*** * * 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 40,000 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 2.9

The VIN Number is 1FA FP653 4 XK 106418

The vehicle should be a 1999 Ford Passenger Car
The model: Contour GL 4-door Sedan
The assembly plant: Kansas City, MO
The 5 passenger vehicle had :
Manual Seatbelts + Driver/Passenger Front Air Bags

The OEM engine was: In-line 4 cylinder with Double Overhead Cam
Engine Displacement/Type = 2.0 L/ 122 cu.in. L4, DOHC
Brake Horsepower (SAE) = 130 @ 6000 rpm
Torque (SAE) = 130 lb-ft at 4500 rpm
Engine manufacturer = Ford

The fuel distribution system:
Sequential Port Fuel Injection (SEFI)
Fuel pump/line pressure = 30-41 psi
The ignition system = electronic

This is a Front Wheel Drive vehicle.

The first three characters {1, F, A} indicates that the vehicle was a Ford made in the U.S.A.

The fourth character {F} indicates the vehicle had Manual Seatbelts + Driver/Passenger Front Air Bags

The fifth though seventh character {P65} indicates a Contour GL 4-door Sedan

The eighth character {3} indicates the OEM engine : 2.0 L/ 122 cu.in. L4, DOHC

The 9th Character { the Check Digit } is 4
The calculated Check Digit value is 4

The tenth character {X} indicates the Model Year was 1999

The eleventh character {K} indicates it was made at the assembly plant in Kansas City, MO

The twelveth through the seventeenth characters { 106418 } is the Serial Number unique to this vehicle.

EXPERT AUTOSTATS
Ver. 5.0

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

04-22-2010

1999 FORD CONTOUR 4DR SEDAN

CURB WEIGHT:	**2840 lbs.**	**1288 kg.**
Curb Weight Distribution -	**Front: 64 %**	**Rear: 36 %**
Gross Vehicle Weight Rating:	**4079 lbs.**	**1850 kg.**
Number of Tires on Vehicle:	**4**	
Drive Wheels:	**FRONT**	

HORIZONTAL DIMENSIONS

	Inches	Feet	Meters
Total Length	**185**	**15.42**	**4.70**
Wheelbase:	**107**	**8.92**	**2.72**
Front Bumper to Front Axle	**38**	**3.17**	**0.97**
Front Bumper to Front of Front Well	**24**	**2.00**	**0.61**
Front Bumper to Front of Hood	**7**	**0.58**	**0.18**
Front Bumper to Base of Windshield	**50**	**4.17**	**1.27**
Front Bumper to Top of Windshield	**81**	**6.75**	**2.06**
Rear Bumper to Rear Axle	**40**	**3.33**	**1.02**
Rear Bumper to Rear of Rear Well	**27**	**2.25**	**0.69**
Rear Bumper to Rear of Trunk	**6**	**0.50**	**0.15**
Rear Bumper to Base of Rear Window	**24**	**2.00**	**0.61**

WIDTH DIMENSIONS

Maximum Width	**69**	**5.75**	**1.75**
Front Track	**59**	**4.92**	**1.50**
Rear Track	**59**	**4.92**	**1.50**

VERTICAL DIMENSIONS

	Inches	Feet	Meters
Height	**55**	**4.58**	**1.40**
Ground to:			
Front Bumper (Top)	**21**	**1.75**	**0.53**
Headlight - center	**26**	**2.17**	**0.66**
Hood - top front	**26**	**2.17**	**0.66**
Base of windshield	**36**	**3.00**	**0.91**
Rear Bumper - top	**26**	**2.17**	**0.66**
Trunk - top rear	**39**	**3.25**	**0.99**
Base of rear window	**41**	**3.42**	**1.04**

Reg. To: 4N6XPRT Systems **S/N:10R-930512AQ03201**

1999 FORD CONTOUR 4DR SEDAN

INTERIOR DIMENSIONS

	Inches	Feet	Meters
Front Seat Shoulder Width	54	4.50	1.37
Front Seat to Headliner	39	3.25	0.99
Front Leg - seatback to floor (max)	42	3.50	1.07
Rear Seat Shoulder Width	53	4.42	1.35
Rear Seat to Headliner	37	3.08	0.94
Rear Leg - seatback to floor (min)	34	2.83	0.86

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

STEERING DATA

Turning Circle (Diameter)	432	36.00	10.97
Steering Ratio:	14.50:1		
Wheel Radius:	___	__.__	_.__
Tire Size (OEM):	P185/70SR14		

ACCELERATION & BRAKING INFORMATION

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

Braking, 60 mph -> 0 (Hard pedal, no skid, dry pavement):
d = 138 ft t = 3.1 sec. a =-28.0 ft/sec/sec G-force = -0.87

ACCELERATION:

0->30 mph	t = __._ sec.	a = __._ ft/sec/sec	G-force = _.__
0->60 mph	t = 9.2 sec.	a = 9.6 ft/sec/sec	G-force = 0.30
45->65 mph	t = __._ sec.	a = __._ ft/sec/sec	G-force = _.__

Transmission Type: 5spd MANUAL

NOTES:

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

N.S.D.C. = 1998 - 2000

Reg. To: 4N6XPRT Systems S/N:10R-930512AQ03201

1999 FORD CONTOUR 4DR SEDAN

OTHER INFORMATION

TIP-OVER STABILITY RATIO = 1.37 STABLE
NHTSA Star Rating (calculated) ****

CENTER OF GRAVITY (No Load):

Inches behind front axle	= 38.52
Inches in front of rear axle	= 68.48
Inches from side of vehicle	= 34.50
Inches from ground	= 21.59
Inches from front corner	= 83.94
Inches from rear corner	= 113.83
Inches from front bumper	= 76.52
Inches from rear bumper	= 108.48

MOMENTS OF INERTIA APPROXIMATIONS (No Load):

YAW MOMENT OF INERTIA	= 1719.20	lb-ft-sec^2
PITCH MOMENT OF INERTIA	= 1662.60	lb-ft-sec^2
ROLL MOMENT OF INERTIA	= 361.20	lb-ft-sec^2

FRONT PROFILE INFORMATION

ANGLE FRONT BUMPER TO HOOD FRONT	= 35.5	deg
ANGLE FRONT OF HOOD TO WINDSHIELD BASE	= 13.1	deg
ANGLE FRONT OF HOOD TO WINDSHIELD TOP	= 20.0	deg
ANGLE OF WINDSHIELD	= 28.7	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 or indentation may be evaluated using the following formula, the appropriate Crush Factor (CF), and Maximum Indentation Depth (MID), in feet:

V(mph) = Sqr root of (30 * CF * MID)

KE Equivalent Speed (Front/Rear/Side) = 21 CF

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

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 than 2-3 inches of crush damage should be looked at carefully, since some vehicles have very weak trunk & fender strength. Therefore, on some cars, esp. GM, your 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

2903

1998 FORD CONTOUR

Provided By

4N6XPRT StifCalcs™

Registered to:

4N6XPRT SYSTEMS

8387 UNIVERSITY AVENUE

LA MESA CA 91941-3842

S/N: 030201SC01301

4N6XPRT Systems® | 8387 University Avenue | La Mesa, CA 91941 | USA

(800) 266-9778 | (619) 464-3478 | FAX: (619) 464-2206 | Email: 4n6@4n6xprt.com

4N6XPRT StifCalcs™

Sister/Clone database reader

You entered: **1999 FORD CONTOUR**

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

Year Range	Make	Model	Body Styles	Wheelbase
1995 - 1997	FORD	CONTOUR	4D	106.5"
REMARKS :				
1995 - 1997	MERCURY	MYSTIQUE	4D	106.5"
REMARKS :				
1998 - 2000	FORD	CONTOUR	4D	106.5"
REMARKS :				
1998 - 2000	MERCURY	MYSTIQUE	4D	106.5"
REMARKS :				

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.

Registered Owner : 4N6XPRT SYSTEMS Serial Number # 030201SC01301

4N6XPRT StifCalcs™

Test Information

Test # 2903 NHTSA Version # V4 Test Date 1998-07 Contract # DTNH22-97-D-02007

Contract/Study Title: 1998 NHTSA OFFSET PROGRAM R AND D

Test Objective(s): OBTAIN ATD AND VEHICLE DATA

Test Type: TEST PROCEDURE DEVELOPMENT Configuration: VEHICLE INTO BARRIER

Closing Speed 48.9 Km/Hr 30 MPH

Impact Angle 0 Offset Distance 0 mm 0 inches Side Impact Point mm 0 inches

Test Performer: KARCO ENGINEERING Test Reference #: MW0212

Test Track Surface: CONCRETE Condition: DRY Ambient Temperature 38 C 100 F

Data Recorder Type: OTHER Data Link: OTHER Total Number of Curves 133

Test Commentary: 48.3 KMH FMVSS 208 WIT

Fixed Barrier Information

Barrier Type: RIGID Barrier Shape: LOAD CELL BAR Pole Barrier Diameter 9999 mm inches

Barrier Commentary: NO DATA COLLECTED ON A1,B1,C1,D1,D2,D3,D4,D5,D6,D7,D8,D9

4N6XPRT StifCalcs™

1998 FORD CONTOUR LEFT FRONT SEAT OCCUPANT

Test # 2903 Vehicle # 1 Location LEFT FRONT SEAT Seat Position CENTER POSITION

Type HYBRID III DUMMY Size Percentile 50 PERCENTILE Calibration Method HYBRID III

Sex M Age 99 Occupant Height 999 mm 0 inches Occupant Weight 999 kg 0 pounds

Occupant Manufactuer VECTOR, S/N:034

Occupant Modification UNMODIFIED

Occupant Description NO COMMENTS

Occupant Commentary

Head

Head To

Windshield Header	315	mm	12.4	inches
Windshield	565	mm	22.2	inches
Seatback	9999	mm	0	inches
Neck to Seatback	9999	mm	0	inches

Head To

Side Header	210	mm	8.3	inches
Side Window	298	mm	11.7	inches

First Contact Region (Head) AIR BAG Second Contact Region (Head) NONE

Head Injury Criteria (HIC) 363 HIC Lower Time interval (ms) 87.9 HIC Upper Time interval (ms) -3370

Chest

Chest To

Dash	538	mm	21.2	inches
Steering Wheel	274	mm	10.8	inches
Seatback	9999	mm	0	inches

Arm to Door	94	mm	3.7	inches
Hip to Door	128	mm	5	inches

First Contact Region (Chest/Abdomen) AIR BAG Second Contact Region (Chest/Abdomen) NONE

Lap Belt Peak Load Newtons 0 pounds Force Shoulder Belt Peak Load Newtons 0 pounds Force

Chest Severity Index

Thorax Peak Acceleration (g's) 9999 Thoraic Trauma Index Pelvic Peak Lateral Acceleration (g's)

Legs

Knees to Dash 155 mm 6.1 inches Knees to Seatback 9999 mm 0 inches

First Contact Region (Legs) STEERING COLUMN Second Contact Region (Legs) DASHPANEL

Left Femur Peak Load 5912 Newtons 1329. pounds Force Right Femur Peak Load 0 Newtons 0 pounds Force

1998 FORD CONTOUR LEFT FRONT SEAT OCCUPANT

Restraint # 1 3 POINT BELT Mounted Deployment? NOT APPLICABLE

Restraint Commentary NO COMMENTS

Registered Owner : 4N6XPRT SYSTEMS Serial Number # 030201SC01301

4N6XPRT StifCalcs™

Restraints

1998 FORD CONTOUR LEFT FRONT SEAT OCCUPANT

Restraint #	2	AIR BAG	Mounted		Deployment?	DEPLOYED PROPERLY

Restraint Commentary: NO COMMENTS

4N6XPRT StifCalcs™

1998 FORD CONTOUR RIGHT FRONT SEAT OCCUPANT

Test # 2903 Vehicle # 1 Location RIGHT FRONT SEAT Seat Position CENTER POSITION

Type HYBRID III DUMMY Size Percentile 50 PERCENTILE Calibration Method HYBRID III

Sex M Age 99 Occupant Height 999 mm 0 inches Occupant Weight 999 kg 0 pounds

Occupant Manufactuer VECTOR, S/N:035

Occupant Modification UNMODIFIED

Occupant Description N0 COMMENTS

Occupant Commentary

Head

Head To

Windshield Header	330	mm	12.4	inches
Windshield	560	mm	22.2	inches
Seatback	9999	mm	0	inches
Neck to Seatback	9999	mm	0	inches

Head To

Side Header	180	mm	8.3	inches
Side Window	274	mm	11.7	inches

First Contact Region (Head) AIR BAG Second Contact Region (Head) NONE

Head Injury Criteria (HIC) 386 HIC Lower Time interval (ms) 96.3 HIC Upper Time interval (ms) -4557

Chest

Chest To

Dash	521	mm	21.2	inches
Steering Wheel	9999	mm	10.8	inches
Seatback	9999	mm	0	inches

Arm to Door	40	mm	3.7	inches
Hip to Door	156	mm	5	inches

First Contact Region (Chest/Abdomen) AIR BAG Second Contact Region (Chest/Abdomen) NONE

Lap Belt Peak Load Newtons 0 pounds Force Shoulder Belt Peak Load Newtons 0 pounds Force

Chest Severity Index

Thorax Peak Acceleration (g's) 9999 Thoraic Trauma Index Pelvic Peak Lateral Acceleration (g's)

Legs

Knees to Dash 162 mm 6.1 inches Knees to Seatback 9999 mm 0 inches

First Contact Region (Legs) DASHPANEL Second Contact Region (Legs) NONE

Left Femur Peak Load 8912 Newtons 1329. pounds Force Right Femur Peak Load 0 Newtons 0 pounds Force

1998 FORD CONTOUR RIGHT FRONT SEAT OCCUPANT

Restraint # 1 3 POINT BELT Mounted Deployment? NOT APPLICABLE

Restraint Commentary NO COMMENTS

4N6XPRT StifCalcs™

Restraints

1998 FORD CONTOUR RIGHT FRONT SEAT OCCUPANT

Restraint #	2	AIR BAG	Mounted		Deployment?	DEPLOYED PROPERLY

Restraint Commentary: NO COMMENTS

4N6XPRT StifCalcs™

Vehicle 1 - 1998 FORD CONTOUR

Test # 2903 | NHTSA Test Vehicle Number | VIN 1FAFP6535WK290525

Year 1998 | Make FORD | Model CONTOUR | Body FOUR DOOR SEDAN

Vehicle Modification Indicator: PRODUCTION VEHICLE

Vehicle Modification(s) Description: UNMODIFIED

Post-test Steering Column Shear Capsule Seperation: UNKNOWN

Steering Column Collapse Mechanism: UNKNOWN

Vehicle Commentary: NO COMMENTS

Vehicle Length	4695	mm	184.8	inches
Vehicle Wheelbase	2704	mm	106.5	inches
CG behind front axle	1108	mm	43.6	inches
Center of Damage to CG Axis	0	mm	0	inches

Vehicle Test Weight	1473	KG	**3247**	**pounds**
Vehicle Width	1670	mm	**65.7**	**inches**
Total Length of Indentation	1440	mm	**56.7**	**inches**
Maximum Static Crush Depth	465	mm	**18.3**	**inches**

Vehicle Damage Index: 12FDEW | Principal Direction of Force: 0 | **Pre-Impact Speed**: 48.9 kph | **30.4** **mph**

Damage Profile Distance Measurements

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

DPD 1	465	mm	18.3	inches
DPD 2	457	mm	18	inches
DPD 3	387	mm	15.2	inches
DPD 4	395	mm	15.6	inches
DPD 5	400	mm	15.7	inches
DPD 6	426	mm	16.8	inches

Crush from Pre & Post Test Damage Measurements

	Pre-Test		Post-Test		Crush-Depth	
Left Bumper Corner	178.5	**inches**	166.9	**inches**	**11.7**	**inches**
	4535	mm	4238	mm	297	mm
Centerline	184.8	**inches**	169.8	**inches**	**15.1**	**inches**
	4695	mm	4312	mm	383	mm
Right Bumper Corner	178.5	**inches**	167.7	**inches**	**10.8**	**inches**
	4535	mm	4260	mm	275	mm

Bumper Engagement (Inline Impact Only): DIRECT ENGAGEMENT

Still Engagement (Side Impact Only): NOT APPLICABLE

A-pillar Engagement (Side Impact Only): NOT APPLICABLE

Moving Test Cart Angle: 999

Magnitude of the Tilt-Angle Measured between surface if a Rollover Test Cart and the Ground

Moving Test Cart / Vehicle Crabbed Angle: 0

Magnitude of the Crabbed Angle Measured Clockwise from Logitudial Vector to Velocity Vector of Vehicle

Moving Test Cart Vehicle Orientation on Cart: 999

Magnitude of the Angle Measured between the vehicle Orientation and the Direction of the Test Cart Motion

Vehicle 1 - 1998 FORD CONTOUR

Test #	2903	NHTSA Test Vehicle Number		VIN	1FAFP6535WK290525		
Year	1998	Make	FORD	Model	CONTOUR	Body	FOUR DOOR SEDAN

Vehicle Modification Indicator: PRODUCTION VEHICLE

Vehicle Modification(s) Description: UNMODIFIED

Post-test Steering Column Shear Capsule Seperation: UNKNOWN

Steering Column Collapse Mechanism: UNKNOWN

Vehicle Commentary: NO COMMENTS

Vehicle Length	4695	mm	184.8	inches	**Vehicle Test Weight**	1473	KG	**3247** **pounds**
Vehicle Wheelbase	2704	mm	106.5	inches	**Vehicle Width**	1670	mm	**65.7** **inches**
CG behind front axle	1108	mm	43.6	inches	**Total Length of Indentation**	1440	mm	**56.7** **inches**
Center of Damage to CG Axis	0	mm	0	inches	**Maximum Static Crush Depth**	465	mm	**18.3** **inches**

Vehicle Damage Index	12FDEW6	Principal Direction of Force	0	**Pre-Impact Speed**	48.9	kph	**30.4**	**mph**

Pre & Post Test Measurements

(Measurments are taken in a logitudinal direction. Except for Engine Block, all measurments are taken 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							
				4695	184.8	4312	169.8				
				Engine Block							
				230	9.1	230	9.1				
4535	178.5	4238	166.9	Front Bumper Corner				4535	178.5	4260	167.7
				Front of Engine							
				4117	162.1	3930	154.7				
3476	136.9	3455	136	Firewall				3476	136.9	3440	135.4
				3517	154.7	3480	137				
3235	127.4	3222	126.9	Upper Leading Edge of Door				3235	127.4	3245	127.8
3208	126.3	3202	126.1	Lower Leading Edge of Door				3205	126.2	3206	126.2
3195	125.8	3190	125.6	Bottom of 'A' Post				3175	125	3185	125.4
2136	83.8	2120	83.5	Upper Trailing Edge of Door				2136	84.1	2145	84.4
2117	83.3	2100	82.7	Lower Trailing Edge of Door				2117	83.3	2115	83.3
				Steering Column							
				2650	104.3	2705	106.5				
				Center of Steering Column to 'A' Post (Horizontal)							
				427	16.8	390	15.4				
				Center of Steering Column to 'A' Post (Vertical)							
				440	17.3	435	17.1				

4N6XPRT StifCalcs™
1998 FORD CONTOUR

NHTSA Crash Test - # 2903 - Front Impact

{ Pre/Post Crush Depths - Vehicle Width - Closing Speed - Trapezoidal Average}

Vehicle Test Weight = 3247 pounds
Vehicle Test Speed = 30.4 mph
Test crush width = 65.7 inches

Pre/Post Collision Crush Depths (inches)

(Driver Side)	Left Bumper Corner	Centerline	Right Bumper Corner	(Pass. Side)
	11.7	15.1	10.8	

Calculated Stiffness Coefficients

		A	B	G
Minimum Crush = 10.8 inches				
Using a Rated No Damage Speed of	2.5 mph	255.6	264	123.7
Using a Rated No Damage Speed of	5 mph	465.3	218.8	494.9
Using a Rated No Damage Speed of	7.5 mph	629.3	177.8	1113.6
Using a Rated No Damage Speed of	10 mph	747.4	141.1	1979.6
Average Crush = 13.2 inches				
Using a Rated No Damage Speed of	2.5 mph	209.1	176.7	123.7
Using a Rated No Damage Speed of	5 mph	380.7	146.4	494.9
Using a Rated No Damage Speed of	7.5 mph	514.8	119	1113.6
Using a Rated No Damage Speed of	10 mph	611.5	94.4	1979.6
Maximum Crush = 15.1 inches				
Using a Rated No Damage Speed of	2.5 mph	182.8	135	123.7
Using a Rated No Damage Speed of	5 mph	332.8	111.9	494.9
Using a Rated No Damage Speed of	7.5 mph	450.1	90.9	1113.6
Using a Rated No Damage Speed of	10 mph	534.5	72.2	1979.6

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

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

A = Maximum force per inch of damage without permenant damage, lb/in
B = Crush resistance per inch of damage width, lb/in^2
G = Energy dissipated without permenant damage, lb

****

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) = SQR(30 * CF * max crush in feet)*

Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	**15.1**	**28.2**	-2.2	-7.2%

4N6XPRT Systems Specific Crush Factor (CF specific to this test) = 24.5

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

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

4N6XPRT StifCalcs™
1998 FORD CONTOUR

NHTSA Crash Test - # 2903 - Front Impact

{ Pre/Post Crush Depths - Indentation Length - Closing Speed - Trapezoidal Average}

Vehicle Test Weight = 3247 pounds
Vehicle Test Speed = 30.4 mph
Test crush width = 56.7 inches

Pre/Post Collision Crush Depths (inches)

(Driver Side)	Left Bumper Corner	Centerline	Right Bumper Corner	(Pass. Side)
	11.7	15.1	10.8	

Calculated Stiffness Coefficients

		A	B	G
Minimum Crush = 10.8 inches				
Using a Rated No Damage Speed of	2.5 mph	296.4	306.1	143.5
Using a Rated No Damage Speed of	5 mph	539.6	253.7	574
Using a Rated No Damage Speed of	7.5 mph	729.8	206.2	1291.4
Using a Rated No Damage Speed of	10 mph	866.7	163.6	2295.8
Average Crush = 13.2 inches				
Using a Rated No Damage Speed of	2.5 mph	242.5	204.9	143.5
Using a Rated No Damage Speed of	5 mph	441.5	169.8	574
Using a Rated No Damage Speed of	7.5 mph	597.1	138	1291.4
Using a Rated No Damage Speed of	10 mph	709.1	109.5	2295.8
Maximum Crush = 15.1 inches				
Using a Rated No Damage Speed of	2.5 mph	212	156.6	143.5
Using a Rated No Damage Speed of	5 mph	386	129.8	574
Using a Rated No Damage Speed of	7.5 mph	521.9	105.5	1291.4
Using a Rated No Damage Speed of	10 mph	619.9	83.7	2295.8

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

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

A = Maximum force per inch of damage without permenant damage, lb/in
B = Crush resistance per inch of damage width, lb/in^2
G = Energy dissipated without permenant damage, lb

****

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) = SQR(30 * CF * max crush in feet)*

Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	**15.1**	**28.2**	-2.2	-7.2%

4N6XPRT Systems Specific Crush Factor (CF specific to this test) = 24.5

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

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

4N6XPRT StifCalcs™

Available Test Results

Frontal Impact Test Summary

Report Filter Settings

Year Range : 1998 - 2000

Make : FORD

Model : CONTOUR

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	Closing Speed (mph)	Vehicle Width Stiffness Values A	B	G	Crush Factor (Average Crush)
Test Type : **Front**								
2708	1998 FORD CONTOUR FOUR DOOR SEDAN	5.0	14	35	413.5	177.7	481	35.1
2903	1998 FORD CONTOUR FOUR DOOR SEDAN	5.0	16.4	30.4	306.4	94.9	494.9	22.5
2906	1998 FORD CONTOUR FOUR DOOR SEDAN	5.0	13.3	37	477.4	230.4	494.6	41.3
2912	1998 FORD CONTOUR FOUR DOOR SEDAN	5.0	14.9	37.8	418.6	184.4	475.1	38.4
2921	1998 FORD CONTOUR FOUR DOOR SEDAN	5.0	17.9	30.4	265.4	75.2	468.7	20.6
		Front Averages			376.3	152.5	464.1	31.6
		Front Minimums			265.4	75.2	468.3	20.6
		Front Maximums			477.4	230.4	494.6	41.3
		Front Standard Deviations			87.4	65.2	65.3	9.4

4N6XPRT StifCalcs™

Available Test Results

Frontal Impact Test Summary

Report Filter Settings

Year Range : 1998 - 2000

Make : FORD

Model : CONTOUR

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	Closing Speed (mph)	Vehicle Width Stiffness Values A	B	G	Crush Factor (Max Crush)
Test Type : **Front**								
2708	1998 FORD CONTOUR FOUR DOOR SEDAN	5.0	15.2	35	379.7	149.9	481	32.2
2903	1998 FORD CONTOUR FOUR DOOR SEDAN	5.0	18.3	30.4	274.7	76.2	494.9	20.2
2906	1998 FORD CONTOUR FOUR DOOR SEDAN	5.0	152	37	41.6	1.8	494.6	3.6
2912	1998 FORD CONTOUR FOUR DOOR SEDAN	5.0	22	37.8	283.3	84.5	475.1	26
2921	1998 FORD CONTOUR FOUR DOOR SEDAN	5.0	21.3	30.4	223.2	53.1	468.7	17.3
		Front Averages			240.5	73.1	395.6	19.9
		Front Minimums			41.6	1.8	480.7	3.6
		Front Maximums			379.7	149.9	480.9	32.2
		Front Standard Deviations			124.7	53.7	64.9	10.7

EXPERT VIN DeCoder
Version 2.9

The VIN to be decoded is : JB7 FP447 2 CY 700449

The vehicle should be a 1982 Dodge Truck
The Model: Ram 50 Royal Pick-Up 4x2
Wheelbase: 109(in.)
The Body, & GVWR: Conventional Cab, 4001-5000 lbs.
The assembly plant: Nagoya #1, JAPAN

The OEM engine was: In-Line 4 cylinder with Overhead Valves
Engine Displacement/Type = 2.6 L/ 156 cu.in. L4, OHV
Brake Horsepower (SAE) = 105/88 @ 5000 rpm (US/CA)
Torque (SAE) = 139/103 lb-ft at 2500 rpm (US/CA)
Engine manufacturer = Chrysler

The fuel distribution system:
2 Bbl Carburetor
Fuel pump/line pressure = 6.5-8 psi
The ignition system = Electronic

This is a Rear Wheel Drive vehicle.

The first three characters {JB7} indicates the vehicle was a Dodge Truck made in Japan

The fourth character {F} indicates the GVWR is 4001-5000 lbs.

The fifth, sixth and seventh characters {P44} indicates a Ram 50 Royal Pick-Up 4x2
The sixth character {4} indicates the series is High Series
The seventh character {4} indicates the body is a Conventional Cab

The eighth character {7} indicates the OEM engine was a 2.6 L/ 156 cu.in. L4, OHV

The 9th Character { the Check Digit } is 2
The calculated Check Digit value is 2

The tenth character {C} indicates the Model Year was 1982

The eleventh character {Y} indicates it was made at the assembly plant in Nagoya #1, JAPAN

The twelveth through the seventeenth characters {700449} is the Serial Number unique to this vehicle.

EXPERT AUTOSTATS
Ver. 5.0

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

04-22-2010

1982 DODGE RAM 50 SWB 2DR 4X2 PICKUP

CURB WEIGHT:	**2415 lbs.**	**1095 kg.**
Curb Weight Distribution -	**Front: 57 %**	**Rear: 43 %**
Gross Vehicle Weight Rating:	**4325 lbs.**	**1962 kg.**
Number of Tires on Vehicle:	**4**	
Drive Wheels:	**REAR**	

HORIZONTAL DIMENSIONS

	Inches	Feet	Meters
Total Length	184	15.33	4.67
Wheelbase:	109	9.08	2.77
Front Bumper to Front Axle	30	2.50	0.76
Front Bumper to Front of Front Well	13	1.08	0.33
Front Bumper to Front of Hood	3	0.25	0.08
Front Bumper to Base of Windshield	47	3.92	1.19
Front Bumper to Top of Windshield	66	5.50	1.68
Rear Bumper to Rear Axle	45	3.75	1.14
Rear Bumper to Rear of Rear Well	36	3.00	0.91
Rear Bumper to Rear of Trunk	2	0.17	0.05
Rear Bumper to Base of Rear Window	80	6.67	2.03

WIDTH DIMENSIONS

Maximum Width	65	5.42	1.65
Front Track	55	4.58	1.40
Rear Track	55	4.58	1.40

VERTICAL DIMENSIONS

	Inches	Feet	Meters
Height	60	5.00	1.52
Ground to:			
Front Bumper (Top)	20	1.67	0.51
Headlight - center	28	2.33	0.71
Hood - top front	33	2.75	0.84
Base of windshield	39	3.25	0.99
Rear Bumper - top	20	1.67	0.51
Trunk - top rear	42	3.50	1.07
Base of rear window	44	3.67	1.12

Reg. To: 4N6XPRT Systems **S/N:10R-930512AQ03201**

1982 DODGE RAM 50 SWB 2DR 4X2 PICKUP

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 - seatback to floor (max)	42	3.50	1.07
Rear Seat Shoulder Width	___	__.__	_.__
Rear Seat to Headliner	___	__.__	_.__
Rear Leg - seatback to floor (min)	___	__.__	_.__

Seatbelts: 3pt LAP & SHOULDER - front, None or Unknown - rear
Airbags: NO AIRBAGS

STEERING DATA

Turning Circle (Diameter)	456	38.00	11.58
Steering Ratio:	__.__:1		
Wheel Radius:	12	1.00	0.30
Tire Size (OEM):	195-75R14		

ACCELERATION & BRAKING INFORMATION

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

Braking, 60 mph -> 0 (Hard pedal, no skid, dry pavement):
d = 140 ft t = 3.2 sec. a =-27.6 ft/sec/sec G-force = -0.86

ACCELERATION:

0->30 mph	t = __._ sec.	a = __._ ft/sec/sec	G-force = _.__
0->60 mph	t = 11.5 sec.	a = 7.7 ft/sec/sec	G-force = 0.24
45->65 mph	t = __._ sec.	a = __._ ft/sec/sec	G-force = _.__

Transmission Type: AUTOMATIC

NOTES:

Federal Bumper Standard Requirements = NO REQUIREMENT

N.S.D.C. = 1981 - 1986

Reg. To: 4N6XPRT Systems S/N:10R-930512AQ03201

1982 DODGE RAM 50 SWB 2DR 4X2 PICKUP

OTHER INFORMATION

TIP-OVER STABILITY RATIO = 1.19 REASONABLY STABLE
NHTSA Star Rating (calculated) ***

CENTER OF GRAVITY (No Load):

Inches behind front axle	= 46.87
Inches in front of rear axle	= 62.13
Inches from side of vehicle	= 32.50
Inches from ground	= 23.07
Inches from front corner	= 83.46
Inches from rear corner	= 111.95
Inches from front bumper	= 76.87
Inches from rear bumper	= 107.13

MOMENTS OF INERTIA APPROXIMATIONS (No Load):

YAW MOMENT OF INERTIA	= 1144.45	lb-ft-sec^2
PITCH MOMENT OF INERTIA	= 1047.80	lb-ft-sec^2
ROLL MOMENT OF INERTIA	= 296.30	lb-ft-sec^2

FRONT PROFILE INFORMATION

ANGLE FRONT BUMPER TO HOOD FRONT	= 77.0	deg
ANGLE FRONT OF HOOD TO WINDSHIELD BASE	= 7.8	deg
ANGLE FRONT OF HOOD TO WINDSHIELD TOP	= 21.6	deg
ANGLE OF WINDSHIELD	= 45.0	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 or indentation may be evaluated using the following formula, the appropriate Crush Factor (CF), and Maximum Indentation Depth (MID), in feet:

V(mph) = Sqr root of (30 * CF * MID)

KE Equivalent Speed (Front/Rear/Side) = 21 CF

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

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

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 RAM 50 Pickup.

To create a SIMILAR class of vehicle, we first looked at the test wheelbase of the frontal impact tests for the RAM 50, which were reported as 109 inches..

We then looked at the NHTSA database for PICKUPS that have SIDE IMPACT TESTS and had a Wheelbase of 107-111 inches (+/- 2 inches of the frontal test vehicles).

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

Available Tests in the NHTSA database for a 1980 - 1986 DODGE D-50

Print Modify Year Range

Frontal Test(s)

Test Number	Year	Make	Model	Impact Speed	Max Crush	Crush Factor	VDI	PDOF	Test Config	VIN
579	1983	MITSUBISHI	PICKUP	35.2	22.9	21.6	12FDAW8	0	VEHICLE INTO BARRIER	
656	1983	MITSUBISHI	PICKUP	29.5	15	23.2	12FDEW2	0	VEHICLE INTO BARRIER	JA7FP245

Print Modify Year Range

Rear Test(s)

Test Number	Year	Make	Model	Impact Speed	Max Crush	Crush Factor	VDI	PDOF	Test Config	VIN
537	1982	DODGE	PICKUP	29.6	12.3	28.5	06BDEW1	180	IMPACTOR INTO VEHICLE	
639	1983	MITSUBISHI	PICKUP	29.5	12.2	28.5	06BDEW2	180	IMPACTOR INTO VEHICLE	JA7FP2454DY
717	1984	DODGE	PICKUP	29.4	8.8	39.2	06BDEW2	180	IMPACTOR INTO VEHICLE	

Modify Year Range

Side Test(s)

NO SIDE TESTS 1980-1986

Modify Year Range

Other Test(s)

NO OTHER TESTS 1980-1986

4N6XPRT StifCalcs™

Sister/Clone database reader

You entered: **1982 DODGE D-50**

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

Year Range	Make	Model	Body Styles	Wheelbase
1980 - 1986	DODGE	D-50	P/U	109.4"
REMARKS : D=4x2,W=4x4				
1983 - 1986	MITSUBISHI	PICKUP	P/U	109.4"
REMARKS :				
1980 - 1982	PLYMOUTH	ARROW	P/U	109.4"
REMARKS :				
1980 - 1986	DODGE	W-50	P/U	109.4"
REMARKS : D=4x2,W=4x4				

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.

Registered Owner : 4N6XPRT SYSTEMS Serial Number # 030201SC01301

4N6XPRT StifCalcs™

Available Test Results

Side Impact Test Summary

Report Filter Settings

Year Range : 1965 - 2010

Bodystyle : PICKUP TRUCK

WB Range : 107 - 111

Impact Locations : SIDE

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	KE Speed (mph)	Vehicle Indent Stiffness Values A	B	G	Crush Factor (Average Crush)
Test Type : **Side**								
1268	1984 FORD RANGER PICKUP TRUCK	2.0	12.6	24.8	68.7	62.1	38	19.5
1271	1988 CHEVROLET S-10 PICKUP TRUCK	2.0	11.3	24.9	128.5	130	63.5	21.9
3288	2000 CHEVROLET S-10 PICKUP TRUCK	2.0	7.8	26.4	120.4	189.3	38.3	35.9
5309	2005 TOYOTA TACOMA PICKUP TRUCK	2.0	3.9	25.6	356.9	1081.6	58.9	67.4
6507	2009 TOYOTA TACOMA PICKUP TRUCK	2.0	7.9	25.6	202.3	300.9	68	33.1
		Side Averages			175.4	352.8	43.6	35.6
		Side Minimums			68.7	62.1	38	19.5
		Side Maximums			356.9	1081.6	58.9	67.4
		Side Standard Deviations			112.1	416.7	416.9	19.1

4N6XPRT StifCalcs™

Available Test Results

Side Impact Test Summary

Report Filter Settings

Year Range : 1965 - 2010

Bodystyle : PICKUP TRUCK

WB Range : 107 - 111

Impact Locations : SIDE

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	KE Speed (mph)	Vehicle Indent Stiffness Values A	B	G	Crush Factor (Max Crush)
Test Type : **Side**								
1268	1984 FORD RANGER PICKUP TRUCK	2.0	22	24.8	39.3	20.3	38	11.1
1271	1988 CHEVROLET S-10 PICKUP TRUCK	2.0	15.5	24.9	93.9	69.5	63.5	16
3288	2000 CHEVROLET S-10 PICKUP TRUCK	2.0	16.1	26.4	57.8	43.6	38.3	17.2
5309	2005 TOYOTA TACOMA PICKUP TRUCK	2.0	7.7	25.6	181.3	279.1	58.9	34.2
6507	2009 TOYOTA TACOMA PICKUP TRUCK	2.0	10.4	25.6	155.1	176.9	68	25.4
		Side Averages			105.5	117.9	47.2	20.8
		Side Minimums			39.3	20.3	38	11.1
		Side Maximums			181.3	279.1	58.9	34.2
		Side Standard Deviations			61.2	108.2	108.7	9.1

EXPERT VIN DeCoder
Version 2.9

The VIN Number is 5N1 ED28Y 3 YC 557331

The vehicle should be a 2000 Nissan MPV
The model: Xterra MPV 4x4
The assembly plant: Smyrna, TN
The 5 passenger Xterra had : Manual Belts

The OEM engine was: V-6 Cylinder with Single Overhead Cam
Engine Displacement/Type = 3.3 L/ 199 cu.in., V6, SOHC
Brake Horsepower (SAE) = 170 @ 4800 rpm
Torque (SAE) = 200 lb-ft at 2800 rpm
Engine manufacturer = Nissan

The fuel distribution system:
Multiport Fuel Injection (MFI)
Fuel pump/line pressure = 34 psi
The ignition system was = electronic

This is a Four Wheel Drive vehicle.

The first three characters {5, N, 1} indicates the vehicle was a Nissan MPV made in U.S.A.

The fourth character {E} indicates the OEM engine : 3.3 L/ 199 cu.in., V6, SOHC

The fifth character {D} indicates a Xterra

The sixth character {2} indicates Model Change #2

The seventh character {8} indicates a MPV

The eighth character {Y} indicates Manual Belts

The 9th Character { the Check Digit } is 3
The calculated Check Digit value is 3

The tenth character {Y} indicates the Model Year was 2000

The eleventh character {C} indicates it was made at the Smyrna, TN assembly plant.

The twelveth through the seventeenth characters {557331} is the Serial Number unique to this vehicle.

EXPERT AUTOSTATS
Ver. 5.0

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

04-22-2010

2000 NISSAN XTERRA XE 4DR 4X4 UTILITY

CURB WEIGHT:	**3864 lbs.**	**1753 kg.**
Curb Weight Distribution -	**Front: 56 %**	**Rear: 44 %**
Gross Vehicle Weight Rating:	**5200 lbs.**	**2359 kg.**
Number of Tires on Vehicle:	**4**	
Drive Wheels:	**4 Wheel Drive**	

HORIZONTAL DIMENSIONS

	Inches	Feet	Meters
Total Length	178	14.83	4.52
Wheelbase:	104	8.67	2.64
Front Bumper to Front Axle	34	2.83	0.86
Front Bumper to Front of Front Well	17	1.42	0.43
Front Bumper to Front of Hood	8	0.67	0.20
Front Bumper to Base of Windshield	49	4.08	1.24
Front Bumper to Top of Windshield	71	5.92	1.80
Rear Bumper to Rear Axle	40	3.33	1.02
Rear Bumper to Rear of Rear Well	23	1.92	0.58
Rear Bumper to Rear of Trunk	4	0.33	0.10
Rear Bumper to Base of Rear Window	6	0.50	0.15

WIDTH DIMENSIONS

Maximum Width	70	5.83	1.78
Front Track	59	4.92	1.50
Rear Track	58	4.83	1.47

VERTICAL DIMENSIONS

	Inches	Feet	Meters
Height	69	5.75	1.75
Ground to:			
Front Bumper (Top)	29	2.42	0.74
Headlight - center	37	3.08	0.94
Hood - top front	41	3.42	1.04
Base of windshield	47	3.92	1.19
Rear Bumper - top	30	2.50	0.76
Trunk - top rear	35	2.92	0.89
Base of rear window	47	3.92	1.19

Reg. To: 4N6XPRT Systems **S/N:10R-930512AQ03201**

2000 NISSAN XTERRA XE 4DR 4X4 UTILITY

INTERIOR DIMENSIONS

	Inches	Feet	Meters
Front Seat Shoulder Width	55	4.58	1.40
Front Seat to Headliner	39	3.25	0.99
Front Leg - seatback to floor (max)	41	3.42	1.04
Rear Seat Shoulder Width	54	4.50	1.37
Rear Seat to Headliner	38	3.17	0.97
Rear Leg - seatback to floor (min)	33	2.75	0.84

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

STEERING DATA

Turning Circle (Diameter)	420	35.00	10.67
Steering Ratio:	__.__:1		
Wheel Radius:	13	1.08	0.33
Tire Size (OEM):	205/70R15		

ACCELERATION & BRAKING INFORMATION

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

Braking, 60 mph -> 0 (Hard pedal, no skid, dry pavement):
d = 128 ft t = 2.9 sec. a =-30.2 ft/sec/sec G-force = -0.94

ACCELERATION:

0->30 mph	t = 3.2 sec.	a = 13.7 ft/sec/sec	G-force = 0.43
0->60 mph	t = 10.0 sec.	a = 8.8 ft/sec/sec	G-force = 0.27
45->65 mph	t = 7.0 sec.	a = 4.2 ft/sec/sec	G-force = 0.13

Transmission Type: 4spd AUTOMATIC

NOTES:

Federal Bumper Standard Requirements = NO REQUIREMENT

N.S.D.C. = 2000 - 2001

Reg. To: 4N6XPRT Systems S/N:10R-930512AQ03201

2000 NISSAN XTERRA XE 4DR 4X4 UTILITY

OTHER INFORMATION

TIP-OVER STABILITY RATIO = 1.06 REASONABLY STABLE
NHTSA Star Rating (calculated) **

CENTER OF GRAVITY (No Load):

Inches behind front axle	=	45.76
Inches in front of rear axle	=	58.24
Inches from side of vehicle	=	35.00
Inches from ground	=	27.53
Inches from front corner	=	87.10
Inches from rear corner	=	104.29
Inches from front bumper	=	79.76
Inches from rear bumper	=	98.24

MOMENTS OF INERTIA APPROXIMATIONS (No Load):

YAW MOMENT OF INERTIA	=	2636.92	lb-ft-sec^2
PITCH MOMENT OF INERTIA	=	2670.68	lb-ft-sec^2
ROLL MOMENT OF INERTIA	=	615.08	lb-ft-sec^2

FRONT PROFILE INFORMATION

ANGLE FRONT BUMPER TO HOOD FRONT	=	56.3	deg
ANGLE FRONT OF HOOD TO WINDSHIELD BASE	=	8.3	deg
ANGLE FRONT OF HOOD TO WINDSHIELD TOP	=	22.4	deg
ANGLE OF WINDSHIELD	=	42.3	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 or indentation may be evaluated using the following formula, the appropriate Crush Factor (CF), and Maximum Indentation Depth (MID), in feet:

V(mph) = Sqr root of (30 * CF * MID)

KE Equivalent Speed (Front/Rear/Side) = 21 CF

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

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

EXPERT AUTOSTATS
Ver. 5.0

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

04-22-2010

2000 NISSAN XTERRA SE 4DR 4X4 UTILITY

CURB WEIGHT:	4030 lbs.	1828 kg.
Curb Weight Distribution -	Front: 56 %	Rear: 44 %
Gross Vehicle Weight Rating:	5200 lbs.	2359 kg.
Number of Tires on Vehicle:	4	
Drive Wheels:	4 Wheel Drive	

HORIZONTAL DIMENSIONS

	Inches	Feet	Meters
Total Length	178	14.83	4.52
Wheelbase:	104	8.67	2.64
Front Bumper to Front Axle	34	2.83	0.86
Front Bumper to Front of Front Well	17	1.42	0.43
Front Bumper to Front of Hood	8	0.67	0.20
Front Bumper to Base of Windshield	49	4.08	1.24
Front Bumper to Top of Windshield	71	5.92	1.80
Rear Bumper to Rear Axle	40	3.33	1.02
Rear Bumper to Rear of Rear Well	23	1.92	0.58
Rear Bumper to Rear of Trunk	4	0.33	0.10
Rear Bumper to Base of Rear Window	6	0.50	0.15

WIDTH DIMENSIONS

Maximum Width	70	5.83	1.78
Front Track	59	4.92	1.50
Rear Track	58	4.83	1.47

VERTICAL DIMENSIONS

	Inches	Feet	Meters
Height	74	6.17	1.88
Ground to:			
Front Bumper (Top)	29	2.42	0.74
Headlight - center	37	3.08	0.94
Hood - top front	41	3.42	1.04
Base of windshield	47	3.92	1.19
Rear Bumper - top	30	2.50	0.76
Trunk - top rear	35	2.92	0.89
Base of rear window	47	3.92	1.19

Reg. To: 4N6XPRT Systems S/N:10R-930512AQ03201

2000 NISSAN XTERRA SE 4DR 4X4 UTILITY

INTERIOR DIMENSIONS

	Inches	Feet	Meters
Front Seat Shoulder Width	55	4.58	1.40
Front Seat to Headliner	39	3.25	0.99
Front Leg - seatback to floor (max)	41	3.42	1.04
Rear Seat Shoulder Width	54	4.50	1.37
Rear Seat to Headliner	38	3.17	0.97
Rear Leg - seatback to floor (min)	33	2.75	0.84

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

STEERING DATA

Turning Circle (Diameter)	420	35.00	10.67
Steering Ratio:	__.__:1		
Wheel Radius:	13	1.08	0.33
Tire Size (OEM):	205/70R15		

ACCELERATION & BRAKING INFORMATION

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

Braking, 60 mph -> 0 (Hard pedal, no skid, dry pavement):
d = 128 ft t = 2.9 sec. a =-30.2 ft/sec/sec G-force = -0.94

ACCELERATION:

0->30 mph	t = 3.2 sec.	a = 13.7 ft/sec/sec	G-force = 0.43
0->60 mph	t = 10.0 sec.	a = 8.8 ft/sec/sec	G-force = 0.27
45->65 mph	t = 7.0 sec.	a = 4.2 ft/sec/sec	G-force = 0.13

Transmission Type: 4spd AUTOMATIC

NOTES:

Federal Bumper Standard Requirements = NO REQUIREMENT

N.S.D.C. = 2000 - 2001

Reg. To: 4N6XPRT Systems S/N:10R-930512AQ03201

2000 NISSAN XTERRA SE 4DR 4X4 UTILITY

OTHER INFORMATION

TIP-OVER STABILITY RATIO = 0.99 UNSTABLE
NHTSA Star Rating (calculated) *

CENTER OF GRAVITY (No Load):

Inches behind front axle	=	45.76
Inches in front of rear axle	=	58.24
Inches from side of vehicle	=	35.00
Inches from ground	=	29.53
Inches from front corner	=	87.10
Inches from rear corner	=	104.29
Inches from front bumper	=	79.76
Inches from rear bumper	=	98.24

MOMENTS OF INERTIA APPROXIMATIONS (No Load):

YAW MOMENT OF INERTIA	=	2807.90	lb-ft-sec^2
PITCH MOMENT OF INERTIA	=	2856.60	lb-ft-sec^2
ROLL MOMENT OF INERTIA	=	651.60	lb-ft-sec^2

FRONT PROFILE INFORMATION

ANGLE FRONT BUMPER TO HOOD FRONT	=	56.3	deg
ANGLE FRONT OF HOOD TO WINDSHIELD BASE	=	8.3	deg
ANGLE FRONT OF HOOD TO WINDSHIELD TOP	=	26.2	deg
ANGLE OF WINDSHIELD	=	48.7	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 or indentation may be evaluated using the following formula, the appropriate Crush Factor (CF), and Maximum Indentation Depth (MID), in feet:

V(mph) = Sqr root of (30 * CF * MID)

KE Equivalent Speed (Front/Rear/Side) = 21 CF

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

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 than 2-3 inches of crush damage should be looked at carefully, since some vehicles have very weak trunk & fender strength. Therefore, on some cars, esp. GM, your 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

3220

2000 NISSAN XTERRA

Provided By

4N6XPRT StifCalcs™

Registered to:

4N6XPRT SYSTEMS

8387 UNIVERSITY AVENUE

LA MESA CA 91941-3842

S/N: 030201SC01301

4N6XPRT Systems® | 8387 University Avenue | La Mesa, CA 91941 | USA

(800) 266-9778 | (619) 464-3478 | FAX: (619) 464-2206 | Email: 4n6@4n6xprt.com

4N6XPRT StifCalcs™

Sister/Clone database reader

You entered: **2000 NISSAN XTERRA**

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

Year Range	Make	Model	Body Styles	Wheelbase
2000 - 2004	NISSAN	XTERRA	SUV	"

REMARKS : BASED ON PICKUP - FRONTIER (FRONTAL)

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.

Registered Owner : 4N6XPRT SYSTEMS Serial Number # 030201SC01301

4N6XPRT StifCalcs™

Test Information

Test # 3220 NHTSA Version # V4 Test Date 1999-11 Contract # DTNH22-97-D-02007

Contract/Study Title: 2000 NHTSA 35 MPH NEW CAR ASSESSMENT PROGRAM (NCAP)

Test Objective(s): OBTAIN ATD AND VEHICLE DATA

Test Type: NEW CAR ASSESSMENT TEST Configuration: VEHICLE INTO BARRIER

Closing Speed 56.3 Km/Hr 35 MPH

Impact Angle 0 Offset Distance 0 mm 0 inches Side Impact Point 9999 mm 0 inches

Test Performer: KARCO ENGINEERING Test Reference #: MY5203

Test Track Surface: CONCRETE Condition: DRY Ambient Temperature 13 C 55 F

Data Recorder Type: OTHER Data Link: OTHER Total Number of Curves 133

Test Commentary: NO COMMENTS

Fixed Barrier Information

Barrier Type: RIGID Barrier Shape: LOAD CELL BAR Pole Barrier Diameter 9999 mm inches

Barrier Commentary: NO DATA COLLECTED ON A1,B1,C1,D1,D2,D3,D4,D5,D6,D7,D8,D9

4N6XPRT StifCalcs™

2000 NISSAN XTERRA LEFT FRONT SEAT OCCUPANT

Test # 3220 Vehicle # 1 Location LEFT FRONT SEAT Seat Position CENTER POSITION

Type HYBRID III DUMMY Size Percentile 50 PERCENTILE Calibration Method HYBRID III

Sex M Age 99 Occupant Height 999 mm 0 inches Occupant Weight 999 kg 0 pounds

Occupant Manufactuer VECTOR, S/N:035

Occupant Modification UNMODIFIED

Occupant Description NO COMMENTS

Occupant Commentary

Head

Head To

Windshield Header	450	mm	17.7	inches
Windshield	640	mm	25.2	inches
Seatback	9999	mm	0	inches
Neck to Seatback	9999	mm	0	inches

Head To

Side Header	250	mm	9.8	inches
Side Window	323	mm	12.7	inches

First Contact Region (Head) AIR BAG Second Contact Region (Head) NONE

Head Injury Criteria (HIC) 500 HIC Lower Time interval (ms) 84.9 HIC Upper Time interval (ms) -1270

Chest

Chest To

Dash	610	mm	24	inches
Steering Wheel	320	mm	12.6	inches
Seatback	9999	mm	0	inches

Arm to Door	75	mm	3	inches
Hip to Door	137	mm	5.4	inches

First Contact Region (Chest/Abdomen) AIR BAG Second Contact Region (Chest/Abdomen) NONE

Lap Belt Peak Load Newtons 0 pounds Force Shoulder Belt Peak Load Newtons 0 pounds Force

Chest Severity Index

Thorax Peak Acceleration (g's) 9999 Thoraic Trauma Index Pelvic Peak Lateral Acceleration (g's)

Legs

Knees to Dash 200 mm 7.9 inches Knees to Seatback 9999 mm 0 inches

First Contact Region (Legs) DASHPANEL Second Contact Region (Legs) STEERING COLUMN

Left Femur Peak Load 5185 Newtons 1165. pounds Force Right Femur Peak Load 0 Newtons 0 pounds Force

2000 NISSAN XTERRA LEFT FRONT SEAT OCCUPANT

Restraint # 1 3 POINT BELT Mounted Deployment? NOT APPLICABLE

Restraint Commentary NO COMMENTS

Registered Owner : 4N6XPRT SYSTEMS Serial Number # 030201SC01301

4N6XPRT StifCalcs™

Restraints

2000 NISSAN XTERRA LEFT FRONT SEAT OCCUPANT

Restraint #	2	AIR BAG	Mounted		Deployment?	DEPLOYED

Restraint Commentary: NO COMMENTS

4N6XPRT StifCalcs™

2000 NISSAN XTERRA RIGHT FRONT SEAT OCCUPANT

Test # 3220 Vehicle # 1 Location RIGHT FRONT SEAT Seat Position CENTER POSITION

Type HYBRID III DUMMY Size Percentile 50 PERCENTILE Calibration Method HYBRID III

Sex M Age 99 Occupant Height 999 mm 0 inches Occupant Weight 999 kg 0 pounds

Occupant Manufactuer VECTOR, S/N:034

Occupant Modification UNMODIFIED

Occupant Description N0 COMMENTS

Occupant Commentary

Head

Head To

Windshield Header	415	mm	17.7	inches
Windshield	615	mm	25.2	inches
Seatback	9999	mm	0	inches
Neck to Seatback	9999	mm	0	inches

Head To

Side Header	255	mm	9.8	inches
Side Window	335	mm	12.7	inches

First Contact Region (Head) AIR BAG Second Contact Region (Head) NONE

Head Injury Criteria (HIC) 658 HIC Lower Time interval (ms) 86.5 HIC Upper Time interval (ms) -2505

Chest

Chest To

Dash	535	mm	24	inches
Steering Wheel	9999	mm	12.6	inches
Seatback	9999	mm	0	inches

Arm to Door	15	mm	3	inches
Hip to Door	128	mm	5.4	inches

First Contact Region (Chest/Abdomen) AIR BAG Second Contact Region (Chest/Abdomen) NONE

Lap Belt Peak Load Newtons 0 pounds Force Shoulder Belt Peak Load Newtons 0 pounds Force

Chest Severity Index

Thorax Peak Acceleration (g's) 9999 Thoraic Trauma Index Pelvic Peak Lateral Acceleration (g's)

Legs

Knees to Dash 185 mm 7.9 inches Knees to Seatback 9999 mm 0 inches

First Contact Region (Legs) DASHPANEL Second Contact Region (Legs) NONE

Left Femur Peak Load 4938 Newtons 1165. pounds Force Right Femur Peak Load 0 Newtons 0 pounds Force

2000 NISSAN XTERRA RIGHT FRONT SEAT OCCUPANT

Restraint # 1 3 POINT BELT Mounted Deployment? NOT APPLICABLE

Restraint Commentary NO COMMENTS

Registered Owner : 4N6XPRT SYSTEMS Serial Number # 030201SC01301

4N6XPRT StifCalcs™

Restraints

2000 NISSAN XTERRA RIGHT FRONT SEAT OCCUPANT

Restraint #	2	AIR BAG	Mounted		Deployment?	DEPLOYED

Restraint Commentary: NO COMMENTS

4N6XPRT StifCalcs™

Vehicle 1 - 2000 NISSAN XTERRA

Test # 3220 | NHTSA Test Vehicle Number MY5203 | VIN 5N1DD28T4YC533930

Year 2000 | Make NISSAN | Model XTERRA | Body UTILITY VEHICLE

Vehicle Modification Indicator: PRODUCTION VEHICLE

Vehicle Modification(s) Description: UNMODIFIED

Post-test Steering Column Shear Capsule Seperation: UNKNOWN

Steering Column Collapse Mechanism: UNKNOWN

Vehicle Commentary: MODEL: XTERRA (NISSAN SUV)

Vehicle Length	4523	mm	178.1	inches	**Vehicle Test Weight**	1908	KG	**4206** **pounds**
Vehicle Wheelbase	2659	mm	104.7	inches	**Vehicle Width**		mm	**0** **inches**
CG behind front axle	1374	mm	54.1	inches	**Total Length of Indentation**	1600	mm	**63** **inches**
Center of Damage to CG Axis	0	mm	0	inches	**Maximum Static Crush Depth**	539	mm	**21.2** **inches**

Vehicle Damage Index: 12FDEW | Principal Direction of Force: 0 | **Pre-Impact Speed**: 56.3 kph | **35** **mph**

Damage Profile Distance Measurements

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

DPD 1	430	mm	16.9	inches
DPD 2	501	mm	19.7	inches
DPD 3	530	mm	20.9	inches
DPD 4	539	mm	21.2	inches
DPD 5	516	mm	20.3	inches
DPD 6	475	mm	18.7	inches

Crush from Pre & Post Test Damage Measurements

	Pre-Test		Post-Test		Crush-Depth	
Left Bumper Corner	167.3	**inches**	150.4	**inches**	**16.9**	**inches**
	4250	mm	3820	mm	430	mm
Centerline	178.1	**inches**	156.9	**inches**	**21.1**	**inches**
	4523	mm	3986	mm	537	mm
Right Bumper Corner	167.6	**inches**	148.9	**inches**	**18.7**	**inches**
	4258	mm	3783	mm	475	mm

Bumper Engagement (Inline Impact Only)	Still Engagement (Side Impact Only)	A-pillar Engagement (Side Impact Only)
DIRECT ENGAGEMENT	NOT APPLICABLE	NOT APPLICABLE

Moving Test Cart Angle	Moving Test Cart / Vehicle Crabbed Angle	Moving Test Cart Vehicle Orientation on Cart
999	0	999

Magnitude of the Tilt-Angle Measured between surface if a Rollover Test Cart and the Ground

Magnitude of the Crabbed Angle Measured Clockwise from Logitudial Vector to Velocity Vector of Vehicle

Magnitude of the Angle Measured between the vehicle Orientation and the Direction of the Test Cart Motion

Vehicle 1 - 2000 NISSAN XTERRA

Test #	3220	NHTSA Test Vehicle Number	MY5203	VIN	5N1DD28T4YC533930		
Year	2000	Make	NISSAN	Model	XTERRA	Body	UTILITY VEHICLE

Vehicle Modification Indicator	Vehicle Modification(s) Description
PRODUCTION VEHICLE	UNMODIFIED

Post-test Steering Column Shear Capsule Seperation	Steering Column Collapse Mechanism
UNKNOWN	UNKNOWN

Vehicle Commentary: MODEL: XTERRA (NISSAN SUV)

Vehicle Length	4523	mm	178.1	inches	**Vehicle Test Weight**	1908	KG	**4206** **pounds**
Vehicle Wheelbase	2659	mm	104.7	inches	**Vehicle Width**		mm	**0** **inches**
CG behind front axle	1374	mm	54.1	inches				
Center of Damage to CG Axis	0	mm	0	inches	**Total Length of Indentation**	1600	mm	**63** **inches**
					Maximum Static Crush Depth	539	mm	**21.2** **inches**

Vehicle Damage Index	Principal Direction of Force				
12FDEW6	0	**Pre-Impact Speed**	56.3	kph	**35** **mph**

Pre & Post Test Measurements

(Measurments are taken in a logitudinal direction. Except for Engine Block, all measurments are taken 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							
				4523	178.1	3986	156.9				
				Engine Block							
				530	20.9	530	20.9				
4250	167.3	3820	150.4	Front Bumper Corner				4258	167.6	3783	148.9
				Front of Engine							
				3966	156.1	3768	148.3				
3368	132.6	3429	135	Firewall				3368	132.6	3431	135.1
				3375	148.3	3419	134.6				
3195	125.8	3226	127	Upper Leading Edge of Door				3210	126.4	3234	127.3
3100	122	3100	122	Lower Leading Edge of Door				3110	122.4	3105	122.2
3368	132.6	3160	124.4	Bottom of 'A' Post				3175	125	3201	126
2035	79.9	2062	81.2	Upper Trailing Edge of Door				2035	80.1	2066	81.3
2010	79.1	2300	90.6	Lower Trailing Edge of Door				2011	79.2	2012	79.2
				Steering Column							
				2665	104.9	2645	104.1				
				Center of Steering Column to 'A' Post (Horizontal)							
				350	13.8	319	12.6				
				Center of Steering Column to 'A' Post (Vertical)							
				440	17.3	443	17.4				

4N6XPRT StifCalcs™
2000 NISSAN XTERRA

NHTSA Crash Test - # 3220 - Front Impact

{ Pre/Post Crush Depths - Indentation Length - Closing Speed - Trapezoidal Average}

Vehicle Test Weight = 4206 pounds
Vehicle Test Speed = 35 mph
Test crush width = 63 inches

Pre/Post Collision Crush Depths (inches)

(Driver Side)	Left Bumper Corner	Centerline	Right Bumper Corner	(Pass. Side)
	16.9	21.1	18.7	

Calculated Stiffness Coefficients

		A	B	G
Minimum Crush = 16.9 inches				
Using a Rated No Damage Speed of	2.5 mph	257.2	197.8	167.3
Using a Rated No Damage Speed of	5 mph	474.9	168.5	669.1
Using a Rated No Damage Speed of	7.5 mph	652.9	141.6	1505.5
Using a Rated No Damage Speed of	10 mph	791.3	117	2676.5
Average Crush = 19.5 inches				
Using a Rated No Damage Speed of	2.5 mph	222.9	148.5	167.3
Using a Rated No Damage Speed of	5 mph	411.5	126.6	669.1
Using a Rated No Damage Speed of	7.5 mph	565.8	106.3	1505.5
Using a Rated No Damage Speed of	10 mph	685.8	87.9	2676.5
Maximum Crush = 21.1 inches				
Using a Rated No Damage Speed of	2.5 mph	206	126.9	167.3
Using a Rated No Damage Speed of	5 mph	380.3	108.1	669.1
Using a Rated No Damage Speed of	7.5 mph	522.9	90.8	1505.5
Using a Rated No Damage Speed of	10 mph	633.8	75.1	2676.5

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

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

A = Maximum force per inch of damage without permenant damage, lb/in
B = Crush resistance per inch of damage width, lb/in^2
G = Energy dissipated without permenant damage, lb

****

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) = SQR(30 * CF * max crush in feet)*

Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	**21.1**	**33.3**	-1.7	-4.8%

4N6XPRT Systems Specific Crush Factor (CF specific to this test) = 23.2

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

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

4N6XPRT StifCalcs™

Available Test Results

Frontal Impact Test Summary

Report Filter Settings

Year Range : 2000 - 2004

Make : NISSAN

Model : XTERRA

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	Closing Speed (mph)	Vehicle Width Stiffness Values A	B	G	Crush Factor (Average Crush)
Test Type : **Front**								
3220	2000 NISSAN XTERRA UTILITY VEHICLE	5.0	20	35	401.9	120.7	669.1	24.5
4158	2000 NISSAN XTERRA UTILITY VEHICLE	5.0	17.4	30.1	390.6	112.8	676.6	20.8
4249	2002 NISSAN XTERRA UTILITY VEHICLE	5.0	17.5	34.6	451.8	153.1	666.7	27.4
		Front Averages			414.8	128.9	667.5	24.2
		Front Minimums			390.6	112.8	676.3	20.8
		Front Maximums			451.8	153.1	666.6	27.4
		Front Standard Deviations			32.6	21.4	21.4	3.3

4N6XPRT StifCalcs™

Available Test Results

Frontal Impact Test Summary

Report Filter Settings

Year Range : 2000 - 2004

Make : NISSAN

Model : XTERRA

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	Closing Speed (mph)	Vehicle Width Stiffness Values A	B	G	Crush Factor (Max Crush)
Test Type : **Front**								
3220	2000 NISSAN XTERRA UTILITY VEHICLE	5.0	21.2	35	378.4	107	669.1	23.1
4158	2000 NISSAN XTERRA UTILITY VEHICLE	5.0	18.4	30.1	369.2	100.7	676.6	19.7
4249	2002 NISSAN XTERRA UTILITY VEHICLE	5.0	18.5	34.6	425.7	135.9	666.7	25.8
		Front Averages			391.1	114.5	667.7	22.9
		Front Minimums			369.2	100.7	676.8	19.7
		Front Maximums			425.7	135.9	666.7	25.8
		Front Standard Deviations			30.3	18.8	18.8	3.1

EXPERT VIN DeCoder
Version 2.9

The VIN to be decoded is : WDB EA30D 7 KB 057812

The vehicle should be a 1989 Mercedes Benz Passenger Car
The model: 300E.
The Body : 4 Door Sedan
This is a Rear Wheel Drive vehicle.
The assembly plant: Sindelfingen, Germany

The 5 passenger Passenger Car had
3-point Seat Belts + Frt Emrgncy Rtrctrs & Airbags (ETR/SRS)

The OEM engine was:
In-Line 6 cylinder with Single Overhead Cam
Engine Displacement/Type = 3.0 L/ 181 cu.in. L6, SOHC
Brake Horsepower (SAE) = 177 @ 5700 rpm
Torque (SAE) = 188 lb-ft @ 4400 rpm
Engine manufacturer = Daimler-Benz

The fuel distribution system:
Electronic Continuous Injection (ECIS)
Fuel pump/line pressure = 43 psi
The ignition system = Electronic

The first three characters {WDB} indicates the vehicle
was a Mercedes Benz made in West Germany by
Daimler-Benz AG, Stuttgart, Germany

The fourth through seventh characters {EA30} indicates
the Model: 300E 4 Door Sedan

The fifth character {A} indicates the OEM engine type: Gasoline
The engine size/cylinders is specific for a particular model.

The eighth character {D} indicates the Restraint System:
3-point Seat Belts + Frt Emrgncy Rtrctrs & Airbags (ETR/SRS)

The 9th Character { the Check Digit } is 7
The calculated Check Digit value is 7

The tenth character {K} indicates the Model Year was 1989

The eleventh character {B} indicates it was made
at the assembly plant in Sindelfingen, Germany

The twelveth through the seventeenth characters {057812}
is the Serial Number unique to this vehicle.

EXPERT AUTOSTATS
Ver. 5.0

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

04-22-2010

1989 MERCEDES BENZ 300 E 4DR SEDAN

CURB WEIGHT:	**3365 lbs.**	**1526 kg.**
Curb Weight Distribution -	**Front: 55 %**	**Rear: 45 %**
Gross Vehicle Weight Rating:	**_____ lbs.**	**_____ kg.**
Number of Tires on Vehicle:	**4**	
Drive Wheels:	**REAR**	

HORIZONTAL DIMENSIONS

	Inches	Feet	Meters
Total Length	**187**	**15.58**	**4.75**
Wheelbase:	**110**	**9.17**	**2.79**
Front Bumper to Front Axle	**33**	**2.75**	**0.84**
Front Bumper to Front of Front Well	**15**	**1.25**	**0.38**
Front Bumper to Front of Hood	**2**	**0.17**	**0.05**
Front Bumper to Base of Windshield	**50**	**4.17**	**1.27**
Front Bumper to Top of Windshield	**74**	**6.17**	**1.88**
Rear Bumper to Rear Axle	**44**	**3.67**	**1.12**
Rear Bumper to Rear of Rear Well	**29**	**2.42**	**0.74**
Rear Bumper to Rear of Trunk	**2**	**0.17**	**0.05**
Rear Bumper to Base of Rear Window	**25**	**2.08**	**0.63**

WIDTH DIMENSIONS

Maximum Width	**69**	**5.75**	**1.75**
Front Track	**59**	**4.92**	**1.50**
Rear Track	**59**	**4.92**	**1.50**

VERTICAL DIMENSIONS

	Inches	Feet	Meters
Height	**56**	**4.67**	**1.42**
Ground to:			
Front Bumper (Top)	**21**	**1.75**	**0.53**
Headlight - center	**27**	**2.25**	**0.69**
Hood - top front	**32**	**2.67**	**0.81**
Base of windshield	**38**	**3.17**	**0.97**
Rear Bumper - top	**22**	**1.83**	**0.56**
Trunk - top rear	**40**	**3.33**	**1.02**
Base of rear window	**41**	**3.42**	**1.04**

Reg. To: 4N6XPRT Systems **S/N:10R-930512AQ03201**

1989 MERCEDES BENZ 300 E 4DR SEDAN

INTERIOR DIMENSIONS

	Inches	Feet	Meters
Front Seat Shoulder Width	56	4.67	1.42
Front Seat to Headliner	37	3.08	0.94
Front Leg - seatback to floor (max)	42	3.50	1.07
Rear Seat Shoulder Width	56	4.67	1.42
Rear Seat to Headliner	37	3.08	0.94
Rear Leg - seatback to floor (min)	34	2.83	0.86

Seatbelts: 3pt LAP & SHOULDER - front, None or Unknown - rear
Airbags: DRIVER SIDE AIRBAGS

STEERING DATA

Turning Circle (Diameter)	444	37.00	11.28
Steering Ratio:	14.81:1		
Wheel Radius:	12	1.00	0.30
Tire Size (OEM):	195-65R15		

ACCELERATION & BRAKING INFORMATION

Brake Type: ALL DISC
ABS System: ABS

Braking, 60 mph -> 0 (Hard pedal, no skid, dry pavement):
d = 150 ft t = 3.4 sec. a =-25.8 ft/sec/sec G-force = -0.80

ACCELERATION:

0->30 mph	t = 3.4 sec.	a = 12.9 ft/sec/sec	G-force = 0.40
0->60 mph	t = 8.6 sec.	a = 10.2 ft/sec/sec	G-force = 0.32
45->65 mph	t = 4.2 sec.	a = 7.0 ft/sec/sec	G-force = 0.22

Transmission Type: AUTOMATIC

NOTES:

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

N.S.D.C. = 1986 - 1993

Reg. To: 4N6XPRT Systems S/N:10R-930512AQ03201

1989 MERCEDES BENZ 300 E 4DR SEDAN

OTHER INFORMATION

TIP-OVER STABILITY RATIO = 1.34 STABLE
NHTSA Star Rating (calculated) ****

CENTER OF GRAVITY (No Load):

Inches behind front axle	= 49.50
Inches in front of rear axle	= 60.50
Inches from side of vehicle	= 34.50
Inches from ground	= 21.98
Inches from front corner	= 89.42
Inches from rear corner	= 110.05
Inches from front bumper	= 82.50
Inches from rear bumper	= 104.50

MOMENTS OF INERTIA APPROXIMATIONS (No Load):

YAW MOMENT OF INERTIA	= 2259.95	lb-ft-sec^2
PITCH MOMENT OF INERTIA	= 2182.35	lb-ft-sec^2
ROLL MOMENT OF INERTIA	= 455.70	lb-ft-sec^2

FRONT PROFILE INFORMATION

ANGLE FRONT BUMPER TO HOOD FRONT	= 79.7	deg
ANGLE FRONT OF HOOD TO WINDSHIELD BASE	= 7.1	deg
ANGLE FRONT OF HOOD TO WINDSHIELD TOP	= 17.0	deg
ANGLE OF WINDSHIELD	= 33.7	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 or indentation may be evaluated using the following formula, the appropriate Crush Factor (CF), and Maximum Indentation Depth (MID), in feet:

V(mph) = Sqr root of (30 * CF * MID)

KE Equivalent Speed (Front/Rear/Side) = 21 CF

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

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

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 Mercedes Benz 300 E Four door Sedan..

To create a SIMILAR class of vehicle, we first looked at the test wheelbase and weight of the frontal impact tests for the 300 E, which were reported as 109 inches, and 4000 pounds.

We then looked at the NHTSA database for FOUR DOOR SEDANS that have SIDE IMPACT TESTS and had a Wheelbase of 109-111 inches (+/- 1 inches of the frontal test vehicles), and 3900-4100 pounds (+/- 100 pounds of the frontal test vehicles).

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

Available Tests in the NHTSA database for a 1986 - 1993 MERCEDES 300E/D

☐ Modify Year Range

Frontal Test(s)

NO FRONTAL TESTS 1986-1993

☐ Modify Year Range

Rear Test(s)

NO REAR TESTS 1986-1993

☐ Modify Year Range

Side Test(s)

NO SIDE TESTS 1986-1993

☐ Modify Year Range

Other Test(s)

NO OTHER TESTS 1986-1993

4N6XPRT StifCalcs™

Sister/Clone database reader

You entered: **1989 MERCEDES 300E/D**

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

Year Range	Make	Model	Body Styles	Wheelbase
1986 - 1993	MERCEDES	300TE/TD	SW	110.2,0,0,0,
REMARKS :				
1988 - 1993	MERCEDES	300CE	2D	106.9,0,0,0,
REMARKS : NEW COUPE ON 300 CHASSIS				
1986 - 1989	MERCEDES	260E	4D	110.2,0,0,0,
REMARKS :				
1994 - 1995	MERCEDES	E320	4D,SW	110.2,0,0,0,
REMARKS :				
1986 - 1993	MERCEDES	300E/D	4D	110.2,0,0,0,
REMARKS :				
1992 - 1993	MERCEDES	400E/D	4D,SW	110.2,0,0,0,
REMARKS :				
1992 - 1993	MERCEDES	500E/D	4D,SW	110.2,0,0,0,
REMARKS :				
1994 - 1995	MERCEDES	E420	4D,SW	110.2,0,0,0,
REMARKS :				
1994 - 1995	MERCEDES	E500	4D,SW	110.2,0,0,0,
REMARKS :				
1994 - 1995	MERCEDES	E320	2D,CONV	106.9,0,0,0,
REMARKS :				

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.

Registered Owner : 4N6XPRT SYSTEMS Serial Number # 030201SC01301

4N6XPRT StifCalcs™

Available Test Results

Side Impact Test Summary

Report Filter Settings

Year Range : 1965 - 2010

Bodystyle : FOUR DOOR SEDAN

WB Range : 109 - 111

Weight Range : 3900 - 4100

Impact Locations : SIDE

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	KE Speed (mph)	Vehicle Indent Stiffness Values A	B	G	Crush Factor (Average Crush)
Test Type : **Side**								
2679	1998 BUICK LESABRE FOUR DOOR SEDAN	2.0	9.2	24.9	341.9	426.2	137.1	27
2694	1998 OLDSMOBILE INTRIGUE FOUR DOOR SEDAN	2.0	5.1	21.5	136.9	260.1	36	36.1
2753	1998 OLDSMOBILE INTRIGUE FOUR DOOR SEDAN	2.0	7.2	24.9	119.1	190.7	37.2	34.7
2716	1998 PONTIAC BONNEVILLE FOUR DOOR SEDAN	2.0	8.8	24.9	203.7	265.1	78.2	28.2
3210	2000 CHEVROLET IMPALA FOUR DOOR SEDAN	2.0	11.7	25.1	135.6	133.8	68.7	21.6
3575	2001 CHEVROLET IMPALA FOUR DOOR SEDAN	2.0	8.2	25.2	129.5	182.7	45.9	30.9
3475	2001 OLDSMOBILE INTRIGUE FOUR DOOR SEDAN	2.0	9.2	36.1	172.7	318.6	46.8	56.4
3803	2002 CHEVROLET IMPALA FOUR DOOR SEDAN	2.0	7.2	25	125.3	200.8	39.1	34.8
4380	2002 CHEVROLET IMPALA FOUR DOOR SEDAN	2.0	6.8	25.2	133.6	227.8	39.2	37.3
4551	2002 CHEVROLET IMPALA FOUR DOOR SEDAN	2.0	5.6	21.5	136.2	236.8	39.2	33
4607	2004 PONTIAC GRAND PRIX FOUR DOOR SEDAN	2.0	13.7	25.3	141.4	120.4	83	18.7
5267	2005 BUICK LACROSSE FOUR DOOR SEDAN	2.0	7.3	25	190.7	300.1	60.6	34.3
5379	2005 TOYOTA AVALON FOUR DOOR SEDAN	2.0	6	25.3	200.5	391	51.4	42.9
5548	2006 CHEVROLET IMPALA FOUR DOOR SEDAN	2.0	2.8	25	451	1843.6	55.2	88.8
5871	2007 BUICK LACROSSE FOUR DOOR SEDAN	2.0	7	25.1	197.7	326.4	59.9	36
5965	2007 BUICK LACROSSE FOUR DOOR SEDAN	2.0	6.3	25.2	211.8	387.3	57.9	40
6463	2009 NISSAN MAXIMA FOUR DOOR SEDAN	2.0	7.4	25.2	210.7	328.7	67.5	34.2
		Side Averages			190.5	361.2	50.2	37.3
		Side Minimums			119.1	120.4	58.9	18.7
		Side Maximums			451	1843.6	55.2	88.8
		Side Standard Deviations			86.5	392.1	392.1	15.7

4N6XPRT StifCalcs™

Available Test Results

Side Impact Test Summary

Report Filter Settings

Year Range : 1965 - 2010

Bodystyle : FOUR DOOR SEDAN

Weight Range : 3900 - 4100

WB Range : 109 - 111

Impact Locations : SIDE

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	KE Speed (mph)	Vehicle Indent Stiffness Values A	B	G	Crush Factor (Max Crush)
Test Type : **Side**								
2679	1998 BUICK LESABRE FOUR DOOR SEDAN	2.0	19.7	24.9	159.3	92.5	137.1	12.6
2694	1998 OLDSMOBILE INTRIGUE FOUR DOOR SEDAN	2.0	14.9	21.5	47.3	31	36	12.5
2753	1998 OLDSMOBILE INTRIGUE FOUR DOOR SEDAN	2.0	17.3	24.9	49.3	32.7	37.2	14.4
2716	1998 PONTIAC BONNEVILLE FOUR DOOR SEDAN	2.0	40.7	24.9	44.1	12.4	78.2	6.1
3210	2000 CHEVROLET IMPALA FOUR DOOR SEDAN	2.0	17.1	25.1	92.8	62.7	68.7	14.8
3575	2001 CHEVROLET IMPALA FOUR DOOR SEDAN	2.0	16.2	25.2	65.8	47.1	45.9	15.7
3475	2001 OLDSMOBILE INTRIGUE FOUR DOOR SEDAN	2.0	17.6	36.1	90.9	88.2	46.8	29.7
3803	2002 CHEVROLET IMPALA FOUR DOOR SEDAN	2.0	16.3	25	55.2	39	39.1	15.3
4380	2002 CHEVROLET IMPALA FOUR DOOR SEDAN	2.0	17	25.2	53.5	36.6	39.2	15
4551	2002 CHEVROLET IMPALA FOUR DOOR SEDAN	2.0	13.1	21.5	58.4	43.6	39.2	14.2
4607	2004 PONTIAC GRAND PRIX FOUR DOOR SEDAN	2.0	16.5	25.3	117.8	83.6	83	15.6
5267	2005 BUICK LACROSSE FOUR DOOR SEDAN	2.0	11.9	25	117.8	114.5	60.6	21.2
5379	2005 TOYOTA AVALON FOUR DOOR SEDAN	2.0	12.7	25.3	94.6	87	51.4	20.2
5548	2006 CHEVROLET IMPALA FOUR DOOR SEDAN	2.0	8.8	25	144.3	188.9	55.2	28.4
5871	2007 BUICK LACROSSE FOUR DOOR SEDAN	2.0	11.8	25.1	117.6	115.4	59.9	21.4
5965	2007 BUICK LACROSSE FOUR DOOR SEDAN	2.0	11.5	25.2	116.8	117.8	57.9	22.1
6463	2009 NISSAN MAXIMA FOUR DOOR SEDAN	2.0	10.8	25.2	145.3	156.3	67.5	23.6
		Side Averages			92.4	79.4	53.8	17.8
		Side Minimums			44.1	12.4	78.4	6.1
		Side Maximums			159.3	188.9	67.2	29.7
		Side Standard Deviations			38.3	48.3	48.4	6

EXPERT VIN DeCoder
Version 2.9

The VIN Number is 2C3 HD56F 9 TH 227496

The vehicle should be a 1996 Chrysler Passenger Car
The Model: Concorde 4-Door Sedan
The passenger vehicle had :
Manual Seatbelts, Driver Airbag & Passenger Hybrid Airbag
The assembly plant: Bramalea, ONT

The OEM engine was: V-6 cylinder with 24V Overhead Cam
Engine Displacement/Type = 3.5L / 215 cu.in. V6, 24V OHC
Brake Horsepower (SAE) = 214 @ 5800 rpm
Torque (SAE) = 221 lb-ft @ 2800 rpm
Engine manufacturer = Chrysler

The fuel distribution system:
Throttle Body Sequential Multi-port Fuel Injection (SMPI)
Fuel pump/line pressure = 45 psi
The ignition system was = Electronic

This is a Front Wheel Drive vehicle

The first three characters {2C3} indicates the vehicle was a Chrysler Passenger Car made in Canada

The fourth character {H} indicates the OEM vehicle had Manual Seatbelts, Driver Airbag & Passenger Hybrid Airbag

The fifth and sixth characters {D5} indicate the Model is Concorde

The seventh character {6} indicates the body style is a 4-Door Sedan

The eighth character {F} indicates the OEM engine was a 3.5L / 215 cu.in. V6, 24V OHC

The 9th Character { the Check Digit } is 9
The calculated Check Digit value is 9

The tenth character {T} indicates the Model Year was 1996

The eleventh character {H} indicates it was made at the assembly plant in Bramalea, ONT

The twelveth through the seventeenth characters {227496} is the Serial Number unique to this vehicle.

EXPERT AUTOSTATS
Ver. 5.0

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

04-26-2010

1996 CHRYSLER CONCORDE 4DR SEDAN

CURB WEIGHT:	**3376 lbs.**	**1531 kg.**
Curb Weight Distribution -	**Front: 65 %**	**Rear: 35 %**
Gross Vehicle Weight Rating:	**4618 lbs.**	**2095 kg.**
Number of Tires on Vehicle:	**4**	
Drive Wheels:	**FRONT**	

HORIZONTAL DIMENSIONS

	Inches	Feet	Meters
Total Length	**202**	**16.83**	**5.13**
Wheelbase:	**113**	**9.42**	**2.87**
Front Bumper to Front Axle	**45**	**3.75**	**1.14**
Front Bumper to Front of Front Well	**29**	**2.42**	**0.74**
Front Bumper to Front of Hood	**4**	**0.33**	**0.10**
Front Bumper to Base of Windshield	**48**	**4.00**	**1.22**
Front Bumper to Top of Windshield	**81**	**6.75**	**2.06**
Rear Bumper to Rear Axle	**44**	**3.67**	**1.12**
Rear Bumper to Rear of Rear Well	**27**	**2.25**	**0.69**
Rear Bumper to Rear of Trunk	**5**	**0.42**	**0.13**
Rear Bumper to Base of Rear Window	**26**	**2.17**	**0.66**

WIDTH DIMENSIONS

Maximum Width	**74**	**6.17**	**1.88**
Front Track	**62**	**5.17**	**1.57**
Rear Track	**62**	**5.17**	**1.57**

VERTICAL DIMENSIONS

	Inches	Feet	Meters
Height	**56**	**4.67**	**1.42**
Ground to:			
Front Bumper (Top)	**18**	**1.50**	**0.46**
Headlight - center	**22**	**1.83**	**0.56**
Hood - top front	**25**	**2.08**	**0.63**
Base of windshield	**36**	**3.00**	**0.91**
Rear Bumper - top	**26**	**2.17**	**0.66**
Trunk - top rear	**39**	**3.25**	**0.99**
Base of rear window	**40**	**3.33**	**1.02**

Reg. To: 4N6XPRT Systems **S/N:10R-930512AQ03201**

1996 CHRYSLER CONCORDE 4DR SEDAN

INTERIOR DIMENSIONS

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

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

STEERING DATA

Turning Circle (Diameter)	480	40.00	12.19
Steering Ratio:	__.__:1		
Wheel Radius:	14	1.17	0.36
Tire Size (OEM):	205-70R15		

ACCELERATION & BRAKING INFORMATION

Brake Type: ALL DISC
ABS System: ABS UNKNOWN

Braking, 60 mph -> 0 (Hard pedal, no skid, dry pavement):
d = ___ ft t = __._ sec. a =-__._ ft/sec/sec G-force = -_.__

ACCELERATION:

0->30 mph	t = __._ sec.	a = __._ ft/sec/sec	G-force = _.__
0->60 mph	t = 8.4 sec.	a = 10.5 ft/sec/sec	G-force = 0.33
45->65 mph	t = __._ sec.	a = __._ ft/sec/sec	G-force = _.__

Transmission Type: AUTOMATIC

NOTES:

Federal Bumper Standard Requirements = 2.5 MPH
This vehicles Rated Bumper Strength: 2.5 mph

N.S.D.C. = 1995 - 1997

Reg. To: 4N6XPRT Systems S/N:10R-930512AQ03201

1996 CHRYSLER CONCORDE 4DR SEDAN

OTHER INFORMATION

TIP-OVER STABILITY RATIO = 1.41 STABLE
NHTSA Star Rating (calculated) ****

CENTER OF GRAVITY (No Load):

Inches behind front axle	= 39.55
Inches in front of rear axle	= 73.45
Inches from side of vehicle	= 37.00
Inches from ground	= 21.98
Inches from front corner	= 92.29
Inches from rear corner	= 123.14
Inches from front bumper	= 84.55
Inches from rear bumper	= 117.45

MOMENTS OF INERTIA APPROXIMATIONS (No Load):

YAW MOMENT OF INERTIA	= 2271.28	lb-ft-sec^2
PITCH MOMENT OF INERTIA	= 2193.24	lb-ft-sec^2
ROLL MOMENT OF INERTIA	= 457.68	lb-ft-sec^2

FRONT PROFILE INFORMATION

ANGLE FRONT BUMPER TO HOOD FRONT	= 60.3	deg
ANGLE FRONT OF HOOD TO WINDSHIELD BASE	= 14.0	deg
ANGLE FRONT OF HOOD TO WINDSHIELD TOP	= 20.6	deg
ANGLE OF WINDSHIELD	= 28.6	deg
ANGLE OF STEERING TIRES AT MAX TURN	= 27.0	deg

FIRST APPROXIMATION CRUSH FACTORS:

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

V(mph) = Sqr root of (30 * CF * MID)

KE Equivalent Speed (Front/Rear/Side) = 21 CF

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

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 than 2-3 inches of crush damage should be looked at carefully, since some vehicles have very weak trunk & fender strength. Therefore, on some cars, esp. GM, your 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

5252

1996 CHRYSLER CONCORDE

Provided By

4N6XPRT StifCalcs™

Registered to:

4N6XPRT SYSTEMS

8387 UNIVERSITY AVENUE

LA MESA CA 91941-3842

S/N: 030201SC01301

4N6XPRT Systems® | 8387 University Avenue | La Mesa, CA 91941 | USA

(800) 266-9778 | (619) 464-3478 | FAX: (619) 464-2206 | Email: 4n6@4n6xprt.com

4N6XPRT StifCalcs™

Sister/Clone database reader

You entered: **1996 CHRYSLER CONCORDE**

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

Year Range	Make	Model	Body Styles	Wheelbase
1993 - 1997	EAGLE	VISION	4D	113"
REMARKS : NEW "LH" CAR				
1993 - 1997	CHRYSLER	CONCORDE	4D	113"
REMARKS : NEW "LH" CAR				
1993 - 1997	DODGE	INTREPID	4D	113"
REMARKS : NEW "LH" CAR				
1994 - 1996	CHRYSLER	NEW YORKER	4D	113"
REMARKS : STRETCHED LH				
1994 - 1997	CHRYSLER	LHS	4D	113"
REMARKS : STRETCHED LH				

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.

Registered Owner : 4N6XPRT SYSTEMS Serial Number # 030201SC01301

4N6XPRT StifCalcs™

Test Information

Test # 5252 NHTSA Version # V5 Test Date 2004-10 Contract # VRTC-DC08510

Contract/Study Title: CHRYSLER CONCORD INTO FLAT LOAD CELL BARRIER AT 35 MPH

Test Objective(s): EVAL BOTH PARTNER- & SELF-PROTECTION ASPECTS OF VEHICLE COMPATABILITY

Test Type: RESEARCH SAFETY VEHICLE TEST Configuration: VEHICLE INTO BARRIER

Closing Speed 56.2 Km/Hr 35 MPH

Impact Angle 0 Offset Distance 0 mm 0 inches Side Impact Point 0 mm 0 inches

Test Performer: TRC OF OHIO Test Reference # 041021-1

Test Track Surface: CONCRETE Condition: DRY Ambient Temperature 21 C 70 F

Data Recorder Type: DIGITAL DATA ACQUISITI Data Link: UMBILICAL CABLE Total Number of Curves 144

Test Commentary: USED PLASCORE FULL WID

Fixed Barrier Information

Barrier Type: DEFORMAB Barrier Shape: 8 X 16 + 6 LOAD Pole Barrier Diameter 0 mm inches

Barrier Commentary: 6 LOAD CELLS ADDED TO CENTER OF ROW 9 FOR TEST, PLASCORE FWDB

4N6XPRT StifCalcs™

Vehicle 1 - 1996 CHRYSLER CONCORDE

Test # 5252 | NHTSA Test Vehicle Number | VIN 1C3HD56F6TF136977

Year 1996 | Make CHRYSLER | Model CONCORDE | Body FOUR DOOR SEDAN

Vehicle Modification Indicatior: PRODUCTION VEHICLE

Vehicle Modification(s) Description:

Post-test Steering Column Shear Capsule Seperation: NOT APPLICABLE

Steering Column Collapse Mechanism: NOT APPLICABLE

Vehicle Commentary: DPD1,2,5,6=TOP OF BUMPER; DPD3,4=CENTER OF GRILL

Vehicle Length	5121	mm	201.6	inches	
Vehicle Wheelbase	2870	mm	113	inches	
CG behind front axle	1139	mm	44.8	inches	
Center of Damage to CG Axis	0	mm	0	inches	

Vehicle Test Weight	1788	KG	**3942**	**pounds**
Vehicle Width	1905	mm	**75**	**inches**
Total Length of Indentation	1524	mm	**60**	**inches**
Maximum Static Crush Depth	570	mm	**22.4**	**inches**

Vehicle Damage Index: 12FDEW | Principal Direction of Force: 0 | **Pre-Impact Speed**: 56.2 kph | **34.9** **mph**

Damage Profile Distance Measurements

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

DPD 1	414	mm	16.3	inches
DPD 2	473	mm	18.6	inches
DPD 3	546	mm	21.5	inches
DPD 4	570	mm	22.4	inches
DPD 5	503	mm	19.8	inches
DPD 6	453	mm	17.8	inches

Crush from Pre & Post Test Damage Measurements

	Pre-Test		Post-Test		Crush-Depth	
Left Bumper Corner	193.9	**inches**	180.2	**inches**	**13.7**	**inches**
	4926	mm	4578	mm	348	mm
Centerline	201.6	**inches**	181.1	**inches**	**20.5**	**inches**
	5121	mm	4600	mm	521	mm
Right Bumper Corner	193.9	**inches**	178.7	**inches**	**15.3**	**inches**
	4926	mm	4538	mm	388	mm

Bumper Engagement (Inline Impact Only): NOT APPLICABLE

Still Engagement (Side Impact Only): NOT APPLICABLE

A-pillar Engagement (Side Impact Only): NOT APPLICABLE

Moving Test Cart Angle: 0

Magnitude of the Tilt-Angle Measured between surface if a Rollover Test Cart and the Ground

Moving Test Cart / Vehicle Crabbed Angle: 0

Magnitude of the Crabbed Angle Measured Clockwise from Logitudial Vector to Velocity Vector of Vehicle

Moving Test Cart Vehicle Orientation on Cart: 0

Magnitude of the Angle Measured between the vehicle Orientation and the Direction of the Test Cart Motion

Vehicle 1 - 1996 CHRYSLER CONCORDE

Test #	5252	NHTSA Test Vehicle Number		VIN	1C3HD56F6TF136977		
Year	1996	Make	CHRYSLER	Model	CONCORDE	Body	FOUR DOOR SEDAN

Vehicle Modification Indicator: PRODUCTION VEHICLE

Vehicle Modification(s) Description:

Post-test Steering Column Shear Capsule Seperation: NOT APPLICABLE

Steering Column Collapse Mechanism: NOT APPLICABLE

Vehicle Commentary: DPD1,2,5,6=TOP OF BUMPER; DPD3,4=CENTER OF GRILL

Vehicle Length	5121	mm	201.6	inches	**Vehicle Test Weight**	1788	KG	**3942** **pounds**
Vehicle Wheelbase	2870	mm	113	inches	**Vehicle Width**	1905	mm	**75** **inches**
CG behind front axle	1139	mm	44.8	inches	**Total Length of Indentation**	1524	mm	**60** **inches**
Center of Damage to CG Axis	0	mm	0	inches	**Maximum Static Crush Depth**	570	mm	**22.4** **inches**

Vehicle Damage Index	12FDEW3	Principal Direction of Force	0	**Pre-Impact Speed**	56.2	kph	**34.9**	**mph**

Pre & Post Test Measurements

(Measurments are taken in a logitudinal direction. Except for Engine Block, all measurments are taken 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							
				5121	201.6	4600	181.1				
				Engine Block							
				550	21.7	550	21.7				
4926	193.9	4578	180.2	Front Bumper Corner				4926	193.9	4538	178.7
				Front of Engine							
				4486	176.6	4228	166.5				
4076	160.5	4041	159.1	Firewall				4076	160.5	4018	158.2
				4046	166.5	4032	158.7				
3507	138.1	3501	137.8	Upper Leading Edge of Door				3498	137.7	3487	137.3
3435	135.2	3456	136.1	Lower Leading Edge of Door				3228	127.1	3435	135.2
3441	135.5	3437	135.3	Bottom of 'A' Post				3436	135.3	3421	134.7
2426	95.9	2429	95.6	Upper Trailing Edge of Door				2426	95.5	2416	95.1
2426	95.5	2446	96.3	Lower Trailing Edge of Door				2416	95.1	2424	95.4
				Steering Column							
				3041	119.7	2971	117				
				Center of Steering Column to 'A' Post (Horizontal)							
				320	12.6	270	10.6				
				Center of Steering Column to 'A' Post (Vertical)							
				370	14.6	403	15.9				

4N6XPRT StifCalcs™

1996 CHRYSLER CONCORDE

NHTSA Crash Test - # 5252 - Front Impact

{ Pre/Post Crush Depths - Vehicle Width - Closing Speed - Trapezoidal Average}

Vehicle Test Weight = 3942 pounds
Vehicle Test Speed = 34.9 mph
Test crush width = 75 inches

Pre/Post Collision Crush Depths (inches)

(Driver Side)	Left Bumper Corner	Centerline	Right Bumper Corner	(Pass. Side)
	13.7	20.5	15.3	

Calculated Stiffness Coefficients

		A	B	G
Minimum Crush = 13.7 inches				
Using a Rated No Damage Speed of	2.5 mph	249.3	236	131.7
Using a Rated No Damage Speed of	5 mph	460.1	201	526.6
Using a Rated No Damage Speed of	7.5 mph	632.5	168.8	1184.9
Using a Rated No Damage Speed of	10 mph	766.4	139.4	2106.6
Average Crush = 17.5 inches				
Using a Rated No Damage Speed of	2.5 mph	195.1	144.6	131.7
Using a Rated No Damage Speed of	5 mph	360.2	123.2	526.6
Using a Rated No Damage Speed of	7.5 mph	495.1	103.4	1184.9
Using a Rated No Damage Speed of	10 mph	600	85.4	2106.6
Maximum Crush = 20.5 inches				
Using a Rated No Damage Speed of	2.5 mph	166.6	105.4	131.7
Using a Rated No Damage Speed of	5 mph	307.5	89.8	526.6
Using a Rated No Damage Speed of	7.5 mph	422.7	75.4	1184.9
Using a Rated No Damage Speed of	10 mph	512.2	62.3	2106.6

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

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

A = Maximum force per inch of damage without permenant damage, lb/in
B = Crush resistance per inch of damage width, lb/in^2
G = Energy dissipated without permenant damage, lb

****

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) = SQR(30 * CF * max crush in feet)*

Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	**20.5**	**32.8**	-2.1	-6.1%

4N6XPRT Systems Specific Crush Factor (CF specific to this test) = 23.8

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

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

4N6XPRT StifCalcs™
1996 CHRYSLER CONCORDE

NHTSA Crash Test - # 5252 - Front Impact

{ Pre/Post Crush Depths - Indentation Length - Closing Speed - Trapezoidal Average}

Vehicle Test Weight = 3942 pounds
Vehicle Test Speed = 34.9 mph
Test crush width = 60 inches

Pre/Post Collision Crush Depths (inches)

(Driver Side)	Left Bumper Corner	Centerline	Right Bumper Corner	(Pass. Side)
	13.7	20.5	15.3	

Calculated Stiffness Coefficients

		A	B	G
Minimum Crush = 13.7 inches				
Using a Rated No Damage Speed of	2.5 mph	311.6	295	164.6
Using a Rated No Damage Speed of	5 mph	575.1	251.2	658.3
Using a Rated No Damage Speed of	7.5 mph	790.6	211	1481.2
Using a Rated No Damage Speed of	10 mph	958	174.3	2633.2
Average Crush = 17.5 inches				
Using a Rated No Damage Speed of	2.5 mph	243.9	180.8	164.6
Using a Rated No Damage Speed of	5 mph	450.2	154	658.3
Using a Rated No Damage Speed of	7.5 mph	618.9	129.3	1481.2
Using a Rated No Damage Speed of	10 mph	750	106.8	2633.2
Maximum Crush = 20.5 inches				
Using a Rated No Damage Speed of	2.5 mph	208.2	131.7	164.6
Using a Rated No Damage Speed of	5 mph	384.3	112.2	658.3
Using a Rated No Damage Speed of	7.5 mph	528.3	94.2	1481.2
Using a Rated No Damage Speed of	10 mph	640.2	77.8	2633.2

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

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

A = Maximum force per inch of damage without permenant damage, lb/in
B = Crush resistance per inch of damage width, lb/in^2
G = Energy dissipated without permenant damage, lb

****

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) = SQR(30 * CF * max crush in feet)*

Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	**20.5**	**32.8**	-2.1	-6.1%

4N6XPRT Systems Specific Crush Factor (CF specific to this test) = 23.8

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

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

4N6XPRT StifCalcs™

Available Test Results

Frontal Impact Test Summary

Report Filter Settings

Year Range : 1993 - 1997

Make : CHRYSLER

Model : CONCORDE

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	Closing Speed (mph)	Vehicle Width Stiffness Values A	B	G	Crush Factor (Average Crush)
Test Type : **Front**								
1769	1993 EAGLE VISION FOUR DOOR SEDAN	5.0	13	29.4	368.9	138.5	491.3	26.6
1778	1993 DODGE INTREPID FOUR DOOR SEDAN	5.0	25.8	34.9	232.3	53.9	500.6	18.9
2001	1994 CHRYSLER NEW YORKER FOUR DOOR SEDAN	5.0	15.7	29.6	372.4	116.9	593.2	22.4
2045	1994 CHRYSLER NEW YORKER FOUR DOOR SEDAN	5.0	18.1	29.3	291.6	78.1	544.4	18.9
2196	1995 CHRYSLER NEW YORKER FOUR DOOR SEDAN	5.0	16.6	29.6	318.1	94.6	535	21.2
2449	1996 DODGE INTREPID FOUR DOOR SEDAN	5.0	13.7	28.9	451.7	157.9	645.9	24.4
4963	1996 CHRYSLER CONCORDE FOUR DOOR SEDAN	5.0	20.7	35	304.8	88.3	526.1	23.7
5251	1996 CHRYSLER CONCORDE FOUR DOOR SEDAN	5.0	18.9	35	335.3	106.4	528	25.9
5252	1996 CHRYSLER CONCORDE FOUR DOOR SEDAN	5.0	19.9	34.9	317	95.4	526.6	24.5
		Front Averages			332.5	103.3	534.8	22.9
		Front Minimums			232.3	53.9	500.6	18.9
		Front Maximums			451.7	157.9	646.1	26.6
		Front Standard Deviations			61.3	31.3	31.5	2.8

4N6XPRT StifCalcs™

Available Test Results

Frontal Impact Test Summary

Report Filter Settings

Year Range : 1993 - 1997

Make : CHRYSLER

Model : CONCORDE

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	Closing Speed (mph)	Vehicle Width Stiffness Values A	B	G	Crush Factor (Max Crush)
Test Type : **Front**								
1769	1993 EAGLE VISION FOUR DOOR SEDAN	5.0	20.7	29.4	231.6	54.6	491.3	16.7
1778	1993 DODGE INTREPID FOUR DOOR SEDAN	5.0	27.9	34.9	214.5	45.9	500.6	17.5
1928	1994 CHRYSLER NEW YORKER FOUR DOOR SEDAN	5.0	20.4	34.6	340.8	98.9	587.1	23.5
2001	1994 CHRYSLER NEW YORKER FOUR DOOR SEDAN	5.0	18	29.6	324.3	88.6	593.2	19.5
2045	1994 CHRYSLER NEW YORKER FOUR DOOR SEDAN	5.0	20.2	29.3	262	63	544.4	17
2196	1995 CHRYSLER NEW YORKER FOUR DOOR SEDAN	5.0	21.3	29.6	247.2	57.1	535	16.5
2449	1996 DODGE INTREPID FOUR DOOR SEDAN	5.0	14.9	28.9	414.4	132.9	645.9	22.4
4963	1996 CHRYSLER CONCORDE FOUR DOOR SEDAN	5.0	24.5	35	257.7	63.1	526.1	20
5251	1996 CHRYSLER CONCORDE FOUR DOOR SEDAN	5.0	21.2	35	298.6	84.4	528	23.1
5252	1996 CHRYSLER CONCORDE FOUR DOOR SEDAN	5.0	22.4	34.9	280.7	74.8	526.6	21.7
		Front Averages			287.2	76.3	540.2	19.8
		Front Minimums			214.5	45.9	501.2	16.5
		Front Maximums			414.4	132.9	646.1	23.5
		Front Standard Deviations			59.7	25.9	26.3	2.8

EXPERT VIN DeCoder
Version 2.9

The VIN Number is 2ME PM36X 1 RB 601386

The vehicle should be a 1994 Mercury (Ford) Passenger car
The model: Topaz GS 4 door Sedan
The assembly plant: Oakville, Ontario (Canada)
The passenger vehicle had :
Passive (Automatic) Front Belts

The OEM engine was:
High Swirl Comb. In-line 4 cylinder with Overhead Cam
Engine Displacement/Type = 2.3 L/ 140 cu.in. HSC L4, OHC
Brake Horsepower (SAE) = 98 @ 4400 rpm
Torque (SAE) = 124 lb-ft at 2200 rpm
Engine manufacturer = Ford

The fuel distribution system:
Electronic Fuel Injection (EFI)
Fuel pump/line pressure = 50-60 psi
The ignition system = electronic

This is a Front Wheel Drive vehicle

The first three characters {2, M, E} indicates that the vehicle was a Mercury (Ford) made in Canada

The fourth character {P} indicates the vehicle had Passive (Automatic) Front Belts

The fifth though seventh character {M36} indicates a Mercury Topaz GS 4 door Sedan

The eighth character {X} indicates the OEM engine : 2.3 L/ 140 cu.in. HSC L4, OHC

The 9th Character { the Check Digit } is 1
The calculated Check Digit value is 1

The tenth character {R} indicates the Model Year was 1994

The eleventh character {B} indicates it was made at the assembly plant in Oakville, Ontario (Canada)

The twelveth through the seventeenth characters { 601386 } is the Serial Number unique to this vehicle.

EXPERT AUTOSTATS
Ver. 5.0

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

04-26-2010

1994 MERCURY TOPAZ GS 4DR SEDAN

CURB WEIGHT:	**2500 lbs.**	**1134 kg.**
Curb Weight Distribution -	**Front: 62 %**	**Rear: 38 %**
Gross Vehicle Weight Rating:	**_____ lbs.**	**_____ kg.**
Number of Tires on Vehicle:	**4**	
Drive Wheels:	**FRONT**	

HORIZONTAL DIMENSIONS

	Inches	Feet	Meters
Total Length	**177**	**14.75**	**4.50**
Wheelbase:	**100**	**8.33**	**2.54**
Front Bumper to Front Axle	**35**	**2.92**	**0.89**
Front Bumper to Front of Front Well	**18**	**1.50**	**0.46**
Front Bumper to Front of Hood	**4**	**0.33**	**0.10**
Front Bumper to Base of Windshield	**51**	**4.25**	**1.30**
Front Bumper to Top of Windshield	**75**	**6.25**	**1.90**
Rear Bumper to Rear Axle	**42**	**3.50**	**1.07**
Rear Bumper to Rear of Rear Well	**27**	**2.25**	**0.69**
Rear Bumper to Rear of Trunk	**4**	**0.33**	**0.10**
Rear Bumper to Base of Rear Window	**28**	**2.33**	**0.71**

WIDTH DIMENSIONS

Maximum Width	**68**	**5.67**	**1.73**
Front Track	**55**	**4.58**	**1.40**
Rear Track	**58**	**4.83**	**1.47**

VERTICAL DIMENSIONS

	Inches	Feet	Meters
Height	**53**	**4.42**	**1.35**
Ground to:			
Front Bumper (Top)	**21**	**1.75**	**0.53**
Headlight - center	**27**	**2.25**	**0.69**
Hood - top front	**32**	**2.67**	**0.81**
Base of windshield	**37**	**3.08**	**0.94**
Rear Bumper - top	**24**	**2.00**	**0.61**
Trunk - top rear	**38**	**3.17**	**0.97**
Base of rear window	**41**	**3.42**	**1.04**

Reg. To: 4N6XPRT Systems **S/N:10R-930512AQ03201**

1994 MERCURY TOPAZ GS 4DR SEDAN

INTERIOR DIMENSIONS

	Inches	Feet	Meters
Front Seat Shoulder Width	54	4.50	1.37
Front Seat to Headliner	38	3.17	0.97
Front Leg - seatback to floor (max)	42	3.50	1.07
Rear Seat Shoulder Width	54	4.50	1.37
Rear Seat to Headliner	37	3.08	0.94
Rear Leg - seatback to floor (min)	36	3.00	0.91

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

STEERING DATA

Turning Circle (Diameter)	468	39.00	11.89
Steering Ratio:	18.29:1		
Wheel Radius:	12	1.00	0.30
Tire Size (OEM):	185-70R14		

ACCELERATION & BRAKING INFORMATION

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

Braking, 60 mph -> 0 (Hard pedal, no skid, dry pavement):
d = 159 ft t = 3.6 sec. a =-24.3 ft/sec/sec G-force = -0.75

ACCELERATION:

0->30 mph	t = 5.7 sec.	a = 7.7 ft/sec/sec	G-force = 0.24
0->60 mph	t = 8.7 sec.	a = 10.1 ft/sec/sec	G-force = 0.31
45->65 mph	t = 8.1 sec.	a = 3.6 ft/sec/sec	G-force = 0.11

Transmission Type: 5spd MANUAL

NOTES:

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

N.S.D.C. = 1992 - 1994

Reg. To: 4N6XPRT Systems S/N:10R-930512AQ03201

1994 MERCURY TOPAZ GS 4DR SEDAN

OTHER INFORMATION

TIP-OVER STABILITY RATIO = 1.35 STABLE
NHTSA Star Rating (calculated) ****

CENTER OF GRAVITY (No Load):

Inches behind front axle	= 38.00
Inches in front of rear axle	= 62.00
Inches from side of vehicle	= 34.00
Inches from ground	= 20.80
Inches from front corner	= 80.53
Inches from rear corner	= 109.42
Inches from front bumper	= 73.00
Inches from rear bumper	= 104.00

MOMENTS OF INERTIA APPROXIMATIONS (No Load):

YAW MOMENT OF INERTIA	= 1369.00	lb-ft-sec^2
PITCH MOMENT OF INERTIA	= 1326.00	lb-ft-sec^2
ROLL MOMENT OF INERTIA	= 300.00	lb-ft-sec^2

FRONT PROFILE INFORMATION

ANGLE FRONT BUMPER TO HOOD FRONT	= 70.0	deg
ANGLE FRONT OF HOOD TO WINDSHIELD BASE	= 6.1	deg
ANGLE FRONT OF HOOD TO WINDSHIELD TOP	= 15.0	deg
ANGLE OF WINDSHIELD	= 30.3	deg
ANGLE OF STEERING TIRES AT MAX TURN	= 24.5	deg

FIRST APPROXIMATION CRUSH FACTORS:

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

V(mph) = Sqr root of (30 * CF * MID)

KE Equivalent Speed (Front/Rear/Side) = 21 CF

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

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 than 2-3 inches of crush damage should be looked at carefully, since some vehicles have very weak trunk & fender strength. Therefore, on some cars, esp. GM, your 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

998

1987 MERCURY TOPAZ

Provided By

4N6XPRT StifCalcs™

Registered to:

4N6XPRT SYSTEMS

8387 UNIVERSITY AVENUE

LA MESA CA 91941-3842

S/N: 030201SC01301

4N6XPRT Systems® | 8387 University Avenue | La Mesa, CA 91941 | USA

(800) 266-9778 | (619) 464-3478 | FAX: (619) 464-2206 | Email: 4n6@4n6xprt.com

4N6XPRT StifCalcs™

Sister/Clone database reader

You entered: **1994 MERCURY TOPAZ**

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

Year Range	Make	Model	Body Styles	Wheelbase
1984 - 1994	MERCURY	TOPAZ	2D,4D	99.9"

REMARKS :

1984 - 1994	FORD	TEMPO	2D,4D	99.9"

REMARKS :

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.

Registered Owner : 4N6XPRT SYSTEMS Serial Number # 030201SC01301

4N6XPRT StifCalcs™

Test Information

Test # 998 NHTSA Version # 2 Test Date 1987-03 Contract # DTNH22-87-D-02012

Contract/Study Title: FY87 NEW CAR ASSESSMENT PROGRAM FRONTAL BARRIER IMPACT TEST

Test Objective(s): TO OBTAIN VEHICLE CRASHWORTHINESS AND OCCUPANT RESTRAINT PERFORMANC

Test Type: NEW CAR ASSESSMENT TEST Configuration: VEHICLE INTO BARRIER

Closing Speed 56.2 Km/Hr 35 MPH

Impact Angle 0 Offset Distance 0 mm 0 inches Side Impact Point mm 0 inches

Test Performer: CALSPAN Test Reference #: MH0201

Test Track Surface: CONCRETE Condition: DRY Ambient Temperature 4 C 39 F

Data Recorder Type: FM TAPE RECORDER Data Link: UMBILICAL CABLE Total Number of Curves 67

Test Commentary: NO COMMENTS

Fixed Barrier Information

Barrier Type: RIGID Barrier Shape: FLAT BARRIER Pole Barrier Diameter mm inches

Barrier Commentary: 10*12*5 FT. CONCRETE BARRIER WITH THE GFE LOAD CELL ASSEMBLY ATTACHED

4N6XPRT StifCalcs™

1987 MERCURY TOPAZ LEFT FRONT SEAT OCCUPANT

Test # 998 Vehicle # 1 Location LEFT FRONT SEAT Seat Position CENTER POSITION

Type PART 572 DUMMY Size Percentile 50 PERCENTILE Calibration Method PART 572

Sex M Age Occupant Height mm 0 inches Occupant Weight kg 0 pounds

Occupant Manufactuer ALDERSON S/N 320

Occupant Modification UNMODIFIED

Occupant Description NO COMMENTS

Occupant Commentary

Head

Head To

Windshield Header	257	mm	10.1	inches
Windshield	414	mm	16.3	inches
Seatback		mm	0	inches
Neck to Seatback		mm	0	inches

Head To

Side Header	117	mm	4.6	inches
Side Window	208	mm	8.2	inches

First Contact Region (Head) NONE Second Contact Region (Head) NONE

Head Injury Criteria (HIC) 743 HIC Lower Time interval (ms) 83.62 HIC Upper Time interval (ms) -2593

Chest

Chest To

Dash	513	mm	20.2	inches
Steering Wheel	287	mm	11.3	inches
Seatback		mm	0	inches

Arm to Door	86	mm	3.4	inches
Hip to Door	168	mm	6.6	inches

First Contact Region (Chest/Abdomen) NONE Second Contact Region (Chest/Abdomen) NONE

Lap Belt Peak Load Newtons 0 pounds Force Shoulder Belt Peak Load Newtons 0 pounds Force

Chest Severity Index

Thorax Peak Acceleration (g's) 628 Thoracic Trauma Index Pelvic Peak Lateral Acceleration (g's)

Legs

Knees to Dash 86 mm 3.4 inches Knees to Seatback mm 0 inches

First Contact Region (Legs) DASHPANEL Second Contact Region (Legs) NONE

Left Femur Peak Load 6548 Newtons 1472 pounds Force Right Femur Peak Load Newtons 0 pounds Force

1987 MERCURY TOPAZ LEFT FRONT SEAT OCCUPANT

Restraint # 1 3 POINT BELT Mounted Deployment? NOT APPLICABLE

Restraint Commentary NO COMMENTS

Registered Owner : 4N6XPRT SYSTEMS Serial Number # 030201SC01301

4N6XPRT StifCalcs™

Restraints

1987 MERCURY TOPAZ LEFT FRONT SEAT OCCUPANT

Restraint #	2	AIR BAG	Mounted		Deployment?	DEPLOYED PROPERLY

Restraint Commentary: NO COMMENTS

4N6XPRT StifCalcs™

1987 MERCURY TOPAZ RIGHT FRONT SEAT OCCUPANT

Test # 998 Vehicle # 1 Location RIGHT FRONT SEAT Seat Position CENTER POSITION

Type PART 572 DUMMY Size Percentile 50 PERCENTILE Calibration Method PART 572

Sex M Age [ ] Occupant Height [ ] mm 0 inches Occupant Weight [ ] kg 0 pounds

Occupant Manufactuer ALDERSON S/N 749

Occupant Modification UNMODIFIED

Occupant Description NO COMMENTS

Occupant Commentary [ ]

Head

Head To

Windshield Header	241	mm	10.1	inches
Windshield	389	mm	16.3	inches
Seatback	[ ]	mm	0	inches
Neck to Seatback	[ ]	mm	0	inches

Head To

Side Header	114	mm	4.6	inches
Side Window	213	mm	8.2	inches

First Contact Region (Head) NONE Second Contact Region (Head) NONE

Head Injury Criteria (HIC) 626 HIC Lower Time interval (ms) 108.3 HIC Upper Time interval (ms) -4239

Chest

Chest To

Dash	538	mm	20.2	inches
Steering Wheel	[ ]	mm	11.3	inches
Seatback	[ ]	mm	0	inches

Arm to Door	114	mm	3.4	inches
Hip to Door	173	mm	6.6	inches

First Contact Region (Chest/Abdomen) NONE Second Contact Region (Chest/Abdomen) NONE

Lap Belt Peak Load [ ] Newtons 0 pounds Force Shoulder Belt Peak Load [ ] Newtons 0 pounds Force

Chest Severity Index [ ]

Thorax Peak Acceleration (g's) 376 Thoraic Trauma Index [ ] Pelvic Peak Lateral Acceleration (g's) [ ]

Legs

Knees to Dash 94 mm 3.4 inches Knees to Seatback [ ] mm 0 inches

First Contact Region (Legs) DASHPANEL Second Contact Region (Legs) NONE

Left Femur Peak Load 8082 Newtons 1472 pounds Force Right Femur Peak Load [ ] Newtons 0 pounds Force

1987 MERCURY TOPAZ RIGHT FRONT SEAT OCCUPANT

Restraint # 1 3 POINT BELT Mounted [ ] Deployment? NOT APPLICABLE

Restraint Commentary NO COMMENTS

Registered Owner : 4N6XPRT SYSTEMS Serial Number # 030201SC01301

4N6XPRT StifCalcs™

Restraints

1987 MERCURY TOPAZ RIGHT FRONT SEAT OCCUPANT

Restraint #	2	NONE	Mounted		Deployment?	NOT APPLICABLE

Restraint Commentary: NO COMMENTS

4N6XPRT StifCalcs™

Vehicle 1 - 1987 MERCURY TOPAZ

Test # 998 | NHTSA Test Vehicle Number | VIN 1MECM36X9HK624420

Year 1987 | Make MERCURY | Model TOPAZ | Body FOUR DOOR SEDAN

Vehicle Modification Indicator: PRODUCTION VEHICLE

Vehicle Modification(s) Description: UNMODIFIED

Post-test Steering Column Shear Capsule Seperation: NO SEPARATION

Steering Column Collapse Mechanism: OTHER

Vehicle Commentary: VEHICLE MODEL IS TOPAZ, COLMEC IS UNKNOWN

Vehicle Length	4488	mm	176.7	inches	
Vehicle Wheelbase	2537	mm	99.9	inches	
CG behind front axle	1062	mm	41.8	inches	
Center of Damage to CG Axis	711	mm	28	inches	

Vehicle Test Weight	1442	KG	**3179**	**pounds**
Vehicle Width	1422	mm	**56**	**inches**
Total Length of Indentation	1422	mm	**56**	**inches**
Maximum Static Crush Depth	564	mm	**22.2**	**inches**

Vehicle Damage Index: 12FDEW | Principal Direction of Force: 0 | **Pre-Impact Speed**: 56.2 kph / **34.9 mph**

Damage Profile Distance Measurements

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

DPD 1	536	mm	21.1	inches
DPD 2	528	mm	20.8	inches
DPD 3	556	mm	21.9	inches
DPD 4	551	mm	21.7	inches
DPD 5	554	mm	21.8	inches
DPD 6	457	mm	18	inches

Crush from Pre & Post Test Damage Measurements

	Pre-Test		Post-Test		Crush-Depth	
Left Bumper Corner	174.7	**inches**	155.7	**inches**	**19**	**inches**
	4437	mm	3955	mm	482	mm
Centerline	176.7	**inches**	154.5	**inches**	**22.2**	**inches**
	4488	mm	3924	mm	564	mm
Right Bumper Corner	175.2	**inches**	153.7	**inches**	**21.5**	**inches**
	4450	mm	3904	mm	546	mm

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

Moving Test Cart Angle	Moving Test Cart / Vehicle Crabbed Angle	Moving Test Cart Vehicle Orientation on Cart
	0	

Magnitude of the Tilt-Angle Measured between surface if a Rollover Test Cart and the Ground

Magnitude of the Crabbed Angle Measured Clockwise from Logitudial Vector to Velocity Vector of Vehicle

Magnitude of the Angle Measured between the vehicle Orientation and the Direction of the Test Cart Motion

Vehicle 1 - 1987 MERCURY TOPAZ

Test #	NHTSA Test Vehicle Number	VIN
998		1MECM36X9HK624420

Year	Make	Model	Body
1987	MERCURY	TOPAZ	FOUR DOOR SEDAN

Vehicle Modification Indicator	Vehicle Modification(s) Description
PRODUCTION VEHICLE	UNMODIFIED

Post-test Steering Column Shear Capsule Seperation	Steering Column Collapse Mechanism
NO SEPARATION	OTHER

Vehicle Commentary: VEHICLE MODEL IS TOPAZ, COLMEC IS UNKNOWN

Vehicle Length	4488	mm	176.7	inches	**Vehicle Test Weight**	1442	KG	**3179** **pounds**
Vehicle Wheelbase	2537	mm	99.9	inches	**Vehicle Width**	1422	mm	**56** **inches**
CG behind front axle	1062	mm	41.8	inches	**Total Length of Indentation**	1422	mm	**56** **inches**
Center of Damage to CG Axis	711	mm	28	inches	**Maximum Static Crush Depth**	564	mm	**22.2** **inches**

Vehicle Damage Index	Principal Direction of Force							
12FDEW3	0	**Pre-Impact Speed**	56.2	kph	**34.9**	**mph**		

Pre & Post Test Measurements

(Measurments are taken in a logitudinal direction. Except for Engine Block, all measurments are taken 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							
				4488	176.7	3924	154.5				
				Engine Block							
				457	18	457	18				
4437	174.7	3955	155.7	Front Bumper Corner				4450	175.2	3904	153.7
				Front of Engine							
				3866	152.2	3620	142.5				
3386	133.3	3137	123.5	Firewall				3307	130.2	3175	125
				3465	142.5	3302	130				
3132	123.3	3099	122	Upper Leading Edge of Door				3134	123.4	3099	122
3078	121.2	3068	120.8	Lower Leading Edge of Door				3086	121.5	3086	121.5
3086	121.5	3071	120.9	Bottom of 'A' Post				3089	121.6	3071	120.9
2129	83.7	2096	82.5	Upper Trailing Edge of Door				2129	83.8	2103	82.8
2134	84	2111	83.1	Lower Trailing Edge of Door				2139	84.2	2113	83.2
				Steering Column							
				2604	102.5	2588	101.9				
				Center of Steering Column to 'A' Post (Horizontal)							
				483	19	483	19				
				Center of Steering Column to 'A' Post (Vertical)							
				394	15.5	361	14.2				

4N6XPRT StifCalcs™
1987 MERCURY TOPAZ

NHTSA Crash Test - # 998 - Front Impact

{ Pre/Post Crush Depths - Vehicle Width - Closing Speed - Trapezoidal Average}

Vehicle Test Weight = 3179 pounds
Vehicle Test Speed = 34.9 mph
Test crush width = 56 inches

Pre/Post Collision Crush Depths (inches)

(Driver Side)	Left Bumper Corner	Centerline	Right Bumper Corner	(Pass. Side)
	19	22.2	21.5	

Calculated Stiffness Coefficients

		A	B	G
Minimum Crush = 19 inches				
Using a Rated No Damage Speed of	2.5 mph	194.2	132.5	142.2
Using a Rated No Damage Speed of	5 mph	358.4	112.9	569
Using a Rated No Damage Speed of	7.5 mph	492.7	94.8	1280.2
Using a Rated No Damage Speed of	10 mph	597.1	78.3	2276
Average Crush = 21.2 inches				
Using a Rated No Damage Speed of	2.5 mph	174	106.5	142.2
Using a Rated No Damage Speed of	5 mph	321.2	90.7	569
Using a Rated No Damage Speed of	7.5 mph	441.6	76.2	1280.2
Using a Rated No Damage Speed of	10 mph	535.1	62.9	2276
Maximum Crush = 22.2 inches				
Using a Rated No Damage Speed of	2.5 mph	166.2	97.1	142.2
Using a Rated No Damage Speed of	5 mph	306.8	82.7	569
Using a Rated No Damage Speed of	7.5 mph	421.7	69.5	1280.2
Using a Rated No Damage Speed of	10 mph	511	57.4	2276

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

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

A = Maximum force per inch of damage without permenant damage, lb/in
B = Crush resistance per inch of damage width, lb/in^2
G = Energy dissipated without permenant damage, lb

****

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) = SQR(30 * CF * max crush in feet)*

Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	**22.2**	**34.1**	-0.8	-2.4%

4N6XPRT Systems Specific Crush Factor (CF specific to this test) = 22

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

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

4N6XPRT StifCalcs™
1987 MERCURY TOPAZ

NHTSA Crash Test - # 998 - Front Impact

{ Pre/Post Crush Depths - Indentation Length - Closing Speed - Trapezoidal Average}

Vehicle Test Weight = 3179 pounds
Vehicle Test Speed = 34.9 mph
Test crush width = 56 inches

Pre/Post Collision Crush Depths (inches)

(Driver Side)	Left Bumper Corner	Centerline	Right Bumper Corner	(Pass. Side)
	19	22.2	21.5	

Calculated Stiffness Coefficients

		A	B	G
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Maximum Crush = 22.2 inches				
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Rated No Damage Speed = Impact speed with a barrier resulting in no permenant vehicle deformation

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

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

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Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	**22.2**	**34.1**	-0.8	-2.4%

4N6XPRT Systems Specific Crush Factor (CF specific to this test) = 22

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

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

4N6XPRT StifCalcs™

Available Test Results

Frontal Impact Test Summary

Report Filter Settings

Year Range : 1984 - 1994

Make : MERCURY

Model : TOPAZ

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	Closing Speed (mph)	Vehicle Width Stiffness Values A	B	G	Crush Factor (Average Crush)
Test Type : **Front**								
681	1984 FORD TEMPO FOUR DOOR SEDAN	5.0	20.7	35	270.3	78.4	466.3	23.7
818	1985 FORD TEMPO FOUR DOOR SEDAN	5.0	22.4	34.8	241	64.1	452.6	21.6
842	1985 FORD TEMPO TWO DOOR SEDAN	5.0	23.5	35.1	225.3	57.8	439	21
998	1987 MERCURY TOPAZ FOUR DOOR SEDAN	5.0	21.2	34.9	321.8	91	569	23
1186	1988 FORD TEMPO FOUR DOOR SEDAN	5.0	20.3	34.8	264.8	77.6	451.8	23.8
1200	1988 FORD TEMPO FOUR DOOR SEDAN	5.0	14.8	29.2	300.6	98.6	458.1	23.1
1211	1988 FORD TEMPO FOUR DOOR SEDAN	5.0	14.8	29.3	301.2	98.8	458.9	23.2
1306	1989 FORD TEMPO FOUR DOOR SEDAN	5.0	13.8	29.3	331.1	116.4	470.9	24.8
1858	1993 FORD TEMPO FOUR DOOR SEDAN	5.0	18.6	35	347.7	112.4	537.7	26.4
2006	1994 FORD TEMPO FOUR DOOR SEDAN	5.0	14.2	29.3	321.2	109.9	469.3	24.2
	Front Averages				292.5	90.5	472.7	23.5
	Front Minimums				225.3	57.8	439.1	21
	Front Maximums				347.7	116.4	519.3	26.4
	Front Standard Deviations				40.5	20.4	20.4	1.5

4N6XPRT StifCalcs™

Available Test Results

Frontal Impact Test Summary

Report Filter Settings

Year Range : 1984 - 1994

Make : MERCURY

Model : TOPAZ

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	Closing Speed (mph)	Vehicle Width Stiffness Values A	B	G	Crush Factor (Max Crush)
Test Type : **Front**								
681	1984 FORD TEMPO FOUR DOOR SEDAN	5.0	22.5	35	248.7	66.3	466.3	21.8
818	1985 FORD TEMPO FOUR DOOR SEDAN	5.0	23	34.8	234.6	60.8	452.6	21.1
842	1985 FORD TEMPO TWO DOOR SEDAN	5.0	24.6	35.1	214.8	52.6	439	20
998	1987 MERCURY TOPAZ FOUR DOOR SEDAN	5.0	22.2	34.9	306.5	82.5	569	21.9
1186	1988 FORD TEMPO FOUR DOOR SEDAN	5.0	21	34.8	256.4	72.8	451.8	23.1
1200	1988 FORD TEMPO FOUR DOOR SEDAN	5.0	14.9	29.2	297.6	96.7	458.1	22.9
1211	1988 FORD TEMPO FOUR DOOR SEDAN	5.0	15.2	29.3	293.4	93.8	458.9	22.6
1306	1989 FORD TEMPO FOUR DOOR SEDAN	5.0	14.4	29.3	317.8	107.3	470.9	23.8
1858	1993 FORD TEMPO FOUR DOOR SEDAN	5.0	20.2	35	319.4	94.9	537.7	24.3
2006	1994 FORD TEMPO FOUR DOOR SEDAN	5.0	14.7	29.3	310.3	102.6	469.3	23.4
		Front Averages			280	83	471.9	22.5
		Front Minimums			214.8	52.6	438.6	20
		Front Maximums			319.4	107.3	475.4	24.3
		Front Standard Deviations			37.9	18.9	18.9	1.3

EXPERT VIN DeCoder
Version 2.9

The VIN Number is 2B3 HD46R 7 XH 668955

The vehicle should be a 1999 Dodge Passenger Car
The Model: Intrepid 4-Door Sedan
The 4 passenger vehicle had :
Restraint System Active, Driver & Frnt Passenger Air Bags
The assembly plant: Bramalea, ONT

The OEM engine was: V-6 cylinder with Dual Overhead Cam
Engine Displacement/Type = 2.7 L/ 167 cu.in. L4, DOHC
Brake Horsepower (SAE) = 200 @ 5800 rpm
Torque (SAE) = 190 lb-ft @ 4850 rpm
Engine manufacturer = Chrysler

The fuel distribution system:
Multi-Port Fuel Injection (MFI)
Fuel pump/line pressure = 58 psi
The ignition system was = Electronic

This is a Front Wheel Drive vehicle.

The first three characters {2B3} indicates the vehicle
was a Dodge Passenger Car made in Canada

The fourth character {H} indicates the OEM vehicle had
Restraint System Active, Driver & Frnt Passenger Air Bags

The fifth and sixth characters {D4} indicate the Model is
Intrepid

The seventh character {6} indicates the body style is a
4-Door Sedan

The eighth character {R} indicates the OEM engine was a
2.7 L/ 167 cu.in. L4, DOHC

The 9th Character { the Check Digit } is 7
The calculated Check Digit value is 7

The tenth character {X} indicates the Model Year was 1999

The eleventh character {H} indicates it was made
at the assembly plant in Bramalea, ONT

The twelveth through the seventeenth characters {668955} is
the Serial Number unique to this vehicle.

EXPERT AUTOSTATS
Ver. 5.0

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

04-26-2010

1999 DODGE INTREPID 4DR SEDAN

CURB WEIGHT:	**3310 lbs.**	**1501 kg.**
Curb Weight Distribution -	**Front: 64 %**	**Rear: 36 %**
Gross Vehicle Weight Rating:	**4472 lbs.**	**2028 kg.**
Number of Tires on Vehicle:	**4**	
Drive Wheels:	**FRONT**	

HORIZONTAL DIMENSIONS

	Inches	Feet	Meters
Total Length	**204**	**17.00**	**5.18**
Wheelbase:	**113**	**9.42**	**2.87**
Front Bumper to Front Axle	**45**	**3.75**	**1.14**
Front Bumper to Front of Front Well	**29**	**2.42**	**0.74**
Front Bumper to Front of Hood	**4**	**0.33**	**0.10**
Front Bumper to Base of Windshield	**47**	**3.92**	**1.19**
Front Bumper to Top of Windshield	**82**	**6.83**	**2.08**
Rear Bumper to Rear Axle	**46**	**3.83**	**1.17**
Rear Bumper to Rear of Rear Well	**30**	**2.50**	**0.76**
Rear Bumper to Rear of Trunk	**5**	**0.42**	**0.13**
Rear Bumper to Base of Rear Window	**28**	**2.33**	**0.71**

WIDTH DIMENSIONS

Maximum Width	**74**	**6.17**	**1.88**
Front Track	**62**	**5.17**	**1.57**
Rear Track	**62**	**5.17**	**1.57**

VERTICAL DIMENSIONS

	Inches	Feet	Meters
Height	**53**	**4.42**	**1.35**
Ground to:			
Front Bumper (Top)	**20**	**1.67**	**0.51**
Headlight - center	**24**	**2.00**	**0.61**
Hood - top front	**28**	**2.33**	**0.71**
Base of windshield	**36**	**3.00**	**0.91**
Rear Bumper - top	**26**	**2.17**	**0.66**
Trunk - top rear	**40**	**3.33**	**1.02**
Base of rear window	**40**	**3.33**	**1.02**

Reg. To: 4N6XPRT Systems **S/N:10R-930512AQ03201**

1999 DODGE INTREPID 4DR SEDAN

INTERIOR DIMENSIONS

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

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

STEERING DATA

Turning Circle (Diameter)	492	41.00	12.50
Steering Ratio:	17.00:1		
Wheel Radius:	14	1.17	0.36
Tire Size (OEM):	205/70R15		

ACCELERATION & BRAKING INFORMATION

Brake Type: ALL DISC
ABS System: ALL WHEEL ABS - OPTIONAL

Braking, 60 mph -> 0 (Hard pedal, no skid, dry pavement):
d = 125 ft t = 2.8 sec. a =-30.9 ft/sec/sec G-force = -0.96

ACCELERATION:

0->30 mph	t = 3.5 sec.	a = 12.6 ft/sec/sec	G-force = 0.39
0->60 mph	t = 8.9 sec.	a = 9.9 ft/sec/sec	G-force = 0.31
45->65 mph	t = 6.6 sec.	a = 4.4 ft/sec/sec	G-force = 0.14

Transmission Type: AUTOMATIC

NOTES:

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

1999 DODGE INTREPID 4DR SEDAN

OTHER INFORMATION

TIP-OVER STABILITY RATIO = 1.49 STABLE
NHTSA Star Rating (calculated) *****

CENTER OF GRAVITY (No Load):

Inches behind front axle	= 40.68
Inches in front of rear axle	= 72.32
Inches from side of vehicle	= 37.00
Inches from ground	= 20.80
Inches from front corner	= 93.33
Inches from rear corner	= 123.97
Inches from front bumper	= 85.68
Inches from rear bumper	= 118.32

MOMENTS OF INERTIA APPROXIMATIONS (No Load):

YAW MOMENT OF INERTIA	= 2203.30	lb-ft-sec^2
PITCH MOMENT OF INERTIA	= 2127.90	lb-ft-sec^2
ROLL MOMENT OF INERTIA	= 445.80	lb-ft-sec^2

FRONT PROFILE INFORMATION

ANGLE FRONT BUMPER TO HOOD FRONT	= 63.4	deg
ANGLE FRONT OF HOOD TO WINDSHIELD BASE	= 10.5	deg
ANGLE FRONT OF HOOD TO WINDSHIELD TOP	= 16.4	deg
ANGLE OF WINDSHIELD	= 23.2	deg
ANGLE OF STEERING TIRES AT MAX TURN	= 26.3	deg

FIRST APPROXIMATION CRUSH FACTORS:

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

V(mph) = Sqr root of (30 * CF * MID)

KE Equivalent Speed (Front/Rear/Side) = 21 CF

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

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 than 2-3 inches of crush damage should be looked at carefully, since some vehicles have very weak trunk & fender strength. Therefore, on some cars, esp. GM, your 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

3098

1999 CHRYSLER INTREPID

Provided By

4N6XPRT StifCalcs™

Registered to:

4N6XPRT SYSTEMS

8387 UNIVERSITY AVENUE

LA MESA CA 91941-3842

S/N: 030201SC01301

4N6XPRT Systems® | 8387 University Avenue | La Mesa, CA 91941 | USA

(800) 266-9778 | (619) 464-3478 | FAX: (619) 464-2206 | Email: 4n6@4n6xprt.com

4N6XPRT StifCalcs™

Sister/Clone database reader

You entered: **1999 DODGE INTREPID**

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

Year Range	Make	Model	Body Styles	Wheelbase
1998 - 2004	DODGE	INTREPID	4D	113,0,0,0,0,
REMARKS :				
1999 - 2001	CHRYSLER	LHS	4D	113"
REMARKS :				
1998 - 2004	CHRYSLER	CONCORDE	4D	113,0,0,0,0,
REMARKS :				

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.

Registered Owner : 4N6XPRT SYSTEMS Serial Number # 030201SC01301

4N6XPRT StifCalcs™

Test Information

Test # 3098 NHTSA Version # V3 Test Date 1999-06 Contract # 00-5001

Contract/Study Title 99/00 TC/NHTSA JOINT RESEARCH COLLISION TESTS

Test Objective(s) FRONTAL CRASH

Test Type RESEARCH SAFETY VEHICLE TEST Configuration VEHICLE INTO BARRIER

Closing Speed 47.28 Km/Hr 29 MPH

Impact Angle 0 Offset Distance -40 mm -2 inches Side Impact Point 9999 mm 0 inches

Test Performer TRANSPORT CANADA Test Reference # TC99-246

Test Track Surface CONCRETE Condition DRY Ambient Temperature 21 C 70 F

Data Recorder Type OTHER Data Link OTHER Total Number of Curves 151

Test Commentary NO COMMENTS

Fixed Barrier Information

Barrier Type RIGID Barrier Shape FLAT BARRIER Pole Barrier Diameter 9999 mm inches

Barrier Commentary NO COMMENTS

4N6XPRT StifCalcs™

1999 CHRYSLER INTREPID LEFT FRONT SEAT OCCUPANT

Test # 3098 Vehicle # 1 Location LEFT FRONT SEAT Seat Position FORWARD OF CENTER POSITION

Type HYBRID III DUMMY Size Percentile 5 PERCENTILE Calibration Method OTHER

Sex F Age 99 Occupant Height 999 mm 0 inches Occupant Weight 999 kg 0 pounds

Occupant Manufactuer FIRST TECHNOLOGY

Occupant Modification UNMODIFIED

Occupant Description S/N:105

Occupant Commentary

Head

Head To

Windshield Header	300	mm	11.8	inches
Windshield	646	mm	25.4	inches
Seatback	9999	mm	0	inches
Neck to Seatback	9999	mm	0	inches

Head To

Side Header	275	mm	10.8	inches
Side Window	380	mm	15	inches

First Contact Region (Head) AIR BAG Second Contact Region (Head) OTHER

Head Injury Criteria (HIC) 397 HIC Lower Time interval (ms) 90.2 HIC Upper Time interval (ms) -853

Chest

Chest To

Dash	9999	mm	0	inches
Steering Wheel	210	mm	8.3	inches
Seatback	9999	mm	0	inches

Arm to Door	142	mm	5.6	inches
Hip to Door	184	mm	7.2	inches

First Contact Region (Chest/Abdomen) AIR BAG Second Contact Region (Chest/Abdomen) UNKNOWN

Lap Belt Peak Load Newtons 0 pounds Force Shoulder Belt Peak Load Newtons 0 pounds Force

Chest Severity Index

Thorax Peak Acceleration (g's) 9999 Thoraic Trauma Index Pelvic Peak Lateral Acceleration (g's)

Legs

Knees to Dash 45 mm 1.8 inches Knees to Seatback 9999 mm 0 inches

First Contact Region (Legs) DASHPANEL Second Contact Region (Legs) UNKNOWN

Left Femur Peak Load 3520 Newtons 791.3 pounds Force Right Femur Peak Load Newtons 0 pounds Force

1999 CHRYSLER INTREPID LEFT FRONT SEAT OCCUPANT

Restraint # 1 3 POINT BELT Mounted Deployment? NOT APPLICABLE

Restraint Commentary NO_COMMENTS

4N6XPRT StifCalcs™

Restraints

1999 CHRYSLER INTREPID LEFT FRONT SEAT OCCUPANT

Restraint #	2	AIR BAG	Mounted		Deployment?	DEPLOYED

Restraint Commentary: NO_COMMENTS

4N6XPRT StifCalcs™

1999 CHRYSLER INTREPID RIGHT FRONT SEAT OCCUPANT

Test # 3098 Vehicle # 1 Location RIGHT FRONT SEAT Seat Position FORWARD OF CENTER POSITION

Type HYBRID III DUMMY Size Percentile 5 PERCENTILE Calibration Method OTHER

Sex F Age 99 Occupant Height 999 mm 0 inches Occupant Weight 999 kg 0 pounds

Occupant Manufactuer FIRST TECHNOLOGY

Occupant Modification UNMODIFIED

Occupant Description S/N:104

Occupant Commentary

Head

Head To

Windshield Header	280	mm	11.8	inches
Windshield	646	mm	25.4	inches
Seatback	9999	mm	0	inches
Neck to Seatback	9999	mm	0	inches

Head To

Side Header	270	mm	10.8	inches
Side Window	380	mm	15	inches

First Contact Region (Head) AIR BAG Second Contact Region (Head) OTHER

Head Injury Criteria (HIC) 291 HIC Lower Time interval (ms) 95.1 HIC Upper Time interval (ms) -3334

Chest

Chest To

Dash	412	mm	0	inches
Steering Wheel	9999	mm	8.3	inches
Seatback	9999	mm	0	inches

Arm to Door	194	mm	5.6	inches
Hip to Door	205	mm	7.2	inches

First Contact Region (Chest/Abdomen) AIR BAG Second Contact Region (Chest/Abdomen) UNKNOWN

Lap Belt Peak Load Newtons 0 pounds Force Shoulder Belt Peak Load Newtons 0 pounds Force

Chest Severity Index

Thorax Peak Acceleration (g's) 9999 Thoraic Trauma Index Pelvic Peak Lateral Acceleration (g's)

Legs

Knees to Dash 87 mm 1.8 inches Knees to Seatback 9999 mm 0 inches

First Contact Region (Legs) DASHPANEL Second Contact Region (Legs) UNKNOWN

Left Femur Peak Load 3682 Newtons 791.3 pounds Force Right Femur Peak Load Newtons 0 pounds Force

1999 CHRYSLER INTREPID RIGHT FRONT SEAT OCCUPANT

Restraint # 1 3 POINT BELT Mounted Deployment? NOT APPLICABLE

Restraint Commentary NO_COMMENTS

Registered Owner : 4N6XPRT SYSTEMS Serial Number # 030201SC01301

4N6XPRT StifCalcs™

Restraints

1999 CHRYSLER INTREPID RIGHT FRONT SEAT OCCUPANT

Restraint #	2	AIR BAG	Mounted		Deployment?	DEPLOYED

Restraint Commentary: NO_COMMENTS

4N6XPRT StifCalcs™

1999 CHRYSLER INTREPID RIGHT REAR SEAT OCCUPANT

Test # 3098 Vehicle # 1 Location RIGHT REAR SEAT Seat Position NON-ADJUSTABLE SEAT

Type HYBRID III DUMMY Size Percentile OTHER Calibration Method OTHER

Sex N Age 99 Occupant Height 999 mm 0 inches Occupant Weight 999 kg 0 pounds

Occupant Manufactuer FIRST TECHNOLOGY

Occupant Modification UNMODIFIED

Occupant Description S/N:107

Occupant Commentary

Head

Head To

Windshield Header 9999 mm 11.8 inches

Windshield 9999 mm 25.4 inches

Seatback 9999 mm 0 inches

Neck to Seatback 9999 mm 0 inches

Head To

Side Header 9999 mm 10.8 inches

Side Window 9999 mm 15 inches

First Contact Region (Head) SEAT BACK Second Contact Region (Head) UNKNOWN

Head Injury Criteria (HIC) 707 HIC Lower Time interval (ms) 113 HIC Upper Time interval (ms) 0

Chest

Chest To

Dash 9999 mm 0 inches

Steering Wheel 9999 mm 8.3 inches

Seatback 9999 mm 0 inches

Arm to Door 9999 mm 5.6 inches

Hip to Door 9999 mm 7.2 inches

First Contact Region (Chest/Abdomen) UNKNOWN Second Contact Region (Chest/Abdomen) UNKNOWN

Lap Belt Peak Load Newtons 0 pounds Force Shoulder Belt Peak Load Newtons 0 pounds Force

Chest Severity Index

Thorax Peak Acceleration (g's) 9999 Thoraic Trauma Index Pelvic Peak Lateral Acceleration (g's)

Legs

Knees to Dash 9999 mm 1.8 inches Knees to Seatback 9999 mm 0 inches

First Contact Region (Legs) UNKNOWN Second Contact Region (Legs) UNKNOWN

Left Femur Peak Load 9999 Newtons 791.3 pounds Force Right Femur Peak Load Newtons 0 pounds Force

1999 CHRYSLER INTREPID RIGHT REAR SEAT OCCUPANT

Restraint # 1 CHILD RESTRAINT Mounted Deployment? NOT APPLICABLE

Restraint Commentary NO_COMMENTS

4N6XPRT StifCalcs™

Restraints

1999 CHRYSLER INTREPID RIGHT REAR SEAT OCCUPANT

Restraint #	2	SEAT BACK	Mounted		Deployment?	NOT APPLICABLE

Restraint Commentary: NO_COMMENTS

4N6XPRT StifCalcs™

1999 CHRYSLER INTREPID LEFT REAR SEAT OCCUPANT

Test # 3098 Vehicle # 1 Location LEFT REAR SEAT Seat Position NON-ADJUSTABLE SEAT

Type CHILD DUMMY Size Percentile OTHER Calibration Method OTHER

Sex N Age 99 Occupant Height 999 mm 0 inches Occupant Weight 999 kg 0 pounds

Occupant Manufactuer TNO

Occupant Modification UNMODIFIED

Occupant Description S/N:KCA 9507

Occupant Commentary

Head

Head To

Windshield Header 9999 mm 11.8 inches

Windshield 9999 mm 25.4 inches

Seatback 9999 mm 0 inches

Neck to Seatback 9999 mm 0 inches

Head To

Side Header 9999 mm 10.8 inches

Side Window 9999 mm 15 inches

First Contact Region (Head) SEAT BACK Second Contact Region (Head) UNKNOWN

Head Injury Criteria (HIC) 99999 HIC Lower Time interval (ms) HIC Upper Time interval (ms) 0

Chest

Chest To

Dash 9999 mm 0 inches

Steering Wheel 9999 mm 8.3 inches

Seatback 9999 mm 0 inches

Arm to Door 9999 mm 5.6 inches

Hip to Door 9999 mm 7.2 inches

First Contact Region (Chest/Abdomen) UNKNOWN Second Contact Region (Chest/Abdomen) UNKNOWN

Lap Belt Peak Load Newtons 0 pounds Force Shoulder Belt Peak Load Newtons 0 pounds Force

Chest Severity Index

Thorax Peak Acceleration (g's) 9999 Thoraic Trauma Index Pelvic Peak Lateral Acceleration (g's)

Legs

Knees to Dash 9999 mm 1.8 inches Knees to Seatback 9999 mm 0 inches

First Contact Region (Legs) UNKNOWN Second Contact Region (Legs) UNKNOWN

Left Femur Peak Load 9999 Newtons 791.3 pounds Force Right Femur Peak Load Newtons 0 pounds Force

1999 CHRYSLER INTREPID LEFT REAR SEAT OCCUPANT

Restraint # 1 CHILD RESTRAINT Mounted Deployment? NOT APPLICABLE

Restraint Commentary NO_COMMENTS

Registered Owner : 4N6XPRT SYSTEMS Serial Number # 030201SC01301

4N6XPRT StifCalcs™

Restraints

1999 CHRYSLER INTREPID LEFT REAR SEAT OCCUPANT

Restraint #	2	SEAT BACK	Mounted		Deployment?	NOT APPLICABLE

Restraint Commentary: NO_COMMENTS

4N6XPRT StifCalcs™

Vehicle 1 - 1999 CHRYSLER INTREPID

Test # 3098 | NHTSA Test Vehicle Number | VIN 2C3HH46R1XH612341

Year 1999 | Make CHRYSLER | Model INTREPID | Body FOUR DOOR SEDAN

Vehicle Modification Indicator: PRODUCTION VEHICLE

Vehicle Modification(s) Description: UNMODIFIED

Post-test Steering Column Shear Capsule Seperation: NOT APPLICABLE

Steering Column Collapse Mechanism: NOT APPLICABLE

Vehicle Commentary: NO COMMENTS

Vehicle Length	5188	mm	204.3	inches	
Vehicle Wheelbase	2870	mm	113	inches	
CG behind front axle	1169	mm	46	inches	
Center of Damage to CG Axis	0	mm	0	inches	

Vehicle Test Weight	1743	KG	**3842**	**pounds**
Vehicle Width	1890	mm	**74.4**	**inches**
Total Length of Indentation	1601	mm	**63**	**inches**
Maximum Static Crush Depth	99999	mm	**0**	**inches**

Vehicle Damage Index 9999999 | Principal Direction of Force 0 | **Pre-Impact Speed** 47.28 kph **29.4** **mph**

Damage Profile Distance Measurements

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

DPD 1	162	mm	6.4	inches
DPD 2	360	mm	14.2	inches
DPD 3	415	mm	16.3	inches
DPD 4	410	mm	16.1	inches
DPD 5	363	mm	14.3	inches
DPD 6	146	mm	5.7	inches

Crush from Pre & Post Test Damage Measurements

	Pre-Test		Post-Test		Crush-Depth	
Left Bumper Corner	197.5	**inches**	186	**inches**	**11.5**	**inches**
	5016	mm	4724	mm	292	mm
Centerline	204.3	**inches**	192.8	**inches**	**11.4**	**inches**
	5188	mm	4898	mm	290	mm
Right Bumper Corner	198	**inches**	186.6	**inches**	**11.3**	**inches**
	5028	mm	4740	mm	288	mm

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

Moving Test Cart Angle	Moving Test Cart / Vehicle Crabbed Angle	Moving Test Cart Vehicle Orientation on Cart
999	0	999

Magnitude of the Tilt-Angle Measured between surface if a Rollover Test Cart and the Ground

Magnitude of the Crabbed Angle Measured Clockwise from Logitudial Vector to Velocity Vector of Vehicle

Magnitude of the Angle Measured between the vehicle Orientation and the Direction of the Test Cart Motion

Vehicle 1 - 1999 CHRYSLER INTREPID

Test #	3098	NHTSA Test Vehicle Number		VIN	2C3HH46R1XH612341		
Year	1999	Make	CHRYSLER	Model	INTREPID	Body	FOUR DOOR SEDAN

Vehicle Modification Indicator	Vehicle Modification(s) Description
PRODUCTION VEHICLE	UNMODIFIED

Post-test Steering Column Shear Capsule Seperation	Steering Column Collapse Mechanism
NOT APPLICABLE	NOT APPLICABLE

Vehicle Commentary: NO COMMENTS

Vehicle Length	5188	mm	204.3	inches	**Vehicle Test Weight**	1743	KG	**3842** **pounds**
Vehicle Wheelbase	2870	mm	113	inches	**Vehicle Width**	1890	mm	**74.4** **inches**
CG behind front axle	1169	mm	46	inches	**Total Length of Indentation**	1601	mm	**63** **inches**
Center of Damage to CG Axis	0	mm	0	inches	**Maximum Static Crush Depth**	99999	mm	**0** **inches**

Vehicle Damage Index	Principal Direction of Force				
9999999	0	**Pre-Impact Speed**	47.28	kph	**29.4** **mph**

Pre & Post Test Measurements

(Measurments are taken in a logitudinal direction. Except for Engine Block, all measurments are taken 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							
				5188	204.3	4898	192.8				
				Engine Block							
				364	14.3	365	14.4				
5016	197.5	4724	186	Front Bumper Corner				5028	198	4740	186.6
				Front of Engine							
				4648	183	4437	174.7				
3894	153.3	3793	149.3	Firewall				3761	148.1	3663	144.2
				4192	174.7	4129	162.6				
3638	143.2	3635	143.1	Upper Leading Edge of Door				3642	143.4	3641	143.3
3604	141.9	3602	141.8	Lower Leading Edge of Door				3617	142.4	3613	142.2
3517	138.5	3510	138.2	Bottom of 'A' Post				3524	138.7	3516	138.4
2549	100.4	2546	100.2	Upper Trailing Edge of Door				2549	100.4	2547	100.3
2552	100.5	2549	100.4	Lower Trailing Edge of Door				2555	100.6	2552	100.5
				Steering Column							
				3110	122.4	3115	122.6				
				Center of Steering Column to 'A' Post (Horizontal)							
				399	15.7	399	15.7				
				Center of Steering Column to 'A' Post (Vertical)							
				425	16.7	456	18				

Registered Owner : 4N6XPRT SYSTEMS

Serial Number # 030201SC01301

4N6XPRT StifCalcs™
1999 CHRYSLER INTREPID

NHTSA Crash Test - # 3098 - Front Impact

{ Pre/Post Crush Depths - Vehicle Width - Closing Speed - Trapezoidal Average}

Vehicle Test Weight = 3842 pounds
Vehicle Test Speed = 29.4 mph
Test crush width = 74.4 inches

Pre/Post Collision Crush Depths (inches)

(Driver Side)	Left Bumper Corner	Centerline	Right Bumper Corner	(Pass. Side)
	11.5	11.4	11.3	

Calculated Stiffness Coefficients

		A	B	G
Minimum Crush =	**11.3 inches**			
Using a Rated No Damage Speed of	2.5 mph	246.2	234.2	129.4
Using a Rated No Damage Speed of	5 mph	446.6	192.7	517.5
Using a Rated No Damage Speed of	7.5 mph	601.1	155.2	1164.3
Using a Rated No Damage Speed of	10 mph	709.9	121.8	2069.8
Average Crush =	**11.4 inches**			
Using a Rated No Damage Speed of	2.5 mph	244	230.1	129.4
Using a Rated No Damage Speed of	5 mph	442.6	189.3	517.5
Using a Rated No Damage Speed of	7.5 mph	595.9	152.5	1164.3
Using a Rated No Damage Speed of	10 mph	703.7	119.6	2069.8
Maximum Crush =	**11.5 inches**			
Using a Rated No Damage Speed of	2.5 mph	241.9	226.2	129.4
Using a Rated No Damage Speed of	5 mph	438.8	186	517.5
Using a Rated No Damage Speed of	7.5 mph	590.7	149.8	1164.3
Using a Rated No Damage Speed of	10 mph	697.6	117.6	2069.8

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

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

A = Maximum force per inch of damage without permenant damage, lb/in
B = Crush resistance per inch of damage width, lb/in^2
G = Energy dissipated without permenant damage, lb

****

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) = SQR(30 * CF * max crush in feet)*

Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	**11.5**	**24.6**	-4.8	-16.3%

4N6XPRT Systems Specific Crush Factor (CF specific to this test) = 30

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

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

4N6XPRT StifCalcs™

1999 CHRYSLER INTREPID

NHTSA Crash Test - # 3098 - Front Impact

{ Pre/Post Crush Depths - Indentation Length - Closing Speed - Trapezoidal Average}

Vehicle Test Weight = 3842 pounds
Vehicle Test Speed = 29.4 mph
Test crush width = 63 inches

Pre/Post Collision Crush Depths (inches)

(Driver Side)	Left Bumper Corner	Centerline	Right Bumper Corner	(Pass. Side)
	11.5	11.4	11.3	

Calculated Stiffness Coefficients

		A	B	G
Minimum Crush = 11.3 inches				
Using a Rated No Damage Speed of	2.5 mph	290.6	276.5	152.7
Using a Rated No Damage Speed of	5 mph	527.2	227.5	610.9
Using a Rated No Damage Speed of	7.5 mph	709.7	183.2	1374.5
Using a Rated No Damage Speed of	10 mph	838.1	143.7	2443.5
Average Crush = 11.4 inches				
Using a Rated No Damage Speed of	2.5 mph	288.1	271.7	152.7
Using a Rated No Damage Speed of	5 mph	522.5	223.5	610.9
Using a Rated No Damage Speed of	7.5 mph	703.4	180	1374.5
Using a Rated No Damage Speed of	10 mph	830.7	141.2	2443.5
Maximum Crush = 11.5 inches				
Using a Rated No Damage Speed of	2.5 mph	285.6	267	152.7
Using a Rated No Damage Speed of	5 mph	518	219.6	610.9
Using a Rated No Damage Speed of	7.5 mph	697.3	176.9	1374.5
Using a Rated No Damage Speed of	10 mph	823.5	138.8	2443.5

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

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

A = Maximum force per inch of damage without permenant damage, lb/in
B = Crush resistance per inch of damage width, lb/in^2
G = Energy dissipated without permenant damage, lb

****

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) = SQR(30 * CF * max crush in feet)*

Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	**11.5**	**24.6**	-4.8	-16.3%

4N6XPRT Systems Specific Crush Factor (CF specific to this test) = 30

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

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

4N6XPRT StifCalcs™

Available Test Results

Frontal Impact Test Summary

Report Filter Settings

Year Range : 1998 - 2004

Make : DODGE

Model : INTREPID

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	Closing Speed (mph)	Vehicle Width Stiffness Values A	B	G	Crush Factor (Average Crush)
Test Type : **Front**								
3005	1999 DODGE INTREPID FOUR DOOR SEDAN	5.0	16.9	35	432.4	153.7	608.2	29
3098	1999 CHRYSLER INTREPID FOUR DOOR SEDAN	5.0	13.4	29.4	377.2	137.5	517.5	25.8
3116	1999 DODGE INTREPID FOUR DOOR SEDAN	5.0	10.3	30	477.7	231.4	493	34.9
3118	1999 DODGE INTREPID FOUR DOOR SEDAN	5.0	13.8	30	363.1	131.9	499.6	26.2
3122	1999 DODGE INTREPID FOUR DOOR SEDAN	5.0	9.8	25.1	409	168	498.1	25.7
3126	1999 DODGE INTREPID FOUR DOOR SEDAN	5.0	16.3	30	325.7	99.7	531.8	22
3147	1999 DODGE INTREPID FOUR DOOR SEDAN	5.0	9.6	24.9	427.8	177.6	515.4	25.9
3262	2000 CHRYSLER LHS FOUR DOOR SEDAN	5.0	18	35.1	358.6	119.9	536.5	27.4
3472	2001 CHRYSLER LHS FOUR DOOR SEDAN	5.0	22.3	35	291.9	78.5	543	22
4799	2004 DODGE INTREPID FOUR DOOR SEDAN	5.0	24.9	35.3	241.2	58.6	495.9	20
5182	2004 CHRYSLER CONCORDE FOUR DOOR SEDAN	5.0	16.3	29.5	408.7	123	679	21.4
		Front Averages			373.9	134.5	519.7	25.5
		Front Minimums			241.2	58.6	496.4	20
		Front Maximums			477.7	231.4	493.1	34.9
		Front Standard Deviations			68.2	48.2	69.7	4.2

4N6XPRT StifCalcs™

Available Test Results

Frontal Impact Test Summary

Report Filter Settings

Year Range : 1998 - 2004

Make : DODGE

Model : INTREPID

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	Closing Speed (mph)	Vehicle Width Stiffness Values A	B	G	Crush Factor (Max Crush)
Test Type : **Front**								
3005	1999 DODGE INTREPID FOUR DOOR SEDAN	5.0	19.9	35	366.7	110.6	608.2	24.6
3098	1999 CHRYSLER INTREPID FOUR DOOR SEDAN	5.0	16.3	29.4	309.8	92.8	517.5	21.2
3114	1999 DODGE INTREPID FOUR DOOR SEDAN	5.0	20.7	35.1	290.3	84.4	499.4	23.8
3116	1999 DODGE INTREPID FOUR DOOR SEDAN	5.0	19.3	30	255.4	66.2	493	18.7
3117	1999 DODGE INTREPID FOUR DOOR SEDAN	5.0	18.1	29.8	281.5	77.1	513.6	19.6
3118	1999 DODGE INTREPID FOUR DOOR SEDAN	5.0	16.9	30	295.6	87.5	499.6	21.3
3121	1999 DODGE INTREPID FOUR DOOR SEDAN	5.0	25.5	35.2	237.4	56.2	501.1	19.4
3122	1999 DODGE INTREPID FOUR DOOR SEDAN	5.0	15.4	25.1	260	67.9	498.1	16.4
3126	1999 DODGE INTREPID FOUR DOOR SEDAN	5.0	19.3	30	275.6	71.4	531.8	18.7
3143	1999 DODGE INTREPID FOUR DOOR SEDAN	5.0	17.9	35.1	343.8	115.5	511.5	27.5
3144	1999 DODGE INTREPID FOUR DOOR SEDAN	5.0	14.9	30	343.2	115.2	511.3	24.2
3147	1999 DODGE INTREPID FOUR DOOR SEDAN	5.0	12	24.9	340.6	112.5	515.4	20.6
3182	1999 CHRYSLER INTREPID FOUR DOOR SEDAN	5.0	10.4	25.3	398.8	155.7	510.8	24.6
3190	1999 DODGE INTREPID FOUR DOOR SEDAN	5.0	20.6	30.1	243	59.2	498.5	17.6
3198	1999 DODGE INTREPID FOUR DOOR SEDAN	5.0	15.7	35.1	383.7	147.1	500.3	31.4
3262	2000 CHRYSLER LHS FOUR DOOR SEDAN	5.0	21.7	35.1	297.6	82.6	536.5	22.7
3472	2001 CHRYSLER LHS FOUR DOOR SEDAN	5.0	25.9	35	251.5	58.3	543	18.9
4799	2004 DODGE INTREPID FOUR DOOR SEDAN	5.0	27	35.3	222.2	49.8	495.9	18.4
5182	2004 CHRYSLER CONCORDE FOUR DOOR SEDAN	5.0	19.4	29.5	343	86.6	679	17.9
		Front Averages			302.1	89.3	511	21.4
		Front Minimums			222.2	49.8	495.7	16.4
		Front Maximums			398.8	155.7	510.7	31.4
		Front Standard Deviations			52	30	49.7	3.8

EXPERT VIN DeCoder
Version 2.9

The VIN Number is 1FA CP50U 9 NG 286444

The vehicle should be a 1992 Ford Passenger Car
The model: Taurus 4-door Sedan L
The assembly plant: Chicago, IL.
The 6 passenger vehicle had :
Manual Seatbelts + Driver Air Bag

The OEM engine was: V-6 cylinder with Overhead Cam
Engine Displacement/Type = 3.0 L/ 181 cu.in. V6 OHV
Brake Horsepower (SAE) = 155 @ 4900 rpm
Torque (SAE) = 185 lb-ft at 3950 rpm
Engine manufacturer = Ford

The fuel distribution system:
Sequential Fuel Injection (SFI)
Fuel pump/line pressure = 26-45 psi
The ignition system = electronic

This is a Front Wheel Drive vehicle.

The first three characters {1, F, A} indicates that the vehicle was a Ford made in the U.S.A.

The fourth character {C} indicates the vehicle had Manual Seatbelts + Driver Air Bag

The fifth though seventh character {P50} indicates a Taurus 4-door Sedan L

The eighth character {U} indicates the OEM engine : 3.0 L/ 181 cu.in. V6 OHV

The 9th Character { the Check Digit } is 9
The calculated Check Digit value is 9

The tenth character {N} indicates the Model Year was 1992

The eleventh character {G} indicates it was made at the assembly plant in Chicago, IL.

The twelveth through the seventeenth characters { 286444 } is the Serial Number unique to this vehicle.

EXPERT AUTOSTATS
Ver. 5.0

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

04-26-2010

1992 FORD TAURUS 3.8L MSP POLICE PACKAGE 4DR SEDAN

CURB WEIGHT:	**3339 lbs.**	**1515 kg.**
Curb Weight Distribution -	**Front: 65 %**	**Rear: 35 %**
Gross Vehicle Weight Rating:	**_____ lbs.**	**_____ kg.**
Number of Tires on Vehicle:	**4**	
Drive Wheels:	**FRONT**	

HORIZONTAL DIMENSIONS

	Inches	Feet	Meters
Total Length	192	16.00	4.88
Wheelbase:	106	8.83	2.69
Front Bumper to Front Axle	42	3.50	1.07
Front Bumper to Front of Front Well	25	2.08	0.63
Front Bumper to Front of Hood	3	0.25	0.08
Front Bumper to Base of Windshield	55	4.58	1.40
Front Bumper to Top of Windshield	80	6.67	2.03
Rear Bumper to Rear Axle	44	3.67	1.12
Rear Bumper to Rear of Rear Well	29	2.42	0.74
Rear Bumper to Rear of Trunk	4	0.33	0.10
Rear Bumper to Base of Rear Window	26	2.17	0.66

WIDTH DIMENSIONS

Maximum Width	71	5.92	1.80
Front Track	62	5.17	1.57
Rear Track	61	5.08	1.55

VERTICAL DIMENSIONS

	Inches	Feet	Meters
Height	54	4.50	1.37
Ground to:			
Front Bumper (Top)	20	1.67	0.51
Headlight - center	25	2.08	0.63
Hood - top front	28	2.33	0.71
Base of windshield	39	3.25	0.99
Rear Bumper - top	23	1.92	0.58
Trunk - top rear	38	3.17	0.97
Base of rear window	40	3.33	1.02

Reg. To: 4N6XPRT Systems **S/N:10R-930512AQ03201**

1992 FORD TAURUS 3.8L MSP POLICE PACKAGE 4DR SEDAN

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 - 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
Rear Leg - seatback to floor (min)	38	3.17	0.97

Seatbelts: 3pt - front and rear
Airbags: DRIVER SIDE AIRBAGS

STEERING DATA

Turning Circle (Diameter)	468	39.00	11.89
Steering Ratio:	16.00:1		
Wheel Radius:	12	1.00	0.30
Tire Size (OEM):	P215/70R14		

ACCELERATION & BRAKING INFORMATION

Brake Type: ALL DISC
ABS System: ABS

Braking, 60 mph -> 0 (Hard pedal, no skid, dry pavement):
d = 156 ft t = 3.6 sec. a =-24.8 ft/sec/sec G-force = -0.77

ACCELERATION:

0->30 mph	t = 3.4 sec.	a = 12.9 ft/sec/sec	G-force = 0.40
0->60 mph	t = 10.1 sec.	a = 8.7 ft/sec/sec	G-force = 0.27
45->65 mph	t = 5.6 sec.	a = 5.2 ft/sec/sec	G-force = 0.16

Transmission Type: 4spd AUTOMATIC

NOTES:

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

N.S.D.C. = 1992 - 1992

Reg. To: 4N6XPRT Systems S/N:10R-930512AQ03201

1992 FORD TAURUS 3.8L MSP POLICE PACKAGE 4DR SEDAN

OTHER INFORMATION

TIP-OVER STABILITY RATIO = 1.45 STABLE
NHTSA Star Rating (calculated) *****

CENTER OF GRAVITY (No Load):

Inches behind front axle	= 37.10
Inches in front of rear axle	= 68.90
Inches from side of vehicle	= 35.50
Inches from ground	= 21.20
Inches from front corner	= 86.70
Inches from rear corner	= 118.35
Inches from front bumper	= 79.10
Inches from rear bumper	= 112.90

MOMENTS OF INERTIA APPROXIMATIONS (No Load):

YAW MOMENT OF INERTIA	= 2233.17	lb-ft-sec^2
PITCH MOMENT OF INERTIA	= 2156.61	lb-ft-sec^2
ROLL MOMENT OF INERTIA	= 451.02	lb-ft-sec^2

FRONT PROFILE INFORMATION

ANGLE FRONT BUMPER TO HOOD FRONT	= 69.4	deg
ANGLE FRONT OF HOOD TO WINDSHIELD BASE	= 11.9	deg
ANGLE FRONT OF HOOD TO WINDSHIELD TOP	= 17.3	deg
ANGLE OF WINDSHIELD	= 27.5	deg
ANGLE OF STEERING TIRES AT MAX TURN	= 26.0	deg

FIRST APPROXIMATION CRUSH FACTORS:

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

V(mph) = Sqr root of (30 * CF * MID)

KE Equivalent Speed (Front/Rear/Side) = 21 CF

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

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 than 2-3 inches of crush damage should be looked at carefully, since some vehicles have very weak trunk & fender strength. Therefore, on some cars, esp. GM, your 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

1973

1993 FORD TAURUS

Provided By

4N6XPRT StifCalcs™

Registered to:

4N6XPRT SYSTEMS

8387 UNIVERSITY AVENUE

LA MESA CA 91941-3842

S/N: 030201SC01301

4N6XPRT Systems® | 8387 University Avenue | La Mesa, CA 91941 | USA

(800) 266-9778 | (619) 464-3478 | FAX: (619) 464-2206 | Email: 4n6@4n6xprt.com

4N6XPRT StifCalcs™

Sister/Clone database reader

You entered: **1992 FORD TAURUS**

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

Year Range	Make	Model	Body Styles	Wheelbase
1992 - 1995	FORD	TAURUS	4D,SW	106"

REMARKS :

1992 - 1995	MERCURY	SABLE	4D,SW	106"

REMARKS :

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.

Registered Owner : 4N6XPRT SYSTEMS Serial Number # 030201SC01301

4N6XPRT StifCalcs™

Test Information

Test # 1973 NHTSA Version # 2 Test Date 1993-08 Contract # DTRS57-90-C-00104

Contract/Study Title: FRONTAL IMPACT RESEARCH TEST

Test Objective(s): TO OBTAIN VEHICLE CRASHWORTHINESS AND OCCUPANT RESTRAINT PERFORMANC

Test Type: TEST PROCEDURE DEVELOPMENT Configuration: VEHICLE INTO BARRIER

Closing Speed 48.4 Km/Hr 30 MPH

Impact Angle 0 Offset Distance 0 mm 0 inches Side Impact Point mm 0 inches

Test Performer: CALSPAN Test Reference #: RUN1306

Test Track Surface: CONCRETE Condition: DRY Ambient Temperature 25 C 77 F

Data Recorder Type: FM TAPE RECORDER Data Link: UMBILICAL CABLE Total Number of Curves 115

Test Commentary: NO COMMENTS

Fixed Barrier Information

Barrier Type: RIGID Barrier Shape: LOAD CELL BAR Pole Barrier Diameter mm inches

Barrier Commentary: 10*12*5 FT. CONCRETE BARRIER WITH THE GFE LOAD CELL ASSEMBLY ATTACHED.

4N6XPRT StifCalcs™

1993 FORD TAURUS LEFT FRONT SEAT OCCUPANT

Test # 1973 Vehicle # 1 Location LEFT FRONT SEAT Seat Position CENTER POSITION

Type HYBRID III DUMMY Size Percentile 95 PERCENTILE Calibration Method HYBRID III

Sex M Age Occupant Height mm 0 inches Occupant Weight kg 0 pounds

Occupant Manufactuer MFG:HUMANOID S/N:001

Occupant Modification NO COMMENTS

Occupant Description NO COMMENTS

Occupant Commentary

Head

Head To					Head To				
Windshield Header	389	mm	15.3	inches	Side Header	140	mm	5.5	inches
Windshield	521	mm	20.5	inches	Side Window	236	mm	9.3	inches
Seatback		mm	0	inches					
Neck to Seatback		mm	0	inches					

First Contact Region (Head) OTHER Second Contact Region (Head) NONE

Head Injury Criteria (HIC) 462 HIC Lower Time interval (ms) 86.64 HIC Upper Time interval (ms) -4

Chest

Chest To

Dash	602	mm	23.7	inches	Arm to Door	91	mm	3.6	inches
Steering Wheel	376	mm	14.8	inches	Hip to Door	170	mm	6.7	inches
Seatback		mm	0	inches					

First Contact Region (Chest/Abdomen) OTHER Second Contact Region (Chest/Abdomen) NONE

Lap Belt Peak Load Newtons 0 pounds Force Shoulder Belt Peak Load Newtons 0 pounds Force

Chest Severity Index

Thorax Peak Acceleration (g's) 373 Thoraic Trauma Index Pelvic Peak Lateral Acceleration (g's)

Legs

Knees to Dash 150 mm 5.9 inches Knees to Seatback mm 0 inches

First Contact Region (Legs) DASHPANEL Second Contact Region (Legs) NONE

Left Femur Peak Load 4 Newtons 0.9 pounds Force Right Femur Peak Load Newtons 0 pounds Force

1993 FORD TAURUS LEFT FRONT SEAT OCCUPANT

Restraint # 1 AIR BAG Mounted Deployment? DEPLOYED PROPERLY

Restraint Commentary NO COMMENTS

Registered Owner : 4N6XPRT SYSTEMS Serial Number # 030201SC01301

4N6XPRT StifCalcs™

Restraints

1993 FORD TAURUS LEFT FRONT SEAT OCCUPANT

Restraint #	2	NONE	Mounted		Deployment?	NOT APPLICABLE

Restraint Commentary: NO COMMENTS

4N6XPRT StifCalcs™

1993 FORD TAURUS RIGHT FRONT SEAT OCCUPANT

Test # 1973 Vehicle # 1 Location RIGHT FRONT SEAT Seat Position CENTER POSITION

Type HYBRID III DUMMY Size Percentile 5 PERCENTILE Calibration Method HYBRID III

Sex F Age Occupant Height mm 0 inches Occupant Weight kg 0 pounds

Occupant Manufactuer MFG:HUMANOID S/N:145

Occupant Modification NO COMMENTS

Occupant Description NO COMMENTS

Occupant Commentary

Head

Head To

Windshield Header	254	mm	15.3	inches
Windshield	521	mm	20.5	inches
Seatback		mm	0	inches
Neck to Seatback		mm	0	inches

Head To

Side Header	203	mm	5.5	inches
Side Window	277	mm	9.3	inches

First Contact Region (Head) OTHER Second Contact Region (Head) NONE

Head Injury Criteria (HIC) 319 HIC Lower Time interval (ms) 70.44 HIC Upper Time interval (ms) -4

Chest

Chest To

Dash	602	mm	23.7	inches
Steering Wheel		mm	14.8	inches
Seatback		mm	0	inches

Arm to Door	145	mm	3.6	inches
Hip to Door	188	mm	6.7	inches

First Contact Region (Chest/Abdomen) OTHER Second Contact Region (Chest/Abdomen) NONE

Lap Belt Peak Load Newtons 0 pounds Force Shoulder Belt Peak Load Newtons 0 pounds Force

Chest Severity Index

Thorax Peak Acceleration (g's) 334 Thoraic Trauma Index Pelvic Peak Lateral Acceleration (g's)

Legs

Knees to Dash 38 mm 5.9 inches Knees to Seatback mm 0 inches

First Contact Region (Legs) DASHPANEL Second Contact Region (Legs) NONE

Left Femur Peak Load 4 Newtons 0.9 pounds Force Right Femur Peak Load Newtons 0 pounds Force

1993 FORD TAURUS RIGHT FRONT SEAT OCCUPANT

Restraint # 1 AIR BAG Mounted Deployment? DEPLOYED PROPERLY

Restraint Commentary NO COMMENTS

4N6XPRT StifCalcs™

Restraints

1993 FORD TAURUS RIGHT FRONT SEAT OCCUPANT

Restraint #	2	NONE	Mounted		Deployment?	NOT APPLICABLE

Restraint Commentary: NO COMMENTS

4N6XPRT StifCalcs™

Vehicle 1 - 1993 FORD TAURUS

Test # 1973 | NHTSA Test Vehicle Number Y4911306 | VIN 1FALP52U2PG268206

Year 1993 | Make FORD | Model TAURUS | Body FOUR DOOR SEDAN

Vehicle Modification Indicatior: PRODUCTION VEHICLE

Vehicle Modification(s) Description: NO COMMENTS

Post-test Steering Column Shear Capsule Seperation: UNKNOWN

Steering Column Collapse Mechanism: UNKNOWN

Vehicle Commentary: 1993 FORD TAURUS

Vehicle Length	4879	mm	192.1	inches	**Vehicle Test Weight**	1603	KG	**3534** **pounds**
Vehicle Wheelbase	2700	mm	106.3	inches	**Vehicle Width**	1808	mm	**71.2** **inches**
CG behind front axle	1097	mm	43.2	inches	**Total Length of Indentation**	1809	mm	**71.2** **inches**
Center of Damage to CG Axis	0	mm	0	inches	**Maximum Static Crush Depth**	25	mm	**1** **inches**

Vehicle Damage Index 9999999 | Principal Direction of Force 0 | **Pre-Impact Speed** 48.4 kph **30.1** **mph**

Damage Profile Distance Measurements

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

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

Crush from Pre & Post Test Damage Measurements

	Pre-Test	Post-Test	Crush-Depth
Left Bumper Corner	186.6 **inches**	173 **inches**	**13.6** **inches**
	4740 mm	4394 mm	346 mm
Centerline	192.1 **inches**	175.6 **inches**	**16.5** **inches**
	4879 mm	4460 mm	419 mm
Right Bumper Corner	186.7 **inches**	173.2 **inches**	**13.5** **inches**
	4742 mm	4399 mm	343 mm

Bumper Engagement (Inline Impact Only): DIRECT ENGAGEMENT

Still Engagement (Side Impact Only): NOT APPLICABLE

A-pillar Engagement (Side Impact Only): NOT APPLICABLE

Moving Test Cart Angle:

Magnitude of the Tilt-Angle Measured between surface if a Rollover Test Cart and the Ground

Moving Test Cart / Vehicle Crabbed Angle: 0

Magnitude of the Crabbed Angle Measured Clockwise from Logitudial Vector to Velocity Vector of Vehicle

Moving Test Cart Vehicle Orientation on Cart:

Magnitude of the Angle Measured between the vehicle Orientation and the Direction of the Test Cart Motion

Vehicle 1 - 1993 FORD TAURUS

Test #	NHTSA Test Vehicle Number	VIN
1973	Y4911306	1FALP52U2PG268206

Year	Make	Model	Body
1993	FORD	TAURUS	FOUR DOOR SEDAN

Vehicle Modification Indicator	Vehicle Modification(s) Description
PRODUCTION VEHICLE	NO COMMENTS

Post-test Steering Column Shear Capsule Seperation	Steering Column Collapse Mechanism
UNKNOWN	UNKNOWN

Vehicle Commentary: 1993 FORD TAURUS

Vehicle Length	4879	mm	192.1	inches	**Vehicle Test Weight**	1603	KG	**3534** **pounds**
Vehicle Wheelbase	2700	mm	106.3	inches	**Vehicle Width**	1808	mm	**71.2** **inches**
CG behind front axle	1097	mm	43.2	inches	**Total Length of Indentation**	1809	mm	**71.2** **inches**
Center of Damage to CG Axis	0	mm	0	inches	**Maximum Static Crush Depth**	25	mm	**1** **inches**

Vehicle Damage Index	Principal Direction of Force	**Pre-Impact Speed**			
9999999	0	48.4	kph	**30.1**	**mph**

Pre & Post Test Measurements

(Measurments are taken in a logitudinal direction. Except for Engine Block, all measurments are taken 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							
				4879	192.1	4460	175.6				
				Engine Block							
				406	16	406	16				
4740	186.6	4394	173	Front Bumper Corner				4742	186.7	4399	173.2
				Front of Engine							
				4295	169.1	4128	162.5				
3627	142.8	3602	141.8	Firewall				3647	143.6	3548	139.7
				3660	162.5	3612	142.2				
3360	132.3	3343	131.6	Upper Leading Edge of Door				3338	131.4	3317	130.6
3307	130.2	3282	129.2	Lower Leading Edge of Door				3310	130.3	3272	128.8
3333	131.2	3338	131.4	Bottom of 'A' Post				3330	131.1	3320	130.7
2281	90.3	2271	89.4	Upper Trailing Edge of Door				2281	89.8	2250	88.6
2276	89.6	2248	88.5	Lower Trailing Edge of Door				2263	89.1	2240	88.2
				Steering Column							
				2878	113.3	3665	144.3				
				Center of Steering Column to 'A' Post (Horizontal)							
				396	15.6	363	14.3				
				Center of Steering Column to 'A' Post (Vertical)							
				1628	64.1	1664	65.5				

4N6XPRT StifCalcs™
1993 FORD TAURUS

NHTSA Crash Test - # 1973 - Front Impact

{ Pre/Post Crush Depths - Vehicle Width - Closing Speed - Trapezoidal Average}

Vehicle Test Weight = 3534 pounds
Vehicle Test Speed = 30.1 mph
Test crush width = 71.2 inches

Pre/Post Collision Crush Depths (inches)

(Driver Side)	Left Bumper Corner	Centerline	Right Bumper Corner	(Pass. Side)
	13.6	16.5	13.5	

Calculated Stiffness Coefficients

		A	B	G
Minimum Crush = 13.5 inches				
Using a Rated No Damage Speed of	2.5 mph	203.2	166	124.4
Using a Rated No Damage Speed of	5 mph	369.6	137.3	497.5
Using a Rated No Damage Speed of	7.5 mph	499.1	111.3	1119.3
Using a Rated No Damage Speed of	10 mph	591.8	88	1989.9
Average Crush = 15 inches				
Using a Rated No Damage Speed of	2.5 mph	182.9	134.5	124.4
Using a Rated No Damage Speed of	5 mph	332.7	111.2	497.5
Using a Rated No Damage Speed of	7.5 mph	449.2	90.1	1119.3
Using a Rated No Damage Speed of	10 mph	532.6	71.3	1989.9
Maximum Crush = 16.5 inches				
Using a Rated No Damage Speed of	2.5 mph	166.3	111.2	124.4
Using a Rated No Damage Speed of	5 mph	302.4	91.9	497.5
Using a Rated No Damage Speed of	7.5 mph	408.4	74.5	1119.3
Using a Rated No Damage Speed of	10 mph	484.2	58.9	1989.9

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

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

A = Maximum force per inch of damage without permenant damage, lb/in
B = Crush resistance per inch of damage width, lb/in^2
G = Energy dissipated without permenant damage, lb

****

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) = SQR(30 * CF * max crush in feet)*

Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	**16.5**	**29.4**	-0.7	-2.2%

4N6XPRT Systems Specific Crush Factor (CF specific to this test) = 21.9

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

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

4N6XPRT StifCalcs™
1993 FORD TAURUS

NHTSA Crash Test - # 1973 - Front Impact

{ Pre/Post Crush Depths - Indentation Length - Closing Speed - Trapezoidal Average}

Vehicle Test Weight = 3534 pounds
Vehicle Test Speed = 30.1 mph
Test crush width = 71.2 inches

Pre/Post Collision Crush Depths (inches)

(Driver Side)	Left Bumper Corner	Centerline	Right Bumper Corner	(Pass. Side)
	13.6	16.5	13.5	

Calculated Stiffness Coefficients

		A	B	G
Minimum Crush = 13.5 inches				
Using a Rated No Damage Speed of	2.5 mph	203.1	166	124.3
Using a Rated No Damage Speed of	5 mph	369.4	137.2	497.2
Using a Rated No Damage Speed of	7.5 mph	498.9	111.2	1118.7
Using a Rated No Damage Speed of	10 mph	591.5	88	1988.8
Average Crush = 15 inches				
Using a Rated No Damage Speed of	2.5 mph	182.8	134.4	124.3
Using a Rated No Damage Speed of	5 mph	332.5	111.2	497.2
Using a Rated No Damage Speed of	7.5 mph	449	90.1	1118.7
Using a Rated No Damage Speed of	10 mph	532.3	71.2	1988.8
Maximum Crush = 16.5 inches				
Using a Rated No Damage Speed of	2.5 mph	166.2	111.1	124.3
Using a Rated No Damage Speed of	5 mph	302.2	91.9	497.2
Using a Rated No Damage Speed of	7.5 mph	408.2	74.5	1118.7
Using a Rated No Damage Speed of	10 mph	484	58.9	1988.8

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

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Crush Factor	Maximum Crush (inches)	Calculated Impact Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	**16.5**	**29.4**	-0.7	-2.2%

4N6XPRT Systems Specific Crush Factor (CF specific to this test) = 21.9

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

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

4N6XPRT StifCalcs™

Available Test Results

Frontal Impact Test Summary

Report Filter Settings

Year Range : 1992 - 1995

Make : FORD

Model : TAURUS

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	Closing Speed (mph)	Vehicle Width Stiffness Values A	B	G	Crush Factor (Average Crush)
Test Type : **Front**								
1777	1993 FORD TAURUS FOUR DOOR SEDAN	5.0	12	29.3	446.7	180.9	551.5	28.6
1890	1993 FORD TAURUS FOUR DOOR SEDAN	5.0	18.3	35	352.7	115.9	536.3	26.8
1899	1993 FORD TAURUS FOUR DOOR SEDAN	5.0	11.9	29.4	404.6	165.2	495.4	28.9
1973	1993 FORD TAURUS FOUR DOOR SEDAN	5.0	14.3	30.1	349.9	123	497.5	25.4
1974	1993 FORD TAURUS FOUR DOOR SEDAN	5.0	17.5	35.1	342.3	117.9	496.9	28.2
1976	1993 FORD TAURUS FOUR DOOR SEDAN	5.0	19.8	35	311.8	94.4	515.2	24.7
2143	1994 FORD TAURUS FOUR DOOR SEDAN	5.0	57.8	40.2	118.6	14.5	486.3	11.2
		Front Averages			332.4	116	476.3	24.8
		Front Minimums			118.6	14.5	485	11.2
		Front Maximums			446.7	180.9	551.5	28.9
		Front Standard Deviations			104.3	53.9	54.1	6.2

4N6XPRT StifCalcs™

Available Test Results

Frontal Impact Test Summary

Report Filter Settings

Year Range : 1992 - 1995

Make : FORD

Model : TAURUS

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	Closing Speed (mph)	Vehicle Width Stiffness Values A	B	G	Crush Factor (Max Crush)
Test Type : **Front**								
1777	1993 FORD TAURUS FOUR DOOR SEDAN	5.0	12.6	29.3	425.4	164.1	551.5	27.3
1890	1993 FORD TAURUS FOUR DOOR SEDAN	5.0	19.3	35	333.5	103.7	536.3	25.4
1899	1993 FORD TAURUS FOUR DOOR SEDAN	5.0	13.4	29.4	360.9	131.4	495.4	25.8
1973	1993 FORD TAURUS FOUR DOOR SEDAN	5.0	16.5	30.1	302.7	92.1	497.5	22
1974	1993 FORD TAURUS FOUR DOOR SEDAN	5.0	19.7	35.1	303.7	92.8	496.9	25
1976	1993 FORD TAURUS FOUR DOOR SEDAN	5.0	21.5	35	287.5	80.2	515.2	22.8
2076	1993 FORD TAURUS FOUR DOOR SEDAN	5.0	36.9	69.6	341	119.4	486.9	52.5
2143	1994 FORD TAURUS FOUR DOOR SEDAN	5.0	58.3	40.2	117.4	14.2	486.3	11.1
	Front Averages				309	99.7	478.7	26.5
	Front Minimums				117.4	14.2	485.3	11.1
	Front Maximums				425.4	164.1	551.4	52.5
	Front Standard Deviations				88.7	43.7	43.8	11.7

Stiffness Values and Test Data

Derived from

NHTSA Crash Test

5981

1995 FORD TAURUS

Provided By

4N6XPRT StifCalcs™

Registered to:

4N6XPRT SYSTEMS

8387 UNIVERSITY AVENUE

LA MESA CA 91941-3842

S/N: 030201SC01301

4N6XPRT Systems® | 8387 University Avenue | La Mesa, CA 91941 | USA

(800) 266-9778 | (619) 464-3478 | FAX: (619) 464-2206 | Email: 4n6@4n6xprt.com

4N6XPRT StifCalcs™

Sister/Clone database reader

You entered: **1992 FORD TAURUS**

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

Year Range	Make	Model	Body Styles	Wheelbase
1992 - 1995	FORD	TAURUS	4D,SW	106"

REMARKS :

1992 - 1995	MERCURY	SABLE	4D,SW	106"

REMARKS :

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.

Registered Owner : 4N6XPRT SYSTEMS Serial Number # 030201SC01301

4N6XPRT StifCalcs™

Test Information

Test # 5981 NHTSA Version # V5 Test Date 2001-05 Contract # DTNH22-97-C-11033

Contract/Study Title: FMVSS 214-1995 FORD TAURUS

Test Objective(s): VEHICLE CRASHWORTHINESS AND OCCUPANT RESTRAINT PERFORMANCE DATA

Test Type: FMVSS 214 SIDE IMPACT PROTECTION Configuration: IMPACTOR INTO VEHICLE

Closing Speed 53.1 Km/Hr 33 MPH

Impact Angle 270 Offset Distance 0 mm 0 inches Side Impact Point -135 mm -5 inches

Test Performer: MGA RESEARCH Test Reference #: BT01050101

Test Track Surface: CONCRETE Condition: DRY Ambient Temperature 21 C 70 F

Data Recorder Type: OTHER Data Link: OTHER Total Number of Curves 49

Test Commentary: EME ON BOARD DAS 3200

No Fixed Barrier Data

4N6XPRT StifCalcs™

1995 FORD TAURUS LEFT FRONT SEAT OCCUPANT

Test # 5981 Vehicle # 2 Location LEFT FRONT SEAT Seat Position CENTER POSITION

Type NHTSA SIDE IMPACT DUMMY Size Percentile 50 PERCENTILE Calibration Method SIDE IMPACT

Sex M Age 0 Occupant Height 0 mm 0 inches Occupant Weight 0 kg 0 pounds

Occupant Manufactuer FIRST TECH. S/N 048

Occupant Modification

Occupant Description

Occupant Commentary

Head

Head To

Windshield Header	373	mm	14.7	inches
Windshield	66	mm	2.6	inches
Seatback	0	mm	0	inches
Neck to Seatback	0	mm	0	inches

Head To

Side Header	200	mm	7.9	inches
Side Window	314	mm	12.4	inches

First Contact Region (Head) NONE Second Contact Region (Head) NONE

Head Injury Criteria (HIC) 289 HIC Lower Time interval (ms) 83.2 HIC Upper Time interval (ms) 0

Chest

Chest To

Dash	533	mm	21	inches
Steering Wheel	319	mm	12.6	inches
Seatback	0	mm	0	inches

Arm to Door	110	mm	4.3	inches
Hip to Door	171	mm	6.7	inches

First Contact Region (Chest/Abdomen) NONE Second Contact Region (Chest/Abdomen) NONE

Lap Belt Peak Load Newtons 0 pounds Force Shoulder Belt Peak Load Newtons 0 pounds Force

Chest Severity Index

Thorax Peak Acceleration (g's) 0 Thoracic Trauma Index Pelvic Peak Lateral Acceleration (g's)

Legs

Knees to Dash 229 mm 9 inches Knees to Seatback 0 mm 0 inches

First Contact Region (Legs) OTHER Second Contact Region (Legs) NONE

Left Femur Peak Load 0 Newtons 0 pounds Force Right Femur Peak Load 110 Newtons 24.7 pounds Force

1995 FORD TAURUS LEFT FRONT SEAT OCCUPANT

Restraint # 1 3 POINT BELT Mounted BELT - CON Deployment? NOT APPLICABLE

Restraint Commentary PRIMARY

Registered Owner : 4N6XPRT SYSTEMS Serial Number # 030201SC01301

4N6XPRT StifCalcs™

Restraints

1995 FORD TAURUS LEFT FRONT SEAT OCCUPANT

Restraint #	2	NONE	Mounted	NOT APPLIC	Deployment?	NOT APPLICABLE

Restraint Commentary: SECONDARY

4N6XPRT StifCalcs™

1995 FORD TAURUS LEFT REAR SEAT OCCUPANT

Test # 5981 Vehicle # 2 Location LEFT REAR SEAT Seat Position NOT APPLICABLE

Type NHTSA SIDE IMPACT DUMMY Size Percentile 50 PERCENTILE Calibration Method SIDE IMPACT

Sex M Age 0 Occupant Height 0 mm 0 inches Occupant Weight 0 kg 0 pounds

Occupant Manufactuer FIRST TECH. S/N 049

Occupant Modification

Occupant Description

Occupant Commentary

Head

Head To

Windshield Header	0	mm	14.7	inches
Windshield	0	mm	2.6	inches
Seatback	590	mm	0	inches
Neck to Seatback	0	mm	0	inches

Head To

Side Header	156	mm	7.9	inches
Side Window	288	mm	12.4	inches

First Contact Region (Head) OTHER Second Contact Region (Head) OTHER

Head Injury Criteria (HIC) 1037 HIC Lower Time interval (ms) 64.1 HIC Upper Time interval (ms) 0

Chest

Chest To

Dash	0	mm	21	inches
Steering Wheel	0	mm	12.6	inches
Seatback	503	mm	0	inches

Arm to Door	81	mm	4.3	inches
Hip to Door	144	mm	6.7	inches

First Contact Region (Chest/Abdomen) NONE Second Contact Region (Chest/Abdomen) NONE

Lap Belt Peak Load Newtons 0 pounds Force Shoulder Belt Peak Load Newtons 0 pounds Force

Chest Severity Index

Thorax Peak Acceleration (g's) 0 Thoracic Trauma Index Pelvic Peak Lateral Acceleration (g's)

Legs

Knees to Dash 0 mm 9 inches Knees to Seatback 218 mm 0 inches

First Contact Region (Legs) OTHER Second Contact Region (Legs) NONE

Left Femur Peak Load 0 Newtons 0 pounds Force Right Femur Peak Load 86 Newtons 24.7 pounds Force

1995 FORD TAURUS LEFT REAR SEAT OCCUPANT

Restraint # 1 3 POINT BELT Mounted BELT - CON Deployment? NOT APPLICABLE

Restraint Commentary PRIMARY

Registered Owner : 4N6XPRT SYSTEMS Serial Number # 030201SC01301

4N6XPRT StifCalcs™

Restraints

1995 FORD TAURUS LEFT REAR SEAT OCCUPANT

Restraint #	2	NONE	Mounted	NOT APPLIC	Deployment?	NOT APPLICABLE

Restraint Commentary: SECONDARY

4N6XPRT StifCalcs™

Vehicle 1 - 0 NHTSA DEFORMABLE IMPACTOR

Test # 5981 | NHTSA Test Vehicle Number | VIN

Year 0 | Make NHTSA | Model DEFORMABLE IMPACTOR | Body NOT APPLICABLE

Vehicle Modification Indicator: RESEARCH VEHICLE

Vehicle Modification(s) Description:

Post-test Steering Column Shear Capsule Seperation: NOT APPLICABLE

Steering Column Collapse Mechanism: NOT APPLICABLE

Vehicle Commentary: FMVSS 214 DEFORMABLE BARRIER

Vehicle Length	4115	mm	162	inches	
Vehicle Wheelbase	2591	mm	102	inches	
CG behind front axle	1106	mm	43.5	inches	
Center of Damage to CG Axis	0	mm	0	inches	

Vehicle Test Weight	1362	KG	**3003**	**pounds**
Vehicle Width	1252	mm	**49.3**	**inches**
Total Length of Indentation	0	mm	**0**	**inches**
Maximum Static Crush Depth	0	mm	**0**	**inches**

Vehicle Damage Index | Principal Direction of Force: 0 | **Pre-Impact Speed**: 53.1 kph / **33** **mph**

Damage Profile Distance Measurements

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

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

Crush from Pre & Post Test Damage Measurements

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

Bumper Engagement (Inline Impact Only): NOT APPLICABLE

Still Engagement (Side Impact Only): NOT APPLICABLE

A-pillar Engagement (Side Impact Only): NOT APPLICABLE

Moving Test Cart Angle: 27

Magnitude of the Tilt-Angle Measured between surface if a Rollover Test Cart and the Ground

Moving Test Cart / Vehicle Crabbed Angle: 27

Magnitude of the Crabbed Angle Measured Clockwise from Logitudial Vector to Velocity Vector of Vehicle

Moving Test Cart Vehicle Orientation on Cart: 0

Magnitude of the Angle Measured between the vehicle Orientation and the Direction of the Test Cart Motion

Vehicle 1 - 0 NHTSA DEFORMABLE IMPACTOR

Test # 5981 NHTSA Test Vehicle Number VIN

Year 0 Make NHTSA Model DEFORMABLE IMPACTOR Body NOT APPLICABLE

Vehicle Modification Indicatior: RESEARCH VEHICLE

Vehicle Modification(s) Description:

Post-test Steering Column Shear Capsule Seperation: NOT APPLICABLE

Steering Column Collapse Mechanism: NOT APPLICABLE

Vehicle Commentary: FMVSS 214 DEFORMABLE BARRIER

Vehicle Length	4115	mm	162	inches	**Vehicle Test Weight**	1362	KG	**3003** **pounds**
Vehicle Wheelbase	2591	mm	102	inches	**Vehicle Width**	1252	mm	**49.3** **inches**
CG behind front axle	1106	mm	43.5	inches	**Total Length of Indentation**	0	mm	**0** **inches**
Center of Damage to CG Axis	0	mm	0	inches	**Maximum Static Crush Depth**	0	mm	**0** **inches**

Vehicle Damage Index: Principal Direction of Force: 0 **Pre-Impact Speed** 53.1 kph **33** **mph**

Pre & Post Test Measurements

(Measurments are taken in a logitudinal direction. Except for Engine Block, all measurments are taken 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				
				Engine Block							
				0	0	0	0				
0	0	0	0	Front Bumper Corner				0	0	0	0
				Front of Engine							
				0	0	0	0				
0	0	0	0	Firewall				0	0	0	0
				0	0		0				
0	0	0	0	Upper Leading Edge of Door				0	0	0	0
0	0	0	0	Lower Leading Edge of Door				0	0	0	0
0	0	0	0	Bottom of 'A' Post				0	0	0	0
0	0	0	0	Upper Trailing Edge of Door				0	0	0	0
0	0	0	0	Lower Trailing Edge of Door				0	0	0	0
				Steering Column							
				0	0	0	0				
				Center of Steering Column to 'A' Post (Horizontal)							
				0	0	0	0				
				Center of Steering Column to 'A' Post (Vertical)							
				0	0	0	0				

Registered Owner : 4N6XPRT SYSTEMS

Serial Number # 030201SC01301

4N6XPRT StifCalcs™

Vehicle 2 - 1995 FORD TAURUS

Test #	5981	NHTSA Test Vehicle Number	PS0201	VIN	1FALP5345SA274981		
Year	1995	Make	FORD	Model	TAURUS	Body	FOUR DOOR SEDAN

Vehicle Modification Indicatior: PRODUCTION VEHICLE

Vehicle Modification(s) Description:

Post-test Steering Column Shear Capsule Seperation: UNKNOWN

Steering Column Collapse Mechanism: UNKNOWN

Vehicle Commentary:

Vehicle Length	4860	mm	191.3	inches	**Vehicle Test Weight**	1716	KG	**3783** **pounds**
Vehicle Wheelbase	2693	mm	106	inches	**Vehicle Width**	1820	mm	**71.7** **inches**
CG behind front axle	1109	mm	43.7	inches	**Total Length of Indentation**	4200	mm	**165.4** **inches**
Center of Damage to CG Axis	24	mm	0.9	inches	**Maximum Static Crush Depth**	377	mm	**14.8** **inches**

Vehicle Damage Index: 03LPAW — Principal Direction of Force: 297 — **Pre-Impact Speed**: 0 kph / **0** **mph**

Damage Profile Distance Measurements

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

DPD 1	-2	mm	-0.1	inches
DPD 2	27	mm	1.1	inches
DPD 3	350	mm	13.8	inches
DPD 4	269	mm	10.6	inches
DPD 5	16	mm	0.6	inches
DPD 6	8	mm	0.3	inches

Crush from Pre & Post Test Damage Measurements

	Pre-Test		Post-Test		Crush-Depth	
Left Bumper Corner	164.9	**inches**	162.6	**inches**	**2.3**	**inches**
	4189	mm	4130	mm	59	mm
Centerline	191.3	**inches**	190.2	**inches**	**1.1**	**inches**
	4860	mm	4832	mm	28	mm
Right Bumper Corner	164.9	**inches**	165.3	**inches**	**-0.4**	**inches**
	4189	mm	4198	mm	-9	mm

Bumper Engagement (Inline Impact Only)	Still Engagement (Side Impact Only)	A-pillar Engagement (Side Impact Only)
NOT APPLICABLE	DIRECT ENGAGEMENT	DIRECT ENGAGEMENT

Moving Test Cart Angle	Moving Test Cart / Vehicle Crabbed Angle	Moving Test Cart Vehicle Orientation on Cart
27	0	0

Magnitude of the Tilt-Angle Measured between surface if a Rollover Test Cart and the Ground

Magnitude of the Crabbed Angle Measured Clockwise from Logitudial Vector to Velocity Vector of Vehicle

Magnitude of the Angle Measured between the vehicle Orientation and the Direction of the Test Cart Motion

Vehicle 2 - 1995 FORD TAURUS

Test #	NHTSA Test Vehicle Number	VIN
5981	PS0201	1FALP5345SA274981

Year	Make	Model	Body
1995	FORD	TAURUS	FOUR DOOR SEDAN

Vehicle Modification Indicatior: PRODUCTION VEHICLE

Vehicle Modification(s) Description:

Post-test Steering Column Shear Capsule Seperation: UNKNOWN

Steering Column Collapse Mechanism: UNKNOWN

Vehicle Commentary:

Vehicle Length	4860	mm	191.3	inches	**Vehicle Test Weight**	1716	KG	**3783** **pounds**
Vehicle Wheelbase	2693	mm	106	inches	**Vehicle Width**	1820	mm	**71.7** **inches**
CG behind front axle	1109	mm	43.7	inches	**Total Length of Indentation**	4200	mm	**165.4** **inches**
Center of Damage to CG Axis	24	mm	0.9	inches	**Maximum Static Crush Depth**	377	mm	**14.8** **inches**

Vehicle Damage Index	Principal Direction of Force	**Pre-Impact Speed**			
03LPAW2	297	0	kph	**0**	**mph**

Pre & Post Test Measurements

(Measurments are taken in a logitudinal direction. Except for Engine Block, all measurments are taken 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							
				4860	191.3	4832	190.2				
				Engine Block							
				0	0	0	0				
4189	164.9	4130	162.6	Front Bumper Corner				4189	164.9	4198	165.3
				Front of Engine							
				0	0	0	0				
0	0	0	0	Firewall				0	0	0	0
				0	0		0				
0	0	0	0	Upper Leading Edge of Door				0	0	0	0
0	0	0	0	Lower Leading Edge of Door				0	0	0	0
0	0	0	0	Bottom of 'A' Post				0	0	0	0
0	0	0	0	Upper Trailing Edge of Door				0	0	0	0
0	0	0	0	Lower Trailing Edge of Door				0	0	0	0
				Steering Column							
				0	0	0	0				
				Center of Steering Column to 'A' Post (Horizontal)							
				0	0	0	0				
				Center of Steering Column to 'A' Post (Vertical)							
				0	0	0	0				

4N6XPRT StifCalcs™
1995 FORD TAURUS

NHTSA Crash Test - # 5981 - Side Impact

{ Damage Profile Distances - Indentation Length - KE Speed - Trapezoidal Average}

Given: Vehicle Test Weight = 3783 pounds
Impactor Weight = 3003 pounds
KE Equivalent Speed = 21.9 mph
Impactor Test Speed = 33 mph
Damage Width = 165.4 inches

Damage Profile Distance Crush Depths (inches)

(Front)	DPD6	DPD5	DPD4	DPD3	DPD2	DPD1	(Rear)
	0.3	0.6	10.6	13.8	1.1	-0.1	

Calculated Stiffness Coefficients

		A	B	G
Minimum Crush = 0.3 inches				
Using a Rated No Damage Speed of	1 mph	1280.7	89428.9	9.2
Using a Rated No Damage Speed of	2 mph	2439.1	81094.8	36.7
Using a Rated No Damage Speed of	3 mph	3475.2	73168.3	82.5
Using a Rated No Damage Speed of	5 mph	5180.7	58538	229.3
Average Crush = 5.2 inches				
Using a Rated No Damage Speed of	1 mph	73.3	293.1	9.2
Using a Rated No Damage Speed of	2 mph	139.6	265.8	36.7
Using a Rated No Damage Speed of	3 mph	199	239.8	82.5
Using a Rated No Damage Speed of	5 mph	296.6	191.9	229.3
Maximum Crush = 13.8 inches				
Using a Rated No Damage Speed of	1 mph	27.8	42.3	9.2
Using a Rated No Damage Speed of	2 mph	53	38.3	36.7
Using a Rated No Damage Speed of	3 mph	75.5	34.6	82.5
Using a Rated No Damage Speed of	5 mph	112.6	27.7	229.3

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

Normal "Rated No Damage Speed" is 2 mph
Some specific vehicles may have a higher rating

A = Maximum force per inch of damage width without permenant damage, lb/in
B = Crush resistance per inch of damage width, lb/in^2
G = Energy dissipated without permenant damage, lb

****

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) = SQR(30 * CF * max crush in feet)*

Crush Factor	Maximum Crush (inches)	Calculated KE Equivalent Speed (mph)	Calculated Error (mph)	Calculated Error (%)
21	**13.8**	**26.9**	5	22.6%

4N6XPRT Systems Specific Crush Factor (CF specific to this test) = 14

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

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

---

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 only ONE SIDE Impact tests for the Ford Taurus.

To create a SIMILAR class of vehicle, we first looked at the test wheelbase and weight of the one side impact test for the Taurus, which was reported as 106 inches, and 3783 pounds.

We then looked at the NHTSA database for FOUR DOOR SEDANS that have SIDE IMPACT TESTS and had a Wheelbase of 105-107 inches (+/- 1 inches of the frontal test vehicles), and 3733-3833 pounds (+/- 50 pounds of the frontal test vehicles).

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

4N6XPRT StifCalcs™

Available Test Results

Side Impact Test Summary

Report Filter Settings

Year Range : 1965 - 2010

Bodystyle : FOUR DOOR SEDAN

Weight Range : 3733 - 3833

WB Range : 105 - 107

Impact Locations : SIDE

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	KE Speed (mph)	Vehicle Indent Stiffness Values A	B	G	Crush Factor (Average Crush)
Test Type : **Side**								
5981	1995 FORD TAURUS FOUR DOOR SEDAN	2.0	5.2	21.9	139.6	265.8	36.7	36.8
3289	2000 VOLKSWAGEN PASSAT FOUR DOOR SEDAN	2.0	9.1	25.8	191.3	249.8	73.2	29.2
4618	2003 MERCEDES C240 FOUR DOOR SEDAN	2.0	7.4	25.7	218.4	348.6	68.4	35.5
6055	2007 SAAB 9-3 FOUR DOOR SEDAN	2.0	9.5	25.7	170.4	212.4	68.4	27.8
5869	2007 SUBARU LEGACY FOUR DOOR SEDAN	2.0	6.5	25.5	247.5	444.8	68.8	39.8
		Side Averages			193.4	304.3	61.5	33.8
		Side Minimums			139.6	212.4	45.9	27.8
		Side Maximums			247.5	444.8	68.9	39.8
		Side Standard Deviations			41.8	93	93.1	5.1

4N6XPRT StifCalcs™

Available Test Results

Side Impact Test Summary

Report Filter Settings

Year Range : 1965 - 2010

Bodystyle : FOUR DOOR SEDAN

Weight Range : 3733 - 3833

WB Range : 105 - 107

Impact Locations : SIDE

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	KE Speed (mph)	Vehicle Indent Stiffness Values A	B	G	Crush Factor (Max Crush)
Test Type : **Side**								
5981	1995 FORD TAURUS FOUR DOOR SEDAN	2.0	14.8	21.9	49.3	33.1	36.7	13
3289	2000 VOLKSWAGEN PASSAT FOUR DOOR SEDAN	2.0	13.2	25.8	132	118.9	73.2	20.1
4618	2003 MERCEDES C240 FOUR DOOR SEDAN	2.0	9.9	25.7	163.1	194.5	68.4	26.5
6055	2007 SAAB 9-3 FOUR DOOR SEDAN	2.0	12	25.7	135	133.2	68.4	22
5869	2007 SUBARU LEGACY FOUR DOOR SEDAN	2.0	9.3	25.5	174.2	220.4	68.8	28
	Side Averages				130.7	140	61	21.9
	Side Minimums				49.3	33.1	36.7	13
	Side Maximums				174.2	220.4	68.8	28
	Side Standard Deviations				49	73.1	73.2	5.9

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E-Mail: 4n6@4n6xprt.com

Dear Conference Attendee,

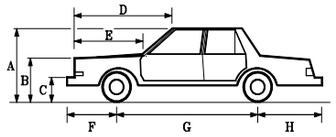
We at 4N6XPRT Systems were pleased to be able to provide you with the preceding data for the crash test vehicles.

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.

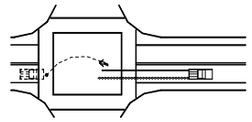
3FAPP1280MR117253

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

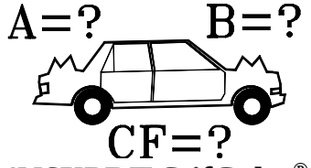
Expert Qwic Calcs® quickly provides answers to questions important in vehicle collision litigation. The user inputs data in response to relevant questions, Expert Qwic Clacs® performs the mathematical calculations required. Both the input data and the calculated result are then displayed, and may be "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)

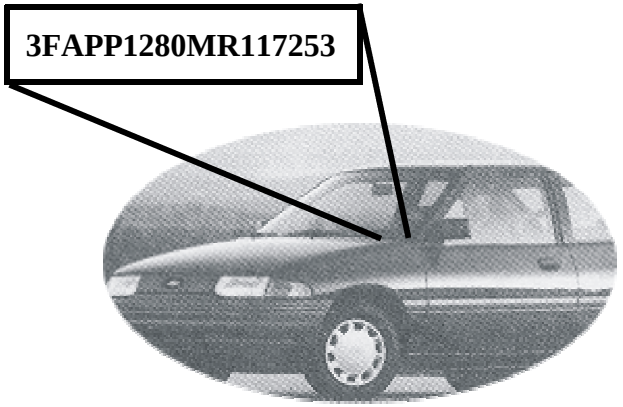
Normal delivery is via electronic download
☐ - Deliver via electronic download link (e-mail address required) $ 0.00
☐ Please deliver on USB at an
additional cost of $35.00 per disk $_____
SUB-TOTAL = $_____
CA Addresses add 9.50% sales tax . . . . = $_____
*(California orders delivered by e-mail attachment **DO NOT** owe sales tax)*
TOTAL = $_____

Enclosed is:
Check*/Money Order:___ Credit Card:___ P.O.:___
Please make check*/M.O./P.O. payable to:
4N6XPRT Systems®
Credit Card Orders:
MasterCard:___ Visa:___ Am.Ex.:___
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)
Notarized Affidavit Filing Requirement $_____
($25.00 per required Notarized Signature)

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SUB-TOTAL = $_____

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TOTAL = $_____

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Check*/Money Order:___ Credit Card:___ P.O.:___
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4N6XPRT Systems®

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Card #: _____
Expires: _____
Name on Card: _____
Signature: _____
Billing Add. : _____
Billing Zip: _____

Mail to: 4N6XPRT Systems®
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La Mesa, CA 91942-9342

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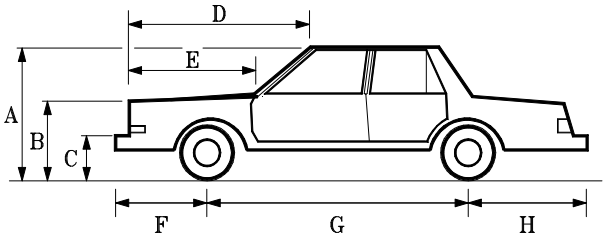
Monday-Friday - 9:30am-5:00pm PST
Phone: (619) 464-3478 Fax: (619) 464-2206

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 AutoStats®



Over 40,000 cars, pick-ups, vans, and utility vehicles 1940's to the present are represented.

4N6XPRT Systems®
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 POLICE 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.

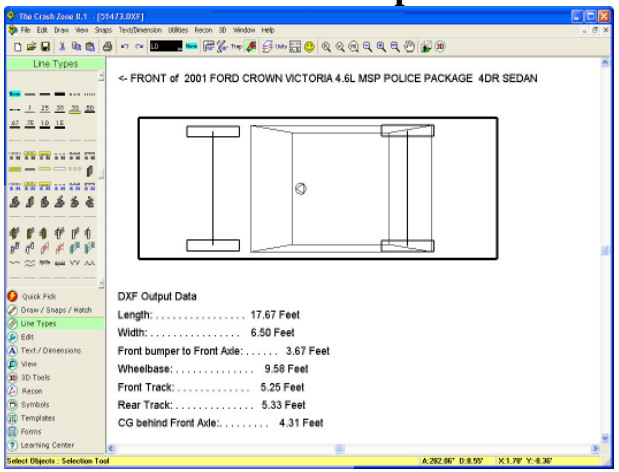
Screen 4

```
        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 ]-------------------------------
 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
==============================================================================
 N)ext Car, Print to - P)rinter or to F)ile, 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®

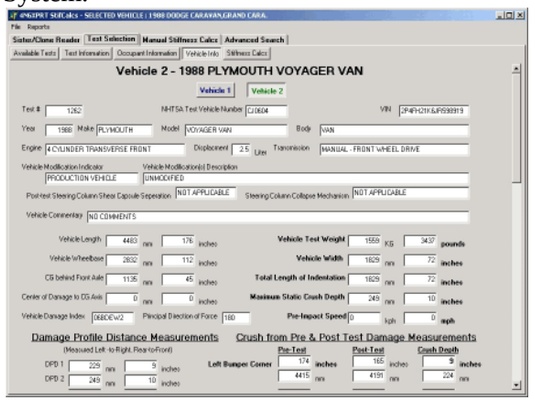
Introducing ..... 4N6XPRT StifCalcs®. A program which puts the NHTSA Crash Test database at your fingertips with no need to access the internet!

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 . . = $_____
Handling **: $_____
(Check with order = $5.00, Credit Card = $10.00 , Govt. P.O.r = $15.00)
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($25.00 per required Notarized Signature)

Normal delivery is via electronic download
☐ - Deliver via electronic download link (e-mail address required) $ 0.00
☐ Please deliver on USB at an
additional cost of $35.00 per disk $_____
SUB-TOTAL = $_____
CA Addresses add 9.50% sales tax . . = $_____
*(California orders delivered by e-mail attachment **DO NOT** owe sales tax)*

TOTAL = $_____

Enclosed is:
Check/M. O. :___ Credit Card:___ P.O.:___

Please make check/M.O./P.O. payable to:
4N6XPRT Systems®
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MasterCard:___ Visa:___ Am.Ex.:___
Card #: _____
Expires: _____
Name on Card: _____
Signature: _____
Billing Add. #: _____
Billing Zip: _____

Mail to: 4N6XPRT Systems®
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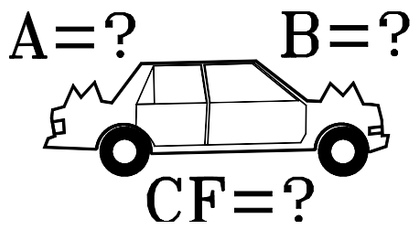
Phone: (619) 464-3478 Fax: (619) 464-2206

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®



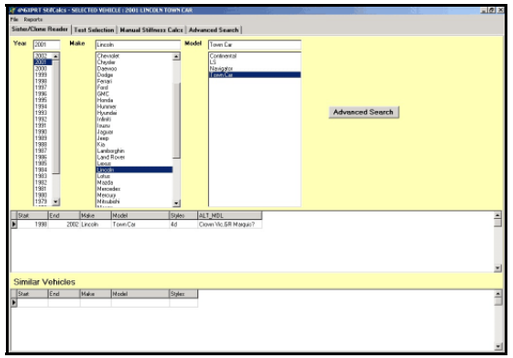
Quick, Convenient, Easy access to the NHTSA Crash Test data on your own MS-Windows computer without the need for an internet connection.

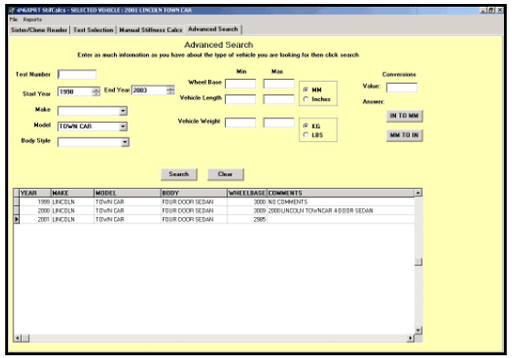
4N6XPRT Systems®
Forensic Expert Software
8387 University Avenue
La Mesa, CA 91942-9342

Web: http://www.4n6xprt.com
E-Mail: stifcalcs@4n6xprt.com

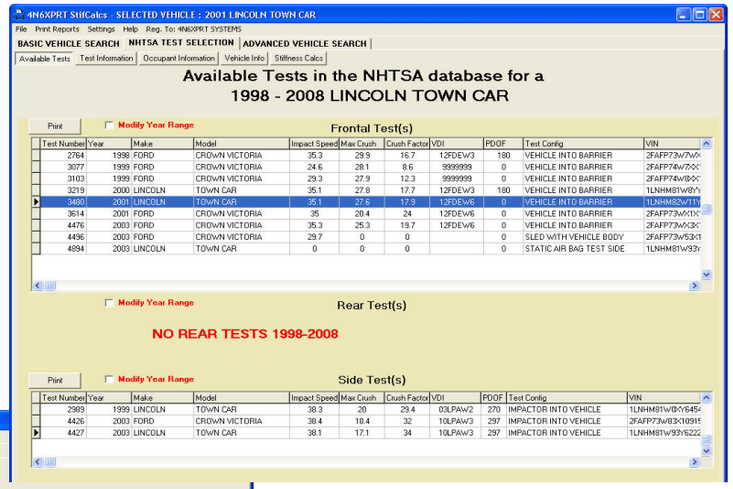
1-800-266-9778

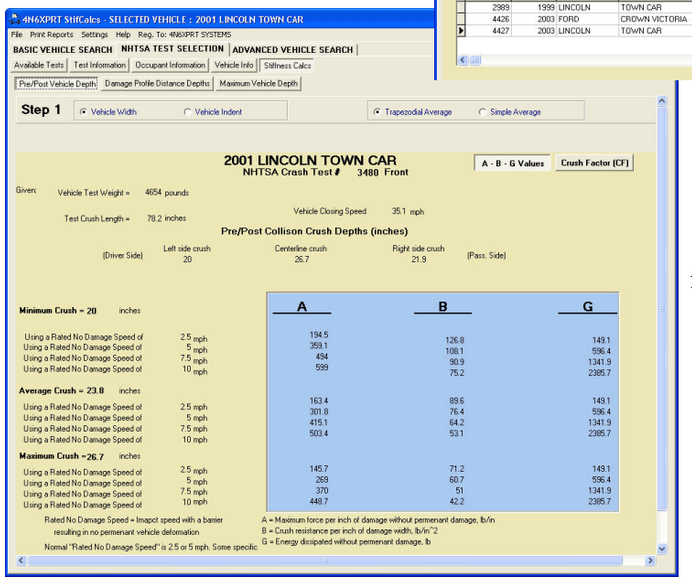
Select the desired vehicle through either our SISTER/CLONE READER or our ADVANCED SEARCH tab.



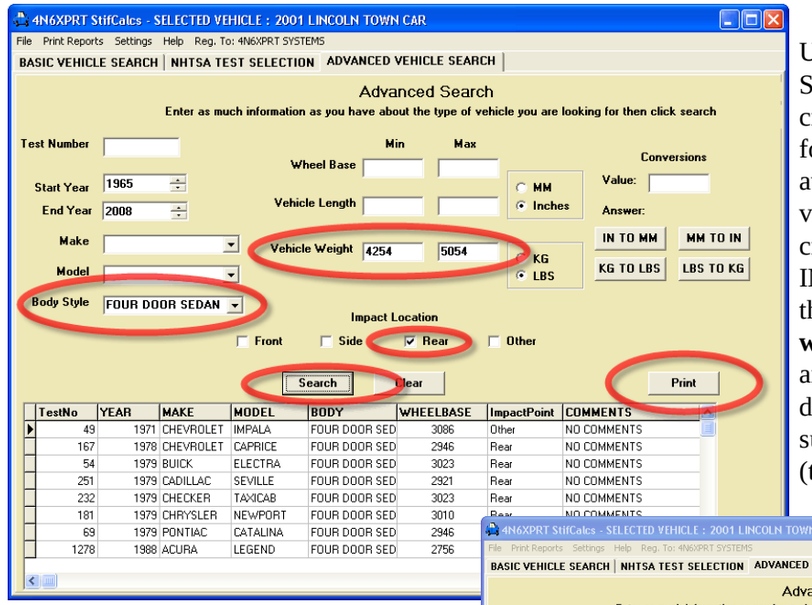


Once the desired vehicle is found/selected, click on the Test Selection tab. From here, select the test to be viewed

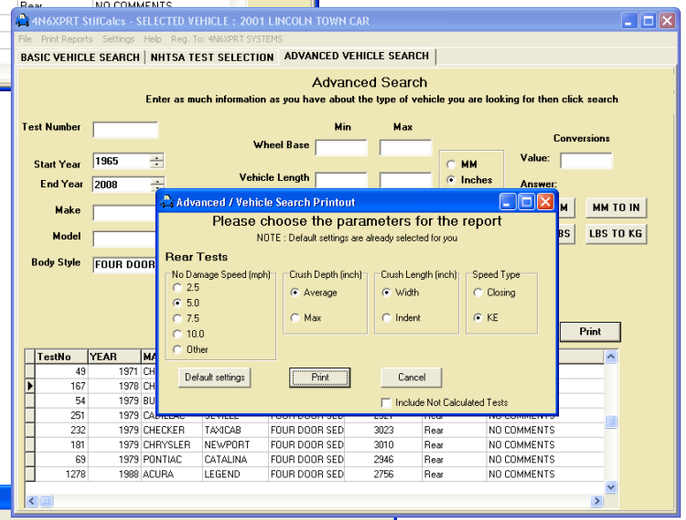




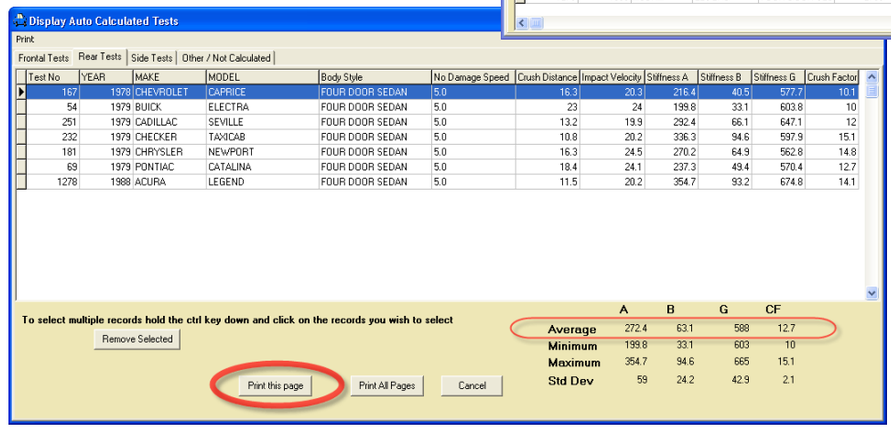
Once a test is selected, the available data for the Test, Occupant(s), Vehicle(s), and Stiffness data can be viewed. The stiffness values are automatically generated from the available test data.



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:

_____

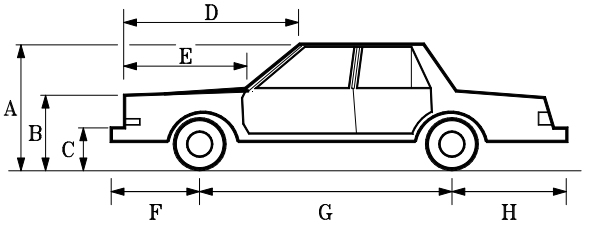
_____

_____

_____

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
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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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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