mail: 4n6@4n6xprt.com

The NHTSA Crash Test database contains only TWO SIDE Impact tests for the Saturn Station Wagon, and neither of those tests are Station Wagons.

To create a STATION WAGON class of vehicle, we looked at the NHTSA database for STATION WAGONs that have SIDE IMPACT TESTS.

The Test Summary Reports based on the Average and Maximum crush depths follow.

In addition, since the Motorcycles were targeted to hit on the wheels, a second set of Test Summary Reports were run with a No Damage speed of 10 mph.

Available Test Results
Side Impact Test Summary

Report Filter Settings

Year Range: 1965 - 2010

Bodystyle: STATION WAGON

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	KEES (mph)	Indention Stiffness A	Indention Stiffness B	Length Values G	Length Values Kv	Crush Factor
702	1980 AMERICAN CONCORD STATION WAGON	2.0	14.7	22.6	111.4	78.4	79.2	94.3	14.0
2206	1995 VOLVO 850 STATION WAGON	2.0	6.2	22.0	304.7	494.0	94.0	597.8	31.4
2210	1995 SUBARU LEGACY STATION WAGON	2.0	5.8	23.2	158.4	290.0	43.3	347.4	37.1
2719	1995 VOLVO 850 STATION WAGON	2.0	4.3	18.8	230.9	454.6	58.6	569.0	33.2
2724	1998 SUBARU IMPREZA STATION WAGON	2.0	7.7	22.6	137.0	183.3	51.2	220.6	26.6
2760	1998 HONDA ODYSSEY STATION WAGON	2.0	6.0	21.9	174.6	289.0	52.7	350.0	31.9
3272	2000 SUBARU LEGACY STATION WAGON	2.0	7.1	25.7	247.0	411.2	74.2	483.6	37.1
3298	2000 SUZUKI ESTEEM STATION WAGON	2.0	6.8	23.5	117.5	185.0	37.3	221.0	32.3
3652	2001 SUBARU FORESTER STATION WAGON	2.0	6.9	25.4	171.8	290.4	50.8	342.2	37.3
4079	2002 SUBARU IMPREZA STATION WAGON	2.0	6.3	25.9	194.6	370.8	51.1	435.5	42.7
4226	2002 SUBARU OUTBACK STATION WAGON	2.0	4.3	25.0	299.1	807.8	55.4	954.3	58.7
4422	2003 SUBARU FORESTER STATION WAGON	2.0	6.3	25.8	194.1	365.1	51.6	429.1	42.0
5241	2005 VOLVO V70 STATION WAGON	2.0	5.2	25.4	202.9	457.0	45.0	538.5	49.6
5592	2006 SAAB 9-2X STATION WAGON	2.0	7.6	26.0	277.0	439.0	87.4	515.4	35.7
6282	2008 INFINITI EX35 STATION WAGON	2.0	4.9	24.5	264.0	602.2	57.9	713.9	48.7
	Average (AVG)				**205.7**	**381.2**	**59.3**	**454.2**	**37.2**
	Minimum (MIN)				**111.4**	**78.4**	**37.3**	**94.3**	**14.0**
	Maximum (MAX)				**304.7**	**807.8**	**94.0**	**954.3**	**58.7**
	Standard Deviation (STDev-sample)				**62.9**	**180.0**	**16.7**	**213.4**	**10.5**
	Number of Tests (n)			**15**					

Available Test Results
Side Impact Test Summary

Report Filter Settings

Year Range: 1965 - 2010

Bodystyle: STATION WAGON

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	KEES (mph)	Indention Stiffness A	Indention Stiffness B	Length Values G	Length Values Kv	Crush Factor
702	1980 AMERICAN CONCORD STATION WAGON	2.0	17.0	22.6	96.0	58.3	79.2	70.1	12.0
2206	1995 VOLVO 850 STATION WAGON	2.0	8.9	22.0	212.1	239.3	94.0	289.6	21.8
2210	1995 SUBARU LEGACY STATION WAGON	2.0	11.6	23.2	79.1	72.3	43.3	86.6	18.5
2719	1995 VOLVO 850 STATION WAGON	2.0	10.3	18.8	95.7	78.1	58.6	97.8	13.8
2724	1998 SUBARU IMPREZA STATION WAGON	2.0	12.4	22.6	85.0	70.7	51.2	85.1	16.5
2760	1998 HONDA ODYSSEY STATION WAGON	2.0	10.9	21.9	96.2	87.7	52.7	106.2	17.6
3272	2000 SUBARU LEGACY STATION WAGON	2.0	10.5	25.7	167.0	188.1	74.2	221.2	25.1
3298	2000 SUZUKI ESTEEM STATION WAGON	2.0	12.7	23.5	63.3	53.6	37.3	64.1	17.4
3652	2001 SUBARU FORESTER STATION WAGON	2.0	11.5	25.4	103.0	104.4	50.8	123.1	22.3
4079	2002 SUBARU IMPREZA STATION WAGON	2.0	10.6	25.9	114.8	128.9	51.1	151.4	25.2
4226	2002 SUBARU OUTBACK STATION WAGON	2.0	8.0	25.0	159.4	229.5	55.4	271.1	31.3
4422	2003 SUBARU FORESTER STATION WAGON	2.0	11.3	25.8	108.9	115.0	51.6	135.1	23.6
5241	2005 VOLVO V70 STATION WAGON	2.0	12.9	25.4	81.5	73.8	45.0	87.0	19.9
5592	2006 SAAB 9-2X STATION WAGON	2.0	11.5	26.0	182.2	189.8	87.4	222.8	23.4
6282	2008 INFINITI EX35 STATION WAGON	2.0	10.0	24.5	129.8	145.6	57.9	172.6	24.0
	Average (AVG)				**118.3**	**122.3**	**59.3**	**145.6**	**20.8**
	Minimum (MIN)				**63.3**	**53.6**	**37.3**	**64.1**	**12.0**
	Maximum (MAX)				**212.1**	**239.3**	**94.0**	**289.6**	**31.3**
	Standard Deviation (STDev-sample)				**43.0**	**62.4**	**16.7**	**73.8**	**5.0**
	Number of Tests (n)			**15**					

Available Test Results
Side Impact Test Summary

Report Filter Settings

Year Range: 1965 - 2010

Bodystyle: STATION WAGON

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	KEES (mph)	Indention Stiffness A	Indention Stiffness B	Length Values G	Length Values Kv	Crush Factor
702	1980 AMERICAN CONCORD STATION WAGON	10.0	14.7	22.6	341.0	29.4	1979.0	94.3	14.0
2206	1995 VOLVO 850 STATION WAGON	10.0	6.2	22.0	913.8	177.7	2349.8	597.8	31.4
2210	1995 SUBARU LEGACY STATION WAGON	10.0	5.8	23.2	492.6	112.2	1081.5	347.4	37.1
2719	1995 VOLVO 850 STATION WAGON	10.0	4.3	18.8	605.9	125.2	1466.1	569.0	33.2
2724	1998 SUBARU IMPREZA STATION WAGON	10.0	7.7	22.6	419.1	68.7	1279.0	220.6	26.6
2760	1998 HONDA ODYSSEY STATION WAGON	10.0	6.0	21.9	521.8	103.3	1317.9	350.0	31.9
3272	2000 SUBARU LEGACY STATION WAGON	10.0	7.1	25.7	817.6	180.3	1854.0	483.6	37.1
3298	2000 SUZUKI ESTEEM STATION WAGON	10.0	6.8	23.5	368.9	72.9	933.4	221.0	32.3
3652	2001 SUBARU FORESTER STATION WAGON	10.0	6.9	25.4	565.2	125.7	1270.9	342.2	37.3
4079	2002 SUBARU IMPREZA STATION WAGON	10.0	6.3	25.9	647.2	164.0	1277.2	435.5	42.7
4226	2002 SUBARU OUTBACK STATION WAGON	10.0	4.3	25.0	975.6	343.7	1384.6	954.3	58.7
4422	2003 SUBARU FORESTER STATION WAGON	10.0	6.3	25.8	643.9	160.7	1289.7	429.1	42.0
5241	2005 VOLVO V70 STATION WAGON	10.0	5.2	25.4	667.2	197.7	1125.8	538.5	49.6
5592	2006 SAAB 9-2X STATION WAGON	10.0	7.6	26.0	922.6	194.8	2185.2	515.4	35.7
6282	2008 INFINITI EX35 STATION WAGON	10.0	4.9	24.5	851.1	250.3	1446.9	713.9	48.7
	Average (AVG)				**650.2**	**153.8**	**1482.7**	**454.2**	**37.2**
	Minimum (MIN)				**341.0**	**29.4**	**933.4**	**94.3**	**14.0**
	Maximum (MAX)				**975.6**	**343.7**	**2349.8**	**954.3**	**58.7**
	Standard Deviation (STDev-sample)				**206.5**	**78.2**	**416.1**	**213.4**	**10.5**
	Number of Tests (n)			**15**					

Available Test Results
Side Impact Test Summary

Report Filter Settings

Year Range: 1965 - 2010

Bodystyle: STATION WAGON

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	KEES (mph)	Indention Stiffness A	Indention Stiffness B	Length Values G	Length Values Kv	Crush Factor
702	1980 AMERICAN CONCORD STATION WAGON	10.0	17.0	22.6	294.0	21.8	1979.0	70.1	12.0
2206	1995 VOLVO 850 STATION WAGON	10.0	8.9	22.0	636.0	86.1	2349.8	289.6	21.8
2210	1995 SUBARU LEGACY STATION WAGON	10.0	11.6	23.2	245.9	28.0	1081.5	86.6	18.5
2719	1995 VOLVO 850 STATION WAGON	10.0	10.3	18.8	251.2	21.5	1466.1	97.8	13.8
2724	1998 SUBARU IMPREZA STATION WAGON	10.0	12.4	22.6	260.2	26.5	1279.0	85.1	16.5
2760	1998 HONDA ODYSSEY STATION WAGON	10.0	10.9	21.9	287.5	31.4	1317.9	106.2	17.6
3272	2000 SUBARU LEGACY STATION WAGON	10.0	10.5	25.7	553.0	82.5	1854.0	221.2	25.1
3298	2000 SUZUKI ESTEEM STATION WAGON	10.0	12.7	23.5	198.6	21.1	933.4	64.1	17.4
3652	2001 SUBARU FORESTER STATION WAGON	10.0	11.5	25.4	338.9	45.2	1270.9	123.1	22.3
4079	2002 SUBARU IMPREZA STATION WAGON	10.0	10.6	25.9	381.6	57.0	1277.2	151.4	25.2
4226	2002 SUBARU OUTBACK STATION WAGON	10.0	8.0	25.0	520.0	97.6	1384.6	271.1	31.3
4422	2003 SUBARU FORESTER STATION WAGON	10.0	11.3	25.8	361.3	50.6	1289.7	135.1	23.6
5241	2005 VOLVO V70 STATION WAGON	10.0	12.9	25.4	268.1	31.9	1125.8	87.0	19.9
5592	2006 SAAB 9-2X STATION WAGON	10.0	11.5	26.0	606.6	84.2	2185.2	222.8	23.4
6282	2008 INFINITI EX35 STATION WAGON	10.0	10.0	24.5	418.6	60.5	1446.9	172.6	24.0
	Average (AVG)				**374.8**	**49.7**	**1482.7**	**145.6**	**20.8**
	Minimum (MIN)				**198.6**	**21.1**	**933.4**	**64.1**	**12.0**
	Maximum (MAX)				**636.0**	**97.6**	**2349.8**	**289.6**	**31.3**
	Standard Deviation (STDev-sample)				**141.4**	**26.9**	**416.1**	**73.8**	**5.0**
	Number of Tests (n)			**15**					

Expert VIN DeCoder®

Version Number 3.0.2.4

DeCoded VIN: 1G6CD5156J4348441

Model:	1988 Cadillac Sedan DeVille 4 Door Sedan
Engine Size:	4.5L / 273 cu.in.
Engine Description:	V8 Cylinder
Horse Power:	155 @ 4000 rpm
Torque:	240 lb-ft at 2800 rpm
Injection System:	Throttle Body Injection
PSI:	9-12 psi
Ignition:	Electronic
Manufacturer:	Cadillac
Assembly Plant:	Orion, MI.
Drive Wheels:	This is a Rear Wheel Drive vehicle

The First through Third characters (1G6) indicate a Cadillac Car made in the U.S.A.

The Fourth and Fifth characters (CD) indicate a Sedan DeVille

The Sixth character (5) indicates a 4 Door Sedan

The Seventh character (1) indicates Active (Manual) Seatbelts

The Eighth character (5) indicates the OEM engine: 4.5L / 273 cu.in., V8

The Ninth character (the check digit) is entered as 6.
The VIN appears Valid, the calculated value is 6.

The Tenth character (J) indicates the model year 1988

The Eleventh character (4) indicates the vehicle was made in the assembly plant in Orion, MI.

The Twelfth through Seventeenth characters (348441) indicate the Serial Number and are unique to this vehicle.

Expert AutoStats®

Version 5.1.0.6

PROVIDED BY:
4N6XPRT Systems
8387 University Avenue
La Mesa CA 91941

3/21/2011

1988 CADILLAC DEVILLE 4 DOOR SEDAN

Curb Weight:	3396	lbs.	1540	kg.
Curb Weight Distribution - Front:	64	% Rear:	36	%
Gross Vehicle Weight Rating:		lbs.		kg.
Number of Tires on Vehicle:	4			
Drive Wheels:	FRONT			

Horizontal Dimensions	Inches	Feet	Meters
Total Length	197	16.42	5.00
Wheelbase:	111	9.25	2.82
Front Bumper to Front Axle:	40	3.33	1.02
Front Bumper to Front of Front Well:	28	2.33	0.71
Front Bumper to Front of Hood:	5	0.42	0.13
Front Bumper to Base of Windshield:	51	4.25	1.30
Front Bumper to Top of Windshield:	79	6.58	2.01
Rear Bumper to Rear Axle:	46	3.83	1.17
Rear Bumper to Rear of Rear Well:	29	2.42	0.74
Rear Bumper to Rear of Trunk:	5	0.42	0.13
Rear Bumper to Base of Rear Window:	45	3.75	1.14
Width Dimensions			
Maximum Width:	72	6.00	1.83
Front Track:	62	5.17	1.57
Rear Track:	62	5.17	1.57
Vertical Dimensions			
Height:	55	4.58	1.40
Ground to -			
Front Bumper (Top)	17	1.42	0.43
Headlight - center	26	2.17	0.66
Hood - top front:	30	2.50	0.76
Base of Windshield	31	2.58	0.79
Rear Bumper - top:	23	1.92	0.58
Trunk - top rear:	37	3.08	0.94
Base of Rear Window:	42	3.50	1.07

1988 CADILLAC DEVILLE 4 DOOR SEDAN

Interior Dimensions	Inches	Feet	Meters
Front Seat Shoulder Width	59	4.92	1.50
Front Seat to Headliner	39	3.25	0.99
Front Leg Room - seatback to floor (max)	42	3.50	1.07
Rear Seat Shoulder Width	58	4.83	1.47
Rear Seat to Headliner	38	3.17	0.97
Front Leg Room - seatback to floor (min)	42	3.50	1.07

Seatbelts: 3pt front, 2pt rear
Airbags: NO AIRBAGS

Steering Data

Turning Circle (Diameter)	516	43.00	13.11
Steering Ratio: 16.91:1			
Wheel Radius:	12	1.00	0.30
Tire Size (OEM): P205/75R14			

Acceleration & Braking Information

Brake Type: FRONT DISC - REAR DRUM
ABS System: ABS UNKNOWN

Braking, 60 mph to 0 (Hard pedal, no skid, dry pavement):
d = ____ ft t = ____ sec a = ____ ft/sec² G-force = ____

Acceleration:

0 to 30mph	t =	sec	a =	ft/sec²	G-force =	
0 to 60mph	t =	sec	a =	ft/sec²	G-force =	
45 to 65mph	t =	sec	a =	ft/sec²	G-force =	

Transmission Type: AUTOMATIC

Notes:
Federal Bumper Standard Requirements: 2.5 mph
This vehicles Rated Bumper Strength: 5 mph

N.S.D.C = 1985 - 1989

1988 CADILLAC DEVILLE 4 DOOR SEDAN

Other Information

Tip-Over Stability Ratio =	1.44	Stable
NHTSA Star Rating (calculated)		****

Center of Gravity (No Load):

Inches behind front axle	=	39.96
Inches in front of rear axle	=	71.04
Inches from side of vehicle	=	36.00
Inches from ground	=	21.59
Inches from front corner	=	87.69
Inches from rear corner	=	122.45
Inches from front bumper	=	79.96
Inches from rear bumper	=	117.04

Moments of Inertia Approximations (No Load):

Yaw Moment of Inertia	=	2291.88	lb*ft*sec²
Pitch Moment of Inertia	=	2213.04	lb*ft*sec²
Roll Moment of Inertia	=	461.28	lb*ft*sec²

Front Profile Information

Angle Front Bumper to Hood Front	=	69.0	deg
Angle Front of Hood to Windshield Base	=	1.2	deg
Angle Front of Hood to Windshield Top	=	17.3	deg
Angle of Windshield	=	38.2	deg
Angle of Steering Tires at Max Turn	=	24.7	deg

First Approximation Crush Factors:

Speed Equivalent (mph) of Kinetic Energy (KE) used in causing crush of indentation may be evaluated using the following formula, the appropriated Crush Factor (CF), and Maximum Indentation Depth (MID), in feet:

$$V(mph) = \sqrt{(30 * CF * MID)}$$

KE Equivalent Speed (Front/Rear/Side)	=	21 CF
Bullet vehicle IMPACT SPEED estimation based on TARGET VEHICLE damage ONLY (Tested for Rear/Side Impact only)	=	27 CF

These CF values are based upon analysis of NHTSA Barrier Crash data, and from over 1000 vehicle accidents where independant evaluation of speed was possible. (These are NOT 'A', 'B', 'C', or 'G' values)

The rear Impact data with more then 2-3 inches of crush damage should be looked at carefully, since some vehicles have very weak trunk & fender strength. Therefore, on some cars, especially GM, you estimate from the rear crush data may be high by as much as 4-5 mph (on a crush of 18 inches).

4N6XPRT StifCalcs - Selected Vehicle: 1988 CADILLAC DEVILLE

File Print Reports Settings Help Reg To: 4N6XPRT SYSTEMS

Basic Vehicle Search | NHTSA Test Selection | Advanced Vehicle Search | Force Balance

Available Test | Test Information | Occupant Information | Vehicle Information | Stiffness Calcs

Available Tests in the NHTSA database for a 1985 - 1988 CADILLAC DEVILLE

Sister Clone Searched Year Range (1985 - 1993)

Print

Frontal Test(s)

Test No.	Year	Make	Model	Impact Speed	Max Crush	Crush Factor	VDI	PDOF	Test Config	VIN
738	1985	BUICK	ELECTRA	34.9	30.9	15.8	12FDEW3	0	VEHICLE INTO BARRIER	1G4CW6938F1406649
1191	1988	BUICK	ELECTRA	34.9	31.5	15.5	12FDEW3	0	VEHICLE INTO BARRIER	1G4CW51C9J1670302
1438	1990	CADILLAC	DE VILLE	34.9	29.1	16.8	9999999	0	VEHICLE INTO BARRIER	1G6CD5334L4201856

Rear Test(s)

NO CRUSH MEASUREMENTS REPORTED

No Rear Tests: 1985 - 1988

Print

Side Test(s)

Test No.	Year	Make	Model	Impact Speed	Max Crush	Crush Factor	VDI	PDOF	Test Config	VIN
1079	1985	BUICK	ELECTRA	26.0	0.0	0.0	9999999	90	IMPACTOR INTO VEHI...	
1081	1985	BUICK	ELECTRA	25.4	0.0	0.0	9999999	90	IMPACTOR INTO VEHI...	
1084	1985	BUICK	ELECTRA	26.0	0.0	0.0	9999999	90	IMPACTOR INTO VEHI...	
1086	1985	BUICK	ELECTRA	25.5	0.0	0.0	9999999	90	IMPACTOR INTO VEHI...	
1087	1985	BUICK	ELECTRA	25.2	0.0	0.0	9999999	90	IMPACTOR INTO VEHI...	
1089	1985	OLDSMOBILE	98	24.7	0.0	0.0	9999999	90	IMPACTOR INTO VEHI...	

Sister/Clone database reader

You entered: **1988 CADILLAC DEVILLE**

The Sister/Clone Vehicle Year/Model Interchange list indicates the following are Similar Models

Year Range	Make	Model	Body Styles	Wheelbase
1985 - 1990	BUICK	ELECTRA	2D, 4D	110.8
Remarks:				
1985 - 1988	CADILLAC	DEVILLE	2D, 4D	115.3
Remarks: ALSO FLEETWOOD, NOT BROUGHAM				
1985 - 1990	OLDSMOBILE	98	2D, 4D	110.8
Remarks:				
1989 - 1992	CADILLAC	FLEETWOOD 60 SPECIAL		113.8
Remarks:				
1989 - 1993	CADILLAC	DEVILLE	2D, 4D	115.3
Remarks: Stretched Rear, 4D stretched WB also. 93 NOT Fleetwood.				
1993 - 1993	CADILLAC	60 SPECIAL	4D	113.8
Remarks: 93 NOT Fleetwood				

If you have suggestions, corrections, etc., you should contact Greg Anderson at Scalia Safety Engineering,
521 East Washington Avenue, Suite 200, Madison, WI 53703-2914, (608) 256-0820, FAX (608) 256-0212, E-mail: greganderson@cs.com.

4N6XPRT Systems
Expert System Software for Litigation

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Web Site: http://www.4n6xprt.com

E-Mail: 4n6@4n6xprt.com

The NHTSA Crash Test database contains NO SIDE Impact tests for the Cadillac DeVille that have recorded crush measurements.

To create a SIMILAR class of vehicle, we first looked at the Wheelbase length of the frontal impact test for the DeVille, which was reported as 113.7 inches.

We then looked at the NHTSA database for FOUR DOOR SEDANS that have SIDE IMPACT TESTS prior to model year 2000 and had a wheelbase range of 112.7-114.7 inches (+/- 1 inch).

The Test Summary Reports based on the Average and Maximum crush depths follow.

In addition, since the Motorcycles were targeted to hit on the wheels, a second set of Test Summary Reports were run with a No Damage speed of 10 mph.

Available Test Results
Side Impact Test Summary

Report Filter Settings

Year Range: 1965 - 2010

Bodystyle: FOUR DOOR SEDAN

Wheelbase Range: 112.7-114.7

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	KEES (mph)	Indention Stiffness A	Indention Stiffness B	Length Values G	Length Values Kv	Crush Factor
45	1976 PLYMOUTH VOLARE FOUR DOOR SEDAN	2.0	5.8	24.1	377.6	714.3	99.8	849.5	39.7
968	1980 FORD LTD FOUR DOOR SEDAN	2.0	5.0	14.4	166.0	206.4	66.8	278.3	16.6
969	1980 FORD LTD FOUR DOOR SEDAN	2.0	21.2	29.1	70.6	45.1	55.3	52.0	15.9
2009	1992 FORD CROWN VICTORIA FOUR DOOR SEDAN	2.0	9.7	19.6	133.6	120.7	73.9	149.7	15.8
2125	1992 FORD FULL SIZE FOUR DOOR SEDAN	2.0	9.0	19.4	206.3	198.5	107.2	246.8	16.7
2481	1997 FORD CROWN VICTORIA FOUR DOOR SEDAN	2.0	6.3	24.2	127.0	222.8	36.2	264.8	37.0
2484	1997 DODGE INTREPID FOUR DOOR SEDAN	2.0	7.0	25.3	111.7	185.4	33.6	218.6	36.5
2490	1997 FORD CROWN VICTORIA FOUR DOOR SEDAN	2.0	4.6	21.1	161.0	335.9	38.6	409.8	39.0
2523	1997 CADILLAC DE VILLE FOUR DOOR SEDAN	2.0	7.8	24.3	107.4	152.8	37.7	181.4	30.2
2794	1998 DODGE INTREPID FOUR DOOR SEDAN	2.0	6.5	21.8	154.0	233.2	50.9	282.8	29.0
2999	1999 DODGE INTREPID FOUR DOOR SEDAN	2.0	4.8	25.1	180.9	433.8	37.7	512.0	52.4
3669	1999 CADILLAC DE VILLE FOUR DOOR SEDAN	2.0	8.4	22.7	101.9	125.8	41.2	151.3	24.6
4086	1999 CADILLAC DE VILLE FOUR DOOR SEDAN	2.0	10.4	26.4	119.1	139.5	50.8	163.3	26.8
4094	1999 CADILLAC DE VILLE FOUR DOOR SEDAN	2.0	9.7	26.8	102.2	131.0	39.9	153.0	29.7
	Average (AVG)				**151.4**	**231.8**	**55.0**	**279.5**	**29.3**
	Minimum (MIN)				**70.6**	**45.1**	**33.6**	**52.0**	**15.8**
	Maximum (MAX)				**377.6**	**714.3**	**107.2**	**849.5**	**52.4**
	Standard Deviation (STDev-sample)				**74.5**	**169.1**	**23.8**	**201.0**	**10.9**
	Number of Tests (n)			**14**					

Available Test Results
Side Impact Test Summary

Report Filter Settings

Year Range: 1965 - 2010

Bodystyle: FOUR DOOR SEDAN

Wheelbase Range: 112.7-114.7

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	KEES (mph)	Indention Stiffness A	Indention Stiffness B	Length Values G	Length Values Kv	Crush Factor
3669	1999 CADILLAC DE VILLE FOUR DOOR SEDAN	2.0	21.3	22.7	40.2	19.6	41.2	23.6	9.7
4094	1999 CADILLAC DE VILLE FOUR DOOR SEDAN	2.0	22.2	26.8	44.5	24.8	39.9	29.0	12.9
2484	1997 DODGE INTREPID FOUR DOOR SEDAN	2.0	17.6	25.3	44.5	29.4	33.6	34.7	14.5
2523	1997 CADILLAC DE VILLE FOUR DOOR SEDAN	2.0	18.9	24.3	44.6	26.3	37.7	31.2	12.5
2481	1997 FORD CROWN VICTORIA FOUR DOOR SEDAN	2.0	17.2	24.2	46.7	30.1	36.2	35.8	13.6
2490	1997 FORD CROWN VICTORIA FOUR DOOR SEDAN	2.0	15.6	21.1	47.5	29.2	38.6	35.6	11.5
4086	1999 CADILLAC DE VILLE FOUR DOOR SEDAN	2.0	24.7	26.4	50.3	24.9	50.8	29.2	11.3
969	1980 FORD LTD FOUR DOOR SEDAN	2.0	26.1	29.1	57.4	29.8	55.3	34.3	13.0
2999	1999 DODGE INTREPID FOUR DOOR SEDAN	2.0	12.4	25.1	70.2	65.3	37.7	77.1	20.3
2794	1998 DODGE INTREPID FOUR DOOR SEDAN	2.0	13.5	21.8	74.2	54.2	50.9	65.7	14.0
2009	1992 FORD CROWN VICTORIA FOUR DOOR SEDAN	2.0	15.7	19.6	82.5	46.1	73.9	57.2	9.7
968	1980 FORD LTD FOUR DOOR SEDAN	2.0	6.7	14.4	123.8	114.9	66.8	154.8	12.4
2125	1992 FORD FULL SIZE FOUR DOOR SEDAN	2.0	14.8	19.4	126.0	74.0	107.2	92.0	10.2
45	1976 PLYMOUTH VOLARE FOUR DOOR SEDAN	2.0	14.8	24.1	148.9	111.1	99.8	132.1	15.7
	Average (AVG)				**71.5**	**48.6**	**55.0**	**59.5**	**12.9**
	Minimum (MIN)				**40.2**	**19.6**	**33.6**	**23.6**	**9.7**
	Maximum (MAX)				**148.9**	**114.9**	**107.2**	**154.8**	**20.3**
	Standard Deviation (STDev-sample)				**36.0**	**31.8**	**23.8**	**41.2**	**2.8**
	Number of Tests (n)			**14**					

Available Test Results
Side Impact Test Summary

Report Filter Settings

Year Range: 1965 - 2010

Bodystyle: FOUR DOOR SEDAN

Wheelbase Range: 112.7-114.7

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	KEES (mph)	Indention Stiffness A	Indention Stiffness B	Length Values G	Length Values Kv	Crush Factor
968	1980 FORD LTD FOUR DOOR SEDAN	10.0	5.0	14.4	295.2	26.1	1669.3	278.3	16.6
969	1980 FORD LTD FOUR DOOR SEDAN	10.0	21.2	29.1	248.7	22.4	1382.8	52.0	15.9
2009	1992 FORD CROWN VICTORIA FOUR DOOR SEDAN	10.0	9.7	19.6	364.0	35.9	1847.6	149.7	15.8
2125	1992 FORD FULL SIZE FOUR DOOR SEDAN	10.0	9.0	19.4	557.1	57.9	2679.2	246.8	16.7
2481	1997 FORD CROWN VICTORIA FOUR DOOR SEDAN	10.0	6.3	24.2	406.0	91.1	904.4	264.8	37.0
2484	1997 DODGE INTREPID FOUR DOOR SEDAN	10.0	7.0	25.3	366.5	79.9	840.7	218.6	36.5
2490	1997 FORD CROWN VICTORIA FOUR DOOR SEDAN	10.0	4.6	21.1	468.5	113.8	964.2	409.8	39.0
2523	1997 CADILLAC DE VILLE FOUR DOOR SEDAN	10.0	7.8	24.3	344.4	62.9	943.4	181.4	30.2
2794	1998 DODGE INTREPID FOUR DOOR SEDAN	10.0	6.5	21.8	458.4	82.6	1271.6	282.8	29.0
2999	1999 DODGE INTREPID FOUR DOOR SEDAN	10.0	4.8	25.1	591.9	185.8	943.0	512.0	52.4
3669	1999 CADILLAC DE VILLE FOUR DOOR SEDAN	10.0	8.4	22.7	313.0	47.5	1030.8	151.3	24.6
4086	1999 CADILLAC DE VILLE FOUR DOOR SEDAN	10.0	10.4	26.4	400.7	63.2	1270.8	163.3	26.8
4094	1999 CADILLAC DE VILLE FOUR DOOR SEDAN	10.0	9.7	26.8	346.3	60.1	997.5	153.0	29.7
	Average (AVG)				**397.0**	**71.5**	**1288.1**	**235.7**	**28.5**
	Minimum (MIN)				**248.7**	**22.4**	**840.7**	**52.0**	**15.8**
	Maximum (MAX)				**591.9**	**185.8**	**2679.2**	**512.0**	**52.4**
	Standard Deviation (STDev-sample)				**99.7**	**43.0**	**519.9**	**120.8**	**11.0**
	Number of Tests (n)			**13**					

Available Test Results
Side Impact Test Summary

Report Filter Settings

Year Range: 1965 - 2010

Bodystyle: FOUR DOOR SEDAN

Wheelbase Range: 112.7-114.7

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	KEES (mph)	Indention Stiffness A	Indention Stiffness B	Length Values G	Length Values Kv	Crush Factor
45	1976 PLYMOUTH VOLARE FOUR DOOR SEDAN	10.0	14.8	24.1	475.0	45.2	2495.5	132.1	15.7
968	1980 FORD LTD FOUR DOOR SEDAN	10.0	6.7	14.4	220.2	14.5	1669.3	154.8	12.4
969	1980 FORD LTD FOUR DOOR SEDAN	10.0	26.1	29.1	202.2	14.8	1382.8	34.3	13.0
2009	1992 FORD CROWN VICTORIA FOUR DOOR SEDAN	10.0	15.7	19.6	225.0	13.7	1847.6	57.2	9.7
2125	1992 FORD FULL SIZE FOUR DOOR SEDAN	10.0	14.8	19.4	340.2	21.6	2679.2	92.0	10.2
2481	1997 FORD CROWN VICTORIA FOUR DOOR SEDAN	10.0	17.2	24.2	149.2	12.3	904.4	35.8	13.6
2484	1997 DODGE INTREPID FOUR DOOR SEDAN	10.0	17.6	25.3	146.0	12.7	840.7	34.7	14.5
2490	1997 FORD CROWN VICTORIA FOUR DOOR SEDAN	10.0	15.6	21.1	138.2	9.9	964.2	35.6	11.5
2523	1997 CADILLAC DE VILLE FOUR DOOR SEDAN	10.0	18.9	24.3	142.9	10.8	943.4	31.2	12.5
2794	1998 DODGE INTREPID FOUR DOOR SEDAN	10.0	13.5	21.8	220.9	19.2	1271.6	65.7	14.0
2999	1999 DODGE INTREPID FOUR DOOR SEDAN	10.0	12.4	25.1	229.7	28.0	943.0	77.1	20.3
3669	1999 CADILLAC DE VILLE FOUR DOOR SEDAN	10.0	21.3	22.7	123.6	7.4	1030.8	23.6	9.7
4086	1999 CADILLAC DE VILLE FOUR DOOR SEDAN	10.0	24.7	26.4	169.3	11.3	1270.8	29.2	11.3
4094	1999 CADILLAC DE VILLE FOUR DOOR SEDAN	10.0	22.2	26.8	150.7	11.4	997.5	29.0	12.9
	Average (AVG)				**209.5**	**16.6**	**1374.3**	**59.5**	**13.0**
	Minimum (MIN)				**123.6**	**7.4**	**840.7**	**23.6**	**9.7**
	Maximum (MAX)				**475.0**	**45.2**	**2679.2**	**154.8**	**20.3**
	Standard Deviation (STDev-sample)				**95.3**	**9.8**	**594.7**	**41.2**	**2.8**
	Number of Tests (n)			**14**					

4N6XPRT Systems
Motorcycle Stats
03-27-11

Model: 1982 Yamaha XV920

Overall Length = 85 inches
Wheelbase = 61 inches

Front Seat Ht. = 31 inches
Rear Seat Ht. = N/A
Footpeg Ht. = 13 inches
Ground Clearance = 6 inches
Handle Grip Ht. = 42 inches
Handlebar Ht. = 44 inches

Handlebar width = 30 inches

Rake = 28.5 degrees
Trail = 4 inches

Dry Weight = 509 pounds
Wet Weight = 539 pounds - 45% Front, 55% Rear
Gross Weight = 1005 pounds

Brakes : Front - Hydraulic, dual disc
Rear - Single Drum

60 - 0 mph = 132 feet
30 - 0 mph = 31 feet

Engine: Four stroke, tandem Vee-Twin; air cooled; two valves per cylinder

Drivetrain: Primary - Straight cut gear; 1.66
Final - #630 chain; 35/16, 3.17
Clutch - five speed, constant mesh, wet clutch

1/4 mile = 13.1 seconds; 99 MPH
0-30 mph = 1.9 seconds
0-60 mph = 4.9 seconds
0-90 mph = 9.3 seconds
40-60 mph, top gear = 4.6 seconds
60-80 mph, top gear = 5.8 seconds

Tires: Front - 3.25 H-19
Rear - 120/90-18

Suspension: Front - 6 inches of travel
Rear - 4 inches of travel

4N6XPRT Systems
Motorcycle Stats
03-27-11

VIN: JYA 10L00 9 CA 015001

The first three characters { J, Y, A } indicates a Yamaha Motorcycle made in Japan

The fourth through eighth characters { 10L00 } indicates a XV920J model

The ninth character { the Check Digit } is 9
The calculated Check Digit is 9

The tenth character { C } indicates the model year was 1982

The eleventh character { A } indicates the motorcycle was manufactured at Japan

The twelfth through seventeenth characters { 015001 } is the serial number unique to this vehicle

4N6XPRT Systems
Motorcycle Stats
04-05-11

Model: 1982 Yamaha XJ750J "Maxim"

Overall Length = 79 inches
Wheelbase = 57 inches

Front Seat Ht. = 30 inches
Rear Seat Ht. = N/A
Footpeg Ht. = 12 inches
Ground Clearance = 6 inches
Handle Grip Ht. = 40 inches
Handlebar Ht. = 42 inches

Handlebar width = 30 inches

Rake = 29.0 degrees
Trail = 5 inches

Wet Weight = 528 pounds - 46% Front, 54% Rear
Gross Weight = 1036 pounds

Brakes : Front - Dual disc
Rear - Drum

60 - 0 mph = 121 feet

Engine: Four stroke, transverse four; air cooled;
two valves per cylinder

Drivetrain: Primary - Spur gear; 97/58, 1.67
Final - shaft & bevel gears; 3.98
Clutch - five speed, constant mesh, wet clutch

1/4 mile = 12.6 seconds; 104 MPH
0-60 mph = 3.4 seconds

Tires: Front - 350 H 19
Rear - 130/90-16

Suspension: Front - 5 inches of travel
Rear - 4 inches of travel

4N6XPRT Systems
Motorcycle Stats
04-05-11

VIN: JYA 15R00 8 CA 002812

The first three characters { J, Y, A } indicates a Yamaha Motorcycle made in Japan

The fourth through eighth characters { 15R00 } indicates a XJ750J model

The ninth character { the Check Digit } is 8
The calculated Check Digit is 8

The tenth character { C } indicates the model year was 1982

The eleventh character { A } indicates the motorcycle was manufactured in Japan

The twelfth through seventeenth characters { 002812 } is the serial number unique to this vehicle

4N6XPRT Systems
Motorcycle Stats
04-05-11

Model: 1986 Suzuki GS550ES

Overall Length = 80 inches
Wheelbase = 56 inches

Front Seat Ht. = 31 inches
Rear Seat Ht. = N/A
Footpeg Ht. = 14 inches
Ground Clearance = 6 inches
Handle Grip Ht. = 37 inches
Handlebar Ht. = 40 inches

Handlebar width = 27 inches

Rake = 27.0 degrees
Trail = 4 inches

Dry Weight = 443 pounds
Wet Weight = 473 pounds - 49% Front, 51% Rear
Gross Weight = 865 pounds

Brakes : Front - Hydraulic, dual disc
Rear - Hydraulic, single disc

60 - 0 mph = 122 feet
30 - 0 mph = 36 feet

Engine: Four stroke, transverse vertical four; air cooled; four valves per cylinder

Drivetrain: Primary - Helical gear; 1.98
Final - #530 O-ring chain; 14/48, 3.40
Clutch - six speed, multi-plate, wet clutch

1/4 mile = 12.6 seconds; 104 MPH
0-30 mph = 1.8 seconds
0-60 mph = 4.6 seconds
0-90 mph = 8.6 seconds
40-60 mph, top gear = 4.7 seconds
60-80 mph, top gear = 5.6 seconds

Tires: Front - 100/90-16
Rear - 110/90-18

Suspension: Front - 6 inches of travel
Rear - 5 inches of travel

4N6XPRT Systems
Motorcycle Stats
04-05-11

VIN: JS1 GN74A 7 G2 101623

The first three characters { J, S, 1 } indicates a Suzuki Motorcycle made in Japan

The fourth through eighth characters { GN74A } indicates a GS550ESG model

The ninth character { the Check Digit } is 7
The calculated Check Digit is 7

The tenth character { G } indicates the model year was 1986

The eleventh character { 2 } indicates the motorcycle was manufactured at Japan

The twelfth through seventeenth characters { 101623 } is the serial number unique to this vehicle

4N6XPRT Systems
Motorcycle Stats
04-05-11

Model: 1984 Yamaha FJ600

Overall Length = 85 inches
Wheelbase = 57 inches

Front Seat Ht. = 31 inches
Rear Seat Ht. = N/A
Footpeg Ht. = 13 inches
Ground Clearance = 6 inches
Handle Grip Ht. = 40 inches
Handlebar Ht. = 43 inches

Handlebar width = 27 inches

Rake = 26.0 degrees
Trail = 4 inches

Dry Weight = 442 pounds
Wet Weight = 466 pounds - 48% Front, 52% Rear
Gross Weight = 873 pounds

Brakes : Front - Hydraulic, dual disc, dual piston calipers
Rear - Hydraulic, single disc, dual piston caliper

60 - 0 mph = 120 feet
30 - 0 mph = 30 feet

Engine: Four stroke, transverse four; air cooled with two chain driven camshafts; two valves per cylinder

Drivetrain: Primary - Hy-Vo chain & gear; 22/21x65/28, 2.44
Final - chain; 16/45, 2.44
Clutch - six speed, constant mesh, wet clutch

1/4 mile = 12.7 seconds; 103 MPH
0-60 mph = 3.8 seconds
45-70 mph, top gears: (4) 4.0 seconds; 347 feet
(5) 5.4 seconds; 481 feet
(6) 6.8 seconds; 601 feet

Tires: Front - 90/90-18
Rear - 110/90-18

Suspension: Front - 6 inches of travel
Rear - 4 inches of travel

4N6XPRT Systems
Motorcycle Stats
04-05-11

VIN: JYA 49A00 3 EA 000195

The first three characters { J, Y, A } indicates a Yamaha Motorcycle made in Japan

The fourth through eighth characters { 49A00 } indicates a FJ600L model

The ninth character { the Check Digit } is 3
The calculated Check Digit is 3

The tenth character { E } indicates the model year was 1984

The eleventh character { A } indicates the motorcycle was manufactured at Japan

The twelfth through seventeenth characters { 000195 } is the serial number unique to this vehicle

4N6XPRT Systems
Motorcycle Stats
03-27-11

Model: 1997 Kawasaki ZX600 "Ninja ZX-6"

Overall Length = 80 inches
Wheelbase = 56 inches

Front Seat Ht. = 31 inches
Rear Seat Ht. = N/A
Footpeg Ht. = 14 inches
Ground Clearance = 5 inches
Handle Grip Ht. = 34 inches
Handlebar Ht. = 38 inches

Rake = 24.5 degrees
Trail = 4 inches

Dry Weight = 431 pounds
Wet Weight = 465 pounds
Gross Weight = 893 pounds

Brakes : Front - Hydraulic, dual disc, four piston calipers
Rear - Hydraulic, single disc, single piston caliper

60 - 0 mph = 109 feet
30 - 0 mph = 25 feet

Engine: Four stroke, inline four; liquid cooled; four valves per cylinder

Drivetrain: Final - #525 X-ring chain; 40/15, 2.66
Clutch - six speed

1/4 mile = 11.2 seconds; 123 MPH
0-60 mph = 3.1 seconds
40-60 mph, top gear: (6) 4.1 seconds
60-80 mph, top gear: (6) 4.2 seconds

Tires: Front - 120/60ZR17
Rear - 160/60ZR17

Suspension: Front - 5 inches of travel
Rear - 5 inches of travel

4N6XPRT Systems
Motorcycle Stats
03-27-11

VIN: JKA ZX4E1 4 VB 512801

The first three characters { J, K, A } indicates a Kawasaki Motorcycle made in Japan

The fourth through eighth characters { ZX4E1 } indicates a ZX600E model

The ninth character { the Check Digit } is 4
The calculated Check Digit is 4

The tenth character { V } indicates the model year was 1997

The eleventh character { B } indicates the motorcycle was manufactured at Lincoln, NE

The twelfth through seventeenth characters { 512801 } is the serial number unique to this vehicle

4N6XPRT Systems
Motorcycle Stats
04-05-11

VIN: JS1 GN74A 3 G2 100744

The first three characters { J, S, 1 } indicates a Suzuki Motorcycle made in Japan

The fourth through eighth characters { GN74A } indicates a GS550ESG model

The ninth character { the Check Digit } is 3
The calculated Check Digit is 3

The tenth character { G } indicates the model year was 1986

The eleventh character { 2 } indicates the motorcycle was manufactured at Japan

The twelfth through seventeenth characters { 100744 } is the serial number unique to this vehicle

4N6XPRT Systems
Motorcycle Stats
04-05-11

Model: 1981 Honda CB900C

Overall Length = 87 inches
Wheelbase = 62 inches

Front Seat Ht. = 31 inches
Rear Seat Ht. = N/A
Footpeg Ht. = 13 inches
Ground Clearance = 6 inches
Handle Grip Ht. = 41 inches
Handlebar Ht. = 45 inches

Handlebar width = 31 inches

Rake = 29 degrees
Trail = 5 inches

Dry Weight = 588 pounds
Wet Weight = 618 pounds - 46% Front, 54% Rear
Gross Weight = 1070 pounds

Brakes : Front - Hydraulic, dual disc, dual piston calipers
Rear - Hydraulic, single disc, dual piston caliper

60 - 0 mph = 144 feet
30 - 0 mph = 33 feet

Engine: Four stroke, transverse four; air cooled with two chain driven camshafts; four valves per cylinder

Drivetrain: Primary - Hy-Vo cahin/spur gear; 28/28, 49/24,2.04
Final - shaft & bevel gear; 11/24, 3.09
Clutch - five speed, constant mesh, wet clutch

1/4 mile = 12.3 seconds; 108 MPH
0-30 mph = 1.8 seconds
0-60 mph = 3.8 seconds
0-90 mph = 7.6 seconds
40-60 mph, top gear = 4.8 seconds
60-80 mph, top gear = 6.1 seconds

Tires: Front - 110/90-19
Rear - 130/90-16

Suspension: Front - 6 inches of travel
Rear - 4 inches of travel

4N6XPRT Systems
Motorcycle Stats
04-05-11

VIN: JH2 SC040 5 BC 107905

The first three characters { J, H, 2 } indicates a Honda Motorcycle made in Japan

The fourth through eighth characters { SC040 } indicates a CB900CB model

The ninth character { the Check Digit } is 5
The calculated Check Digit is 5

The tenth character { B } indicates the model year was 1981

The eleventh character { C } indicates the motorcycle was manufactured at Saitama, Japan

The twelfth through seventeenth characters { 107905 } is the serial number unique to this vehicle

4N6XPRT Systems
Motorcycle Stats
03-27-11

Model: 2001 Suzuki GSX-R750

Overall Length = 80 inches
Wheelbase = 55 inches

Front Seat Ht. = 32 inches
Rear Seat Ht. = N/A
Footpeg Ht. = 16 inches
Ground Clearance = 5 inches
Handle Grip Ht. = 33 inches
Handlebar Ht. = 40 inches

Rake = 24.0 degrees
Trail = 4 inches

Dry Weight = 366 pounds
Wet Weight = 431 pounds
Gross Weight = 870 pounds

Brakes : Front - Hydraulic, dual disc, six piston calipers
Rear - Hydraulic, single disc, twin piston caliper

60 - 0 mph = 114 feet

Engine: Four stroke, inline four; liquid cooled;
four valves per cylinder

Drivetrain: Primary - Straight cut gear; 1.75
Final - #525 O-ring chain; 16/44, 2.75
Clutch - six speed

1/4 mile = 10.6 seconds; 131 MPH
0-60 mph = 3.1 seconds

Tires: Front - 120/70ZR17
Rear - 190/50ZR17

Suspension: Front - 5 inches of travel
Rear - 5 inches of travel

4N6XPRT Systems
Motorcycle Stats
03-27-11

VIN: JS1 GR7HA X 12 100875

The first three characters { J, S, 1 } indicates a Suzuki Motorcycle made in Japan

The fourth through eighth characters { GR7HA } indicates a GSXR750 model

The ninth character { the Check Digit } is X
The calculated Check Digit is 10
Therefore the displayed character should be X

The tenth character { 1 } indicates the model year was 2001

The eleventh character { 2 } indicates the motorcycle was manufactured at Toyokawa, Japan

The twelfth through seventeenth characters { 100875 } is the serial number unique to this vehicle

4N6XPRT Systems
Motorcycle Stats
03-27-11

Model: 2002 Suzuki GSX600F "Katana"

Overall Length = 82 inches
Wheelbase = 58 inches

Front Seat Ht. = 31 inches
Rear Seat Ht. = N/A
Footpeg Ht. = 14 inches
Ground Clearance = 5 inches
Handle Grip Ht. = 36 inches
Handlebar Ht. = 42 inches

Rake = 25.0 degrees
Trail = 4 inches

Dry Weight = 440 pounds
Wet Weight = 507 pounds
Gross Weight = 970 pounds

Brakes : Front - Hydraulic, dual disc, twin-piston calipers
Rear - Hydraulic, single disc, twin-piston caliper

60 - 0 mph = 115 feet

Engine: Four stroke, transverse four; air & liquid cooled; four valves per cylinder

Drivetrain: Final - #530 O-ring chain; 15/47, 3.13
Clutch - six speed

1/4 mile = 12.3 seconds; 108 MPH
0-60 mph = 4.2 seconds
45-70 mph, top gears: (4) 4.3 seconds; 366 feet
(5) 5.5 seconds; 467 feet
(6) 6.6 seconds; 561 feet

Tires: Front - 120/70ZR17
Rear - 150/70ZR17

Suspension: Front - 5 inches of travel
Rear - 6 inches of travel

4N6XPRT Systems
Motorcycle Stats
03-27-11

VIN: JS1 GN79A 0 22 101478

The first three characters { J, S, 1 } indicates a Suzuki Motorcycle made in Japan

The fourth through eighth characters { GN79A } indicates a GSX600FK 599cc "Katana" model

The ninth character { the Check Digit } is 0
The calculated Check Digit is 0

The tenth character { 2 } indicates the model year was 2002

The eleventh character { 2 } indicates the motorcycle was manufactured at Toyokawa, Japan

The twelfth through seventeenth characters { 101478 } is the serial number unique to this vehicle

4N6XPRT Systems
Motorcycle Stats
03-27-11

Model: 1986 Honda VT1100C "Shadow"

Overall Length	= 90 inches
Wheelbase	= 63 inches
Front Seat Ht.	= 29 inches
Rear Seat Ht.	= 33 inches
Footpeg Ht.	= 12 inches
Ground Clearance	= 6 inches
Handle Grip Ht.	= 41 inches
Handlebar Ht.	= 48 inches
Rake	= 33.0 degrees
Trail	= 6 inches
Dry Weight	= 540 pounds
Wet Weight	= 583 pounds - 47% Front, 53% Rear
Gross Weight	= 977 pounds

Brakes : Front - Hydraulic, dual disc, twin piston calipers
Rear - Rod-actuated single-leading-shoe drum

60 - 0 mph	= 127 feet
30 - 0 mph	= 35 feet

Engine: Four stroke, V-twin; liquid cooled; three valves per cylinder

Drivetrain: Primary - Straight cut gear; 66/39, 1.69
Final - shaft & bevel gears; 18/17x34/11, 3.28
Clutch - five speed, constant mesh, wet clutch

1/4 mile	= 12.8 seconds; 104 MPH
0-30 mph	= 1.5 seconds
0-60 mph	= 4.0 seconds
0-90 mph	= 10.5 seconds
45-70 mph, top gears:	(4) 3.2 seconds; 269 feet
	(5) 4.5 seconds; 379 feet
	(6) 5.5 seconds; 466 feet

Tires:	Front	- 110/90-18
	Rear	- 140/90-15
Suspension:	Front	- 6 inches of travel
	Rear	- 4 inches of travel

4N6XPRT Systems
Motorcycle Stats
03-27-11

VIN: 1HF SC180 0 GA 004746

The first three characters { 1, H, F } indicates a Honda Motorcycle made in the U.S.A.

The fourth through eighth characters { SC180 } indicates a VT1100C model

The ninth character { the Check Digit } is 2
The calculated Check Digit is 2

The tenth character { G } indicates the model year was 1986

The eleventh character { A } indicates the motorcycle was manufactured at Marysville, OH

The twelfth through seventeenth characters { 109239 } is the serial number unique to this vehicle

4N6XPRT Systems
Motorcycle Stats
03-27-11

Model: 1985 Honda VF700F "Interceptor"

Overall Length	= 83 inches
Wheelbase	= 60 inches
Front Seat Ht.	= 32 inches
Rear Seat Ht.	= N/A
Footpeg Ht.	= 12 inches
Ground Clearance	= 6 inches
Handle Grip Ht.	= 39 inches
Handlebar Ht.	= 42 inches
Handlebar width	= 27 inches
Rake	= 28.5 degrees
Trail	= 4 inches
Dry Weight	= 494 pounds
Wet Weight	= 543 pounds - 47% Front, 53% Rear
Gross Weight	= 910 pounds

Brakes : Front - Hydraulic, dual disc, twin piston calipers
Rear - Hydraulic, single disc, twin piston caliper

60 - 0 mph = 123 feet
30 - 0 mph = 34 feet

Engine: Four stroke, tandem vee-four; liquid cooled; four valves per cylinder

Drivetrain: Primary - Straight cut gears
Final - O-ring chain
Clutch - five speed, constant mesh, wet clutch

1/4 mile = 12.3 seconds; 107 MPH
0-60 mph = 1.4 seconds
0-60 mph = 3.9 seconds
0-60 mph = 8.3 seconds
40-60 mph, top gear 4.4 seconds
60-80 mph, top gear 4.8 seconds

Tires: Front - 110/80V17
Rear - 140/80V17

Suspension: Front - 5 inches of travel
Rear - 4 inches of travel

4N6XPRT Systems
Motorcycle Stats
03-27-11

VIN: JH2 RC230 6 FM 102403

The first three characters { J, H, 2 } indicates a Honda Motorcycle made in Japan

The fourth through eighth characters { RC230 } indicates a VF700FF model

The ninth character { the Check Digit } is 6
The calculated Check Digit is 6

The tenth character { F } indicates the model year was 1985

The eleventh character { M } indicates the motorcycle was manufactured at Hiroshima, Japan

The twelfth through seventeenth characters { 102403 } is the serial number unique to this vehicle

4N6XPRT Systems
Motorcycle Stats
04-05-11

Model: 1980 Yamaha XS400

Overall Length	= 76 inches
Wheelbase	= 54 inches
Front Seat Ht.	= 31 inches
Rear Seat Ht.	= N/A
Footpeg Ht.	= 8 inches
Ground Clearance	= 6 inches
Handle Grip Ht.	= 39 inches
Handlebar Ht.	= 46 inches
Rake	= 24 degrees
Trail	= 4 inches
Dry Weight	= 369 pounds
Wet Weight	= 387 pounds
Gross Weight	= 745 pounds

Brakes : Front - Hydraulic, single disc
Rear - Internal Expanding Drum

Engine: Four stroke, Vertical Twin; air cooled; two valves per cylinder

Drivetrain: Final - Chain
Clutch - six speed, constant mesh, wet clutch

Tires: Front - 3.00 S18
Rear - 120/90-16

4N6XPRT Systems
Motorcycle Stats
04-05-11

VIN: 3F9 007538

The first three characters { 3F9) indicates a 1979 Yamaha XS400SG Motorcycle

The fourth through ninth characters { 007538 } is the serial number unique to this vehicle

4N6XPRT Systems
Motorcycle Stats
04-05-11

Model: 2003 Qingqi QM50QT-6S

Overall Length	= 67 inches
Wheelbase	= 51 inches
Front Seat Ht.	= 29 inches
Rear Seat Ht.	= N/A
Foot well Ht.	= 9 inches
Ground Clearance	= 5 inches
Handle Grip Ht.	= 40 inches
Handlebar Ht.	= 42 inches
Handlebar width	= 26 inches
Rake	= 44 degrees
Trail	= 9 inches
Dry Weight	= 278 pounds
Wet Weight	= 290 pounds

Brakes : Front - Drum
Rear - Drum

Engine: Four stroke, single; air cooled; two valves per cylinder

Drivetrain: Final - Belt
Clutch - four speed

Top speed: 30 mph

Tires: Front - 3.50-17
Rear - 3.50-12

4N6XPRT Systems
Motorcycle Stats
04-05-11

VIN: LAE AD410 5 3B 920286

The first three characters { L, A, E } indicates a Quingqi (Qingqi) Scooter made in China

The fourth through eighth characters { AD410 } indicates a UNKNOWN model

The ninth character { the Check Digit } is 5
The calculated Check Digit is 5

The tenth character { 3 } indicates the model year was 2003

The eleventh character { B } indicates the motorcycle was manufactured at China

The twelfth through seventeenth characters { 920286 } is the serial number unique to this vehicle

4N6XPRT Systems
Motorcycle Stats
04-05-11

Model: 1981 Suzuki GN400X

Overall Length = 82 inches
Wheelbase = 55 inches

Front Seat Ht. = 29 inches
Rear Seat Ht. = N/A
Footpeg Ht. = 11 inches
Ground Clearance = 5 inches
Handle Grip Ht. = 39 inches
Handlebar Ht. = 45 inches

Handlebar width = 27 inches

Rake = 29.5 degrees
Trail = 4 inches

Dry Weight = 319 pounds
Wet Weight = 334 pounds - 45% Front, 55% Rear
Gross Weight = 728 pounds

Brakes : Front - Hydraulic, disc, single piston caliper
Rear - Drum

60 - 0 mph = 128 feet
30 - 0 mph = 33 feet

Engine: Four stroke, transverse four; liquid cooled with two chain driven camshafts; four valves per cylinder

Drivetrain: Primary - Helical gear; 3.08
Final - #520 chain; 2.31
Clutch - five speed, constant mesh, wet clutch

1/4 mile = 15.3 seconds; 82 MPH
0-30 mph = 2.3 seconds
0-60 mph = 7.8 seconds
0-90 mph = 25.0 seconds
40-60 mph, top gear = 6.6 seconds
60-80 mph, top gear = 11.2 seconds

Tires: Front - 3.60x18
Rear - 4.60x16

Suspension: Front - 6 inches of travel
Rear - 5 inches of travel

4N6XPRT Systems
Motorcycle Stats
04-05-11

VIN: JS1 NK41A 5 B2 108405

The first three characters { J, S, 1 } indicates a Suzuki Motorcycle made in Japan

The fourth through eighth characters { NK41A } indicates a GN400X model

The ninth character { the Check Digit } is 5
The calculated Check Digit is 5

The tenth character { B } indicates the model year was 1981

The eleventh character { 2 } indicates the motorcycle was manufactured at Japan

The twelfth through seventeenth characters { 108405 } is the serial number unique to this vehicle

4N6XPRT Systems
Motorcycle Stats
04-05-11

Model: 1980 Suzuki GN400

Overall Length	= 82 inches
Wheelbase	= 55 inches
Front Seat Ht.	= 29 inches
Rear Seat Ht.	= N/A
Footpeg Ht.	= 11 inches
Ground Clearance	= 5 inches
Handle Grip Ht.	= 39 inches
Handlebar Ht.	= 45 inches
Handlebar width	= 27 inches
Rake	= 29.5 degrees
Trail	= 4 inches
Dry Weight	= 319 pounds
Wet Weight	= 334 pounds - 45% Front, 55% Rear
Gross Weight	= 728 pounds

Brakes : Front - Hydraulic, disc, single piston caliper
Rear - Drum

60 - 0 mph	= 128 feet
30 - 0 mph	= 33 feet

Engine: Four stroke, transverse four; liquid cooled with two chain driven camshafts; four valves per cylinder

Drivetrain: Primary - Helical gear; 3.08
Final - #520 chain; 2.31
Clutch - five speed, constant mesh, wet clutch

1/4 mile	= 15.3 seconds; 82 MPH
0-30 mph	= 2.3 seconds
0-60 mph	= 7.8 seconds
0-90 mph	= 25.0 seconds

40-60 mph, top gear = 6.6 seconds
60-80 mph, top gear = 11.2 seconds

Tires:	Front	- 3.60x18
	Rear	- 4.60x16
Suspension:	Front	- 6 inches of travel
	Rear	- 5 inches of travel

4N6XPRT Systems
Motorcycle Stats
04-05-11

VIN: GN400 506260

The first five characters { GN400 } indicates a Suzuki GN400 Motorcycle made in Japan

The sixth through eleventh characters { 506260 } is the serial number unique to this vehicle, and indicates a 1980 model year with GN400T trim.

4N6XPRT Systems
Motorcycle Stats
04-05-11

Model: 1987 Yamaha XV535 "Virago"

Overall Length	= 85 inches
Wheelbase	= 60 inches
Front Seat Ht.	= 28 inches
Rear Seat Ht.	= 30 inches
Footpeg Ht.	= 7 inches
Ground Clearance	= 6 inches
Handle Grip Ht.	= 35 inches
Handlebar Ht.	= 43 inches
Handlebar width	= 28 inches
Rake	= 31 degrees
Trail	= 5 inches
Dry Weight	= 402 pounds
Wet Weight	= 415 pounds - 47% Front, 53% Rear
Gross Weight	= 915 pounds

Brakes : Front - Hydraulic, single disc, single piston caliper
Rear - Rod-actuated, single-leading-shoe drum

60 - 0 mph = 129 feet
30 - 0 mph = 30 feet

Engine: Four stroke, 70 degree twin; air cooled with two chain driven camshafts; two valves per cylinder

Drivetrain: Primary - Straight cut gear; 70/36, 1.94
Final - shaft & bevbel gear; 11/32, 2.91
Clutch - five speed, constant mesh, wet clutch

1/4 mile = 14.0 seconds; 92 MPH
0-60 mph = 4.7 seconds
45-70 mph, top gears: (3) 3.7 seconds; 314 feet
(4) 4.6 seconds; 389 feet
(5) 5.8 seconds; 488 feet

Tires: Front - 3.00 S19
Rear - 140/90-15

Suspension: Front - 6 inches of travel
Rear - 3 inches of travel

4N6XPRT Systems
Motorcycle Stats
04-05-11

VIN: JYA 2GV00 2 HA 005753

The first three characters { J, Y, A } indicates a Yamaha Motorcycle made in Japan

The fourth through eighth characters { 2GV00 } indicates a XV535T model

The ninth character { the Check Digit } is 2
The calculated Check Digit is 2

The tenth character { H } indicates the model year was 1987

The eleventh character { A } indicates the motorcycle was manufactured at Japan

The twelfth through seventeenth characters { 005753 } is the serial number unique to this vehicle

4N6XPRT Systems
Expert System Software for Litigation

8387 University Avenue
La Mesa, CA 91942

Phone: (619) 464-3478
Fax: (619) 464-2206
Toll Free: 1- 800-266-9778

Web Site: http://www.4n6xprt.com

E-Mail: 4n6@4n6xprt.com

Dear Conference Attendee,

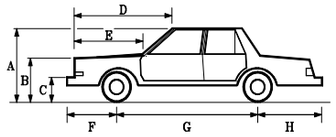
We at 4N6XPRT Systems were pleased to be able to provide you with the preceding data for the crash test vehicles.

Information regarding the Services available to you through our company, as well as the Programs used to create the data report follows this page.

We look forward to providing you similar information in the near future.

Sincerely,

Daniel W. Vomhof III
Daniel W. Vomhof, Ph.D.



Expert AutoStats®

Expert AutoStats® is a program that has over 40,000 cars, pick-ups, vans, and utility vehicles that range in years from the 1940's to the present. Expert AutoStats® has specifications that can assist in reconstructing accidents when the data for the vehicle is unavailable or the vehicle is too severely damaged to get correct measurements.

For many vehicles mid-1960's to present, data such as bumper height, front and rear overhang, hood height, etc., are also included.

********** [PARTIAL OUTPUT] **********

2001 FORD CROWN VICTORIA 4DR SEDAN

[HORIZONTAL DIMENSIONS]

LENGTH	212 in.
WHEELBASE	115 in.
FRONT BUMPER TO FRONT AXLE	44 in.
FRONT BUMPER TO FRONT OF HOOD	8 in.
FRONT BUMPER TO BASE OF WINDSHIELD	66 in.
FRONT BUMPER TO TOP OF WINDSHIELD	91 in.
FRONT BUMPER TO FRONT WELL	27 in.
REAR BUMPER TO REAR OF TRUNK	8 in.
REAR BUMPER TO BASE OF REAR WINDOW	39 in.
REAR BUMPER TO REAR WELL	37 in.
REAR BUMPER TO REAR AXLE	53 in.

[DEPTH DIMENSIONS]

WIDTH	78 in.
FRONT TRACK	63 in.
REAR TRACK	64 in.

[VERTICAL DIMENSIONS]

HEIGHT	57 in.
GROUND TO:	
FRONT BUMPER (Top)	23 in.
HEADLIGHT - Center	27 in.
HOOD - Top Front	26 in.
BASE OF WINDSHIELD	38 in.
REAR BUMPER (Top)	26 in.
TRUNK - Top Rear	40 in.
BASE OF REAR WINDOW	40 in.

[WEIGHT DIMENSIONS]

CURB WEIGHT	3920 lbs.
Curb Weight Distribution: FRONT = 55% REAR = 45%	
GROSS VEHICLE WEIGHT	5170 lbs.

EXPERT AUTOSTATS(c) Reg.To:4N6XPRT Systems S/N:01R-930512AQ03201

2001 FORD CROWN VICTORIA 4DR SEDAN

[ACCELERATION/BRAKING]

ACCELERATION 0-30 mph	16.9 ft/sec/sec
ACCELERATION 0-60 mph	11.1 ft/sec/sec
ACCELERATION 45-65 mph	6.8 ft/sec/sec
BRAKING 60-0 mph	133 ft

DRIVE WHEELS	REAR
TURNING CIRCLE (DIAMETER)	41 ft.
NUMBER OF WHEELS	4
WHEEL RADIUS	13 in.
TIRE SIZE	P225/60SR16

BUMPER STRENGTH:	5 mph
STEERING RATIO	16.40:1

[INTERIOR DIMENSIONS]

FRONT SHOULDER ROOM	61 in.
FRONT HEAD ROOM	39 in.
FRONT LEG ROOM	43 in.
REAR SHOULDER ROOM	60 in.
REAR HEAD ROOM	38 in.
REAR LEG ROOM	40 in.

ALL DISC - REAR ABS - OPTIONAL
3pt - front and rear, FRONT SEAT AIRBAGS
4spd AUTOMATIC

N.S.D.C. = 1998 - 2001
= Value not in Database

EXPERT AUTOSTATS(c) Reg.To:4N6XPRT Systems S/N:01R-930512AQ03201

4N6XPRT BioMeknx™

Collecting the Biomechanical data of importance to the Accident Investigator into one easily accessible reference location

Biomechanics is the application of physics to describe, evaluate, or model living tissue and biological materials. Originally it was the application of the part of physics known as Mechanics to living systems. This is the same portion of physics which is used as the basis for much of accident reconstruction.

Biomechanics is important in many aspects of forensic work from vehicle accident reconstruction to slip-trip-stumble-fall cases. This particular program contains modules containing information on a variety of biomechanics and injury modalities, physical data found in the literature for failure of bone and tissue, calculation modules to evaluate individual specific parameters, and definitions and terminology used in the literature and found in medical reports.

4N6XPRT BioMeknx™ is a program designed for the accident investigator. The BioMeknx program incorporates information from a number of different sources, as well as over 30 years of reconstruction experience. 4N6XPRT BioMeknx™ compiles into one source a number of items of information to assist in reconstructing accidents by tying in the human component more tightly without the need to be a BioMechanics expert. Identification of body location, body part illustrations, failure threshold limits, definitions of terms, calculation modules for body link lengths, weights, stride lengths, and formulas for other types of calculations are only some of the material included in the program.

To gather into your library the material included in the 4N6XPRT BioMeknx™, you would need a minimum of 10-15 Anatomy and Physiology, Human Factors, and Biomechanics books, as well as conduct over 50 hours of internet research.

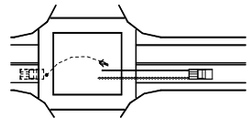
3FAPP1280MR117253

Expert VIN DeCoder®

Expert VIN DeCoder® is a program that "DeCodes" the 17 character VIN number for Cars, Vans, Pickups, and Utility vehicles manufactured from 1981 to the present.

Cars/Vans/Utility/Lt. Trucks Modules: 1981 to Present

Ford	Chevrolet/Geo
Mercury/Lincoln	Pontiac / Buick / Oldsmobile
Chrysler/AMC/Jeep	Cadillac/Saturn
European Import	Asian Import



4N6XPRT Ped & Bike Calcs®

The **4N6XPRT Ped & Bike Calcs®)** program is a program that provides FIRST ESTIMATE calculations to evaluate the speed of a vehicle involved in striking a pedestrian or bicyclist, IF Vehicle, scene, and pedestrian {or pedestrian and bicycle in a vehicle-bike accident} measurements are available. This program may also be used when skateboards or roller skates are involved.

Expert Qwic Calcs®

>>>Calculate Time given D & V<<<
Enter Distance (in feet) : 45
Enter Velocity (in mph) : 6

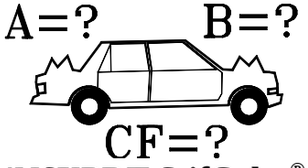
Expert Qwic Calcs® quickly provides answers to questions important in vehicle collision litigation. The user inputs data in response to relevant questions, Expert Qwic Clacs® performs the mathematical calculations required. Both the input data and the calculated result are then displayed, and may be "dumped" to a printer.

When the law enforcement accident report gives insufficient information to do a full - blown accident reconstruction, Expert Qwic Calcs® may be used to "scope out"the parameters of speeds, times, and distances to determine these relationships in a vehicle accident.

Expert TireStuf®

The Expert TireStuf® program is a Menu Driven program which has 19 modules explaining the various tire size designation systems, the information which MAY be in the DOT tire number, the DOT mandated Tire Grading system, Lug Nut Tightening and Tire Rotation schemes, Mix and Match precautions, a glossary of Tire Terms, and Addresses of a few of the sources of additional information on tires and rims.

Also included is a calculation of the number of revolutions in one mile given the tire dimensions.



4N6XPRT StifCalcs®

4N6XPRT StifCalcs®. Is a program which puts the NHTSA Crash Test database at your fingertips with no need to access the internet!

In addition to the NHTSA Crash Test data, the program includes a "Sister/Clone List Reader" developed in cooperation with Greg Anderson. This allows quick retrieval of the "Sister/Clone" data for the desired vehicle. This will drive the initial selection of the available tests. Alternatively, we have an ADVANCED SEARCH module for the initial vehicle selection.

STIFFNESS DATA, based on the selected test, is automatically calculated based on the reported crush depths and widths for front, side, and rear tests.

To use the program, follow this "Yellow Brick Road":

1) Sister/Clone Reader -

(a) - Select YEAR (b) - Select Manufacturer
(c) - Select Model

▼

2) Click on TEST SELECTION Tab

▼

3) Select a test from the available tests which are displayed

▼

4) View TEST INFORMATION

▼

5) View OCCUPANT DATA

▼

6) View VEHICLE DATA

▼

7) View STIFFNESS CALCS

▼

8) Click on Reports - PRINT REPORT

IT'S THAT SIMPLE .... REALLY!!

Please use this order form when ordering. Due to conditions and rising costs beyond our control, Shipping & Handling for program orders must be paid per the included schedule.

Contact Name:_____

Title:_____

Company/Organization:_____

Street:_____

City: _____ State: _____ Zip: _____

Phone: (_____)_____ FAX: (_____)_____

E-Mail: _____

PAYMENT BY: Check____ Money Order____ Govt. Purchase Order____

for Credit Card Orders, **please circle Credit Card type: Am. Express / Visa / MasterCard**, then complete the following:

Card Number: _____Expiration Date (MM/YY):____/____

Security code (card ID) on **back of** Visa/MasterCard card or **front of** American Express Card:

←Visa/MasterCard | Security | American Express →

Address for where the **credit card bill is sent**: _____

(This is the address that the credit card bill would go to, not where we would send the data or product to)

Zip for where the **credit card bill is sent**:_____

(This is the zip code that the credit card bill would go to, not where we would send the data or product to)

Authorized signature: _____

PROGRAM ORDER FORM:

(Pricing effective as of 4/28/10 - prices subject to change without notice)

Expert AutoStats®:	$ 595.00 *	$_____
4N6XPRT BioMeknx™:	$ 495.00 *	$_____
4N6XPRT Ped & Bike Calcs®:	$ 375.00 *	$_____
Expert Qwic Calcs®:	$ 275.00 *	$_____
Expert TireStuf®:	$ 85.00 *	$_____
4N6XPRT StifCalcs®:	$ 570.00 *	$_____
Expert VIN DeCoder®:	$ 525.00 *	$_____
		======
	SUB-TOTAL	$_____
Handling **:		$_____

(Cash or Check with order = $5.00, Credit Card = $10.00 , Govt. Purchase Order = $15.00)

Notarized Affidavit Filing Requirement $_____

($25.00 per required Notarized Signature)

Normal delivery is via electronic download

☐ - Deliver via electronic download link (e-mail address required) $ 0.00

☐ - Deliver on USB - **additional cost of $35.00 / disk / program** $_____

======

SUB-TOTAL $_____

California shipping addresses add **9.50%** sales tax $_____

(*California orders delivered electronically **DO NOT** owe sales tax*)

TOTAL $_____

Individual Vehicle Data FAX/Order Form

☐ **Expert VIN Decoder & Expert AutoStats**
☐ **NHTSA Crash Test Results**
☐ **BOTH**
Please circle ALL OPTIONS that apply

YEAR & MAKE:_____

MODEL:_____ _____

If you are requesting **VIN DeCoder & AutoStats** please also provide:

Vehicle Type:Car - Pickup - Utility - Van
No. of Doors:2/3/4/5
Car Body Style:Coupe/Conv./Sedan/Wagon
DRIVE WHEELS: 4x2 / 4x4
PICKUPS:Dual Rear Wheel - Std. / Extra / Super / Crew Cab - Short Bed / Long Bed
VANS:Cargo / Passenger - Short / Long Wheelbase

VIN Information

___	___	___		___	___	___	___	___		___						
1	2	3		4	5	6	7	8		9						
											___	___		___	___	___
											10	11		12	13	14	15	16	17

NHTSA Crash Test Information
Impact location - Front / Side / Rear
Impact Speed - Lower / Higher

Case Reference/Number:_____

Individual Vehicle Data Search Service®

Charges & Services

Individual Vehicle Specifications
$40.00-First vehicle*, $35.00/Additional Vehicles*,
$20.00/Additional Similar Model*

Medium/Heavy Truck Specifications
$40.00-First vehicle*, $35.00/Additional Vehicles*,
$20.00/Additional Similar Model*

Motorcycle Specifications (1970+)
$40.00-First cycle*, $35.00/Additional cycles*,
$20.00/Additional Similar Model*

NHTSA Crash Test Results
$40.00 per test - Includes A, B, & G values
Calculations are based on the test results

Individual Vehicle Specifications

Now you can get the Expert AutoStats® data for the vehicles in your case ***QUICKLY, EASILY***, and ***ECONOMICALLY***, instead of guessing, or begging a printout from a friend.

Our vehicle database includes dimensions on over 35,000 Cars, Vans, Lt. Pickups, and Utility Vehicles covering 1945 to the present.

Minimum Vehicle specifications include:

Overall Length	Curb Weight
Overall Width	Weight Distribution
Overall Height	Front/Rear Track
Wheelbase	CG Location

Model years with **N**o **S**ignificant **D**imensional **C**hanges VIN DeCoding when VIN is provided Information available

Mid-60's to present **also includes** (*when available*)

Front/Rear Overhang	Bumper Heights
Hood height	Turning Circle
Bumper-to-hood	Ground-to-hood

Dimensions are given in both Imperial and metric (SI) units. Motorcycle specifications will be similar to the Vehicle specifications with appropriate changes where applicable.

NHTSA Crash Test Results

Test results include: General Test information, Barrier Data when provided, Vehicle Data as reported by the testing organization, Occupant (Dummy) data when provided, and A-B-G Stiffness calculations based on the test results.

4N6XPRT Systems®

Providing Vehicle dimensional data, VIN DeCoding, and NHTSA Crash Test Results as a service to the Litigation community, in the form of:

Expert Systems Software Programs for Litigation

Expert AutoStats®
4N6XPRT StifCalcs®
4N6XPRT BioMeknx™
4N6XPRT Ped & Bike Calcs®
Expert Qwic Calcs®
Expert TireStuf®
Expert VIN DeCoder®

Vehicle Data Service

Individual Vehicle Data Search Service®

8387 University Avenue, Suite P
La Mesa, CA 91942-9342

Phone: 1-800-266-9778
Fax: **(619) 464-2206**
E-Mail: **4n6@4n6xprt.com**

Web: **http://www.4n6xprt.com**

Expert VIN DeCoder®

Expert VIN DeCoder® is a program that "DeCodes" the 17 character VIN number for vehicles manufactured from 1981 to the present.

Modules: 1981 to Present
Control Module - One Required per Set

Ford Cars (includes Festiva & Merkur)
Mercury/Lincoln Cars
Ford vans/Utility/Lt. Trucks

Chevrolet/Geo Cars
Pontiac/GM of Canada Cars
Oldsmobile Cars
Buick Cars
Cadillac/Saturn Cars
General Motors Vans/Utility/Lt. Trucks

Chrysler/AMC/Jeep Cars
Chrysler/Jeep Vans/Utility/Lt. Trucks

European Import Cars/Vans/Utility/Lt. Trucks
Asian Import Cars/Vans/Utility/Lt. Trucks

SYSTEM REQUIREMENTS

Expert VIN DeCoder® has been tested on a wide variety of IBM laptop and desktop clones ranging from 8088 through Pentium® chips. A math co-processor chip is NOT required. Expert VIN DeCoder® has also been tested under the various versions of MS-DOS 3.0 thru 7.0, DrDOS 6.0, and PC DOS 7.0. It also works as a DOS program under Windows 3.x, Windows, 95, Windows 98, Windows NT, OS/2 2.x, OS/2 Warp, and various versions of LINUX.

A variety of dot matrix printers emulating the EPSON series have been used with no difficulty. The output is also compatible with the Hewlett-Packard II, IIP, III and IIIP Laser printers. Expert VIN DeCoder® works with monochrome and color monitors.

As of April 1995 the 4N6XPRT Systems® programs Expert AutoStats®, Expert Qwic Calcs®, Expert TireStuf®, 4N6XPRT Ped & Bike Calcs®, and Expert VIN DeCoder® are accessible from within RECTEC.

PLEASE PRINT

Contact Name:_____
Company/Dept:_____
Mailing Address:_____
City:_____State:____Zip:_____
Phone:_____
Fax:_____
E-Mail:_____

Expert VIN DeCoder®
_____ (copies) x $525.00 . . . . . = $_____
Handling **: $_____
(Check with order = $5.00, Credit Card = $10.00 , Govt. P.O.r = $15.00)
Notarized Affidavit Filing Requirement $_____
($25.00 per required Notarized Signature)

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☐ Please deliver on USB at an
additional cost of $35.00 per disk $_____
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TOTAL = $_____

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4N6XPRT Systems®
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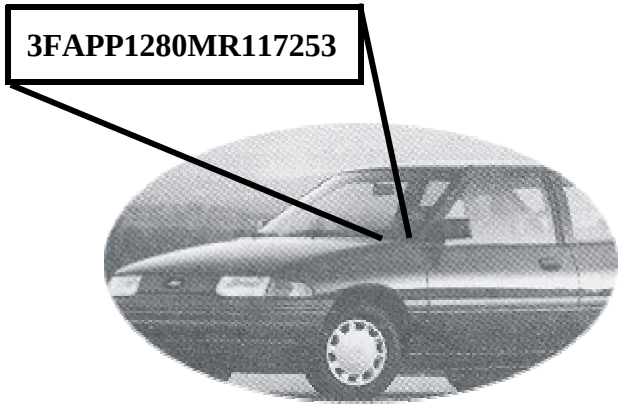
Card #:_____
Expires:_____
Name on Card: _____
Signature: _____
Billing Add. #: _____
Billing Zip: _____

Mail to: 4N6XPRT Systems®
8387 University Avenue
La Mesa, CA 91942-9342
Telephone Orders:
Monday-Friday - 9:30am-5:00pm PST
Phone: (619) 464-3478 Fax: (619) 464-2206

Orders will be shipped Priority Mail within 10 working days of receipt of order.
Prices subject to change WITHOUT NOTICE.
** Checks MUST be drawn from a bank in the U.S.A.*

Expert VIN DeCoder®



User Friendly Software to provide interpretation of the 17 character VIN Number on Cars, Lt. Pickups, Utility Vehicles, and Vans.

4N6XPRT Systems®
Forensic Expert Software
8387 University Avenue
La Mesa, CA 91942-9342

Web: http://www.4n6xprt.com
E-Mail: VIN@4n6xprt.com

1-800-266-9778

Expert VIN DeCoder® example

INPUT:

1) Enter VIN Numbers to be DeCoded: 3FAPP1280MR117253

3FA PP128 0 MR 117253

2) Is this the VIN Number to be DeCoded (Y/N)? **Y**

OUTPUT:

EXPERT VIN DeCoder

The VIN Number is 3FA PP128 0 MR 117253

The vehicle should be a 1991 Ford
The model: Escort 2/3-door Hatchback GT
The assembly plant: Hermosillo, Mexico
The 4 passenger vehicle had : Passive (Automatic) Front Belts

The OEM engine was: In-line 4 cylinder with Double Overhead Cam
Engine Displacement/Type = 1.8 L/ 112 cu.in. L4, DOHC
Brake Horsepower (SAE) = 127 @ 6500 rpm
Torque (SAE) = 114 lb-ft at 4500 rpm
Engine manufacturer = Mazda

The fuel distribution system: Electronic Fuel Injection (EFI)
Fuel pump/line pressure = 35-45 psi
The ignition system = electronic

This is a Front Wheel Drive vehicle.

The first three characters {3, F, A} indicates that the vehicle was a Ford made in Mexico

The fourth character {P} indicates the vehicle had Passive (Automatic) Front Belts

The fifth character {P} indicates it was a Passenger Car

The sixth with the seventh character {12} indicates a Escort 2/3-door Hatchback GT

The eighth character {8} indicates the OEM engine : 1.8 L/ 112 cu.in. L4, DOHC

The 9th Character { the Check Digit } is 0
The calculated Check Digit value is 0

The tenth character {M} indicates the Model Year was 1991

The eleventh character {R} indicates it was made at the assembly plant in Hermosillo, Mexico

The twelveth through the seventeenth characters { 117253 } is the Serial Number unique to this vehicle.

01-01-2001 S/N:930114VD01201 Reg. User: 4N6XPRT SYSTEMS

Expert AutoStats®

The Expert AutoStats® program contains data on more than 40,000 cars, pick-ups, vans, and utility vehicles that range in years from the 1940's to the present. The Expert AutoStats® base information can assist in reconstructing accidents when the data for the vehicle is unavailable or the vehicle is too severely damaged to get correct measurements. The program is currently relied upon by over 600 private and 250 Government entities within the United States for this very purpose. Additionally, for many vehicles mid-1960's to present, data such as bumper height, front and rear overhang, hood height, etc., are also included.

As of April 1995 the 4N6XPRT Systems® programs Expert AutoStats®, Expert Qwic Calcs®, Expert TireStuf®, and Expert VIN DeCoder® are accessible from within RECTEC.

SYSTEM REQUIREMENTS

Expert AutoStats® has been tested on a wide variety of IBM laptop and desktop clones ranging from 8088 through Pentium® chips. A math co-processor chip is NOT required. Expert AutoStats® has also been tested under the various versions of MS-DOS 3.0 thru 7.0, DrDOS 6.0, and PC DOS 7.0. It also works as a DOS program under Windows 3.x, Windows, 95, Windows 98, Windows NT, Windows Me, Windows 2000, Windows XP, Windows Vista, OS/2 2.x, OS/2 Warp, and various versions of LINUX.

A variety of dot matrix printers emulating the EPSON series have been used with no difficulty. The output is also compatible with the Hewlett-Packard II, IIP, III and IIIP Laser printers and Hewlett-Packard Desk Jet inkjet printers. Expert AutoStats® works with monochrome and color monitors.

PLEASE PRINT

Contact Name: _____
Company/Dept: _____
Mailing Address: _____
City:State:Zip: _____
Phone: _____
Fax: _____
E-Mail: _____

AutoStats® _____ (copies) x $595.00 . . = $_____
Handling **: $_____
(Check with order = $5.00, Credit Card = $10.00 , Govt. P.O.r = $15.00)
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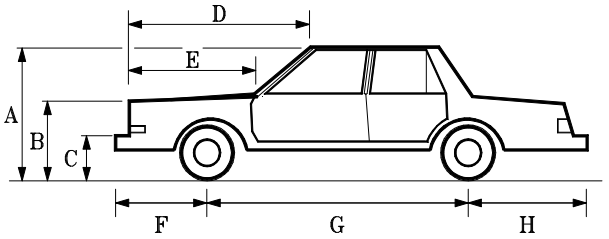
Orders will be shipped Priority Mail within 10 working days of receipt of order.
Prices subject to change WITHOUT NOTICE.
** Checks MUST be drawn from a bank in the U.S.A.*

Expert AutoStats®



Over 40,000 cars, pick-ups, vans, and utility vehicles 1940's to the present are represented.

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Forensic Expert Software
8387 University Avenue
La Mesa, CA 91942-9342

Web: http://www.4n6xprt.com
E-Mail: autostats@4n6xprt.com

1-800-266-9778

Select Your Vehicle

```
MAKE OF VEHICLE:      FORD
YEAR OF VEHICLE:      2001
BODYSTYLE OF VEHICLE: CAR

More than one model matches the make, year, and body style you specified.
Select the actual model from the list.  Use the arrow keys to highlight the
model, then press Enter.  Press Esc to return to the list of manufacturers.
(You can also begin typing the name of the model to jump directly to it.)

[ ** AVAILABLE MODELS - 2001 FORD ** ]      [ WB(in)  OAL(in) ]
CROWN VICTORIA                  4DR SEDAN      115     212
CROWN VICTORIA (CNG) MSP PACKAG 4DR SEDAN      115     212
CROWN VICTORIA 4.6L MSP POLICE PACKAGE 4DR SEDAN 115   212
CROWN VICTORIA EXTENDED         4DR SEDAN      121     218
ESCORT                          4DR SEDAN       98     175
ESCORT ZX2                      2DR COUPE       98     175
FOCUS                           4DR SEDAN      103     175
FOCUS                           4DR WAGON      103     178
FOCUS ZX3                       2DR HATCHBACK  103     168
MUSTANG                         2DR CONVERTIBLE 101    183
MUSTANG                         2DR COUPE      101     183
MUSTANG COBRA                   2DR CONVERTIBLE 101    183
MUSTANG COBRA                   2DR COUPE      101     183
```

After typing in the Make, Year, and Type of vehicle, you are presented with the vehicles which are available for that year.

Screen 1

```
2001 FORD CROWN VICTORIA 4.6L MSP POLICE PACKAGE  4DR SEDAN

--------[ HORIZONTAL DIMENSIONS ]--------    --------[ VERTICAL DIMENSIONS ]------
LENGTH                          212 in.  |  HEIGHT                        57 in.
WHEELBASE                       115 in.  |  GROUND TO:
FRONT BUMPER TO FRONT AXLE       44 in.  |    FRONT BUMPER (Top)         23 in.
FRONT BUMPER TO FRONT OF HOOD     8 in.  |    HEADLIGHT - Center         27 in.
FRONT BUMPER TO BASE OF WINDSHIELD 66 in. |    HOOD - Top Front           29 in.
FRONT BUMPER TO TOP OF WINDSHIELD 91 in. |    BASE OF WINDSHIELD         38 in.
FRONT BUMPER TO FRONT WELL       27 in.  |    REAR BUMPER (Top)          26 in.
REAR BUMPER TO REAR OF TRUNK      8 in.  |    TRUNK - Top Rear           40 in.
REAR BUMPER TO BASE OF REAR WINDOW 39 in. |    BASE OF REAR WINDOW        40 in.
REAR BUMPER TO REAR WELL         37 in.  |
REAR BUMPER TO REAR AXLE         53 in.  |----[ WEIGHT DIMENSIONS ]------
                                         |  CURB WEIGHT                4020 lbs.
-----------[ DEPTH DIMENSIONS ]-----------|  Curb Weight Distribution:
WIDTH                            78 in.  |       FRONT = 55%   REAR = 45%
FRONT TRACK                      63 in.  |
REAR TRACK                       64 in.  |  GROSS VEHICLE WEIGHT  5170 lbs.
                                         |

          P)rint this screen,      ANY OTHER KEY = Continue
```

The first screen of data contains exterior dimensions and weight data. Length, Height, Wheelbase, Width, and Weight Distribution are published dimensions. Curb Weight is an average of published curb weights for the given vehicle. Detail dimensions such as the bumper heights and Front Bumper to Front of Hood are measurements obtained by our staff from actual vehicles.

Screen 2

```
2001 FORD CROWN VICTORIA 4.6L MSP POLICE PACKAGE  4DR SEDAN

--------[ ACCELERATION/BRAKING ]---------|  BUMPER STRENGTH:          5 mph
ACCELERATION 0-30 mph   13.8 ft/sec/sec  |  STEERING RATIO          16.40:1
ACCELERATION 0-60 mph   10.1 ft/sec/sec  |
ACCELERATION 45-65 mph   6.7 ft/sec/sec  |-------[ INTERIOR DIMENSIONS ]-----
BRAKING 60-0 mph       145   ft          |  FRONT SHOULDER ROOM       61 in.
-----------------------------------------|  FRONT HEAD ROOM           39 in.
DRIVE WHEELS                  REAR       |  FRONT LEG ROOM            43 in.
TURNING CIRCLE (DIAMETER)      41 ft.    |  REAR SHOULDER ROOM        60 in.
NUMBER OF WHEELS                4        |  REAR HEAD ROOM            38 in.
WHEEL RADIUS                   13 in.    |  REAR LEG ROOM             40 in.
TIRE SIZE               P225/60R16       |
-----------------------------------------

ALL DISC - ALL WHEEL ABS
3pt - front and rear, FRONT SEAT AIRBAGS
4spd AUTOMATIC

N.S.D.C. = 2001 - 2001
___ = Value not in Database

   B)ack a screen,      P)rint this screen,      ANY OTHER KEY = Continue
```

The second screen of data contains interior dimensions and various performance data. The data contained in the second screen comes from various published sources.

Screen 3

```
2001 FORD CROWN VICTORIA 4.6L MSP POLICE PACKAGE  4DR SEDAN

-----------------------[ ANGLE MEASUREMENTS ]-----------------------
ANGLE FRONT BUMPER TO HOOD FRONT          =  36.9   deg
ANGLE FRONT OF HOOD TO WINDSHIELD BASE    =   8.8   deg
ANGLE FRONT OF HOOD TO WINDSHIELD TOP     =  17.4   deg
ANGLE OF WINDSHIELD                       =  34.2   deg
ANGLE OF STEERING TIRES AT MAX TURN       =  26.8   deg
-----------------------[ CENTER OF GRAVITY ]------------------------
Inches from ground        =  22.37 | Inches from side of vehicle  =  39.00
Inches behind front axle  =  51.75 | Inches in front of rear axle =  63.25
Inches from front bumper  =  95.75 | Inches from rear bumper      = 116.25
Inches from front corner  = 103.39 | Inches from rear corner      = 122.62

TIP-OVER STABILITY RATIO                  =   1.42    STABLE
NHTSA Static Stability Factor (calculated) Star Rating:   ****
-----------------------[ MOMENTS OF INERTIA ]-----------------------
YAW MOMENT OF INERTIA                     =  2934.60  lb-ft-sec^2
PITCH MOMENT OF INERTIA                   =  2830.80  lb-ft-sec^2
ROLL MOMENT OF INERTIA                    =   573.60  lb-ft-sec^2

   B)ack a screen,      P)rint this screen,      ANY OTHER KEY = Continue
```

The third and last screen contains a number of calculated items of information which may be of use depending upon the type of case, the other software that you use, and the questions which need to be answered.

Screen 4

```
2001 FORD CROWN VICTORIA 4.6L MSP POLICE PACKAGE  4DR SEDAN

-----------------------[ ANGLE MEASUREMENTS ]-----------------------
ANGLE FRONT BUMPER TO HOOD FRONT          =  36.9   deg
ANGLE FRONT OF HOOD TO WINDSHIELD BASE    =   8.8   deg
ANGLE FRONT OF HOOD TO WINDSHIELD TOP     =  17.4   deg
ANGLE OF WINDSHIELD                       =  34.2   deg
ANGLE OF STEERING TIRES AT MAX TURN       =  26.8   deg
-----------------------[ CENTER OF GRAVITY ]------------------------
Inches from ground        =  22.37 | Inches from side of vehicle  =  39.00
Inches behind front axle  =  51.75 | Inches in front of rear axle =  63.25
Inches from front bumper  =  95.75 | Inches from rear bumper      = 116.25
Inches from front corner  = 103.39 | Inches from rear corner      = 122.62

TIP-OVER STABILITY RATIO                  =   1.42    STABLE
NHTSA Static Stability Factor (calculated) Star Rating:   ****
-----------------------[ MOMENTS OF INERTIA ]-----------------------
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PITCH MOMENT OF INERTIA                   =  2830.80  lb-ft-sec^2
ROLL MOMENT OF INERTIA                    =   573.60  lb-ft-sec^2

N)ext Car, Print to - P)rinter or to File, E)xchange File, D)XF File, Q)uit
```
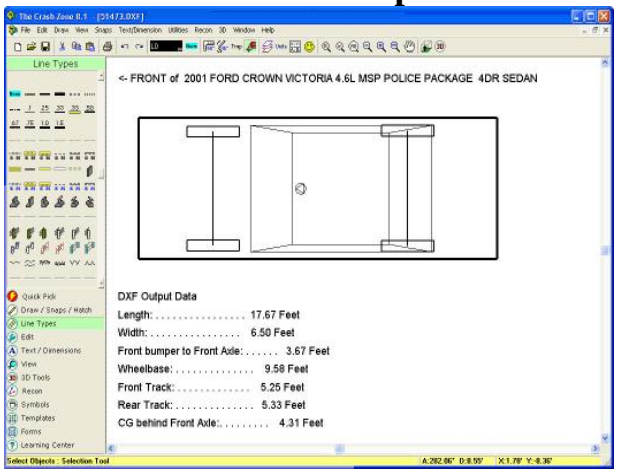

From within the Expert AutoStats program you have the ability to output the data to a 2-D DXF file for importation into your CAD Scene Drawings. The screen below shows an import of the DXF file with Text into the CAD Zone program.

CADZONE Import



4N6XPRT StifCalcs®

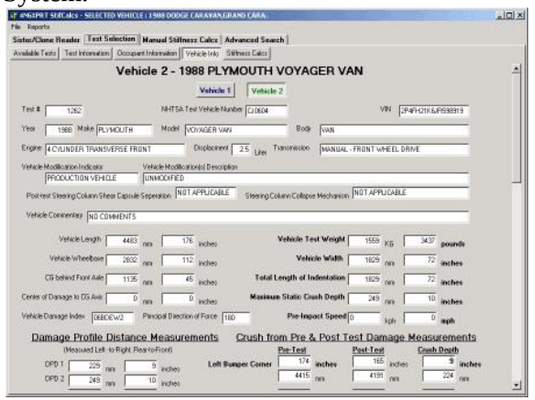
Introducing ..... 4N6XPRT StifCalcs®. A program which puts the NHTSA Crash Test database at your fingertips with no need to access the internet!

In addition to the NHTSA Crash Test data, the program includes a "Sister/Clone List Reader" developed in cooperation with Greg Anderson. This allows quick retrieval of the "Sister/Clone" data for the desired vehicle. This will drive the initial selection of the available tests. Alternatively, we have an ADVANCED SEARCH module for the initial vehicle selection.

STIFFNESS DATA, based on the selected test, is automatically calculated based on the reported crush depths and widths for front, side, and rear tests.

SYSTEM REQUIREMENTS

4N6XPRT StifCalcs® is a MS-Windows program designed to work under a 32 bit (95/98/Me/NT/ 2000/XP/Vista) Windows System.



To use the program, follow this "Yellow Brick Road":

1) Sister/Clone Reader -
(a) - Select YEAR
(b) - Select Manufacturer
(c) - Select Model

▼

2) Click on TEST SELECTION Tab

▼

3) Select a test from the available tests which are displayed

▼

4) View TEST INFORMATION

▼

5) View OCCUPANT DATA

▼

6) View VEHICLE DATA

▼

7) View STIFFNESS CALCS

▼

8) Click on Reports - PRINT REPORT

IT'S THAT SIMPLE ....
REALLY!!

PLEASE PRINT

Contact Name: _____
Company/Dept: _____
Mailing Address: _____
City:State:Zip: _____
Phone: _____
Fax: _____
E-Mail: _____
(E-mail address required for electronic delivery)

StifCalcs®_____ (copies) x $570.00 . . = $_____
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(Check with order = $5.00, Credit Card = $10.00 , Govt. P.O.r = $15.00)
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☐ - Deliver via electronic download link (e-mail address required) $ 0.00
☐ Please deliver on USB at an
additional cost of $35.00 per disk $_____
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CA Addresses add 9.50% sales tax . . = $_____
*(California orders delivered by e-mail attachment **DO NOT** owe sales tax)*

TOTAL = $_____

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Card #: _____
Expires: _____
Name on Card: _____
Signature: _____
Billing Add. #: _____
Billing Zip: _____

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Telephone Orders:
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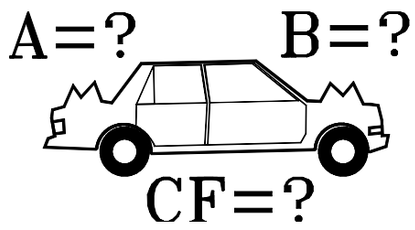
Orders within the U.S. will be shipped Priority Mail or via E-mail attachment within 10 working days of receipt of order.
*All prices are in U.S. Dollars, and subject to change **WITHOUT NOTICE.***
*Orders outside of U.S.A. shipped via E-Mail attachment **ONLY**.*

4N6XPRT StifCalcs®



Quick, Convenient, Easy access to the NHTSA Crash Test data on your own MS-Windows computer without the need for an internet connection.

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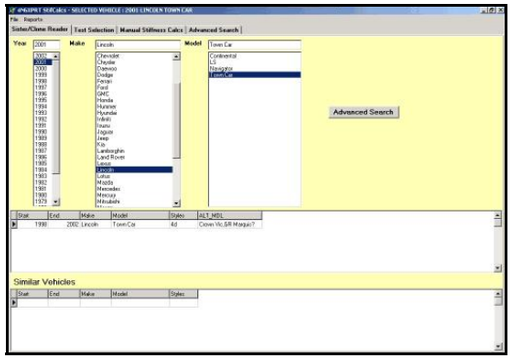
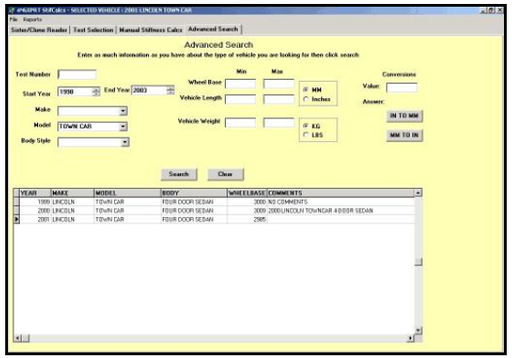
8387 University Avenue
La Mesa, CA 91942-9342

Web: http://www.4n6xprt.com
E-Mail: stifcalcs@4n6xprt.com

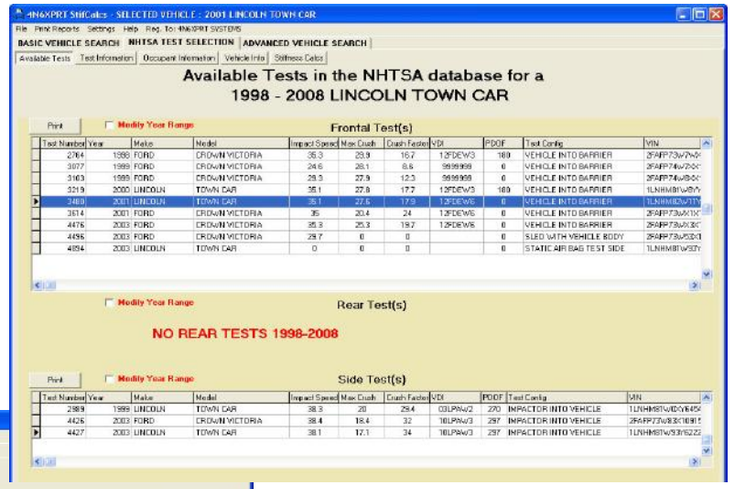
1-800-266-9778

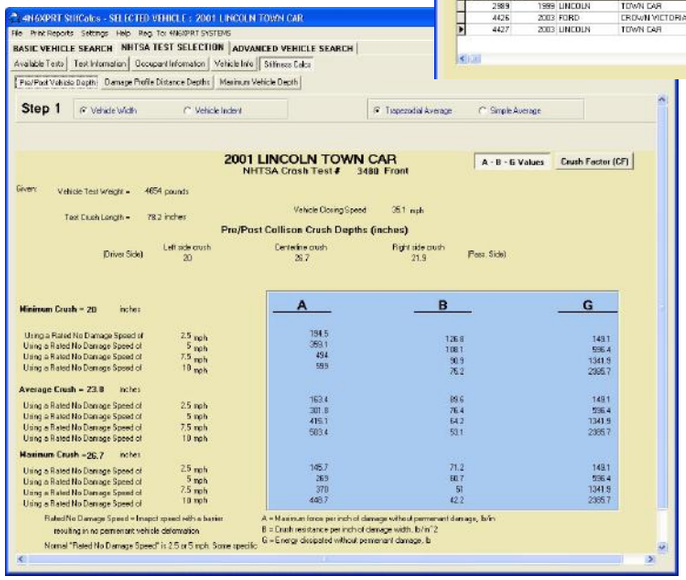
Select the desired vehicle through either our SISTER/CLONE READER or our ADVANCED SEARCH tab.



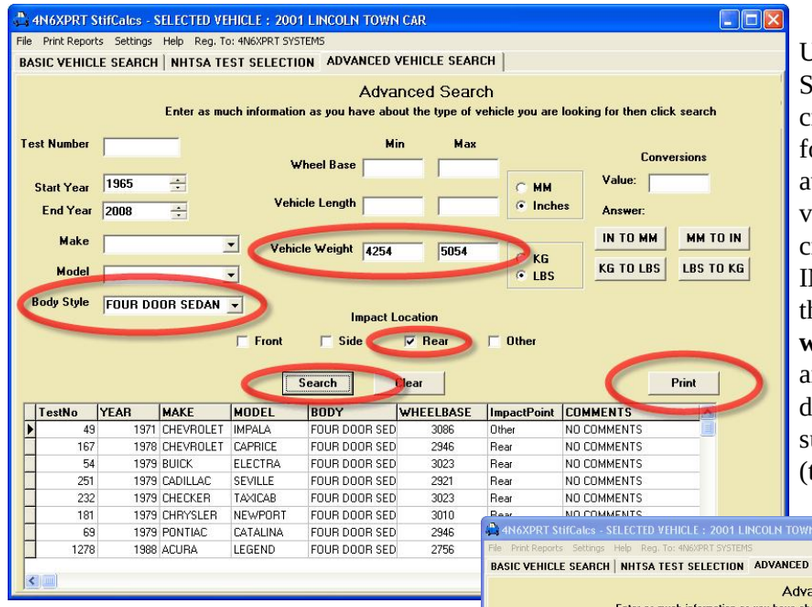


Once the desired vehicle is found/selected, click on the Test Selection tab. From here, select the test to be viewed



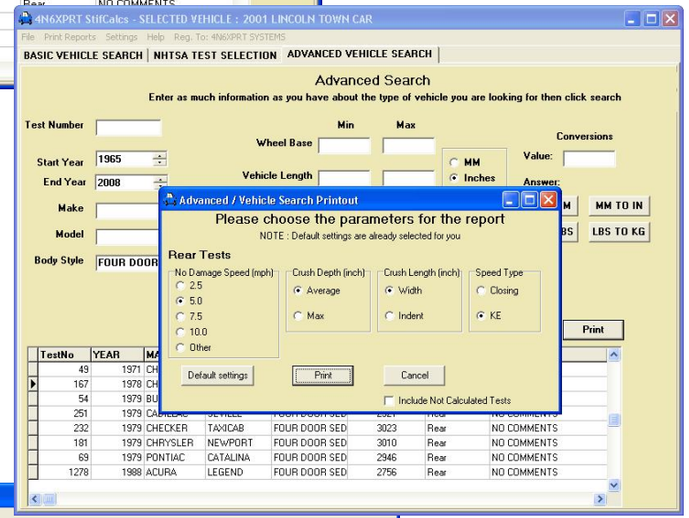


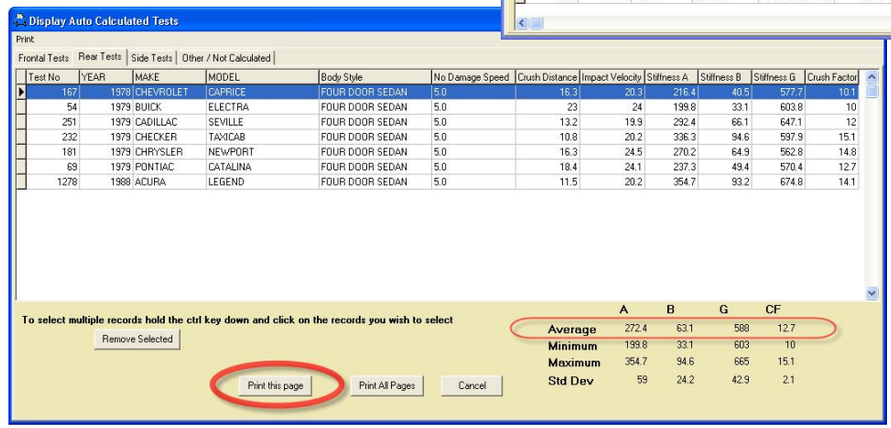
Once a test is selected, the available data for the Test, Occupant(s), Vehicle(s), and Stiffness data can be viewed. The stiffness values are automatically generated from the available test data.



Using the ADVANCED SEARCH tab, you can also create a CLASS of vehicle for when there are no tests available for the specific vehicle and test type. To create a class of REAR IMPACT stiffness values for the Lincoln, first set the **weight range**, **body style**, and **test type**, then **search** the database, when you have a sufficient number of tests (that is, more than one or two) that have been found, click the PRINT button:

Now Set your calculation parameters - **No Damage Speed** - **Crush Depth** - **Indentation (Crush) Length** - and **Speed**, then view your results, and if desired, print them to hard copy





The program will calculate the **AVERAGE, MINIMUM, MAXIMUM,** and **Standard Deviation** of the Stiffness Values calculated based upon the parameters you set in the preceding step.

4N6XPRT Systems

Expert System Software for Litigation

8387 University Avenue
La Mesa, CA 91941-3842

FED Tax ID No.: 95-3121248

Phone: 1- 800-266-9778
Fax: (619) 464-2206

Web Site: ***http://www.4n6xprt.com***

E-Mail: ***4n6@4n6xprt.com***

2010 ORDER FORM

Expert AutoStats® - Expert VIN DeCoder® - 4N6XPRT StifCalcs® - 4N6XPRT BioMeknx™
Expert Qwic Calcs® - Expert TireStuf® - 4N6XPRT Ped & Bike Calcs®

Please use this order form when ordering your programs. Due to conditions and rising costs beyond our control, Shipping & Handling must be paid per the included schedule.

Contact Name: _____
Title: _____
Company/Organization: _____
Street: _____
City: _____ State: _____ Zip: _____
Phone: (_____)_____ FAX: (_____)_____
E-Mail: _____

Expert AutoStats®:	$ 595.00 *	$_____
4N6XPRT BioMeknx™:	$ 495.00 *	$_____
4N6XPRT Ped & Bike Calcs®:	$ 375.00 *	$_____
Expert Qwic Calcs®:	$ 275.00 *	$_____
Expert TireStuf®:	$ 85.00 *	$_____
4N6XPRT StifCalcs®:	$ 570.00 *	$_____
Expert VIN DeCoder®:	$ 525.00 *	$_____
		======
	SUB-TOTAL	$_____

California shipping addresses add **9.50%** sales tax $_____
(*California orders delivered by e-mail attachment **DO NOT** owe sales tax*)

Handling **: *(Cash or Check with order = **$5.00**, Credit Card = **$10.00** , Govt. Purchase Order = **$15.00**)* $_____

Notarized Affidavit filing requirement - **$25.00 per required notarized signature**: $_____

Normal delivery will be via email of a download link to a self extracting zip file

☐ - Deliver via electronic download link (e-mail address required) $ 0.00

☐ - Please deliver on USB at an **additional cost of $35.00 per program** $_____

======

TOTAL $_____

Enclosed is:
Check____ Money Order____ Purchase Order____ Credit Card: Visa_____ Master Card_____ American Express_____

Card #_____ Expires_____
Billing Add. :_____ Billing Zip: _____
Name on Card:_____ Signature: _____

PLEASE NOTE

-- Orders cannot be shipped without correct Shipping & Handling included.
-- California orders cannot be shipped without sales tax included.
-- Written Purchase Orders must be received in office before shipping.

* *Prices are subject to change without notice. Call for Multi-program and package purchase discounts.*
** *Orders will be shipped within 10 working days. Other shipping methods may cost extra. The Handling charge listed is for the first program,* ***add $5.00 per additional program*** *ordered at the same time and shipped to the same address.*

Please make checks, money orders or Purchase Orders Payable to: **4N6XPRT Systems®**

You may call or fax your order to us if paying by credit card.

A Division of Expert Witness Services, Inc.

Effective: March 2010

4N6XPRT Systems

Expert System Software for Litigation

8387 University Avenue
La Mesa, CA 91942-9342

FED Tax ID No.: 95-3121248

Phone: 1- 800-266-9778
Fax: (619) 464-2206

Web Site: http://www.4n6xprt.com

E-Mail: 4n6@4n6xprt.com

Dear Customer,

Due to the governments desire (both U.S. & California) to "protect us" we will need the following information from you in order to process your credit card(s). Please complete this form and return it with your order.

Card type: Am. Express / Visa / MasterCard
Card Number: _____
Expiration Date (MM/YY): ____/____

←Visa/MasterCard American Express →

Security code (card ID) on back of Visa/MasterCard card or front of American Express Card:

Address for where the **credit card bill is sent**:

_____

*(This is the address number - for instance, ours would be **8387 University Avenue** - that the credit card bill would go to, not where we would send the data or product to)*

City/State/Zip for where the **credit card bill is sent**:

_____

*(- for instance, ours would be **La Mesa, CA 91941** - that the credit card bill would go to, not where we would send the data or product to)*

Authorized signature: _____

We appreciate your cooperation in supplying us with this information and understanding that it is being required of us to obtain the information.

Sincerely,

Daniel W. Vomhof III
General Manager/Technical Support

SERVICE

You may make your request by phone or fax. Our fax machine is on 24 hours, 7 days a week, and can be reached at (619) 464-2206. A request may also be made by e-mail, which reaches us when we are "on the road" as well as in the office..

Upon receiving your request, we will research you request and **fax the information to you at NO ADDITIONAL CHARGE!** Normal response time is one working day or less. Your hard copy will follow in the mail.

Please include the vehicle information on the sample order form when requesting your Individual Vehicle Data Search. Please also be sure to provide a Visa, MasterCard, or American Express number, name as it appears on the card, Expiration date, and the billing address # and Zip.

*Pricing is for multiple vehicles on same Order/Request. Similar Vehicles may be required when it is not possible to determine the exact model of vehicle requested, based upon the information provided.

VIN DeCoding Information

FAX/Order Form

☐ **Expert VIN Decoder & Expert AutoStats**
☐ **NHTSA Crash Test Results**
☐ **BOTH**

Please circle ALL OPTIONS that apply

YEAR & MAKE:

_____

MODEL:_____

If you are requesting
VIN DeCoder & AutoStats
please also provide the following information:

No. of Doors:	2/3/4/5
Body Style:	Coupe/Conv./Sedan/Wagon
SUV & P/U:	4x2 / 4x4 / Dual Rear Wheel
PICKUPS:	Std. / Extra / Super / Crew Cab
	Short Bed / Long Bed
VANS:	Cargo / Passenger
	Short / Long Wheelbase

VIN Information

___	___	___		___	___	___	___	___		___							
1	2	3		4	5	6	7	8		9							
											___	___		___	___	___	___	___	___	___
											10	11		12	13	14	15	16	17

NHTSA Crash Test Information
Impact location - Front / Side / Rear
Impact Speed - Lower / Higher

PAYMENT INFORMATION
Visa/MasterCard / American Express:

_____

Expires: _____ / _____

Name & Address:

_____

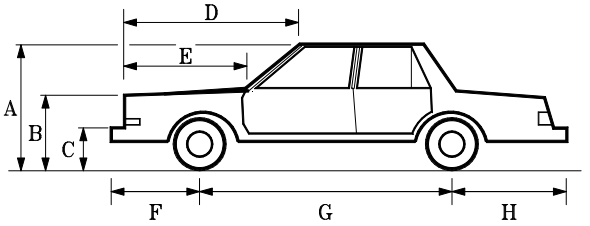
_____

_____

_____

Case Reference Name/Number:_____

Individual Vehicle Data Search Service®



Providing Vehicle dimensional data, VIN DeCoding, and NHTSA Crash Test Results as a service to the Litigation community.

E-Mail: **ivdss@4n6xprt.com**

FAX: (619) 464-2206
Phone: (619) 464-3478 / 1-800-266-9778

4N6XPRT Systems®
Forensic Expert Software
8387 University Avenue, Suite P
La Mesa, CA 91942-9342

Web: http://www.4n6xprt.com

How often have you been confronted with the

following on a Traffic Collision Report - "87 Ford, 4 door, Blue"? We have the answer to the problem of determining WHICH Ford 4 door model this was!

We will DeCode the VIN number and provide you with the information contained within that VIN number

Information generally includes:

Year	OEM Engine
Make	Displacement/Type
Model	Rated Horsepower
Drive Wheels	Rated Torque
Rated Pass. Load	Iginition System
Plant of Manufacture	Fuel Line Pressure

Also (*when provided by VIN*)

Gross Vehicle Weight	Safety Equipment
Transmission	

A DMV search for a vehicle identification from the registration will typically cost less than $10.00 and will give the VIN number, Make, and Year of vehicle. However, to also obtain the vehicle Model requires a "Manual Search" which will typically cost $30.00/vehicle/year searched.

With our service, you will be able to find out the model of vehicle as well as all of the other information mentioned above. This information will be faxed to you, typically in less than one working day, and the hard copy will follow in the mail.

Allow us to help you have all the information you require in your next Accident, Personal Injury, Criminal, Domestic, or Product Liability case.

Individual Vehicle Specifications

Now you can get the Expert AutoStats® data for the vehicles in your case ***QUICKLY, EASILY***, and ***ECONOMICALLY***, instead of guessing, or begging a printout from a friend.

Our vehicle database includes dimensions on over 35,000 Cars, Vans, Lt. Pickups, and Utility Vehicles covering 1945 to the present.

Minimum Vehicle specifications include:

Overall Length	Curb Weight
Overall Width	Weight Distribution
Overall Height	Front/Rear Track
Wheelbase	CG Location

Model yeasr with **N**o **S**ignificant **D**imensional **C**hanges
VIN DeCoding when VIN is provided Information available

Mid-60's to present **also includes** (*when available*)

Fron/Reart Overhang	Bumper Heights
Hood height	Turning Circle
Bumper-to-hood	Ground-to-hood

Dimensions are given in both Imperial and metric (SI) units. Motorcycle specifications will be similar to the Vehicle specifications with appropriate changes where applicable.

While the VIN number contains much information, it does not contain everything needed to identify a particular vehicle in every situation. Therefore, we would appreciate you providing as much of the information on the order form as possible.

If you are not sure of the specific model, we will provide dimensions on the similar model vehicles matching the provided data for a small additional cost per model*.

Individual Vehicle Data Search Service® Charges & Services

Individual Vehicle Specifications

$40.00-First vehicle*, $35.00/Additional Vehicles*,
$20.00/Additional Similar Model*

Medium/Heavy Truck Specifications

$40.00-First vehicle*, $35.00/Additional Vehicles*,
$20.00/Additional Similar Model*

Motorcycle Specifications (1970+)

$40.00-First cycle*, $35.00/Additional cycles*,
$20.00/Additional Similar Model*

NHTSA Crash Test Results

$40.00 per test - Includes A, B, & G values
Calculations are based on the test results

NHTSA Crash Test Results

Test results include: General Test information, Barrier Data when provided, Vehicle Data as reported by the testing organization, Occupant (Dummy) data when provided, and A-B-G Stiffness calculations based on the test results.

You may make your request by phone or fax. Our fax machine is on 24 hours/day and can be reached at:

(619) 464-2206

Individual Vehicle Data Search Service® Charges & Services

You may make your request by phone or fax. Our fax machine is on 24 hours/day and can be reached at

(619) 464-2206

Individual Vehicle Specifications

$40.00-First vehicle*, $35.00/Additional Vehicles*, $20.00/Additional Similar Model*

Medium/Heavy Truck Specifications

$40.00-First vehicle*, $35.00/Additional Vehicles*, $20.00/Additional Similar Model*

Motorcycle Specifications (1970+)

$40.00-First cycle*, $35.00/Additional cycles*, $20.00/Additional Similar Model*

NHTSA Crash Test Results

$40.00 per test - Includes A, B, & G values
Calculations are based on the test results

Contact Name & Address:

_____
_____
_____
_____

Phone: (_____) _____
Fax: (_____) _____

PAYMENT INFORMATION
Visa/MasterCard / American Express:

_____
Expires: _____ / _____
Credit Card billing address and Zip:
Address:_____
Zip: _____
Security Code # _____

FAX/Order Form

☐ **Expert VIN Decoder & Expert AutoStats**
☐ **NHTSA Crash Test Results**
☐ **BOTH**

Please circle <u>ALL OPTIONS</u> that apply

YEAR & MAKE:

_____
MODEL: _____

If you are requesting
VIN DeCoder & AutoStats
please also provide:

No. of Doors:	2/3/4/5
Body Style:	Coupe/Conv./Sedan/Wagon
SUV - P/U:	4x2 / 4x4 / Dual Rear Wheel
PICKUPS:	Std. / Extra / Super / Crew Cab Short Bed / Long Bed
VANS:	Cargo / Passenger Short / Long Wheelbase

VIN Information

__	__	__		__	__	__	__	__	__		__		__	__		__	__	__	__	__	__
1	2	3		4	5	6	7	8		9		10	11		12	13	14	15	16	17

NHTSA Crash Test Information

YEAR & MAKE:

_____
MODEL: _____

Impact location - Front / Side / Rear
Impact Speed - Lower / Higher

Case Reference/Number:_____

FAX/Order Form

☐ **Expert VIN Decoder & Expert AutoStats**
☐ **NHTSA Crash Test Results**
☐ **BOTH**

Please circle <u>ALL OPTIONS</u> that apply

YEAR & MAKE:

_____
MODEL: _____

If you are requesting
VIN DeCoder & AutoStats
please also provide:

No. of Doors:	2/3/4/5
Body Style:	Coupe/Conv./Sedan/Wagon
SUV - P/U:	4x2 / 4x4 / Dual Rear Wheel
PICKUPS:	Std. / Extra / Super / Crew Cab Short Bed / Long Bed
VANS:	Cargo / Passenger Short / Long Wheelbase

VIN Information

__	__	__		__	__	__	__	__	__		__		__	__		__	__	__	__	__	__
1	2	3		4	5	6	7	8		9		10	11		12	13	14	15	16	17

NHTSA Crash Test Information

YEAR & MAKE:

_____
MODEL: _____

Impact location - Front / Side / Rear
Impact Speed - Lower / Higher

Case Reference/Number:_____

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FED Tax ID No.: 95-3121248

Phone: 1- 800-266-9778
Fax: (619) 464-2206

Web Site: http://www.4n6xprt.com

E-Mail: 4n6@4n6xprt.com

Dear Customer,

Due to the governments desire (both U.S. & California) to "protect us" we will need the following information from you in order to process your credit card(s). Please complete this form and return it with your order.

Card type: Am. Express / Visa / MasterCard
Card Number: _____
Expiration Date (MM/YY): ____/____

←Visa/MasterCard American Express →

Security code (card ID) on back of Visa/MasterCard card or front of American Express Card:

Address for where the **credit card bill is sent**:

_____

*(This is the address number - for instance, ours would be **8387 University Avenue** - that the credit card bill would go to, not where we would send the data or product to)*

City/State/Zip for where the **credit card bill is sent**:

_____

*(- for instance, ours would be **La Mesa, CA 91941** - that the credit card bill would go to, not where we would send the data or product to)*

Authorized signature: _____

We appreciate your cooperation in supplying us with this information and understanding that it is being required of us to obtain the information.

Sincerely,

Daniel W. Vomhof III
General Manager/Technical Support