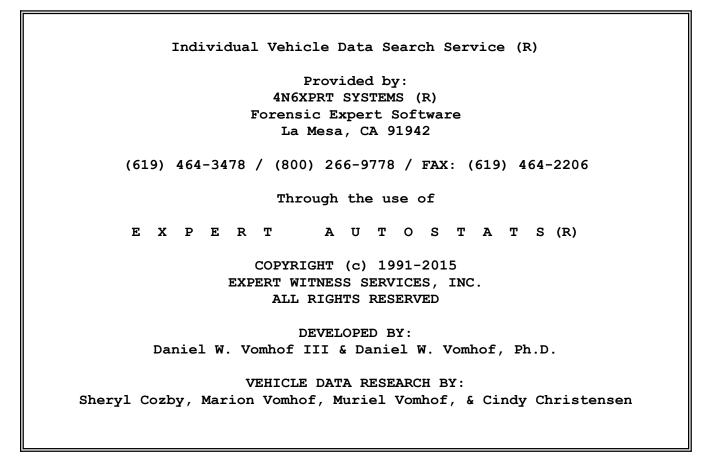
Individual Vehicle dimensions were obtained through the use of the Expert AutoStats(R) program.

The Expert AutoStats(R) program contains a multitude of vehicle dimensions and specifications on over 45,000 different vehicles and 203 different manufacturers spanning more than 70 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.

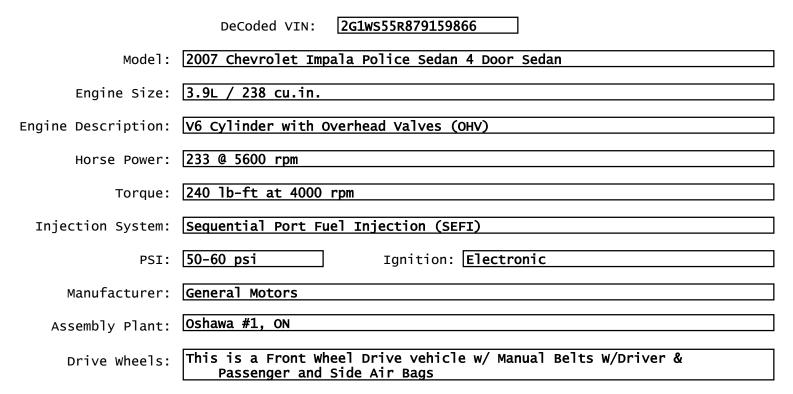
Whenever feasible, the vehicle in question or an exemplar vehicle should be measured to verify data important to your case.



Expert VIN DeCoder®

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Version Number 3.4.0



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

The Fourth through Fifth characters (WS) indicate an Impala Police Sedan

The Sixth character (5) indicate a 4 Door Sedan

The Seventh character (5) indicate Manual Belts W/Driver & Passenger and Side Air Bags

The Eighth character (R) indicate the OEM engine: 3.9L / 238 cu.in., V6 OHV

The Ninth character (the check digit) is entered as 8. The VIN appears Valid, the calculated value is 8.

The Tenth character (7) indicate the model year 2007

- The Eleventh character (9) indicate the vehicle was made in the assembly plant in Oshawa #1, ON
- The Twelfth through Seventeenth characters (159866) indicate the Serial Number and are unique to this vehicle.

Expert AutoStats®

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> JEREMY S DAILY PHD PE TUCRRC 800 TUCKER DRIVE TULSA OK 74104-9700

5/18/2015

2007 CHEVROLET IMPALA MSP POLICE PACKAGE 4 DOOR SEDAN

Curb Weight:	3742 1bs.	Rear:	1697 kg.
Curb Weight Distribution - Front:	62 %		38 %
Gross Vehicle Weight Rating:	4678 1bs.		2122 kg.
Number of Tires on Vehicle: Drive Wheels:	4 FRONT		
Horizontal Dimensions	Inches	Feet	Meters 5.08 2.79
Total Length	200	16.67	
Wheelbase:	110	9.17	
Front Bumper to Front Axle:	42	3.50	1.07
Front Bumper to Front of Front Well:	26	2.17	0.66
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:	83	6.92	2.11
Rear Bumper to Rear Axle:	48	4.00	1.22
Rear Bumper to Rear of Rear Well:	33	2.75	0.84
Rear Bumper to Rear of Trunk:	9	0.75	0.23
Rear Bumper to Base of Rear Window:	26	2.17	0.66
Width Dimensions Maximum Width: Front Track: Rear Track:	73 61 61	6.08 5.08 5.08	1.85 1.55 1.55
Vertical Dimensions Height: Ground to -	59	4.92	1.50
Front Bumper (Top)	23	1.92	0.58
Headlight - center	28	2.33	0.71
Hood - top front:	30	2.50	0.76
Base of Windshield	38	3.17	0.97
Rear Bumper - top:	28	2.33	0.71
Trunk - top rear:	44	3.67	1.12
Base of Rear Window:	45	3.75	1.14

Expert AutoStats®

2007 CHEVROLET IMPALA MSP POLICE PACKAGE 4 DOOR SEDAN

Interior Dimensions Front Seat Shoulder Width Front Seat to Headliner Front Leg Room - seatback to floor Rear Seat Shoulder Width Rear Seat to Headliner Front Leg Room - seatback to floor	59 38	FeetMeters4.921.503.250.993.501.074.921.503.170.973.170.97
Seatbelts: 3pt - front and rear		
Airbags: FRONT SEAT AIRBAGS		
Steering Data Turning Circle (Diameter)	456	38.00 11.58
Steering Ratio: :1	12	
Wheel Radius: Tire Size (OEM): P225/60R16	12	1.00 0.30
TITE SIZE (DEM): P223/60R10		
Acceleration & Braking Information		
Brake Type: ALL DISC		
ABS System: ALL WHEEL ABS		
	o skid, dry pavement): sec a = <mark>-28.2</mark> ft/	sec ² G-force = -0.88
Acceleration:		
•	sec a = 13.8 ft/	
· · · · · · · · · · · · · · · · · · ·		$\operatorname{sec}^{2} \operatorname{G-force} = 0.31$
		sec ² G-force = 0.20
Transmission Type: 4spd AUTOMATIC		
Notes: Federal Bumper Standard Requireme This vehicles Rated Bumper Streng		mph mph

N.S.D.C = 2007 - 2007

Expert AutoStats®

2007 CHEVROLET IMPALA MSP POLICE PACKAGE 4 DOOR SEDAN

Other Information		
Tip-Over Stability Ratio =	1.32	Stable
NHTSA Star Rating (calculated)		****
Center of Gravity (No Load):		
Inches behind front axle	=	41.80
Inches in front of rear axle	=	68.20
Inches from side of vehicle	=	36.50
Inches from ground	=	23.16
Inches from front corner	=	91.40
Inches from rear corner	=	121.80
Inches from front bumper	=	83.80
Inches from rear bumper	=	116.20
Moments of Inertia Approximations (No Load):		
Yaw Moment of Inertia	=	2648.26 1b*ft*sec ²
Pitch Moment of Inertia	=	2555.58 1b*ft*sec ²
Roll Moment of Inertia	=	523.56 lb*ft*sec ²
Front Profile Information		
Angle Front Bumper to Hood Front	=	45.0 deg
Angle Front of Hood to Windshield Base	=	10.5 deg
Angle Front of Hood to Windshield Top	=	19.6 deg
Angle of Windshield	=	29.9 deg
Angle of Steering Tires at Max Turn	=	27.6 deg

First Approximation Crush Factors:

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

$V(mph) = \sqrt{(30 * CF * MID)}$			
KE Equivalent Speed (Front/Rear/Side)	=	21	CF
Bullet vehicle IMPACT SPEED estimation based on TARGET VEHICLE damage ONLY (Tested for Rear/Side Impact only)	=	27	CF

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

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

Stiffness Values and Test Data

NHTSA Crash Test #5468

2006 PONTIAC GRAND PRIX

Provided By

4N6XPRT StifCalcs®

Registered to:

4N6XPRT SYSTEMS 8387 UNIVERSITY AVENUE LA MESA CA 91941-3842 14R-030201SC02301

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Similar Vehicle database reader

You entered: 2007 CHEVROLET IMPALA

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

Year Range	Make	Model	Body Styles	Wheelbase
2005 - 2009 Remarks:	BUICK	LACROSSE	4D	111.7
2006 - 2008 Remarks:	PONTIAC	GRAND PRIX	2D, 4D	110.5
2006 - 2007 Remarks:	CHEVROLET	MONTE CARLO	2D	108
2006 - 2013 Remarks:	CHEVROLET	IMPALA	2D, 4D, SW	110.5, 125

The Similar Vehicle List contained in 4N6XPRT StifCalcs is an extension of the free Vehicle Interchange List provided by Gregory C. Anderson of Scalia Safety Engineering through the 2012 model year. 4N6XPRT Systems® has taken over the maintenance of the Similar Vehicle List beginning with the 2013 version of the 4N6XPRT StifCalcs program. 4N6XPRT Systems® makes no warranties, either expressed or implied, with respect to this data, its quality, performance, merchantability, or fitness for any particular purpose. The entire risk as to its quality and performance is with the user. In no event will 4N6XPRT Systems® be liable for direct, indirect, incidental, or consequential damages resulting from any data presented here, even if 4N6XPRT Systems® has been advised of the possibility of such damages. The user must agree to assume full responsibility for any decisions which are based, in whole or in part, upon information obtained by using this data. Some of the listed similarities are based on estimates or memory. Most of the data are pulled from specification tables which may contain inaccuracies of their own. Use common sense - if something seems wrong, check it (and if it is wrong, let us know!). etc., we request and urge you to contact us - 4n6@4n6xprt.com. If you have suggestions, corrections,

Test Information

Test # 5468	7		A Toct D	oforonco	Guide Versio	n #	VE			
			ATEST	elelelice						
Test Date 2005-09-09	9				Contra	act#	DTNH22-01-	D-02005		
Contract/Study Title	35 MPH NC	AP FRON	TAL - 20	06 GRAN	ND PRIX 4-D	000F	R SEDAN			
Test Objective(s)	OBTAIN AT	D AND VE	HICLE D	ATA						
Test Type	OPTIONAL	NEW CAR	ASSESS	MENT T	EST		Configuration	VEHICLE	INTO BARRIE	R
Impact Angle	0			S	Side Impact l	Point	0	mm	0.0	inches
					Offset Dist	tance	0	mm	0.0	inches
					Closing S	speed	56.5	Km/Hr	35.10	MPH
Test Performer	KARCO ENG	INEERING	i							
Test Reference #	G60100									
Test Track Surface	CONCRETE				Cond	ition	DRY			
Ambient Temperature	28 C	82.4	F	Total N	umber of Cu	irves	133			
Data Recorder Type	DIGITAL DA	TA ACQU	ISITION				Data Link	OTHER		
Test Commentary	DATALINK	S NONE,	ON-BOA	ARD DAS						

Fixed Barrier Information

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

2006 PONTIAC GRAND PRIX LEFT FRONT SEAT OCCUPANT

Test # 5468	
Vehicle # 1 Sex MALE	
Location LEFT FRONT SEAT Age 0	
Position CENTER POSITION Height 0 mm 0.0 inches	
Type HYBRID III DUMMY Weight 0.0 kg 0 pounds	
Size 50 PERCENTILE	
Calibration Method HYBRID III	
Occupant Manufacturer VECTOR, S/N:034	
Occupant Modification UNMODIFIED	
Occupant Description N0 COMMENTS	
Occupant Commentary NO COMMENTS	
Head Head to - Windshielder Header 305 mm 12.0 inches Head Injury Criteria (HIC)	
WindShield 595 mm 23.4 inches HIC Lower Time Interval (ms) 60.5	=
Seatback 0 mm 0.0 inches HIC Upper Time Interval (ms) 96.5	
Side Header 240 mm 9.4 inches	
Side Window 370 mm 14.6 inches	
Neck to Seatback 0 mm 0.0 inches	
First Contact Region (Head)	
Second Contact Region (Head)	
<u>Chest</u>	
Chest to -	
Dash 535 mm 21.1 inches Arm to Door 120 mm 4.7 inches	
Steering Wheel 275 mm 10.8 inches Hip to Door 125 mm 4.9 inches	
Seatback 0 mm 0.0 inches	
Chest Severity Index 0 Pelvic Peak Lateral Acceleration (g's) 0	
Thoracic Trauma Index 0 Thorax Peak Acceleration (g's) 42.7	
Lap Belt Peak Load 4088 Newtons 919.0 pound Force	
Shoulder Belt Peak Load 4441 Newtons 998.4 pound Force	
First Contact Region (Chest/Abdomen) AIR BAG	
Second Contact Region (Chest/Abdomen) NONE	
Legs	
Knees to Dash 145 mm 5.7 inches Knees to Seatback mm 0.0 inches	
Left Femur Peak Load -5109 Newtons -1148.6 pounds Force	
Right Femur Peak Load 4713 Newtons -1059.5 pounds Force	
First Contact Region (Legs) DASHPANEL	
Second Contact Region (Legs)	

2006 PONTIAC GRAND PRIX LEFT FRONT SEAT OCCUPANT

Test #	5468						
Vehicle #	1		Sex	MALE			
Location	LEFT FRONT SE	AT	Age	0			
Position	CENTER POSITI	ON	Height	0 mr	m 0.0	inches	
Туре	HYBRID III DUM	MY	Weight	0.0 kg	0	pounds	
Size	50 PERCENTILE						
Cal	ibration Method	HYBRID III					
Occupa	nt Manufacturer	VECTOR, S/N:034					
Occup	ant Modification	UNMODIFIED					
Occu	pant Description	N0 COMMENTS					
Occup	ant Commentary	NO COMMENTS					
		Restraints	<u>.</u>				
Restra	int # 1 3 POINT	BELT					
Mounte	ed BELT - CO	ONVENTIONAL MOUNT					
Deploy	ment DEPLOY	ED PROPERLY					
Restra	int Commentary	NO COMMENTS]

No commentaty no commentaty							
Restraint # 2	int # 2 FRONTAL AIRBAG						
Mounted	STEERING WHEEL						
Deployment	DEPLOYED PROPERLY						
Restraint Com	mentary NO COMMENTS						

2006 PONTIAC GRAND PRIX RIGHT FRONT SEAT OCCUPANT

Test # 5	5468				
Vehicle #	1		Sex	MALE	
Location	RIGHT FRONT S	EAT	Age	0	
Position C	CENTER POSITI	ON	Height	0 mm 0.0	inches
Туре 🕨	HYBRID III DUMN	MY	Weight	0.0 kg 0	pounds
Size 5	50 PERCENTILE				
Calibr	ration Method	HYBRID III			
Occupant	t Manufacturer	VECTOR, S/N:035			
•	nt Modification	UNMODIFIED			
•	ant Description	N0 COMMENTS			
Occupan	nt Commentary	NO COMMENTS			
Head to -		Head			
Windshield	der Header 285	mm 11.2 inche	s Head Injury (Criteria (HIC) 474	
V	WindShield 540	mm 21.3 inche	s HIC Lov	wer Time Interval (ms) 61.1
	Seatback 0	mm 0.0 inche	s HIC Upp	per Time Interval (ms) 96.3
Si	ide Header 260	mm _10.2 inche	S		
Sic	de Window 360	mm _14.2 inche	S		
Neck to Seat	tback 0 r	nm 0.0 inches			
	First Contact Re	egion (Head)			
Se	econd Contact Re	egion (Head)			
		<u>Chest</u>			
Chest to -					I
		nm <u>22.2</u> inches	Arm to Door		inches
Steering WI		nm 0.0 inches	Hip to Door	20 mm 4.7	inches
Seatb		nm 0.0 inches			
	everity Index	P6	elvic Peak Lateral A		
Thoracic Trai				Acceleration (g's) 47	.4
	•			pound Force	
First Con		Belt Peak Load 4211 est/Abdomen) AIR BAG	Newtons 946.7	pound Force	
	•	est/Abdomen)			
Second Con	itact Region (Ch				
		Legs			I
Knees to D			ees to Seatback	mm [0.0	inches
				Is Force	
Right Femur				Is Force	
~	First Contact R		L		
Se	econd Contact R	egion (Legs)			

2006 PONTIAC GRAND PRIX RIGHT FRONT SEAT OCCUPANT

Test #	5468					
Vehicle #	1		Sex	MALE		
Location	RIGHT FRONT S	EAT	Age	0		
Position	CENTER POSITI	ON	Height	0 mm	0.0 incl	hes
Туре	HYBRID III DUM	MY	Weight	0.0 kg	0 pou	unds
Size	50 PERCENTILE					
Cal	ibration Method	HYBRID III				
Occupa	nt Manufacturer	VECTOR, S/N:035				
Occup	ant Modification	UNMODIFIED				
Occu	pant Description	N0 COMMENTS				
Occupa	ant Commentary	NO COMMENTS				
		<u>Restraints</u>	<u>}</u>			
Restrai	nt # 1 3 POINT	BELT				
Mounte	ed BELT - CO	ONVENTIONAL MOUNT				
Deploy	ment DEPLOY	ED PROPERLY				
Restrai	nt Commentary	NO COMMENTS				

Restraint # 2	FRONTAL AIRBAG		
Mounted	DASH PANEL - TOP		
Deployment	DEPLOYED PROPERLY		
Restraint Commentary NO COMMENTS			

Vehicle 1 2006 PONTIAC GRAND PRIX

Test #	5468										
VIN	2G2WP5529	61115713	3		NHTSA Te	st Vehicl	e Numbe	r 1			
Year	2006				Vehicle Mo	dification	Indicator	PRODU	CTION	VEHICI	E
Make	PONTIAC	F	ost-test	Steering C	olumn Shear	Capsule	Seperatio	on UNKNO	WN		
Model	GRAND PRIX	(Steeri	ng Column Co	ollapse M	lechanism	UNKNO	WN		
Body	FOUR DOOR	SEDAN									
Engine	V6 TRANSVE	ERSE FRO	DNT								
Displacement	3.8 Lite	er Trai	nsmissior	AUTON	ATIC - FRON	T WHEE	L DRIVE				
Vehicle Modific	ation(s) Descr	iption U	INMODIF	IED							
Vehicle Comm	entary NO C	OMMENT	S								
Vehicle Len	gth 5028	mm	198.0	inches	CG	behind I	Front Axle	r 1129 r	mm 🛛	44.4	inches
Vehicle V	Vidth 1815	mm'	71.5	inches	Center of D	Damage t	o CG Axis	s 0 r	mm [0.0	inches
Vehicle Whee	lbase 2805	mm	110.4	inches	Total Leng	gth of Ind	entation	1238 r	mm 🛛	48.7	inches
Vehicle Test W	eight 1791	KG	3948	pounds	Maximum S	Static Cru	sh Depth	679 r	mm [26.7	inches
						Pre-Impa	ict Speed	56 k	kph [35.1	mph
Vel	nicle Damage	Index 12	FDEW6		Princi	ipal Direc	tion of Fo	rce 0			
	ofilo Diotono			to	Cruch from			+ Domoo			onto
	ofile Distanc				Crush fron						
· –	ured Left-to-Ri	- <u> </u>	,		2	Pre-Tes	_	Post-Test		Crush I	
DPD 1		-22.6	inches	Left B	umper Corner	-	inches			22.6	inches
DPD 2		-25.1	inches			4868	mm	4294 r	nm	574	mm
DPD 3		-26.7	inches		Centerline	198.0	inches	171.4 i	nches	26.6	inches
DPD 4 -		-26.5	inches			5028	mm	4353 r	mm	675	mm
DPD 5		-25.0	inches	Right Br	Imper Corner	191.7	inches	168.2 i	nches	23.4	inches
DPD 6 -	<u>595</u> mm	-23.4	inches	rught be		4868	mm		mm	595] mm
						4000		4270		000	7
Bumper E	Ingagement			Sill E	ngagement			A-r	oillar Er	ngagem	ent
•	pact Only)				Impact Only)			•		pact On	
	0.0			•	APPLICABLE			, È		0.0	Ť
											—
	Test Cart			•	Test Cart/Vehi	cle				ntation o	
	ngle			Cra	bbed Angle			r		Test Car	
	ENGAGEMEN	IT			0.0					LICABL	
	of the Tilt Angle				of the Crabbed Angl	le				of the Angle	
	etween surface of a				re Clockwise from			Measured be			
Rollover Test	Cart and the Ground	d	Long	itudinal Vector	to Velocity Vector	of Vehicle		and Dir	ection of	Test Cart N	<i>1otion</i>

Vehicle 1 2006 PONTIAC GRAND PRIX

Test #	5468								
VIN	2G2WP552961115	713	NHTSA	A Test Veh	icle Number	1			
Year	2006	Vehicle Modification Indicator PRODUCTION VEHICLE							
Make	PONTIAC	Post-test Steerir	ng Column She	ear Capsul	le Seperation	UNKNOWN			
Model	GRAND PRIX	St	eering Colum	n Collapse	Mechanism	UNKNOWN			
Body	FOUR DOOR SED	AN							
Engine	V6 TRANSVERSE								
Displacement	3.8 Liter	Transmission AU	TOMATIC - FR	ONT WHE					
Vehicle Modific	ation(s) Description	UNMODIFIED							
Vehicle Comm	entary NO COMME								
Vehicle Len	gth <u>5028</u> mm	n 198.0 inches		CG behind	d Front Axle	129 mm	44.4	inches	
Vehicle V	Vidth 1815 mm	n <u>71.5</u> inches	Center	of Damage	e to CG Axis) mm	0.0	inches	
Vehicle Whee	lbase 2805 mm	n 110.4 inches	Total L	ength of li	ndentation	238 mm	48.7	inches	
Vehicle Test W	eight 1791 KG	3948 pound	s Maximu		Crush Depth		26.7	inches	
				Pre-Im	pact Speed	6 kph	35.1	mph	
Vel	nicle Damage Index	12FDEW6	Pi	rincipal Dire	ection of Forc	e 0			
		Pre & Post Te	<u>st Damage</u>	e Measu	<u>irements</u>				
(Measureme	ents are taken in a longitudir	aldirection. Except for En	gine Block, all meas	surements are	take from the Rea	r Vehide Surface f	rward.)		
L	eft Side		Centerlin	e		Right	t Side		
Pre-Test	Post-Test	Pre	-Test	Post-Test	t I	Pre-Test	Pos	t-Test	
mm inche	s mm inche	s mm	inches	mm ind	ches mi	m inches	mm	inches	
		Len	gth of Vehicle	at Centerl	line				
		5028	198.0 4	353 17 [.]	1.4				
			Engine B	lock					
		490	19.3 4	90 19.	.3				
4868 191.7	4294 169.1		Front Bumpe	er Corner	486	8 191.7	4273	168.2	
			Front of E	ngine					
		4378	172.4 4	102 16 [.]	1.5				
3786 149.1	3721 146.5]	Firewa	II	376	6 148.3	3707	145.9	
		3813	150.1 3	761 14	8.1				
3420 134.6	3419 134.6	Up	per Leading E	dge of Do	or 341	2 134.3	3420	134.6	
3374 132.8	3380 133.1	Lov	ver Leading E	dge of Doo	or <u>337</u>	2 132.8	3380	133.1	
3368 132.6	3372 132.8		Bottom of 'A	' Post	336	6 132.5	3374	132.8	
2315 91.1	2314 91.1	U	oper Trailing E	dge of Doo	or 231	2 91.0	2314	91.1	
2330 91.7	2334 91.9	Lo	wer Trailing E	dge of Doo	or 232	8 91.7	2335	91.9	
			Steering C						
		2915		935 11					
			ering Column						
		405		96 15.					
			ering Column						
		410	16.1 4	15 16.	.3				

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Registered Owner: 4N6XPRT SYSTEMS

Serial Number: 14R-030201SC02301

2006 PONTIAC GRAND PRIX

NHTSA Crash Test - #5468 - Front Impact

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

Test Vehicle Weight =	3948 pounds
Vehicle Closing Speed =	35.1 mph
Test Crush Length =	71.5 inches

Pre/Post Collision Crush Depths (inches)

	Left Side Crush	Centerline Crush	Right Side Crush	(Dece Cide)
(Driver Side)	22.6	26.6	23.4	(Pass. Side)

		CRASH	SMAC Stiffness		
		<u>A</u>	В	G	<u> </u>
Minimum Crush = 22.6 inches					106.8
Using a Rated No Damage Speed of	2.5mph	159.7	92.1	138.4	
Using a Rated No Damage Speed of	5.0mph	294.9	78.5	553.6	
Using a Rated No Damage Speed of	7.5mph	405.6	66.0	1245.6	
Using a Rated No Damage Speed of	10.0mph	491.8	54.6	2214.4	
Average Crush = 24.8 inches					88.7
Using a Rated No Damage Speed of	2.5mph	145.5	76.5	138.4	
Using a Rated No Damage Speed of	5.0mph	268.7	65.2	553.6	
Using a Rated No Damage Speed of	7.5mph	369.6	54.8	1245.6	
Using a Rated No Damage Speed of	10.0mph	448.1	45.3	2214.4	
Maximum Crush = 26.6 inches					77.1
Using a Rated No Damage Speed of	2.5mph	135.7	66.5	138.4	
Using a Rated No Damage Speed of	5.0mph	250.5	56.7	553.6	
Using a Rated No Damage Speed of	7.5mph	344.6	47.7	1245.6	
Using a Rated No Damage Speed of	10.0mph	417.8	39.4	2214.4	

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

A= Maxim um force per inch of dam age without permanent dam age, Ib/in

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

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

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

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

Speed from Crush calculation using a generic CF of 21 as suggested in Expert AutoStats KE Speed (mph) = SQRT(30 * CF * max crush in feet)

Crush	Maximum Crush	Calculated KE Speed	Calculated Error	Calculated Error
Factor	(inches)	(mph)	(mph)	(%)
21	26.6	37.4	2.3	6.1

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 18.5

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

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

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Registered Owner: 4N6XPRT SYSTEMS

2006 PONTIAC GRAND PRIX

NHTSA Crash Test - #5468 - Front Impact

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

Test Vehicle Weight =	3948 pounds
Vehicle Closing Speed =	35.1 mph
Test Crush Length =	48.7 inches

Pre/Post Collision Crush Depths (inches)

	Left Side Crush	Centerline Crush	Right Side Crush	(Dece Side)
(Driver Side)	22.6	26.6	23.4	(Pass. Side)

		CRASH	SMAC Stiffness		
		<u>A</u>	В	G	<u> </u>
Minimum Crush = 22.6 inches					156.6
Using a Rated No Damage Speed of	2.5mph	234.1	135.1	202.9	
Using a Rated No Damage Speed of	5.0mph	432.3	115.1	811.6	
Using a Rated No Damage Speed of	7.5mph	594.6	96.8	1826.1	
Using a Rated No Damage Speed of	10.0mph	721.0	80.1	3246.5	
Average Crush = 24.8 inches					130.0
Using a Rated No Damage Speed of	2.5mph	213.3	112.2	202.9	
Using a Rated No Damage Speed of	5.0mph	394.0	95.6	811.6	
Using a Rated No Damage Speed of	7.5mph	541.9	80.4	1826.1	
Using a Rated No Damage Speed of	10.0mph	657.0	66.5	3246.5	
Maximum Crush = 26.6 inches					113.0
Using a Rated No Damage Speed of	2.5mph	198.9	97.5	202.9	
Using a Rated No Damage Speed of	5.0mph	367.3	83.1	811.6	
Using a Rated No Damage Speed of	7.5mph	505.2	69.9	1826.1	
Using a Rated No Damage Speed of	10.0mph	612.6	57.8	3246.5	

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

vehicles may, however, have a higher rating

Normal "Rated No Damage Speed" is 2.5 or 5 mph. Some Specific

A= Maxim um force per inch of dam age without permanent dam age, Ib/in

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

G = Energy dissipated without permanent damage, lb

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

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

Speed from Crush calculation using a generic CF of 21 as suggested in Expert AutoStats KE Speed (mph) = SQRT(30 * CF * max crush in feet)

Crush	Maximum Crush	Calculated KE Speed	Calculated Error	Calculated Error
Factor	(inches)	(mph)	(mph)	(%)
21	26.6	37.4	2.3	6.1

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 18.5

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

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

4N6XPRT StifCalcs® licensed by 4N6XPRT Systems (www.4N6XPRT.com) to:

Available Test Results Front Impact Test Summary

Report Filter Settings

Year Range: 2006 - 2013 Make: CHEVROLET Model: IMPALA

Test	Vehicle	No								
Numbe	r Info	Damage	Average	Vehicle Width						
		Speed	Crush	KEES	S t	iffness	Valı	u e s	Crush	
		(mph)	(inch)	(mph)	А	В	G	Kv	Factor	
5578	2006 CHEVROLET MONTE CARLO TWO DOOR C	5.0	26.3	35.0	250.4	57.1	549.0	77.7	18.6	
7488	2012 CHEVROLET IMPALA FOUR DOOR SEDAN	5.0	23.9	34.9	282.3	70.7	563.5	96.4	20.4	
5468	2006 PONTIAC GRAND PRIX FOUR DOOR SEDAN	5.0	23.5	35.1	283.3	72.5	553.6	98.6	20.9	
5547	2006 CHEVROLET IMPALA FOUR DOOR SEDAN	5.0	23.8	35.2	286.3	72.4	565.9	98.5	20.7	
5274	2005 BUICK LACROSSE FOUR DOOR SEDAN	5.0	23.4	35.1	287.8	74.2	558.3	100.9	21.1	
6052	2007 CHEVROLET IMPALA FOUR DOOR SEDAN	5.0	12.4	24.7	382.5	121.6	601.5	191.1	19.7	
7496	2012 CHEVROLET IMPALA FOUR DOOR SEDAN	5.0	6.5	20.0	494.8	229.5	533.3	407.7	24.8	
		Average			323.9	99.7	560.7	153.0	20.9	
		Avelage	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		525.5	55.7	500.7	155.0	20.5	
		Minimum	(MIN)		250.4	57.1	533.3	77.7	18.6	
	I	Maximum	(MAX)		494.8	229.5	601.5	407.7	24.8	
	Standard Deviation	(STDev-sa	ample)		85.8	60.7	21.0	118.2	1.9	
	Num	nber of Tes	sts (n)	7						

Available Test Results Front Impact Test Summary

Report Filter Settings

Year Range: 2006 - 2013 Make: CHEVROLET Model: IMPALA

Test Numbe	vehicle r Info	No Damage Speed (mph)	Max Crush (inch)	•	V (S t A			•	Crush Factor
7496	2012 CHEVROLET IMPALA FOUR DOOR SEDAN	5.0	15.4	20.0	207.6	40.4	533.3	71.8	10.4
5578	2006 CHEVROLET MONTE CARLO TWO DOOR C	5.0	28.0	35.0	235.7	50.6	549.0	68.9	17.5
5547	2006 CHEVROLET IMPALA FOUR DOOR SEDAN	5.0	28.3	35.2	240.8	51.2	565.9	69.6	17.4
5468	2006 PONTIAC GRAND PRIX FOUR DOOR SEDAN	5.0	26.7	35.1	249.3	56.1	553.6	76.3	18.4
7488	2012 CHEVROLET IMPALA FOUR DOOR SEDAN	5.0	26.5	34.9	253.9	57.2	563.5	77.9	18.4
5274	2005 BUICK LACROSSE FOUR DOOR SEDAN	5.0	24.9	35.1	269.7	65.2	558.3	88.6	19.8
6052	2007 CHEVROLET IMPALA FOUR DOOR SEDAN	5.0	13.9	24.7	340.6	96.4	601.5	151.5	17.6
		Average (AVG)		256.8	59.6	560.7	86.4	17.1
		Minimum	(MIN)		207.6	40.4	533.3	68.9	10.4
Maximum (MAX)					340.6	96.4	601.5	151.5	19.8
	Standard Deviation	(STDev-sa	mple)		41.6	17.9	21.0	29.5	3.1
	Num	ber of Tes	sts (n)	7					

Stiffness Values and Test Data

NHTSA Crash Test #5871

2007 BUICK LACROSSE

Provided By

4N6XPRT StifCalcs®

Registered to:

4N6XPRT SYSTEMS 8387 UNIVERSITY AVENUE LA MESA CA 91941-3842 14R-030201SC02301

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Similar Vehicle database reader

You entered: 2007 CHEVROLET IMPALA

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

Year Range	Make	Model	Body Styles	Wheelbase
2005 - 2009 Remarks:	BUICK	LACROSSE	4D	111.7
2006 - 2008 Remarks:	PONTIAC	GRAND PRIX	2D, 4D	110.5
2006 - 2007 Remarks:	CHEVROLET	MONTE CARLO	2D	108
2006 - 2013 Remarks:	CHEVROLET	IMPALA	2D, 4D, SW	110.5, 125

The Similar Vehicle List contained in 4N6XPRT StifCalcs is an extension of the free Vehicle Interchange List provided by Gregory C. Anderson of Scalia Safety Engineering through the 2012 model year. 4N6XPRT Systems® has taken over the maintenance of the Similar Vehicle List beginning with the 2013 version of the 4N6XPRT StifCalcs program. 4N6XPRT Systems® makes no warranties, either expressed or implied, with respect to this data, its quality, performance, merchantability, or fitness for any particular purpose. The entire risk as to its quality and performance is with the user. In no event will 4N6XPRT Systems® be liable for direct, indirect, incidental, or consequential damages resulting from any data presented here, even if 4N6XPRT Systems® has been advised of the possibility of such damages. The user must agree to assume full responsibility for any decisions which are based, in whole or in part, upon information obtained by using this data. Some of the listed similarities are based on estimates or memory. Most of the data are pulled from specification tables which may contain inaccuracies of their own. Use common sense - if something seems wrong, check it (and if it is wrong, let us know!). etc., we request and urge you to contact us - 4n6@4n6xprt.com. If you have suggestions, corrections,

Test Information

Te et # [6071	NULTEA Test Deferrer of Cuide Version #								
Test # 5871	NHTSA Test Reference Guide Version #								
Test Date 2006-10-2	5 Contract #	DTNH22-03-D-22005							
Contract/Study Title	NEW CAR ASSESSMENT PROGRAM SIDE IMPACT TES	Т							
Test Objective(s)	TO GENERATE COMPARATIVE SIDE IMPACT PERFORM	IANCE INFORMATION							
Test Type	NEW CAR ASSESSMENT TEST	Configuration IMPACTOR INTO VEHICLE							
Impact Angle	270 Side Impact Point	N/A mm N/A inches							
	Offset Distance	0 mm 0.0 inches							
	Closing Speed	62.0 Km/Hr 38.50 MPH							
Test Performer	CALSPAN								
Test Reference #	RUN2265								
Test Track Surface	CONCRETE Condition	DRY							
Ambient Temperature	21 C 69.8 F Total Number of Curves	61							
Data Recorder Type	DIGITAL DATA ACQUISITION	Data Link UMBILICAL CABLE							
Test Commentary	FY 2007 NCAP SIDE IMPACT - 2007 BUICK LACROSSE	- M70108							
Fixed Barrier Information									
Barrier Type Barrier Shape	Pole Barrier Diameter	mm inches							
Banner Bhape									

2007 BUICK LACROSSE LEFT FRONT SEAT OCCUPANT

Test # 5871	
Vehicle # 2 Sex MALE	
Location LEFT FRONT SEAT Age 0	
Position CENTER POSITION Height 0 mm 0.0 inches	
Type SID WITH HYBRID III HEAD/NECK Weight 0.0 kg 0 pounds	
Size 50 PERCENTILE	
Calibration Method SIDE IMPACT DUMMY	
Occupant Manufacturer MFG: FIRST TECHNOLOGY SAFETY SYSTEMS S/N:270	
Occupant Modification UNMODIFIED	
Occupant Description SUBPART M SIDE IMPACT DUMMY	
Occupant Commentary CONTACTS: CNTRC1:DOOR TRIM; CNTRL1:DOOR TRIM	
Head to - Head Windshielder Header 399 mm 15.7 inches Head Injury Criteria (HIC) 272 WindShield 711 mm 28.0 inches HIC Lower Time Interval (ms) 34.4 Seatback 0 mm 0.0 inches HIC Upper Time Interval (ms) 59.9 Side Header 185 mm 7.3 inches HIC Upper Time Interval (ms) 59.9	
Neck to Seatback 0 mm 0.0 inches	
First Contact Region (Head)	
Second Contact Region (Head)	
<u>Chest</u>	
Chest to -Dash550mm21.7inchesArm to Door110mm4.3inchesSteering Wheel327mm12.9inchesHip to Door138mm5.4inchesSeatback0mm0.0inchesinchesHip to Door138mm5.4inches	
Chest Severity Index 0 Pelvic Peak Lateral Acceleration (g's) 89	
Chest Severity Index 0 Pelvic Peak Lateral Acceleration (g's) 89 Thoracic Trauma Index 100 Thorax Peak Acceleration (g's) 0	
Chest Severity Index0Pelvic Peak Lateral Acceleration (g's)89Thoracic Trauma Index100Thorax Peak Acceleration (g's)0Lap Belt Peak Load0Newtons0.0pound Force	
Chest Severity Index 0 Pelvic Peak Lateral Acceleration (g's) 89 Thoracic Trauma Index 100 Thorax Peak Acceleration (g's) 0 Lap Belt Peak Load 0 Newtons 0.0 pound Force Shoulder Belt Peak Load 0 Newtons 0.0 pound Force	
Chest Severity Index 0 Pelvic Peak Lateral Acceleration (g's) 89 Thoracic Trauma Index 100 Thorax Peak Acceleration (g's) 0 Lap Belt Peak Load 0 Newtons 0.0 pound Force Shoulder Belt Peak Load 0 Newtons 0.0 pound Force First Contact Region (Chest/Abdomen) OTHER	
Chest Severity Index 0 Pelvic Peak Lateral Acceleration (g's) 89 Thoracic Trauma Index 100 Thorax Peak Acceleration (g's) 0 Lap Belt Peak Load 0 Newtons 0.0 pound Force Shoulder Belt Peak Load 0 Newtons 0.0 pound Force First Contact Region (Chest/Abdomen)OTHER Second Contact Region (Chest/Abdomen)NONE	
Chest Severity Index 0 Pelvic Peak Lateral Acceleration (g's) 89 Thoracic Trauma Index 100 Thorax Peak Acceleration (g's) 0 Lap Belt Peak Load 0 Newtons 0.0 pound Force Shoulder Belt Peak Load 0 Newtons 0.0 pound Force First Contact Region (Chest/Abdomen) OTHER	

2007 BUICK LACROSSE LEFT FRONT SEAT OCCUPANT

Test #	5871				
Vehicle #	2		Sex	MALE	
Location	LEFT FRONT SE	AT	Age	0	
Position	CENTER POSIT	ON	Height	0 mm 0.0	inches
Туре	SID WITH HYBR	ID III HEAD/NECK	Weight	0.0 kg 0	pounds
Size	50 PERCENTILE				
Cali	bration Method	SIDE IMPACT DUMMY			
Occupar	nt Manufacturer	MFG: FIRST TECHNOLO	GY SAFETY SYST	EMS S/N:270	
Occupa	ant Modification	UNMODIFIED			
Occuj	pant Description				
Occupa	ant Commentary	CONTACTS: CNTRC1:DC	OOR TRIM; CNTRL1	:DOOR TRIM	
		Restraints	<u> </u>		
Restrai	nt # 1 3 POINT	BELT			
Mounte	ed BELT - C	ONVENTIONAL MOUNT			
Deploy	ment NOT DEF	PLOYED			
Restrai	nt Commentary	TORSO BELT PRETENS	IONER AND LOAD	LIMITER	
Restrai	nt # 2 CURTAIN	AIRBAG			
Mounte	ed HEADER	- SIDE			
Deploy	ment DEPLOY	ED PROPERLY			

2007 BUICK LACROSSE LEFT REAR SEAT OCCUPANT

Test # 5871	
Vehicle # 2 Sex MALE	
Location LEFT REAR SEAT Age 0	
Position NON-ADJUSTABLE SEAT Height 0 mm 0.0 inches	
Type SID WITH HYBRID III HEAD/NECK Weight 0.0 kg 0 pounds	
Size 50 PERCENTILE	
Calibration Method SIDE IMPACT DUMMY	
Occupant Manufacturer MFG: FIRST TECHNOLOGY SAFETY SYSTEMS S/N:269	
Occupant Modification	
Occupant Description SUBPART M SIDE IMPACT DUMMY	
Occupant Commentary CONTACTS: CNTRC1:DOOR TRIM; CNTRL1:DOOR TRIM	
Head to -	
Windshielder Header 0 mm 0.0 inches Head Injury Criteria (HIC) 977	
WindShield 0 mm 0.0 inches HIC Lower Time Interval (ms) 47.8	
Seatback 672 mm 26.5 inches HIC Upper Time Interval (ms) 52.5	
Side Header 170 mm 6.7 inches	
Side Window 325 mm 12.8 inches Neck to Seatback 0 mm 0.0 inches	
First Contact Region (Head) AIR BAG Second Contact Region (Head)	
Chest	
Chest to -	
Dash 0 mm 0.0 inches Arm to Door 121 mm 4.8 inches	
Steering Wheel 0 mm 0.0 inches Hip to Door 160 mm 6.3 inches	
Seatback 585 mm 23.0 inches	
Chest Severity Index 0 Pelvic Peak Lateral Acceleration (g's) 67	
Thoracic Trauma Index 74 Thorax Peak Acceleration (g's) 0	
Lap Belt Peak Load 0 Newtons 0.0 pound Force	
Shoulder Belt Peak Load 0 Newtons 0.0 pound Force	
First Contact Region (Chest/Abdomen) OTHER	
Second Contact Region (Chest/Abdomen) NONE	
Legs	
Knees to Dash 0 mm 0.0 inches Knees to Seatback 205 mm 8.1 inches	
Left Femur Peak Load 0 Newtons 0.0 pounds Force	
Right Femur Peak Load 0 Newtons 0.0 pounds Force	
First Contact Region (Legs) OTHER	
Second Contact Region (Legs)	

2007 BUICK LACROSSE LEFT REAR SEAT OCCUPANT

Test #	5871							
Vehicle #	2			Sex	MALE			
Location	LEFT R	EAR SEA	Т	Age	0			
Position	NON-AD	JUSTAB	LE SEAT	Height	0 mm	n 0.0	inches	
Туре	SID WIT	'H HYBRI	D III HEAD/NECK	Weight	0.0 kg	0	pounds	
Size	50 PER	CENTILE						
Ca	libration M	lethod	SIDE IMPACT DUMMY					
Occupa	ant Manufa	acturer	MFG: FIRST TECHNOLO	GY SAFETY SYST	EMS S/N:26	9		
Occup	oant Modif	ication	UNMODIFIED					
Οςςι	upant Des	cription	SUBPART M SIDE IMPA	CT DUMMY				
Occupant Commentary CONTACTS: CNTRC1:DOC								
Occup	ant Comn	nentary	CONTACTS: CNTRC1:DC	OOR TRIM; CNTRL1	:DOOR TRIM	Λ		
Occup	ant Comn	nentary	CONTACTS: CNTRC1:DC	OOR TRIM; CNTRL1	:DOOR TRIM	1		
Occup	oant Comn	nentary	CONTACTS: CNTRC1:DC		:DOOR TRIN	1		
	_	nentary B POINT I	Restraints		:DOOR TRIN	1		
	iint # 1	B POINT I	Restraints		:DOOR TRIN	1		
Restra	iint # 1	<u>B POINT I</u> BELT - CO	<u>Restraints</u> BELT		:DOOR TRIN	1		
Restra Mount Deploy	iint # 1	<u>B POINT I</u> BELT - CC	<u>Restraints</u> BELT DNVENTIONAL MOUNT		:DOOR TRIN	1		
Restra Mount Deploy	iint # 1	<u>B POINT I</u> BELT - CC	Restraints BELT DNVENTIONAL MOUNT LICABLE NONE		:DOOR TRIN	Λ		
Restra Mount Deploy Restra	iint # 1	<u>B POINT I</u> BELT - CC NOT APP entary	Restraints BELT DNVENTIONAL MOUNT LICABLE NONE AIRBAG		:DOOR TRIN	1		
Restra Mount Deploy Restra Restra	aint # 1	B POINT I BELT - CC NOT APP entary CURTAIN HEADER	Restraints BELT DNVENTIONAL MOUNT LICABLE NONE AIRBAG		:DOOR TRIN	A		

Vehicle 1 0 NHTSA DEFORMABLE IMPACTOR

Test #	5871												
VIN							NHTSA Te	est Vehicl	e Numbe	r 1			
Year	0						Vehicle Mo	dification	Indicator	RESE	ARCH \	/EHICLE	
Make	NHTSA			Post-tes	st Steerir	ng Coli	umn Shear	Capsule	Seperatio	on NOT A	PPLIC	ABLE	
Model	DEFOF	RMABI		ACTOR	S	teering	g Column C	ollapse M	lechanisn	NOT A	PPLIC	ABLE	
Body	NOT A	PPLIC	ABLE										
Engine	NOT A	PPLIC	ABLE										
Displacement	0	Lite	er T	ransmiss	ion NO	T APP	LICABLE						
Vehicle Modific	ation(s)	Descr	iption	NONE									
Vehicle Comm	entary	NHTS	A SIDE	IMPACT	CART V	VITH D	EFORMAB	LE FACE					
Vehicle Len	gth	4120	mm	162.2	inches	;	CO	behind I	Front Axle	1104	mm	43.5	inches
Vehicle V	Vidth	1676	mm	66.0	inches	;	Center of [Damage t	o CG Axis	S 0	mm	0.0	inches
Vehicle Whee	lbase	2590	mm	102.0	inches	;	Total Leng	gth of Ind	entation	1676	mm	66.0	inches
Vehicle Test W	eight	1363	KG	3004] pound	S	Maximum	Static Cru	sh Depth	0	mm	0.0	inches
								Pre-Impa	ict Speed	62	kph	38.5	mph
Veł	hicle Da	mage	Index [Princ	ipal Direc	tion of Fo	rce 27			
Domogo Dr	ofilo Di	otopo		ouromo	nto		Crush fror	n Dro 8	Doot To	t Domo		aguram	onto
Damage Pro						-					-		
			~ <u> </u>	ar-to-Fror	,	(1 D	0	Pre-Tes	-	Post-Te	1	Crush I	
		mm	0.0	inche		eft Burr	nper Corner		inches	0.0	inches		inches
DPD 2		mm	0.0	inche				0	mm	0	mm	0	mm
		mm	0.0	inche			Centerline	0.0	inches	0.0	inches	6.0	inches
		mm	0.0	inche				0	mm	0	mm	0	mm
		mm	0.0	inche	Diak	nt Bum	per Corner	0.0	inches	0.0	inches	6 0.0	inches
DPD 6)	mm	0.0	inche	s J			0	mm	0	mm	0] mm
								<u> </u>		-		-	_
Bumper E	Ingager	nent			S	ill Eng	agement			A	-pillar E	Engagem	ent
(Inline Im						-	npact Only)				•	npact On	
		٦́		Г	N		PLICABLE]		0.0	Τ́
				-						•			
-	g Test Ca	art			Mov	•	st Cart/Vehi	cle		Veh		entation	
	ngle					Crabb	ed Angle					Test Ca	
DIRECT			IT				27.0					PLICABL	
Magnitude							ne Crabbed Ang	le				e of the Angle	
Measured be							Clockwise from					he Vehicle C	
Rollover Test	Cart and th	e Groun	d	Lo	ongitudinal	Vector to	Velocity Vector	of Vehicle		and [Direction o	of Test Cart N	Aotion

Vehicle 1 0 NHTSA DEFORMABLE IMPACTOR

Test # 5871							
			NHTSA Test	t Vehicle Number	1		
Year 0			Vehicle Modi	fication Indicator	RESEARCH	VEHICLE	
Make NHTS	A	Post-test Steering	Column Shear C	apsule Seperatio	n NOT APPLIC	ABLE	
Model DEFO	RMABLE IMPA	CTOR Ste	ering Column Coll	lapse Mechanism	NOT APPLIC	ABLE	
Body NOT	APPLICABLE						
Engine NOT	APPLICABLE						
Displacement 0	Liter Tra	ansmission NOT	APPLICABLE				
Vehicle Modification(s	s) Description	NONE					
Vehicle Commentary	NHTSA SIDE I	MPACT CART WI	TH DEFORMABLE	E FACE			
Vehicle Length	4120 mm	162.2 inches	CG b	pehind Front Axle	1104 mm	43.5	inches
Vehicle Width	1676 mm	66.0 inches	Center of Da	mage to CG Axis	0 mm	0.0	inches
Vehicle Wheelbase	2590 mm	102.0 inches	Total Lengtl	h of Indentation	1676 mm	66.0	inches
Vehicle Test Weight	1363 KG	3004 pounds	Maximum St	atic Crush Depth	0 mm	0.0	inches
-			Р	re-Impact Speed	62 kph	38.5	mph
Vehicle Da	amage Index 🗌		Principa	al Direction of For			·
	· _		·		<u> </u>		
	Pr	e & Post Test	Damage Me	easurements			
(Messurements are t		rection. Except for Engin				award)	
·	•	rection. Except for Engin					
Left Sid			Centerline		-	t Side	
Pre-Test	Post-Test	Pre-1		st-Test	Pre-Test	Post	t-Test
mm inches	mm inches	mm	inches mm		nm inches	mm	inches
			th of Vehicle at Ce				
		0	0.0 0	0.0			
			Engine Block				
		0	0.0 0	0.0			
0 0.0 0	0.0		Front Bumper Co	mer 0	0.0	0	0.0
			Front of Engine	e			
		0	0.0	0.0			
0 0.0 0	0.0		Firewall	0	0.0	0	0.0
		0	0.0	0.0			
0 0.0 0	0.0	Uppe	er Leading Edge o	of Door 0	0.0	0	0.0
0 0.0 0	0.0	Lowe	er Leading Edge o	of Door 0	0.0	0	0.0
0 0.0 0	0.0	I	Bottom of 'A' Post	t 0	0.0	0	0.0
0 0.0 0	0.0	Upp	er Trailing Edge o	of Door 0	0.0	0	0.0
0 0.0 0	0.0	Low	ver Trailing Edge o	of Door 0	0.0	0	0.0
			Steering Colum	n			
		0	0.0 0	0.0			
		Center of See	ring Column to 'A'	' Post (Horizontal)		
			0.0 0	0.0			
			ring Column to He				
			0.0 0	0.0			

Vehicle 2 2007 BUICK LACROSSE

Test #	5871										
VIN	2G4WC58	277112998	51		NHTSA Te	est Vehicl	e Numbe	r 2			
Year	2007				Vehicle Mo	dification	Indicator	PROD		VEHICI	E
Make	BUICK		Post-test	Steering C	olumn Shear	Capsule	Seperatio	on UNKN	OWN		
Model	LACROSS	E		Steeri	ng Column C	ollapse M	lechanisn	UNKN	OWN		
Body	FOUR DOC	OR SEDAN	l								
Engine	V6 TRANS	VERSE FF	RONT								
Displacement	3.8 L	iter Tr	ansmissio	on AUTON	ATIC - FRON	T WHEE	L DRIVE				
Vehicle Modific	ation(s) Des	scription	NONE								
Vehicle Comm	entary 200	7 BUICK I	ACROSS	SE - M7010	8						
Vehicle Len	igth 503	5 mm	198.2	inches	CG	behind	Front Axle	1166	mm	45.9	inches
Vehicle V	Vidth 184	5 mm	72.6	inches	Center of E	Damage t	o CG Axis	6 -522	mm	-20.6	inches
Vehicle Whee	lbase 281	5 mm	110.8	inches	Total Leng	gth of Ind	lentation	2760	mm	108.7	inches
Vehicle Test W	eight 184	1 KG	4058	pounds	Maximum	Static Cru	ish Depth	299	mm	11.8	inches
						Pre-Impa	act Speed	0	kph	0.0	mph
Vel	hicle Damag	je Index 🗌			Princ	ipal Direc	tion of Fo	rce 297			
	ofilo Dioto				Cruch from			+ Dama	ao Mo		onto
Damage Pro					Crush fror						
``	ured Left-to-		_	,	0	Pre-Tes		Post-Te		Crush I	-
DPD 1 (_ inches		umper Corner		inches	0.0	inches	-	inches
DPD 2			_ inches			0	mm	0	mm	0	mm
DPD 3			_ inches		Centerline	0.0	inches	0.0	inches	0.0	inches
DPD 4			_ inches			0	mm	0	mm	0	mm
DPD 5			_ inches	Diaht Bu	Imper Corner	0.0	inches	0.0	inches	0.0	inches
DPD 6) mm	0.0	inches	rught Bo		0	mm	0	mm	0] mm
						U		U	,	0	7
Bumper F	Ingagemen	ł		Sill Er	ngagement			Д	-pillar E	ngagem	ent
•	pact Only)	•			Impact Only)				•	npact On	
	7.0		Г		ENGAGEME]	•	0.0	
								Ľ			_
Moving	g Test Cart			Moving	Test Cart/Vehi	cle		Veh	icle Orie	entation of	on Cart
A	ngle			Cra	bbed Angle				Moving	Test Ca	rt
NOT A	PPLICABL	E			0.0			DIR	ECT EN	IGAGEM	ENT
Magnitude	of the Tilt Angle			Magniture o	of the Crabbed Ang	le			Magnitude	e of the Angle	э
Measured be	etween surface o	of a		Measur	e Clockwise from			Measured	between th	he Vehicle C)rientation
Rollover Test	Cart and the Gro	bund	Lor	ngitudinal Vector	to Velocity Vector	of Vehicle		and [Direction of	f Test Cart N	Notion

Vehicle 2 2007 BUICK LACROSSE

Test # 5871	1	. []
VIN 2G4WC582771129951	NHTSA Test Vehicle Nur	
Year 2007	Vehicle Modification Indic	
	ost-test Steering Column Shear Capsule Sepe	
Model LACROSSE	Steering Column Collapse Mecha	nism UNKNOWN
Body FOUR DOOR SEDAN	I	
Engine V6 TRANSVERSE FRO		
	smission AUTOMATIC - FRONT WHEEL DRI	VE
	DNE	
	<u>CROSSE - M70108</u>	
	98.2 inches CG behind Front	Axle 1166 mm 45.9 inches
	2.6 inches Center of Damage to CG	Axis <u>-522</u> mm <u>-20.6</u> inches
Vehicle Wheelbase 2815 mm 1	10.8 inches Total Length of Indentat	ion 2760 mm 108.7 inches
Vehicle Test Weight 1841 KG 4	058 pounds Maximum Static Crush De	epth 299 mm 11.8 inches
	Pre-Impact Sp	beed 0 kph 0.0 mph
Vehicle Damage Index	Principal Direction o	f Force 297
Pre	<u>& Post Test Damage Measureme</u>	<u>nts</u>
(Measurements are taken in a longitudinaldired	ction. Except for Engine Block, all measurements are take from	the Rear Vehid e 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	
	Engine Block	
0 0.0 0 0.0	Front Bumper Corner	0 0.0 0 0.0
	Front of Engine	
0 0.0 0 0.0	Firewall	0 0.0 0 0.0
	0 0.0 0.0	
0 0.0 0 0.0	Upper Leading Edge of Door	0 0.0 0 0.0
	Lower Leading Edge of Door	
	Bottom of 'A' Post	
	Upper Trailing Edge of Door	
	Lower Trailing Edge of Door	
	Steering Column	
	Center of Seering Column to 'A' Post (Horizo	ontal)
		,
	Center of Steering Column to Headliner (Ven	tical)
		,

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Registered Owner: 4N6XPRT SYSTEMS

Serial Number: 14R-030201SC02301

2007 BUICK LACROSSE

NHTSA Crash Test - #5871 - Side Impact

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

Test Vehicle Weight =	4058 pounds	Impactor Weight =	3004
KE Equivalent Speed =	25.1 MPH	Impactor Test Speed =	38.5
Test Crush Length =	108.7 inches		

	DPD1	DPD2	DPD3	DPD4	DPD5	DPD6	(F _r_s_t)
)	0.0	10.2	11.6	11.5	1.7	0.0	(Front)

		CRASH	SMAC Stiffness		
		<u>A</u>	В	G	<u> </u>
Minimum Crush = 1.7 inches					6531.9
Using a Rated No Damage Speed of	1.0mph	424.6	6022.0	15.0	
Using a Rated No Damage Speed of	2.0mph	814.0	5532.9	59.9	
Using a Rated No Damage Speed of	3.0mph	1168.1	5064.4	134.7	
Using a Rated No Damage Speed of	5.0mph	1770.8	4189.7	374.2	
Average Crush = 7.0 inches					385.2
Using a Rated No Damage Speed of	1.0mph	103.1	355.2	15.0	
Using a Rated No Damage Speed of	2.0mph	197.7	326.3	59.9	
Using a Rated No Damage Speed of	3.0mph	283.7	298.7	134.7	
Using a Rated No Damage Speed of	5.0mph	430.0	247.1	283.4	
Maximum Crush = 11.6 inches					140.3
Using a Rated No Damage Speed of	1.0mph	62.2	129.3	15.0	
Using a Rated No Damage Speed of	2.0mph	119.3	118.8	59.9	
Using a Rated No Damage Speed of	3.0mph	171.2	108.8	134.7	
Using a Rated No Damage Speed of	5.0mph	259.5	90.0	374.2	

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

(Rear)

A= Maxim um force per inch of dam age without permanent dam age, Ib/in

B = Crush resistance per inch of damage width (Crash), lb/in^2 G = Energy dissipated without permanent damage, Ib

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

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

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

Speed from Crush calculation using a generic CF of 21 as suggested in Expert AutoStats KE Speed (mph) = SQRT(30 * CF * max crush in feet)

Crush	Maximum Crush	Calculated KE Speed	Calculated Error	Calculated Error
Factor	(inches)	(mph)	(mph)	(%)
21	11.6	24.7	-0.4	-1.8

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 21.7

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

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

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Registered Owner: 4N6XPRT SYSTEMS

Serial Number: 14R-030201SC02301

Available Test Results Side Impact Test Summary

Report Filter Settings

Year Range: 2006 - 2013 Make: CHEVROLET Model: IMPALA

Test Numbe	vehicle Info		Average	Indention Length		g t h			
		Speed	Crush	KEES	S t	iffness	Valu	i e s	Crush
		(mph)	(inch)	(mph)	A	В	G	Kv	Factor
5673	2006 CHEVROLET MONTE CARLO TWO DOOR C	2.0	9.7	25.4	128.8	155.7	53.3	183.4	26.7
5581	2006 CHEVROLET MONTE CARLO TWO DOOR C	2.0	10.0	25.4	137.4	161.6	58.4	190.3	26.0
7486	2012 CHEVROLET IMPALA FOUR DOOR SEDAN	2.0	6.4	27.4	181.7	362.9	45.5	422.2	47.3
5267	2005 BUICK LACROSSE FOUR DOOR SEDAN	2.0	7.3	25.0	190.7	300.2	60.6	354.5	34.3
5871	2007 BUICK LACROSSE FOUR DOOR SEDAN	2.0	7.0	25.1	197.9	327.1	59.9	386.1	36.1
5965	2007 BUICK LACROSSE FOUR DOOR SEDAN	2.0	6.4	25.2	211.0	384.5	57.9	453.7	39.9
6515	2009 CHEVROLET IMPALA FOUR DOOR SEDAN	2.0	5.7	24.9	250.6	506.1	62.0	598.3	43.8
5548	2006 CHEVROLET IMPALA FOUR DOOR SEDAN	2.0	4.6	25.0	273.6	678.9	55.1	802.3	53.9
6607	2008 CHEVROLET IMPALA FOUR DOOR SEDAN	2.0	5.4	17.7	290.5	418.0	100.9	531.6	22.9
		Average	(AVG)		206.9	366.1	61.5	435.8	36.8
		-	. ,		128.8	155.7	45.5	183.4	22.9
	Minimum (MIN)								
	Maximum (MAX)				290.5	678.9	100.9	802.3	53.9
Standard Deviation (STDev-sample)			ample)		56.2	163.0	15.6	194.8	10.5
Number of Tests (n)			sts (n)	9					

Available Test Results Side Impact Test Summary

Report Filter Settings

Year Range: 2006 - 2013 Make: CHEVROLET Model: IMPALA

Test Numbe	Vehicle r Info	No Damage Speed (mph)	Max Crush (inch)		•	dention iffness B		gth ues Kv	Crush Factor
5673	2006 CHEVROLET MONTE CARLO TWO DOOR C	2.0	16.8	25.4	74.3	51.8	53.3	61.1	15.4
5581	2006 CHEVROLET MONTE CARLO TWO DOOR C	2.0	16.2	25.4	84.4	61.0	58.4	71.9	16.0
7486	2012 CHEVROLET IMPALA FOUR DOOR SEDAN	2.0	10.5	27.4	110.0	133.1	45.5	154.8	28.6
6607	2008 CHEVROLET IMPALA FOUR DOOR SEDAN	2.0	13.8	17.7	114.4	64.8	100.9	82.4	9.0
5965	2007 BUICK LACROSSE FOUR DOOR SEDAN	2.0	11 .5	25.2	116.8	117.8	57.9	138.9	22.1
5871	2007 BUICK LACROSSE FOUR DOOR SEDAN	2.0	11 .8	25.1	117.5	115.4	59.9	136.2	21.4
5267	2005 BUICK LACROSSE FOUR DOOR SEDAN	2.0	11 .9	25.0	117.8	114.5	60.6	135.2	21.2
6515	2009 CHEVROLET IMPALA FOUR DOOR SEDAN	2.0	11 .9	24.9	119.3	114.6	62.0	135.5	20.8
5548	2006 CHEVROLET IMPALA FOUR DOOR SEDAN	2.0	8.8	25.0	144.3	188.8	55.1	223.1	28.4
	Average (AVG)		AVG)		111.0	106.9	61.5	126.6	20.3
	Minimum (MIN)				74.3	51.8	45.5	61.1	9.0
	Maximum (MAX)				144.3	188.8	100.9	223.1	28.6
Standard Deviation (STDev-sample)			mple)		20.5	42.7	15.6	49.7	6.2
Number of Tests (n)				9					

Model: 1997 Kawasaki GSX600 "Ninja ZX-6R" Overall Length = 80 inches Wheelbase = 56 inches Front Seat Ht. = N/A Rear Seat Ht. = N/A Footpeg Ht. = 14 inches Ground Clearance = 5 inches Handle Grip Ht. = 34 inches "Todlebar Ht. = 38 inches Front Seat Ht. = 31 inches Rear Seat Ht. = N/A= 24.0 degrees Rake Trail = 3 inches Dry Weight = 388 pounds Wet Weight = 465 pounds Gross Weight = 860 pounds Brakes : Front - Hydraulic, dual disc, four piston calipers Rear - Hydraulic, single disc, single piston caliper 60 - 0 mph = 115 feet30 - 0 mph = 28 feetEngine: Four stroke, inline four; liquid cooled; four valves per cylinder Drivetrain: Final - #525 X-ring chain; 40/15, 2.66 Clutch - six speed 1/4 mile = 10.8 seconds; 126 MPH 0-60 mph = 2.8 seconds40-60 mph, top gear: (6) 3.6 seconds 60-80 mph, top gear: (6) 4.0 seconds Front - 120/60ZR17 Tires: Rear - 160/60ZR17 Suspension: Front - 3 inches of travel Rear - 5 inches of travel

> Individual Vehicle Data Search Service [A Division of 4N6XPRT Systems]

VIN: JKA ZX4F1 3 VA 030342

- The first three characters { J, K, A } indicates a Kawasaki Motorcycle made in Japan
- The fourth through eighth characters { ZX4F1 } indicates a ZX600F model
- The ninth character { the Check Digit } is 3 The calculated Check Digit is 3
- The tenth character { V } indicates the model year was 1997
- The eleventh character { A } indicates the motorcycle was manufactured at Akashi, Japan
- The twelfth through seventeenth characters { 030342 } is the serial number unique to this vehicle

Individual Vehicle Data Search Service
 [A Division of 4N6XPRT Systems]

Model: 2001 Kawasaki ZX600 "Ninja ZX-6R" Overall Length = 80 inches Wheelbase = 55 inches Front Seat Ht. = 31 inches Rear Seat Ht.= N/AFootpeg Ht.= 14 inchesGround Clearance= 5 inchesHandle Grip Ht.= 34 inchesHandlebar Ht.= 38 inches Rake = 23.5 degrees Rake = 23.5 degre Trail = 4 inches Dry Weight = 377 pounds Wet Weight = 397 pounds Gross Weight = 860 pounds Brakes : Front - Hydraulic, dual disc, four piston calipers Rear - Hydraulic, single disc, single piston caliper 60 - 0 mph = 111 feet30 - 0 mph = 27 feetEngine: Four stroke, inline four; liquid cooled; four valves per cylinder Drivetrain: Final - #525 X-ring chain Clutch - six speed 1/4 mile = 10.9 seconds; 128MPH 0-30 mph = 1.1 seconds0-60 mph = 2.7 seconds0-90 mph = 5.5 seconds40-60 mph, top gear: 3.9 seconds 60-80 mph, top gear: 3.9 seconds Tires: Front - 120/60ZR17 Rear - 160/60ZR17 Suspension: Front - 5 inches of travel Rear - 5 inches of travel

Individual Vehicle Data Search Service
 [A Division of 4N6XPRT Systems]

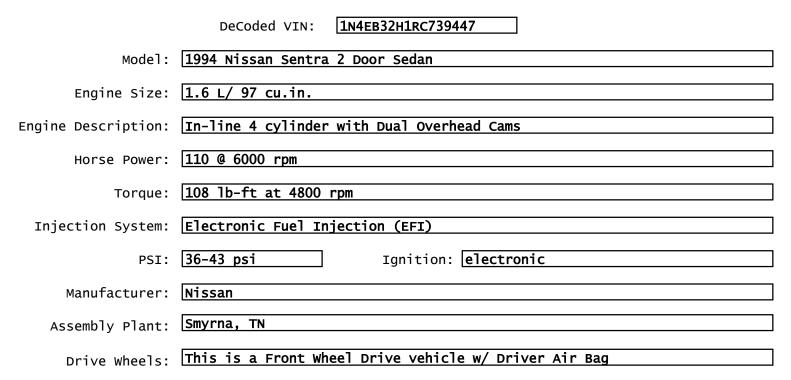
VIN: JKA ZX4J1 0 1A 034396

- The first three characters { J, K, A } indicates a Kawasaki Motorcycle made in Japan
- The fourth through eighth characters { ZX4J1 } indicates a ZX600J1 model
- The ninth character { the Check Digit } is 0 The calculated Check Digit is 0
- The tenth character { 1 } indicates the model year was 2001
- The eleventh character { A } indicates the motorcycle was manufactured at Akashi, Japan
- The twelfth through seventeenth characters { 034396 } is the serial number unique to this vehicle

Expert VIN DeCoder®

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Version Number 3.4.0



The First through Third characters (1N4) indicate a Nissan Car made in U.S.A.

The Fourth character (E) indicate the OEM engine: 1.6 L/ 97 cu.in., L4, DOHC

The Fifth through Sixth characters (B3) indicate a Sentra

The Seventh character (2) indicate a 2 Door Sedan

The Eighth character (H) indicate Driver Air Bag

The Ninth character (the check digit) is entered as 1. The VIN appears Valid, the calculated value is 1.

The Tenth character (R) indicate the model year 1994

The Eleventh character (C) indicate the vehicle was made in the assembly plant in Smyrna, TN

The Twelfth through Seventeenth characters (739447) indicate the Serial Number and are unique to this vehicle.

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> JEREMY S DAILY PHD PE TUCRRC 800 TUCKER DRIVE TULSA OK 74104-9700

5/18/2015

1994 NISSAN SENTRA XE 2 DOOR COUPE

Curb Weight: Curb Weight Distribution - Front:	2346 1bs. 63 %	Rear:	1064 kg. 37 %
Gross Vehicle Weight Rating:	3318 1bs.		1505 kg.
Number of Tires on Vehicle: Drive Wheels:	4 FRONT		
Horizontal Dimensions	Inches	Feet	Meters
Total Length	170	14.17	4.32
wheelbase:	96	8.00	2.44
Front Bumper to Front Axle:	36	3.00	0.91
Front Bumper to Front of Front Well:	21	1.75	0.53
Front Bumper to Front of Hood:	5	0.42	0.13
Front Bumper to Base of Windshield:	46	3.83	1.17
Front Bumper to Top of Windshield:	71	5.92	1.80
Rear Bumper to Rear Axle:	38	3.17	0.97
Rear Bumper to Rear of Rear Well:	26	2.17	0.66
Rear Bumper to Rear of Trunk:			
Rear Bumper to Base of Rear Window:			
Width Dimensions			
Maximum Width:	66 57	5.50	1.68
Front Track:	56	4.73	1.45
Rear Track:		4.07	1.72
Vertical Dimensions			
Height:	54	4.50	1.37
Ground to -			
Front Bumper (Top)	21	1.75	0.53
Headlight - center Hood - top front:	25	2.08	0.64
Base of Windshield	36	3.00	0.91
Rear Bumper - top:	22	1.83	0.56
Trunk - top rear:			
Base of Rear Window:			

1994 NISSAN SENTRA XE 2 DOOR COUPE

Interior Dimensions Front Seat Shoulder Widt Front Seat to Headliner Front Leg Room - seatbac Rear Seat Shoulder Width Rear Seat to Headliner Front Leg Room - seatbac	ck to floor (max) n ck to floor (min)	Inches 53 39 42 53 37 31	Feet 4.42 3.25 3.50 4.42 3.08 2.58	Meters 1.35 0.99 1.07 1.35 0.94 0.79
Seatbelts: 3pt front ,				
Airbags: NO AIRBAGS	S			
Steering Data				
Turning Circle (Diameter	r)	360	30.00	9.14
Steering Ratio:	22.62:1			
Wheel Radius:		11	0.92	0.28
Tire Size (OEM):	2175/70sr13			
Acceleration & Braking Info Brake Type: FRONT DISC	ormation C - REAR DRUM			
ABS System: ABS UNKNOW	ŴN			
Braking, 60 mph to 0 (Ha d = 155.0 ft t Acceleration:		dry pavement): a = -24.9 ft/se	ec² G-for	ce = -0.77
0 to 30mph t	= 3.8 sec	a = 11.6 ft/se	ec² G-for	ce = 0.36
0 to 60mph t	= 11.1 sec	a = 7.9 ft/se	ec² G-for	ce = 0.25
45 to 65mph t	= 7.3 sec	a = 4.0 ft/se	ec ² G-for	ce = 0.13
Transmission Type: 5sp	pd MANUAL			
Notes:				
Federal Bumper Standa	rd Requirements:	2.5	mph	
This vehicles Rated B	· · ·	5	 mph	

N.S.D.C = 1991 - 1994

1994 NISSAN SENTRA XE 2 DOOR COUPE

Other Information		
Tip-Over Stability Ratio =	1.28	Stable
NHTSA Star Rating (calculated)		***
Center of Gravity (No Load):		
Inches behind front axle	=	35.52
Inches in front of rear axle	=	60.48
Inches from side of vehicle	=	33.00
Inches from ground	=	22.06
Inches from front corner	=	78.77
Inches from rear corner	=	103.86
Inches from front bumper	=	71.52
Inches from rear bumper	=	98.48
Moments of Inertia Approximations (No Load):		
Yaw Moment of Inertia	=	1210.38 lb*ft*sec ²
Pitch Moment of Inertia	=	1173.54 lb*ft*sec ²
Roll Moment of Inertia	=	272.28 lb*ft*sec ²
Front Profile Information		
Angle Front Bumper to Hood Front	=	54.5 deg
Angle Front of Hood to Windshield Base	=	11.0 deg
Angle Front of Hood to Windshield Top	=	20.0 deg
Angle of Windshield	=	32.6 deg
Angle of Steering Tires at Max Turn	=	30.6 deg

First Approximation Crush Factors:

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

V(mph) = √(30 * CF * MID)			
KE Equivalent Speed (Front/Rear/Side)	=	21	CF
Bullet vehicle IMPACT SPEED estimation based on TARGET VEHICLE damage ONLY (Tested for Rear/Side Impact only)	=	27	CF

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

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

Stiffness Values and Test Data

NHTSA Crash Test #1986

1994 NISSAN SENTRA

Provided By

4N6XPRT StifCalcs®

Registered to:

4N6XPRT SYSTEMS 8387 UNIVERSITY AVENUE LA MESA CA 91941-3842 14R-030201SC02301

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Similar Vehicle database reader

You entered: 1994 NISSAN SENTRA

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

Year Range	Make	Model	Body Styles	Wheelbase
1991 - 1994	NISSAN	SENTRA	2D, 3D, 4D, SW	105.7
Remarks:				

The Similar Vehicle List contained in 4N6XPRT StifCalcs is an extension of the free Vehicle Interchange List provided by Gregory C. Anderson of Scalia Safety Engineering through the 2012 model year. 4N6XPRT Systems® has taken over the maintenance of the Similar Vehicle List beginning with the 2013 version of the 4N6XPRT StifCalcs program. 4N6XPRT Systems® makes no warranties, either expressed or implied, with respect to this data, its quality, performance, merchantability, or fitness for any particular purpose. The entire risk as to its quality and performance is with the user. In no event will 4N6XPRT Systems® be liable for direct, indirect, incidental, or consequential damages resulting from any data presented here, even if 4N6XPRT Systems® has been advised of the possibility of such damages. The user must agree to assume full responsibility for any decisions which are based, in whole or in part, upon information obtained by using this data. Some of the listed similarities are based on estimates or memory. Most of the data are pulled from specification tables which may contain inaccuracies of their own. Use common sense - if something seems wrong, check it (and if it is wrong, let us know!). etc., we request and urge you to contact us - 4n6@4n6xprt.com. If you have suggestions, corrections,

Test Information

	_									
Test # 1986		NHTSA Test R	Reference Guide Vers	sion #	2					
Test Date 1993-09-22	Date 1993-09-22 Contract # DTNH22-90-D-22121									
Contract/Study Title	1994 NISSA	994 NISSAN SENTRA INTO FLAT FRONTAL BARRIER								
Test Objective(s)	FMVSS 208 ,	212,219P, AND	301 COMPLIANCE	TEST						
Test Type	FMVSS 208	OCCUPANT CRAS	SH PROTECTION		Configuration	VEHICLE	INTO BARRIE	R		
Impact Angle	0		Side Impac	t Point	0	mm	0.0	inches		
			Offset D	istance	0	mm	0.0	inches		
			Closing	Speed	47.2	Km/Hr	29.33	MPH		
Test Performer	TRC OF OHI	0								
Test Reference #	930922									
Test Track Surface	CONCRETE		Con	dition	DRY					
Ambient Temperature	22 C	71.6 F	Total Number of (Curves	24					
Data Recorder Type	FM MULTIPL	EXOR TAPE RECO	ORDER		Data Link	UMBILIC	CAL CABLE			
Test Commentary	NO COMME	NTS								

Fixed Barrier Information

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

1994 NISSAN SENTRA LEFT FRONT SEAT OCCUPANT

Test #	1986				
Vehicle #	1		Sex	MALE	
Location	LEFT FRONT SE	AT	Age	0	
Position	CENTER POSITI	ON	Height	0 mm 0.0	inches
Туре	PART 572 DUMN	IY	Weight	0.0 kg 0	pounds
Size	50 PERCENTILE				
	ibration Method	PART 572			
•	nt Manufacturer	MFR: HUMANOID SYST	EMS S/N 353		
-	ant Modification	UNMODIFIED			
	pant Description	NO COMMENTS			
Occup	ant Commentary	NO COMMENTS			
Head to -		<u>Head</u>			
Windshie	elder Header 391		, ,		
	WindShield 561			wer Time Interval (ms)	
	Seatback 0	mm _0.0 inch	• •	per Time Interval (ms)	100.32
	Side Header 183				
	Side Window 318		es		
Neck to Se		mm 0.0 inches			
	First Contact Re		S WHEEL		
, c	Second Contact Re	igion (Head)			
		•			
Chaotta		<u>Chest</u>			
Chest to -		am 22.4 inches	Arm to Door		inches
		nm 23.4 inches nm 13.8 inches			inches
Steering			Hip to Door	25 mm 4.9	licites
	Severity Index 31		Pelvic Peak Lateral A	cceleration (g/s)	
	rauma Index	<u> </u>		Acceleration (g's) 44.	<u> </u>
		Belt Peak Load	Newtons 0.0	pound Force	
		Belt Peak Load	Newtons 0.0	pound Force	
First C		est/Abdomen) STEERING			
		est/Abdomen) NONE			
	e				
Knows to	Deeb Coo	Legs			in ch c c
Knees to			Inees to Seatback		inches
			·	Is Force	
Right Fem				Is Force	
	First Contact F		EL		
	Second Contact R	egion (Legs)			

1994 NISSAN SENTRA LEFT FRONT SEAT OCCUPANT

Test #	1986					
Vehicle #	1		Sex	MALE]
Location	LEFT FRONT S	EAT	Age	0		
Position	CENTER POSIT	ION	Height	0 mm	0.0 inches	
Туре	PART 572 DUM	MY	Weight	0.0 kg	0 pound	S
Size	50 PERCENTIL	E				
Cal	ibration Method	PART 572				
Occupa	nt Manufacturer	MFR: HUMANOID SYST	EMS S/N 353			
Occup	ant Modification	UNMODIFIED				
Occu	pant Description	NO COMMENTS				
Occupa	ant Commentary	NO COMMENTS				
		<u>Restraints</u>	<u>8</u>			
Restrai	nt # 1 PASSIVI	E 2 POINT BELT				
Mounte	ed 📃					
Deploy	ment NOT AP	PLICABLE				
Restrai	nt Commentary	MANUAL LAP BELT WAS	S NOT IN USE			
Restrai	nt # 2 DASHPA	NEL				
Mounte	ed 🗌					

MANUAL LAP BELT WAS NOT IN USE

Deployment NOT APPLICABLE

Restraint Commentary

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1994 NISSAN SENTRA RIGHT FRONT SEAT OCCUPANT

Test #	1986		
Vehicle #	1	Sex MALE	
Location	RIGHT FRONT S	SEAT Age 0	
Position	CENTER POSITI	TION Height 0 mm 0.0 inches	
Туре	PART 572 DUM	MY Weight 0.0 kg 0 pounds	
Size	50 PERCENTILE	Ε	
Cal	ibration Method	PART 572	
Occupa	nt Manufacturer	MFR: HUMANOID SYSTEM S/N 354	
Occup	ant Modification	UNMODIFIED	
Occu	pant Description	NO COMMENTS	
Occupa	ant Commentary	HEAD CONTACTED CHEST	
Head to -		<u>Head</u>	
Windshie	elder Header 379		
	WindShield 518		
	Seatback 0	mm 0.0 inches HIC Upper Time Interval (ms) 99.44	
	Side Header 163		
	Side Window 295		
Neck to Se		mm 0.0 inches	
_	First Contact R		
	Second Contact Re	(Head)	
Chest to -		<u>Chest</u>	
	Dash 605 n	mm [23.8] inches Arm to Door [46] mm [1.8] inches	
Steering		mm 0.0 inches Hip to Door 132 mm 5.2 inches	
-		mm 0.0 inches	
	Severity Index 39		
	rauma Index	Thorax Peak Acceleration (g's) 47.4	
		Belt Peak Load Newtons 0.0 pound Force	
	•	Belt Peak Load Newtons 0.0 pound Force	
First Co		nest/Abdomen)	
	•	nest/Abdomen) NONE	
	Ŭ (
Knees to	Dash 234 n	mm 9.2 inches Knees to Seatback 0 mm 0.0 inches	
		5373 Newtons -1207.9 pounds Force	
		7962 Newtons -1789.9 pounds Force	
i agiit i eilit		Region (Legs) DASHPANEL	
	Second Contact F		

1994 NISSAN SENTRA RIGHT FRONT SEAT OCCUPANT

Test #	1986								
Vehicle #	1			Sex	MALE				
Location	RIGHT	FRONT SI	EAT	Age	0				
Position	CENTE	R POSITI	NC] Height	0	mm	0.0	inches	
Туре	PART 5	72 DUMM	Y] Weight	0.0	kg	0] pounds	
Size	50 PER	CENTILE]					
Cal	libration N	/lethod	PART 572						
Occupa	ant Manuf	acturer	MFR: HUMANOID SYST	EM S/N 354					
Occup	ant Modi	fication	UNMODIFIED						
Occu	upant Des	scription	NO COMMENTS						
Occup	ant Comr	nentary	HEAD CONTACTED CHE	ST					
			Restraints	S					
Restra	int # 1	PASSIVE	2 POINT BELT	_					
Mount	ed [
Deploy	yment [LICABLE						
Restra	int Comm	nentary	MANUAL LAP BELT WA	S NOT IN USE					
Restra	unt# 2 [DASHPAN	IEI						
Mount		DASTIFAN							
Deploy									
	-								
Restra	int Comm	ientary	MANUAL LAP BELT WAS	S NUT IN USE					

Vehicle 1 1994 NISSAN SENTRA

Test # 1986										
VIN 1N4EB31	1P3RC70321	8		NHTSA Te	st Vehicle	e Numbe	r 1			
Year 1994				Vehicle Mo	dification	Indicator	PROD	UCTIOI	N VEHICI	E
Make NISSAN		Post-test S	Steering Co	lumn Shear	Capsule	Seperatio	on UNKN	OWN		
Model SENTRA			Steerin	g Column Co	ollapse M	lechanisn	NOT A	PPLIC	ABLE	
Body FOUR DO	OR SEDAN									
Engine 4 CYLINI	DER TRANSV	ERSE FR	ONT							
Displacement 1.6	Liter Tra	Insmission	MANUA	L - FRONT W	HEEL D	RIVE				
Vehicle Modification(s) De	escription	о сомм	ENTS							
Vehicle Commentary S	TEERING CC	DLUMN CO	VER BLO	CKED VIEW	OF COLL	APSE M	ECHANIS	SM		
Vehicle Length	323 mm	170.2 ir	nches	CG	behind F	Front Axle	988	mm	38.9	inches
Vehicle Width 1	656 mm	65.2 ir	nches	Center of D	Damage t	o CG Axis	S O	mm	0.0	inches
Vehicle Wheelbase 24	413 mm	95.0 ir	nches	Total Leng	gth of Ind	entation	1321	mm	52.0	inches
Vehicle Test Weight	263 KG	2784 p	ounds	Maximum S	Static Cru	sh Depth	432	mm	17.0	inches
					Pre-Impa	ict Speed	47	kph	29.3	mph
Vehicle Dama	age Index 1	2FDEW2		Princi	ipal Direct	tion of Fo	rce 0			
Domogo Drofilo Diot	anaa Maaa	uromont	-	Cruch from	n Dra Ø	Doot To	+ Domo	ao Ma	aauram	onto
Damage Profile Dist			<u>5</u>	Crush fron				-		
(Measured Left-te	-	, ,		0	Pre-Test	-	Post-Te		Crush	
	14.3	inches	Left Bui	mper Corner		inches	152.2	inches		inches
	15.2	inches			4229	mm	3866	mm	363	_mm
	15.9	inches		Centerline	170.2	inches	154.2	inches	16.0	inches
	17.0	inches			4323	mm	3917	mm	406	mm
	16.1	inches	Right Bur	nper Corner	166.8	inches	151.6	inches	5 15.2	inches
DPD 6 386 m	15.2 nm	inches	rugin Dui		4237	mm	3851	mm	386] mm
					4207				000]
Bumper Engageme	ent		Sill End	gagement			А	-pillar E	ngagem	ent
(Inline Impact Only				mpact Only)				•	npact Or	
0.0	/		•				Г	•	0.0	ייי <i>י</i> ייי
0.0							L		0.0	
Moving Test Cart	•		Moving Te	est Cart/Vehi	cle		Veh	icle Ori	entation	on Cart
Angle			Crab	bed Angle				Moving	Test Ca	rt
NOT APPLICAB	LE			0.0			N	IOT AP	PLICABL	.E
Magnitude of the Tilt Ang	ıle		Magniture of	the Crabbed Angl	le			Magnitude	e of the Angl	е
Measured between surface	e of a		Measure	Clockwise from			Measured	between t	he Vehicle C	Drientation
Rollover Test Cart and the G	Ground	Longit	tudinal Vector to	o Velocity Vector	of Vehicle		and D	Direction o	of Test Cart I	Aotion

Vehicle 1 1994 NISSAN SENTRA

Test #	1986									
VIN	1N4E	B31P3RC7032	18		NHTSA Test	Vehicle Nun	nber 1			
Year	1994			١	/ehicle Modif	fication Indic	ator PRO	DUCTIO	N VEHIC	LE
Mak	e NISS	AN	Post-test Ste	ering Colu	mn Shear Ca	apsule Sepe	ration UNK	NOWN		
Mode	SENT	RA		Steering	Column Colla	apse Mecha	nism NOT	APPLIC	ABLE	
Bod	y FOUF	R DOOR SEDAN	1							
Engin	e 4 CYI	INDER TRANS	VERSE FROM	1T						
Displacemer	nt 1.6	Liter Tr	ansmission	MANUAL	FRONT WH	EEL DRIVE				
		-	NO COMME							
Vehicle Com	mentary	STEERING C	OLUMN COV		ED VIEW O	F COLLAPS		ISM		_
Vehicle L	ength	4323 mm	170.2 incl	ies	CG b	ehind Front	Axle 988	mm	38.9	inches
Vehicle	e Width	1656 mm	65.2 incl	ies (Center of Dai	mage to CG	Axis 0	mm	0.0	inches
Vehicle Wh	eelbase	2413 mm	95.0 incl	ies	Total Length	n of Indentat	ion 1321	mm	52.0	inches
Vehicle Test	Weight	1263 KG	2784 pou	inds N	Maximum Sta	atic Crush De	epth 432	mm	17.0	inches
		_				re-Impact Sp	-	kph	29.3	mph
١	/ehicle D	amage Index 🖌	12FDEW2		Principa	al Direction o	f Force 0			
		<u>P</u>	<u>re & Post</u>	<u>Test Dai</u>	<u>mage Me</u>	asureme	<u>nts</u>			
(Measure	ements are t	aken in a longitudinal	direction. Except fo	r Engine Block	, all measuremer	nts are take from	the Rear Vehid	e Surfaœ f	orward.)	
	Left Sid	le		Ce	enterline			Righ	t Side	
Pre-Tes	t	Post-Test		Pre-Test	Post	t-Test	Pre-Te	-		t-Test
mm inc	hes	mm inches	m	m inche	es mm	inches	mm	inches	mm	inches
			I	Length of '	Vehicle at Ce	enterline				
			432			154.2				
				 Er	ngine Block					
			457	/ 18.0	457	18.0				
4229 166	.5 3	866 152.2		Front	Bumper Cor	mer	4237 1	66.8	3851	151.6
				Fro	ont of Engine	;				
			375	57 147.9	3630	142.9				
3246 127	.8 3	221 126.8			Firewall		3254 1	28.1	3228	127.1
			326	64 128.5	5 3221	126.8				
2949 116	.1 2	959 116.5		Upper Lea	ading Edge o	of Door	2946 1	16.0	2952	116.2
2954 116	.3 2	949 116.1		Lower Lea	iding Edge o	of Door	2952 1	16.2	2952	116.2
2921 115	.0 2	926 115.2		Bottor	m of 'A' Post		2926 1	15.2	2929	115.3
1936 76.2	2 1	936 76.2		Upper Tra	ailing Edge o	of Door	1936 7	76.2	1936	76.2
1951 76.8	8 1	951 76.8		Lower Tra	ailing Edge o	of Door	1946 7	76.6	1943	76.5
			_	Ste	ering Columr	n				
			251		2535	99.8				
			Center of			Post (Horizo	ontal)			
			290		330	13.0				
			Center of			eadliner (Vert	ical)			
			432	2 17.0	437	17.2				

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Serial Number: 14R-030201SC02301

1994 NISSAN SENTRA

NHTSA Crash Test - #1986 - Front Impact

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

Test Vehicle Weight =	2784 pounds
Vehicle Closing Speed =	29.3 mph
Test Crush Length =	65.2 inches

Pre/Post Collision Crush Depths (inches)

	Left Side Crush	Centerline Crush	Right Side Crush	(Dece Side)
(Driver Side)	14.3	16.0	15.2	(Pass. Side)

		CRASH	SMAC Stiffness		
		A	В	G	<u> </u>
Minimum Crush = 14.3 inches					144.0
Using a Rated No Damage Speed of	2.5mph	160.6	120.5	107.0	
Using a Rated No Damage Speed of	5.0mph	291.2	99.1	427.9	
Using a Rated No Damage Speed of	7.5mph	391.9	79.8	962.7	
Using a Rated No Damage Speed of	10.0mph	462.7	62.5	1711.5	
Average Crush = 15.4 inches					124.2
Using a Rated No Damage Speed of	2.5mph	149.1	103.9	107.0	
Using a Rated No Damage Speed of	5.0mph	270.4	85.4	427.9	
Using a Rated No Damage Speed of	7.5mph	363.9	68.8	962.7	
Using a Rated No Damage Speed of	10.0mph	429.6	53.9	1711.5	
Maximum Crush = 16.0 inches					115.0
Using a Rated No Damage Speed of	2.5mph	143.5	96.2	107.0	
Using a Rated No Damage Speed of	5.0mph	260.2	79.1	427.9	
Using a Rated No Damage Speed of	7.5mph	350.3	63.7	962.7	
Using a Rated No Damage Speed of	10.0mph	413.5	50.0	1711.5	

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

A= Maxim um force per inch of dam age without permanent dam age, Ib/in

B = Crush resistance per inch of damage width (Crash), lb/in^2 G = Energy dissipated without permanent damage, Ib

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

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

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

Speed from Crush calculation using a generic CF of 21 as suggested in Expert AutoStats KE Speed (mph) = SQRT(30 * CF * max crush in feet)

Crush	Maximum Crush	Calculated KE Speed	Calculated Error	Calculated Error
Factor	(inches)	(mph)	(mph)	(%)
21	16.0	29.0	-0.3	-1.2

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 21.5

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

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

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1994 NISSAN SENTRA

NHTSA Crash Test - #1986 - Front Impact

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

Test Vehicle Weight =	2784 pounds
Vehicle Closing Speed =	29.3 mph
Test Crush Length =	52.0 inches

Pre/Post Collision Crush Depths (inches)

	Left Side Crush	Centerline Crush	Right Side Crush	(Dece Side)
(Driver Side)	14.3	16.0	15.2	(Pass. Side)

		СКАЗП	SMAC Stimness		
		<u>A</u>	B	G	<u> </u>
Minimum Crush = 14.3 inches					180.5
Using a Rated No Damage Speed of	2.5mph	201.3	151.0	134.1	
Using a Rated No Damage Speed of	5.0mph	365.0	124.2	536.4	
Using a Rated No Damage Speed of	7.5mph	491.3	100.0	1206.9	
Using a Rated No Damage Speed of	10.0mph	580.0	78.4	2145.5	
Average Crush = 15.4 inches					155.6
Using a Rated No Damage Speed of	2.5mph	186.9	130.2	134.1	
Using a Rated No Damage Speed of	5.0mph	338.9	107.1	536.4	
Using a Rated No Damage Speed of	7.5mph	456.2	86.2	1206.9	
Using a Rated No Damage Speed of	10.0mph	538.6	67.6	2145.5	
Maximum Crush = 16.0 inches					144.2
Using a Rated No Damage Speed of	2.5mph	179.9	120.6	134.1	
Using a Rated No Damage Speed of	5.0mph	326.2	99.2	536.4	
Using a Rated No Damage Speed of	7.5mph	439.1	79.9	1206.9	
Using a Rated No Damage Speed of	10.0mph	518.4	62.6	2145.5	

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

A = Maxim um force per inch of dam age without permanent dam age, Ib/in

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

CDASH 2 Stiffnass Coofficants

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

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

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

Speed from Crush calculation using a generic CF of 21 as suggested in Expert AutoStats KE Speed (mph) = SQRT(30 * CF * max crush in feet)

Crush	Maximum Crush	Calculated KE Speed	Calculated Error	Calculated Error
Factor	(inches)	(mph)	(mph)	(%)
21	16.0	29.0	-0.3	-1.2

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 21.5

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

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

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SMAC Stiffness

Available Test Results Front Impact Test Summary

Report Filter Settings

Year Range: 1991 - 1994 Make: NISSAN Model: SENTRA

Test Numbe	vehicle r Info	No Damage	Average	Closing	V e	ehicle	Width	۱ا	
- Hannoe		Speed	Crush	0	S t				Crush
		(mph)	(inch)	(mph)	A	В	G	Kv .	Factor
1538	1991 NISSAN SENTRA FOUR DOOR SEDAN	5.0	26.3	35.2	197.8	45.5	430.3	61.7	18.9
1553	1991 NISSAN SENTRA FOUR DOOR SEDAN	5.0	15.9	29.3	256.3	78.5	418.7	11 4.0	21.6
1986	1994 NISSAN SENTRA FOUR DOOR SEDAN	5.0	15.8	29.3	263.7	81.2	427.9	11 8.1	21.8
1768	1993 NISSAN SENTRA TWO DOOR COUPE	5.0	15.4	29.3	263.7	83.2	417.7	121.0	22.3
1888	1993 NISSAN SENTRA FOUR DOOR SEDAN	5.0	21.1	35.0	283.8	80.8	498.3	11 0.0	23.2
Average (AVG)			(AVG)		253.1	73.8	438.6	105.0	21.6
	Minimum (MIN)				197.8	45.5	417.7	61.7	18.9
		Maximum	(MAX)		283.8	83.2	498.3	121.0	23.2
	Standard Deviatio	n (STDev-sa	ample)		32.5	16.0	33.8	24.5	1.6
	Nu	mber of Te	sts (n)	5					

Available Test Results Front Impact Test Summary

Report Filter Settings

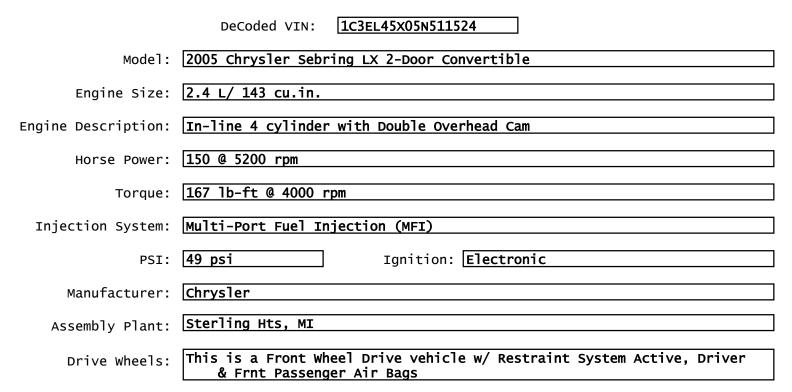
Year Range: 1991 - 1994 Make: NISSAN Model: SENTRA

Test Numbe	Vehicle r Info	No Damage Speed (mph)	Max Crush (inch)	0	V e S t i A				Crush Factor
1538	1991 NISSAN SENTRA FOUR DOOR SEDAN	5.0	29.6	35.2	175.8	35.9	430.3	48.8	16.8
1553	1991 NISSAN SENTRA FOUR DOOR SEDAN	5.0	16.8	29.3	242.4	70.2	418.7	102.0	20.5
1986	1994 NISSAN SENTRA FOUR DOOR SEDAN	5.0	17.0	29.3	244.8	70.0	427.9	101.8	20.2
1768	1993 NISSAN SENTRA TWO DOOR COUPE	5.0	16.5	29.3	246.4	72.7	417.7	105.6	20.9
1888	1993 NISSAN SENTRA FOUR DOOR SEDAN	5.0	23.0	35.0	259.5	67.6	498.3	92.0	21.3
		Average ((AVG)		233.8	63.3	438.6	90.0	19.9
		Minimum	(MIN)		175.8	35.9	417.7	48.8	16.8
		Maximum	(MAX)		259.5	72.7	498.3	105.6	21.3
	Standard Deviatio	n (STDev-sa	mple)		33.1	15.4	33.8	23.6	1.8
	Nu	mber of Tes	sts (n)	5					

Expert VIN DeCoder®

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Version Number 3.4.0



- The First through Third characters (1C3) indicate a Chrysler Passenger Car made in the U.S.A.
- The Fourth character (E) indicate Restraint System Active, Driver & Frnt Passenger Air Bags
- The Fifth through Sixth characters (L4) indicate a Sebring LX
- The Seventh character (5) indicate a 2-Door Convertible
- The Eighth character (X) indicate the OEM engine: 2.4 L/ 143 cu.in., L4, DOHC
- The Ninth character (the check digit) is entered as 0. The VIN appears Valid, the calculated value is 0.
- The Tenth character (5) indicate the model year 2005
- The Eleventh character (N) indicate the vehicle was made in the assembly plant in Sterling Hts, MI
- The Twelfth through Seventeenth characters (511524) indicate the Serial Number and are unique to this vehicle.

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> JEREMY S DAILY PHD PE TUCRRC 800 TUCKER DRIVE TULSA OK 74104-9700

5/18/2015

2005 CHRYSLER SEBRING LX 2 DOOR CONVERTIBLE

Curb Weight: Curb Weight Distribution - Front:	3394 1bs. 64 %	Rear:	1539 kg. 36 %
Gross Vehicle Weight Rating:	4228 1bs.		1918 kg.
Number of Tires on Vehicle: Drive Wheels:	4 FRONT		
Horizontal Dimensions Total Length Wheelbase:	Inches 194 106	Feet 16.17 8.83	Meters 4.93 2.69
Front Bumper to Front Axle: Front Bumper to Front of Front Well: Front Bumper to Front of Hood: Front Bumper to Base of Windshield: Front Bumper to Top of Windshield:	41 26 6 49 80	3.42 2.17 0.50 4.08 6.67	1.04 0.66 0.15 1.24 2.03
Rear Bumper to Rear Axle: Rear Bumper to Rear of Rear Well: Rear Bumper to Rear of Trunk: Rear Bumper to Base of Rear Window:	47 32 7 25	3.92 2.67 0.58 2.08	1.19 0.81 0.18 0.64
Width Dimensions Maximum Width: Front Track: Rear Track:	69 60 60	5.75 5.00 5.00	1.75 1.52 1.52
Vertical Dimensions Height: Ground to -	55	4.58	1.40
Front Bumper (Top) Headlight - center Hood - top front: Base of Windshield Rear Bumper - top: Trunk - top rear: Base of Rear Window:	21 26 26 36 28 41 42	1.75 2.17 2.17 3.00 2.33 3.42 3.50	0.53 0.66 0.91 0.71 1.04 1.07

2005 CHRYSLER SEBRING LX 2 DOOR CONVERTIBLE

Interior Dimensions Front Seat Shoulder Width Front Seat to Headliner Front Leg Room - seatback to floor (max) Rear Seat Shoulder Width Rear Seat to Headliner	Inches 56 39 42 49 37	Feet 4.67 3.25 3.50 4.08 3.08	Meters 1.42 0.99 1.07 1.24 0.94
Front Leg Room - seatback to floor (min)	35	2.92	0.89
Seatbelts: 3pt - front and rear			
Airbags: FRONT SEAT AIRBAGS			
Steering Data			
Turning Circle (Diameter)	432	36.00	10.97
Steering Ratio: :1			
Wheel Radius:	11	0.92	0.28
Tire Size (OEM): P205/65R15			
Acceleration & Braking Information			
Brake Type: ALL DISC			
ABS System: ALL WHEEL ABS - OPTIONAL			
Braking, 60 mph to 0 (Hard pedal, no skid,	dry pavement):		
d = 130.0 ft t = 3.0 sec	a = -29.7 ft/s	ec² G-fo	rce = -0.92
Acceleration:			
0 to 30mph t = 2.5 sec	a = 17.6 ft/s	ec² G-fo	rce = 0.55
0 to 60mph t = 7.2 sec	a = 12.2 ft/s	ec² G-fo	rce = 0.38
45 to 65mph $t = 4.7$ sec	a = 6.2 ft/s	ec² G-fo	rce = 0.20
Transmission Type: 4spd AUTOMATIC			
Notes: Federal Bumper Standard Requirements: This vehicles Rated Bumper Strength:	2.5	mph	
THIS VEHICLES RALEY BUMDER SCRENGTH: 1	2.5	l mph	

N.S.D.C = 2003 - 2006

2005 CHRYSLER SEBRING LX 2 DOOR CONVERTIBLE

Other Information		
Tip-Over Stability Ratio =	1.34	Stable
NHTSA Star Rating (calculated)		****
Center of Gravity (No Load):		
Inches behind front axle	=	38.16
Inches in front of rear axle	=	67.84
Inches from side of vehicle	=	34.50
Inches from ground	=	22.47
Inches from front corner	=	86.35
Inches from rear corner	=	119.91
Inches from front bumper	=	79.16
Inches from rear bumper	=	114.84
Moments of Inertia Approximations (No Load):		
Yaw Moment of Inertia	=	2289.82 lb*ft*sec ²
Pitch Moment of Inertia	=	2211.06 lb*ft*sec ²
Roll Moment of Inertia	=	460.92 lb*ft*sec ²
Front Profile Information		
Angle Front Bumper to Hood Front	=	39.8 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	=	28.1 deg

First Approximation Crush Factors:

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

$V(mph) = \sqrt{(30 * CF * MID)}$			
KE Equivalent Speed (Front/Rear/Side)	=	21	CF
Bullet vehicle IMPACT SPEED estimation based on TARGET VEHICLE damage ONLY	=	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 then 2-3 inches of crush damage should be looked at carefully, since some vehicles have very weak trunk & fender strength. Therefore, on some cars, especially GM, you estimate from the rear crush data may be high by as much as 4-5 mph (on a crush of 18 inches).

Expert VIN DeCoder®

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Version Number 3.4.0

	DeCoded VIN: 1FAFP13P8ww266320
Model:	1998 Ford Escort 4 door Sedan
Engine Size:	2.0 L/ 121 cu.in.
Engine Description:	In-Line 4 cylinder with Single Overhead Cam
Horse Power:	110 @ 5000 rpm
Torque:	125 lb-ft at 3800 rpm
Injection System:	Sequential Port Fuel Injection (SEFI)
PSI:	35-40 psi Ignition: electronic
Manufacturer:	Ford
Assembly Plant:	Wayne, MI
Drive Wheels:	This is a Front Wheel Drive vehicle w/ Manual Seatbelts + Driver/Passenger Front Air Bags

The First through Third characters (1FA) indicate a Ford Passenger Car made in the U.S.A. The Fourth character (F) indicate Manual Seatbelts + Driver/Passenger Front Air Bags

- The Fifth through Seventh characters (P13) indicate an Escort and a SE series and a 4 door Sedan
- The Eighth character (P) indicate the OEM engine: 2.0 L/ 121 cu.in., L4, SOHC
- The Ninth character (the check digit) is entered as 8. The VIN appears Valid, the calculated value is 8.

The Tenth character (W) indicate the model year 1998

- The Eleventh character (W) indicate the vehicle was made in the assembly plant in Wayne, MI
- The Twelfth through Seventeenth characters (266320) indicate the Serial Number and are unique to this vehicle.

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> JEREMY S DAILY PHD PE TUCRRC 800 TUCKER DRIVE TULSA OK 74104-9700

5/18/2015

1998 FORD ESCORT 4 DOOR SEDAN

2450 Curb Weight: lbs. 1111 kg. % Curb Weight Distribution -64 36 % Front: Rear: Gross Vehicle Weight Rating: 3485 lbs. 1581 kg. Number of Tires on Vehicle: 4 Drive Wheels: FRONT Horizontal Dimensions Inches Feet Meters Total Length 175 14.58 4.44 wheelbase: 98 2.49 8.17 Front Bumper to Front Axle: 34 2.83 0.86 Front Bumper to Front of Front Well: 19 1.58 0.48 Front Bumper to Front of Hood: 5 0.42 0.13 Front Bumper to Base of Windshield: 47 3.92 1.19 Front Bumper to Top of Windshield: 73 6.08 1.85 1.09 Rear Bumper to Rear Axle: 43 3.58 Rear Bumper to Rear of Rear Well: 25 2.08 0.64 Rear Bumper to Rear of Trunk: 6 0.50 0.15 23 Rear Bumper to Base of Rear Window: 1.92 0.58 Width Dimensions 67 5.58 1.70 Maximum Width: 56 4.67 1.42 Front Track: 56 4.67 1.42 Rear Track: Vertical Dimensions Height: 53 4.42 1.35 Ground to -22 0.56 Front Bumper (Top) 1.83 2.17 Headlight - center 26 0.66 Hood - top front: 27 2.25 0.69 Base of Windshield 36 3.00 0.91 Rear Bumper - top: 23 1.92 0.58 Trunk - top rear: 37 3.08 0.94 Base of Rear Window: 40 3.33 1.02

1998 FORD ESCORT 4 DOOR SEDAN			
Interior Dimensions Front Seat Shoulder Width Front Seat to Headliner Front Leg Room - seatback to floor (max)	Inches 52 39 43	Feet 4.33 3.25 3.58	Meters 1.32 0.99 1.09
Rear Seat Shoulder Width Rear Seat to Headliner Front Leg Room - seatback to floor (min)	52 37 34	4.33 3.08 2.83	1.32 0.94 0.86
Seatbelts: 3pt - front and rear Airbags: FRONT SEAT AIRBAGS			
Steering Data Turning Circle (Diameter) Steering Ratio: :1 Wheel Radius: Tire Size (OEM): P185/65R14	372	31.00	9.45
Acceleration & Braking Information Brake Type: FRONT DISC - REAR DRUM ABS System: ALL WHEEL ABS - OPTIONAL			
Braking, 60 mph to 0 (Hard pedal, no skid, d = 148.0 ft $t = 3.4$ sec Acceleration: 0 to 30mph $t = 2.9$ sec 0 to 60mph $t = 9.2$ sec 45 to 65mph $t = 5.3$ sec	<pre>, dry pavement): a = -26.1 ft/s a = 15.2 ft/s a = 9.6 ft/s a = 5.5 ft/s</pre>	ec² G-fo ec² G-fo	rce = -0.81 rce = 0.47 rce = 0.30 rce = 0.17
Transmission Type: 5spd MANUAL			
Notes: Federal Bumper Standard Requirements: This vehicles Rated Bumper Strength:	2.5	mph mph	

1998	FORD	ESCORT	4	DOOR	SEDAN
------	------	--------	---	------	-------

Other Information		
Tip-Over Stability Ratio =	1.35	Stable
NHTSA Star Rating (calculated)		****
Center of Gravity (No Load):		
Inches behind front axle	=	35.28
Inches in front of rear axle	=	62.72
Inches from side of vehicle	=	33.50
Inches from ground	=	20.80
Inches from front corner	=	76.95
Inches from rear corner	=	110.90
Inches from front bumper	=	69.28
Inches from rear bumper	=	105.72
Moments of Inertia Approximations (No Load):		
Yaw Moment of Inertia	=	1317.50 lb*ft*sec ²
Pitch Moment of Inertia	=	1276.50 lb*ft*sec ²
Roll Moment of Inertia	=	291.00 lb*ft*sec ²
Front Profile Information		
Angle Front Bumper to Hood Front	=	45.0 deg
Angle Front of Hood to Windshield Base	=	12.1 deg
Angle Front of Hood to Windshield Top	=	19.4 deg
Angle of Windshield	=	30.0 deg
Angle of Steering Tires at Max Turn	=	30.2 deg

First Approximation Crush Factors:

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

$V(mph) = \sqrt{(30 * CF * MID)}$		
KE Equivalent Speed (Front/Rear/Side)	=	21 CF
Bullet vehicle IMPACT SPEED estimation based on TARGET VEHICLE damage ONLY (Tested for Rear/Side Impact only)	=	27 CF

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

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

Stiffness Values and Test Data

NHTSA Crash Test #2826

1998 FORD ESCORT

Provided By

4N6XPRT StifCalcs®

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4N6XPRT SYSTEMS 8387 UNIVERSITY AVENUE LA MESA CA 91941-3842 14R-030201SC02301

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Similar Vehicle database reader

You entered: 1998 FORD ESCORT

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

Year Range	Make	Model	Body Styles	Wheelbase
1997 - 2000 Remarks: Wagon (FORD discontinued	ESCORT after 1999	3D, 4D, 5D, SW	98.4
2001 - 2003 Remarks: Fleet use	FORD e only	ESCORT	3D, 4D, 5D, SW	98.4

The Similar Vehicle List contained in 4N6XPRT StifCalcs is an extension of the free Vehicle Interchange List provided by Gregory C. Anderson of Scalia Safety Engineering through the 2012 model year. 4N6XPRT Systems® has taken over the maintenance of the Similar Vehicle List beginning with the 2013 version of the 4N6XPRT StifCalcs program. 4N6XPRT Systems® makes no warranties, either expressed or implied, with respect to this data, its quality, performance, merchantability, or fitness for any particular purpose. The entire risk as to its quality and performance is with the user. In no event will 4N6XPRT Systems® be liable for direct, indirect, incidental, or consequential damages resulting from any data presented here, even if 4N6XPRT Systems® has been advised of the possibility of such damages. The user must agree to assume full responsibility for any decisions which are based, in whole or in part, upon information obtained by using this data. Some of the listed similarities are based on estimates or memory. Most of the data are pulled from specification tables which may contain inaccuracies of their own. Use common sense - if something seems wrong, check it (and if it is wrong, let us know!). etc., we request and urge you to contact us - 4n6@4n6xprt.com. If you have suggestions, corrections,

Test Information

	NHTSA Test I	Reference Guide Version #	V4			
7		Contract #	DTNH22-95-	D-11000		
SAFETY CO	MPLIANCE TESTI	NG FOR FMVSS 301 FUE	SYSTEM INTE	GRITY		
TO OBTAIN	VEHICLE CRASH	WORTHINESS AND OCC	UPANT RESTRA	AINT PER	FORMANCE	
FMVSS 301	FUEL SYSTEM IN	ITEGRITY	Configuration	IMPACT	OR INTO VEH	ICLE
180		Side Impact Poin	t 0	mm	0.0	inches
		Offset Distanc	e 0	mm	0.0	inches
		Closing Spee	d 47.3	Km/Hr	29.39	MPH
CALSPAN						
RUN1755						
CONCRETE		Condition	DRY			
7 C	44.6 F	Total Number of Curves	25			
FM TAPE RE	CORDER		Data Link	UMBILI	CAL CABLE	
NO COMME	ENTS					
	SAFETY CO TO OBTAIN FMVSS 301 180 CALSPAN RUN1755 CONCRETE 7 C FM TAPE RE	Z SAFETY COMPLIANCE TESTIN TO OBTAIN VEHICLE CRASH FMVSS 301 FUEL SYSTEM IN 180 CALSPAN RUN1755 CONCRETE	Z Contract # SAFETY COMPLIANCE TESTING FOR FMVSS 301 FUEL TO OBTAIN VEHICLE CRASHWORTHINESS AND OCC FMVSS 301 FUEL SYSTEM INTEGRITY 180 Side Impact Poin Offset Distance Closing Speed CALSPAN RUN1755 CONCRETE Condition 7 C 44.6 FM TAPE RECORDER F	SAFETY COMPLIANCE TESTING FOR FMVSS 301 FUEL SYSTEM INTE TO OBTAIN VEHICLE CRASHWORTHINESS AND OCCUPANT RESTRA FMVSS 301 FUEL SYSTEM INTEGRITY Configuration 180 Side Impact Point 0 Offset Distance 0 Closing Speed 47.3 CALSPAN Condition DRY 7 C 44.6 FM TAPE RECORDER Data Link	Z Contract # DTNH22-95-D-11000 SAFETY COMPLIANCE TESTING FOR FMVSS 301 FUEL SYSTEM INTEGRITY TO OBTAIN VEHICLE CRASHWORTHINESS AND OCCUPANT RESTRAINT PER FMVSS 301 FUEL SYSTEM INTEGRITY Configuration IMPACT 180 Side Impact Point mm Offset Distance mm Closing Speed 47.3 Km/Hr CALSPAN Condition DRY 7 C 44.6 F Total Number of Curves 25 FM TAPE RECORDER Data Link UMBILIT	Z Contract # DTNH22-95-D-11000 SAFETY COMPLIANCE TESTING FOR FMVSS 301 FUEL SYSTEM INTEGRITY TO OBTAIN VEHICLE CRASHWORTHINESS AND OCCUPANT RESTRAINT PERFORMANCE FMVSS 301 FUEL SYSTEM INTEGRITY Configuration IMPACTOR INTO VEHI 180 Side Impact Point mm 0.0 Offset Distance mm 0.0 0 Closing Speed 47.3 Km/Hr 29.39 CALSPAN Condition DRY 7 C 44.6 F Total Number of Curves 25 FM TAPE RECORDER Data Link UMBILICAL CABLE Data Link UMBILICAL CABLE

Fixed Barrier Information

Barrier Type	Pole Barrier Diameter	mm	inches
Barrier Shape			
Barrier Commentary			

1998 FORD ESCORT LEFT FRONT SEAT OCCUPANT

Test # 2826	
Vehicle # 2 Sex MALE	
Location LEFT FRONT SEAT Age 99	
Position CENTER POSITION Height 999 mm 39.3 inches	
Type HYBRID III DUMMY Weight 999.0 kg 2202 pounds	
Size 50 PERCENTILE	
Calibration Method HYBRID III	
Occupant Manufacturer MFG:HUMANOID S/N:116	
Occupant Modification NO MODIFICATIONS	
Occupant Description NO COMMENTS	
Occupant Commentary CNTRH1: HEADREST	
Head to -	
Windshielder Header 312 mm 12.3 inches Head Injury Criteria (HIC) 190	
WindShield 546 mm 21.5 inches HIC Lower Time Interval (ms) 113.4	
Seatback 9999 mm 0.0 inches HIC Upper Time Interval (ms) 149.4	
Side Header 231 mm 9.1 inches	
Side Window 312 mm 12.3 inches	
Neck to Seatback 9999 mm 0.0 inches	
First Contact Region (Head)	
Second Contact Region (Head)	
<u>Chest</u>	
Chest to -	
Dash 505 mm 19.9 inches Arm to Door 76 mm 3.0 inches	
Steering Wheel 295 mm 11.6 inches Hip to Door 135 mm 5.3 inches	
Seatback 9999 mm 0.0 inches	
Chest Severity Index30Pelvic Peak Lateral Acceleration (g's)0Thoracic Trauma Index0Thorax Peak Acceleration (g's)12.3	
Shoulder Belt Peak Load 9999 Newtons 2247.9 pound Force First Contact Region (Chest/Abdomen) SEAT BACK	
Second Contact Region (Chest/Abdomen) NONE	
<u>Legs</u>	
Knees to Dash 155 mm 6.1 inches Knees to Seatback 9999 mm 0.0 inches	
Left Femur Peak Load -9999 Newtons -2247.9 pounds Force	
Right Femur Peak Load -9999 Newtons -2247.9 pounds Force	
First Contact Region (Legs) NONE	
Second Contact Region (Legs)	

1998 FORD ESCORT LEFT FRONT SEAT OCCUPANT

Test #	2826						
Vehicle #	2		Sex	MALE			
Location	LEFT FRONT SE	AT	Age	99			
Position	CENTER POSITI	ON	Height	999 mm	1 39.3	inches	
Туре	HYBRID III DUM	YN	Weight	999.0 kg	2202	pounds	
Size	50 PERCENTILE						
Cal	ibration Method	HYBRID III					1
Occupa	nt Manufacturer	MFG:HUMANOID S/N:11	6				1
Occupant Modification		NO MODIFICATIONS					
Occu	pant Description	NO COMMENTS					1
Occupa	ant Commentary	CNTRH1: HEADREST					
		Restraints	<u>5</u>				
Restrai	int # 1 3 POINT	BELT]
Mounte	ed						
Deploy	ment NOT APP	LICABLE					
Doctroi	int Commentany						1

Restraint Comr	nentary INO COMMENTS
Restraint # 2	FRONTAL AIRBAG
Mounted	
Deployment	NOT APPLICABLE
Restraint Comr	nentary NO COMMENTS

1998 FORD ESCORT RIGHT FRONT SEAT OCCUPANT

Test #	2826	
Vehicle #	2	Sex NOT APPLICABLE
Location	RIGHT FRONT S	EAT Age 99
Position	CENTER POSITI	ION Height 999 mm 39.3 inches
Туре	PART 572 DUMN	Weight 999.0 kg 2202 pounds
Size	50 PERCENTILE	
Cal	ibration Method	PART 572
Occupa	nt Manufacturer	ALDERSON
Occup	ant Modification	UNMODIFIED
Occu	pant Description	NON-INSTRUMENTED DUMMY
Occupa	ant Commentary	CNTRH1: HEADREST
Head to -		<u>Head</u>
Windshie	elder Header 999	99 mm 0.0 inches Head Injury Criteria (HIC) 9999
	WindShield 999	
	Seatback 999	99 mm 0.0 inches HIC Upper Time Interval (ms) 1000
	Side Header 999	99 mm 0.0 inches
S	Side Window 999	99 mm 0.0 inches
Neck to Se	atback 9999	mm 0.0 inches
	First Contact R	legion (Head) OTHER
5	Second Contact Re	egion (Head)
		<u>Chest</u>
Chest to -		
	Dash 9999 r	mm 0.0 inches Arm to Door 9999 mm 0.0 inches
Steering		mm 0.0 inches Hip to Door 9999 mm 0.0 inches
		mm [0.0 inches
	Severity Index 99	
Thoracic T	rauma Index 0	Thorax Peak Acceleration (g's) 999.9
		Belt Peak Load 9999 Newtons 2247.9 pound Force
		Belt Peak Load 9999 Newtons 2247.9 pound Force
First Co	ontact Region (Ch	est/Abdomen) SEAT BACK
Second Co	ontact Region (Ch	est/Abdomen) NONE
Knees to	Dash 9999 r	Legs mm 0.0 inches Knees to Seatback 9999 mm 0.0 inches
		999 Newtons -2247.9 pounds Force
		999 Newtons -2247.9 pounds Force
i ugitti onn		Region (Legs) NONE
	Second Contact F	

1998 FORD ESCORT RIGHT FRONT SEAT OCCUPANT

Test #	2826					
Vehicle #	2		Sex	NOT APPLIC	ABLE]
Location	RIGHT FRONT S	EAT	Age	99		
Position	CENTER POSITI	ON	Height	999 mm	39.3 inches	
Туре	PART 572 DUMMY		Weight	999.0 kg	2202 pound	s
Size	50 PERCENTILE					
Cal	ibration Method	PART 572				
Occupa	nt Manufacturer	ALDERSON				
Occupant Modification		UNMODIFIED				
Occupant Description		NON-INSTRUMENTED D	UMMY			
Occupa	ant Commentary	CNTRH1: HEADREST				
		<u>Restraints</u>	<u>5</u>			
Restrai	nt # 1 3 POINT	BELT				
Mounte	ed					
Deploy	ment NOT APP	LICABLE				
Restrai	nt Commentary	NO COMMENTS				
Restrai	nt # 2 FRONTAL	AIRBAG				
Mounte						

Deployment NOT APPLICABLE

NO COMMENTS

Restraint Commentary

Vehicle 1 0 NHTSA FLAT IMPACTOR

Test #	2826										
VIN					NHTSA Te	st Vehicl	e Numbe	er 1			
Year	0				Vehicle Mo	dification	Indicator	RESEARCH	I VEHICLE		
Make	NHTSA		Post-tes	t Steering	Column Shear	Capsule	Seperation	on UNKNOWN			
Model	FLAT IN	IPACTOR		Ste	ering Column Co	ollapse M	lechanisr	n UNKNOWN			
Body	NOT AP	PLICABLE									
Engine	OTHER										
Displacement	1	Liter	Transmissi	on NOT	APPLICABLE						
Vehicle Modific	ation(s)[Description	NO CON	IMENTS							
Vehicle Comm	entary 🛛	MOVING B	ARRIER IM	PACTOR							
Vehicle Len	igth	99999 mr	n 0.0	inches	CG	behind	Front Axle	e 1344 mm	52.9	inches	
Vehicle V	Vidth) mr	n 0.0] inches	Center of D	Damage t	o CG Axi	s 0 mm	0.0	inches	
Vehicle Whee	lbase	99999 mr	n 0.0] inches	Total Leng	gth of Ind	lentation	99999 mm	0.0	inches	
Vehicle Test W	eight	1797 KG	3961	pounds	Maximum S	Static Cru	ish Depth	n 9999 mm	0.0	inches	
						Pre-Impa	act Speed	d 47 kph	29.4	mph	
Vel	hicle Dam	nage Index	9999999		Princi	ipal Direc	tion of Fo	orce 0			
Damage Pr	ofilo Dia	stance Me	asurama	nte	Crush from	n Pro &	Post To	st Damage M	logguron	nente	
DPD 1			ear-to-Fron		Bumper Corpor	Pre-Tes		Post-Test		<u>Depth</u>	
		mm <u>0.0</u>	inches		Bumper Corner		inches	0.0 inch		inches	
		mm <u>0.0</u>	inches			99999	mm	99999 mm	0	mm	
DPD 3		mm <u>0.0</u>	inches		Centerline	0.0	inches	0.0 inch	es <u>0.0</u>	inches	
DPD 4		mm <u>0.0</u>	inches			99999	mm	99999 mm	0	mm	
		mm <u>0.0</u>	inches	Diaht	Bumper Corner	0.0	inches	0.0 inch	es 0.0	inches	
DPD 6	9999	mm <u>0.0</u>	inches	5	·	99999	mm	99999 mm	0	 mm	
										_	
Bumper E	Ingagem	ent		Sill	Engagement			A-pilla	r Engagen	nent	
(Inline Im	pact Onl	ly)		(Sie	de Impact Only)			(Side	Impact O	nly)	
99	99.0]		NO	T APPLICABLE				999.0		
		-								_	
-	g Test Ca	rt			g Test Cart/Vehi	cle			Drientation		
	ngle			C	rabbed Angle			Movi	ng Test Ca	ırt	
DIRECT ENGAGEMENT					0.0			NOT APPLICABLE			
	of the Tilt Ar				re of the Crabbed Angl	le			ude of the Ang		
Measured be					sure Clockwise from			Measured betwee			
Rollover Test	Cart and the	Ground	Lo	ngitudinal Veo	ctor to Velocity Vector	of Vehicle		and Directio	n of Test Cart	Motion	

Vehicle 1 0 NHTSA FLAT IMPACTOR

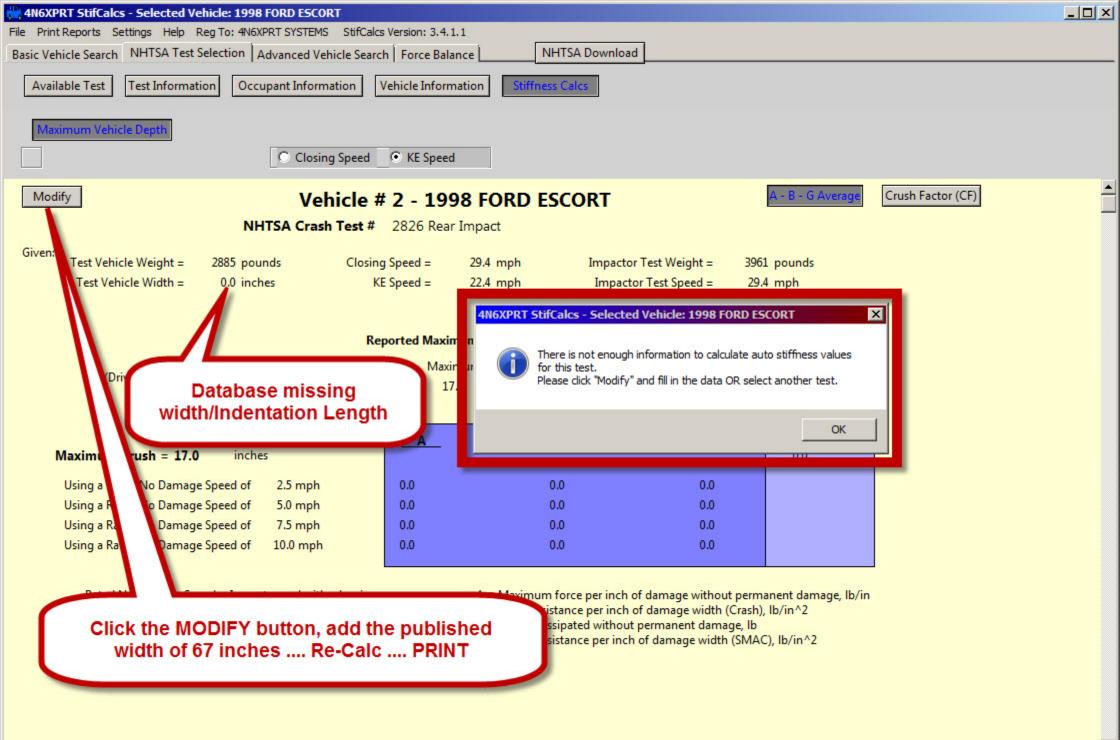
Test # 2	826										
VIN 🗌		N⊦	ITSA Test Vehicle Num	iber 1							
Year 0	0 Vehicle Modification Indicator RESEARCH VEHICLE										
Make N	HTSA	Post-test Steering Column	Shear Capsule Seperation	ation UNKNOWN							
Model F	LAT IMPACTOR	Steering Co	umn Collapse Mechan	ism UNKNOWN							
Body N	OT APPLICABLE										
Engine O	THER										
Displacement 1	Liter Tr	ansmission NOT APPLIC	ABLE								
Vehicle Modificati	on(s) Description	NO COMMENTS									
Vehicle Commen	tary MOVING BA	RRIER IMPACTOR									
Vehicle Length 99999 mm 0.0 inches CG behind Front Axle 1344 mm 52.9 inches											
Vehicle Wic	ith 0 mm	0.0 inches Cer	ter of Damage to CG A	Axis 0 mm	0.0 inches						
Vehicle Wheelba	ase 99999 mm	0.0 inches Tot	al Length of Indentation	on 99999 mm	0.0 inches						
Vehicle Test Weig	ght 1797 KG	3961 pounds Max	imum Static Crush De	pth 9999 mm	0.0 inches						
	_		Pre-Impact Spe	eed 47 kph	29.4 mph						
Vehic	le Damage Index 🛛	9999999	Principal Direction of	Force 0							
	<u>P</u>	<u>re & Post Test Dama</u>	<u>ige Measuremer</u>	<u>nts</u>							
(Measurements	are taken in a longitudinal	direction. Except for Engine Block, all	measurements are take from th	he Rear Vehid e Surfaœ f	orward.)						
Left	Side	Cente	erline	Right	t 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 Veh	icle at Centerline								
		99999 0.0	99999 0.0								
		Engin	e Block								
		99999 0.0	99999 0.0								
99999 0.0	99999 0.0	Front Bu	mper Corner	99999 0.0	99999 0.0						
		Front	of Engine								
		99999 0.0	99999 0.0								
99999 0.0	99999 0.0	Fire	ewall	99999 0.0	99999 0.0						
		99999 0.0	99999 0.0								
99999 0.0	99999 0.0	Upper Leadir	g Edge of Door	99999 0.0	99999 0.0						
99999 0.0	99999 0.0	Lower Leadin	g Edge of Door	99999 0.0	99999 0.0						
99999 0.0	99999 0.0	Bottom c	of 'A' Post	99999 0.0	99999 0.0						
99999 0.0	99999 0.0	0.0 Upper Trailing Edge of Door 99999 0.0									
99999 0.0	99999 0.0		g Edge of Door	99999 0.0	99999 0.0						
			g Column								
		99999 0.0	99999 0.0								
		Center of Seering Colu	<u>.</u>	ntal)							
		99999 0.0	99999 0.0								
		Center of Steering Colu		cal)							
		99999 0.0	99999 0.0								

Vehicle 2 1998 FORD ESCORT

Test #	2826										
VIN [3FALP113X	WR12700	5		NHTSA Te	est Vehicle	e Numbe	r 2			
Year	1998				Vehicle Mo	dification	Indicator	PROD	UCTIO	N VEHICI	E
Make	FORD		Post-test	Steering C	olumn Shear	Capsule	Seperatio	on UNKNO	OWN		
Model	ESCORT			Steeri	ng Column C	ollapse M	echanisn	UNKNC	OWN		
Body [TWO DOOR	COUPE									
Engine	4 CYLINDEF		/ERSE F	RONT							
Displacement	2 Lite	er Tra	insmissio	n MANUA	AL - FRONT V	VHEEL DI	RIVE				
Vehicle Modification(s) Description UNMODIFIED											
Vehicle Comme	entary 1998	FORD E	SCORT Z	X2 2-DOOI	R COUPE						
Vehicle Leng	yth 9999	9 mm	0.0	inches	CO	6 behind F	Front Axle	932	mm	36.7	inches
Vehicle W	/idth 0	mm	0.0	inches	Center of I	Damage t	o CG Axis	9999	mm	0.0	inches
Vehicle Wheelt	base 2499	mm	98.4	inches	Total Len	gth of Ind	entation	99999	mm	0.0	inches
Vehicle Test We	eight 1309	KG	2885	pounds	Maximum	Static Cru	sh Depth	432	mm	17.0	inches
						Pre-Impa	ct Speed	0	kph	0.0	mph
Vehi	icle Damage	Index 9	999999		Princ	ipal Direct	ion of Fo	rce 180			
Damage Pro	file Distan	re Meas	uremen	Its	Crush fror	n Pre &	Post Tos	st Dama	ne Me	asurem	ents
	red Left-to-R					Pre-Test		Post-Tes	-	Crush	
DPD 1 99			inches		ımper Cornei		inches	0.0	inches		linches
DPD 1 9		0.0	inches	Leit Di		99999	mm		mm	0.0	
DPD 2 9		0.0	inches								-
DPD 3 9		0.0	inches		Centerline	0.0	inches	0.0	inches		inches
DPD 5 99		0.0	inches			99999	mm	99999	mm	0	mm
DPD 6 99		0.0	inches	Right Bu	mper Corner	0.0	inches	0.0	inches	0.0	inches
	<u></u>	0.0				99999	mm	99999	mm	0] mm
Bumper Er	ngagement			Sill Er	ngagement			A	-pillar E	ngagem	ent
(Inline Imp	pact Only)			(Side	Impact Only)		((Side Ir	npact Or	ıly)
999	9.0			NOT A	PPLICABLE			E	9	99.0	
	Test					-1-		\ / - I- '			
-	Test Cart			•	Fest Cart/Veh	cie		-		entation	
					bed Angle				-	Test Ca	
-				Magnitura	0.0	10		NOT APPLICABLE Magnitude of the Angle			
	f the Tilt Angle ween surface of a	,			f the Crabbed Ang e Clockwise from					e of the Angl he Vehicle (
	art and the Grour		lon		to Velocity Vector	of Vehicle				of Test Cart I	
			Lon			0. 1011010		and D			

Vehicle 2 1998 FORD ESCORT

Test # 28	326										
VIN 3F	ALP113XWR1270	05	NHT	SA Test V	Vehicle Num	ber 2					
Year 19	98		Vehic	le Modifie	cation Indica	tor PR	ODUCTIO	N VEHICL	E		
Make FC	ORD	Post-test Steerin	g Column S	Shear Ca	psule Sepera	ation UN	KNOWN				
Model ES	SCORT	Ste	eering Colur	mn Colla	pse Mechan	ism UN	KNOWN				
Body TV	NO DOOR COUPE										
Engine 4 CYLINDER TRANSVERSE FRONT											
Displacement 2 Liter Transmission MANUAL - FRONT WHEEL DRIVE											
Vehicle Modification(s) Description UNMODIFIED											
Vehicle Commentary 1998 FORD ESCORT ZX2 2-DOOR COUPE											
Vehicle Length99999mm0.0inchesCG behind Front Axle932mm36.7inches											
Vehicle Wid	th 0 mm	0.0 inches	Cente	er of Dan	nage to CG A	xis 9999) mm	0.0	inches		
Vehicle Wheelba	se 2499 mm	98.4 inches	Tota	l Length	of Indentatio	on 9999	99 mm	0.0	inches		
Vehicle Test Weig	ht 1309 KG	2885 pounds	s Maxin	num Stat	tic Crush Dep	oth 432	mm	17.0	inches		
	_			Pre	e-Impact Spe	ed 0	kph	0.0	mph		
Vehicle	e Damage Index 🔮	9999999		Principal	I Direction of	Force	180				
	_										
	<u>P</u>	<u>re & Post Tes</u>	<u>st Damac</u>	<u>ge Mea</u>	asuremer	<u>its</u>					
(Measurements	are taken in a longitudinal	direction. Except for Eng	ine Block, all me	easurement	s are take from th	e Rear Veh	ide Surfaœf	orward.)			
Left	Side		Center	line			Righ	t Side			
Pre-Test	Post-Test	Pre	Pre-Test Post-Test			Pre-	Test	Post-	Test		
mm inches	mm inches	mm	inches	mm	inches	mm	inches	mm	inches		
		Leng	gth of Vehic	le at Cer	nterline						
		99999	0.0	99999	0.0						
			Engine	Block							
		99999	0.0	99999	0.0						
99999 0.0	99999 0.0		Front Bum	per Corn	ner	99999	0.0	99999	0.0		
			Front of	Engine							
		99999	0.0	99999							
99999 0.0	99999 0.0		Firew			99999	0.0	99999	0.0		
		99999	0.0	99999	0.0						
99999 0.0	99999 0.0		per Leading	-		99999		99999			
99999 0.0	99999 0.0	Low	er Leading	-	Door	99999	0.0	99999			
99999 0.0	99999 0.0		Bottom of			99999	0.0	99999			
99999 0.0	99999 0.0	•	per Trailing	-		99999	0.0				
99999 0.0	99999 0.0	Lo	wer Trailing	-		99999	0.0	99999	0.0		
			Steering								
		99999		99999							
		Center of Se			· · · ·	ntal)					
		99999		99999		D.					
		Center of Ste	-		· · ·	cal)					
		99999	0.0	99999	0.0						



MODIFIED - 1998 FORD ESCORT

NHTSA Crash Test # 2826 Rear Impact - MODIFIED

Max Crush Depth - Vehicle Width - KE Equivalent Speed

Test Vehicle Weight =	2885 pounds
KE Equivalent Speed =	22.4 mph
Test Crush Length =	67.0 inches

Impactor Weight = 3961 Impactor Test Speed = 29.4

Maximum Crush Depth (inches)

Maximum Crush

17

		CRASH 3 Stiffness Coefficents			SMAC Stiffness
		<u>A</u>	<u> </u>	G	<u> </u>
Minimum Crush = N/A inches					
Using a Rated No Damage Speed of	2.5 mph				
Using a Rated No Damage Speed of	5.0 mph				
Using a Rated No Damage Speed of	7.5 mph				
Using a Rated No Damage Speed of	10.0 mph				
Average Crush = N/A inches					
Using a Rated No Damage Speed of	2.5 mph				
Using a Rated No Damage Speed of	5.0 mph				
Using a Rated No Damage Speed of	7.5 mph				
Using a Rated No Damage Speed of	10.0 mph				
Maximum Crush = 17.0 inches					59.9
Using a Rated No Damage Speed of	2.5 mph	101.0	47.3	107.9	
Using a Rated No Damage Speed of	5.0 mph	176.7	36.2	431.5	
Using a Rated No Damage Speed of	7.5 mph	226.9	26.5	970.8	
Using a Rated No Damage Speed of	10.0 mph	251.8	18.4	1726.0	
Rated No Damage Speed = Impact speed with a barrie	r	A= Maxim um force	perinch of dam age w	vithout permanent d	amage, Ib/in

resulting in no permanant vehicle deformation Normal "Rated No Damage Speed" is 2.5 or 5 mph. Some Specific

vehicles may, however, have a higher rating

ewiuw

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

G = Energy dissipated without permanent damage, Ib

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

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

Speed from Crush calculation using a generic CF of 21 as suggested in Expert AutoStats Impact Speed (mph) = SQRT(30 * CF * max crush in feet)

Crush	Maximum Crush	Calculated Impact Speed	Calculated Error	Calculated Error
Factor	(inches)	(mph)	(mph)	(%)
21	17.0	29.9	7.5	25.0

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 11.8

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

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

Expert System Software for Litigation

8387 University Avenue La Mesa, CA 91942 Phone: (619) 464-3478 Fax: (619) 464-2206 Toll Free: 1- 800-266-9778

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

E-Mail: 4n6@4n6xprt.com

Dear Conference Attendee,

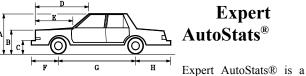
We at 4N6XPRT Systems in conjunction with the Tulsa University Crash Reconstruction Research Consortium (TUCRRC) were pleased to be able to provide you with the preceding data for the crash test vehicles.

Information regarding the Services available to you through 4N6XPRT Systems, 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.



program that has over 42,000 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.

Model Data Page 1 Data Page 2	Data Pag	e 3	Printer	File Output	DXF Outpu	ıt	
2011 FORD POLICE INTERCEPTOR (3.27) MSP POLICE PKG 4 DOOR SEDAN							
Horizontal Dimensions				Vertica	Dimension	<u>IS</u>	
Length	212	in.	F	leight		58	in.
Wheelbase	115	in.	Grou	und to:			
Front Bumper to Front Axle	43	in.	F	ront Bumper	(Top)	23	in.
Front Bumper to Front of Hood	8	in.	H	leadlight - Ce	nter	27	in.
Front Bumper to Base of Windshield	65	in.	H	lood - Top Fre	ont	31	in.
Front Bumper to Top of Windshield	91	in.	В	ase of Windsł	nield	39	in.
Front Bumper to Front Wheel Well	26	in.	R	ear Bumper (Гор)	25	in.
Rear Bumper to Rear of Trunk	8	in.	т	runk - Top Re	ar	39	in.
Rear Bumper to Base of Rear Window	38	in.	В	ase of Rear W	indow	40	in.
Rear Bumper to Rear Well	38	in.		Weight	Dimension	c .	
Rear Bumper to Rear Axle	54	in.			Differision		
Depth Dimensions				urb Weight b Weight Distr	ibution:	4184	Ibs.
Width	78	in.	1	Front =	56 %		
Front Track	63	in.		Rear =	44 %		
Rear Track	66	in.	Gros	ss Vehicle Wei	ght Rating	5500	lbs.

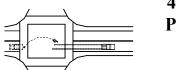
N6XPRT BIOMEKN Vers. 2.0 MAIN MENU BRAIN & ORGANS MUSCLE & TENDON NERVES SKIN & HAIR reference CALCULATION CRASH KINEMATICS & DATA

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.



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.



>>>Calculate Time given D & V<<<

45

Enter Distance (in feet) :

Enter Velocity (in mph) :

Expert Qwic Calcs[®] 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[®]. Is a program which puts the NHTSA Crash Test database at your fingertips with no need to access the internet in order to obtain Stiffness Values!

In addition to the NHTSA Crash Test data, the program includes a "Similar Vehicle List Reader" which allows quick retrieval of the data for the desired and "similar" vehicle(s). This will drive the initial selection of the available tests. Alternatively, we have an ADVANCED SEARCH module which allows the creation of "Class" vehicles.

WITHOUT THE INTERNET the user can:

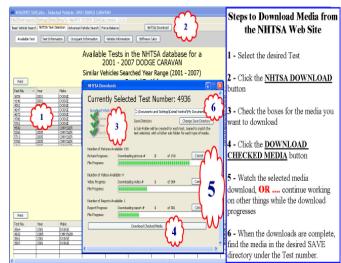
★ Lookup individual tests and get basic front, side, and rear STIFFNESS VALUES from these tests. The values are based on the reported crush depths and lengths within each test. ★ Obtain Similar Vehicle group summary STIFFNESS data with Statistical measures.

★ Create "CLASS" vehicles and get summary STIFFNESS data with Statistical measures.

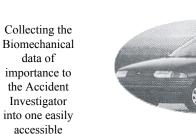
FRONTAL STATISTICAL MEASURES EXAMPLE:

	Vehicle Width Stiffness Values				
			4 E	3	G Kv
Average (AVG)		305.7	93.5	523.6	143.1
Minimum (MIN)		115.0	13.2	465.2	23.5
Maximum (MAX)		461.6	200.0	614.1	387.3
Standard Deviation (STDev-sample)		73.4	38.4	36.2	72.8
Number of Tests (n)	53				

WITH THE INTERNET the user can: **★ RESEARCH** and easily download the PICTURES, VIDEOS, and REPORTS available for individual tests



4N6XPRT BioMeknx®



location

Ford Mercury/Lincoln Chrysler/AMC/Jeep European Import

3FAPP1280MR117253

and Utility vehicles manufactured from 1981 to the present. Cars/Vans/Utility/Lt. Trucks Modules: 1981 to Present Chevrolet/Geo Pontiac / Buick / Oldsmobile

Expert VIN DeCoder® is a program that "DeCodes" the 17 character VIN number for Cars, Vans, Pickups,

Cadillac/Saturn

Asian Import

Expert

VIN

DeCoder[®]

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.

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Company/Organization:	
Street:	
City:	State:Zip:
Phone: ()	FAX: ()
E-Mail:	

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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 ca	ard or front of American Express Card:
tzat 6078 6072 34€ to the transmission Card ID	Card 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)

PROGRAM (Pricing effective as of 8/30/12 -	1 ORDER FORM: prices subject to change without	notice)	Individual Veh
Expert AutoStats [®] : 4N6XPRT BioMeknx [®] :	\$ 625.00 * \$ 495.00 *	\$ \$	□ Expert VIN □ NH7
4N6XPRT Ped & Bike Calcs [®] :	\$ 375.00 *	\$	Please circl
Expert Qwic Calcs [®] :	\$ 275.00 *	\$	
Expert TireStuf [®] :	\$ 85.00 *	\$	YEAR & MAKE:
4N6XPRT StifCalcs [®] :	\$ 650.00 *	\$	MODEL:
Expert VIN DeCoder [®] :	\$ 550.00 *	\$	MODEL
		======	If you are requesting VIN D
	SUB-TOTAL	\$	
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(Cash or Check with order	= \$5.00, Credit Card =	\$10.00,	Car Body S
Govt. Purchas	e Order = \$15.00)		DRIV
Notarized Affidavit Filing Require	ment	\$	PICKUPS:Dual Rear Wheel - St VANS:Cargo / 1
(\$25.00 per require	ed Notarized Signature)		VAIV5.Cargo /
Normal delivery is	via electronic download		
 Deliver via electronic download linl 		\$ 0.00	
Deliver on USB - <u>additional cost</u> of	of \$35.00 / disk / program	\$	1 2 3
		======	
	SUB-TOTAL	\$	10 11
California shipping addresses add	8 50% sales tax	\$	<u>NHTS</u>
(California orders delivered electronica		Ψ	Impact I Impac
(TOTAL	¢	mpac
	IUIAL	J	Case Reference/I

icle Data FAX/Order Form

N Decoder & Expert AutoStats TSA Crash Test Results BOTH le ALL OPTIONS that apply

DeCoder & AutoStats please also provide:

ype:Car - Pickup - Utility - Van No. of Doors:2/3/4/5 Style:Coupe/Conv./Sedan/Wagon VE WHEELS: 4x2/4x4 d. / Extra / Super / Crew Cab - Short Bed / Long Bed Passenger - Short / Long Wheelbase

VIN Information

9 4 5 6 7 8 12 13 14 15 16 17 A Crash Test Information

location - Front / Side / Rear ct Speed - Lower / Higher

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 42,000 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 No Signific	ant Dimensional Changes
VIN DeCoding when VIN	is provided Information
availal	ble
Mid-60's to present also ind	cludes (<i>when available</i>)
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[®]

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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.

> <u>Modules: 1981 to Present</u> 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 coprocessor 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.

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Expert VIN DeCoder®

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Orders will be shipped Priority Mail within 10 working days of receipt of order. Prices subject to change WITHOUT NOTICE. * Checks MUST be drawn from a bank in the U.S.A.

Expert 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: <u>VIN@4n6xprt.com</u>

1-800-266-9778

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 $\{ \text{ the Check Digit } \}$ 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. S/N:930114VD01201 01-01-2001 Reg. User: 4N6XPRT SYSTEMS

Expert AutoStats®

The Expert AutoStats® program contains data on more than 42,000 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 700 private and 300 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

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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.

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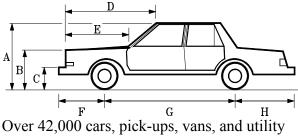
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vehicles 1940's to the present are represented.

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Forensic Expert Software 8387 University Avenue La Mesa, CA 91942-9342

Web: http://www.4n6xprt.com E-Mail: <u>autostats@4n6xprt.com</u>

1-800-266-9778

Select Your Vehicle

Expert AutoStats®	Model Data Page 1	Data Page 2 Da	ata Page 3	Printer	File Output D>	F Output		
Version 5.2.0.2 Serial Number:	Make of Vehicle:	FORD			Select the Ma	nufacturer	from t	he
12R-930512AQ03201	Year of Vehicle:	2011		-	list below.			
Copyright© 1991-2012	Model of Vehicle:				Once a Manu	facturer ha	s been	
Expert Witness Services, Inc	A CONTRACTOR OF CONTRACTOR				Selected the l		able	
All Rights Reserved	Number of Doors:				Models will b	below.		
Introduction	Bodystyle of Vehicle:				Fill in the emp	the language di	a the la	
	Car Pickup				to narrow the		o the le	
Examine Vehicle Specs	🖉 Van 📄 Utility	C Other		Clear		Jearen		-
nt Blank Vehicle Spec Form	Manufact		St	art Year	End	(ear		
ufacturers & Years Available	FORD			130	2012			I.
HTO Design Vehicle Specs	FRAZER FRAZER NASH			147 148	1951 1957			
	FUNKE & WILL			02	2004			
Data Definitions	GENERIC			79	1989			
bout Expert Autostats®	GEO		19	87	1998			
	GLAS			63	1966			
<< <exit autostats®="">>>)</exit>	GMC		19	147	2011			ŀ
PROVIDED BY:	Model			Body St	yle	WB (in)	OAL	(in
4N6XPRT Systems	FUSION HYBRID			4 DOOR		108	191	
8387 University Avenue	MUSTANG			2 DOOR		107	188	
La Mesa CA 91941	MUSTANG				CONVERTIBLE	107	188	
12R-930512AQ03201	MUSTANG GT			2 DOOR	COUPE	107	188 188	
	MUSTANG SHELBY O	37500		2 DOOR		107	188	
4N6XPRT Systems®	MUSTANG SHELBY C				CONVERTIBLE	107	188	
Forensic Expert Software	POLICE INTERCEPTO		ICE PKG	4 DOOR		115	212	ť.
La Mesa, CA 91942-9342 9) 464-3478 / (800) 266-9778	POLICE INTERCEPTO	R (3.55) MSP POL	ICE PKG	4 DOOR		115	212	1
Fax: (619) 464-2206	RANGER 112WB				4X2 PICKUP	112	188	
www.4N6XPRT.com	RANGER 112WB				4X4 PICKUP	112	188	
4N6@4N6XPRT.com	RANGER 118WB			2 DOOR	4X2 PICKUP	118	200	

After typing in the Make, Year, and Type of vehicle, you are presented with the vehicles which are available for that year.

Screen 1

Model Data Page 1 Data Page 2	Data Pag	e3	Printer	File Outp	out I	DXF Outp	ut	
2011 FORD POLICE INTER	CEPTOR	(3.27) MSP P	OLICE PKG	64 DC	OR SEDA	N	
Horizontal Dimensions				Ver	tical [Dimensio	ns	
Length	212	in.	F	leight			58	in.
Wheelbase	115	in.	Gro	und to:				
Front Bumper to Front Axle	43	in.	F	ront Bum	per (T	op)	23	in.
Front Bumper to Front of Hood	8	in.	n. Headlight - Center 27		in.			
Front Bumper to Base of Windshield	65	in.	n. Hood - Top Front 31		31	in.		
Front Bumper to Top of Windshield	91	in.	. Base of Windshield 39		in.			
Front Bumper to Front Wheel Well	26	in.	F	lear Bump	er (To	pp)	25	in.
Rear Bumper to Rear of Trunk	8	in.	. Trunk - Top Rear 39		in.			
Rear Bumper to Base of Rear Window	38	in.	Base of Rear Window 40		in.			
Rear Bumper to Rear Well	38	in.	Weight Dimensions					
Rear Bumper to Rear Axle	54	in.			-	mensio		
Depth Dimensions				urb Weigh			4184	lbs.
Deptil Dimensions			Curl	b Weight [Distrib	ution:		
Width	78	in.	1	Front =	56	5 %		
Front Track	63	in.		Rear =	44	4 %		
Rear Track	66	in.	Gro	ss Vehicle	Weigl	nt Rating	5500	lbs.

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

Model Data Page 1 Da	ita Page 2	2 Data	Page 3	Printer	File Output	DXF Output		
2011 FORD PC	DLICE INT	ERCEPT	FOR (3.2	7) MSP PC	DLICE PKG 4 DO	OOR SEDAN		
Acceleration/Bra	king							
Acceleration 0-30 mph	13.8	ft/sec	2		Bumper Stren	gth	2.5	mph
Acceleration 0-60 mph	9.8	ft/sec	2		Steering Ratio		:1	
Acceleration 45-65 mph	6.5	ft/sec	2		Interior D	imensions		
Braking 60-0 mph	138	feet			Front Shoulde		61	in.
Drive Wheels		REAR			Front Head Ro	oom	40	in.
Turn Circle (Diameter)		40	feet		Front Leg Roo	m	42	in.
Number of Wheels		4			Rear Shoulder	Room	60	in.
Wheel Radius		12	in.		Rear Head Ro	om	38	in.
Tire Size	P235/	/55R17			Rear Leg Roor	m	38	in.
ALL DISC - ALL WHEEL A	BS							
3pt - front and rear - FRO	NT SEAT	AIRBAG	GS					
4spd AUTOMATIC								
N.S.D.C. = 2011 - 2011								
	base							

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 odel | Data Page 1 | Data Page 2 | Data Page 3 | Printer | File Output | DXF Output 2011 FORD POLICE INTERCEPTOR (3.27) MSP POLICE PKG 4 DOOR SEDAN Angle Measurements Angle Front Bumper to Hood Front 45.0 degrees Angle Front of Hood to Windshield Base = 8.0 degrees Angle Front of Hood to Windshield Top = 16.8 degrees 33.2 degrees Angle of Windshield Angle of Steering Tires at Max Turn 27.5 degrees Center of Gravity = 22.77 39.00 Inches from side of vehicle = nches from around Inches in front of rear axle nches behind front axle = 50.60 64.40 ches from front bumper = 93.60 Inches from rear bumper 118.40 ches from front corner = 101.40 Inches from rear corner = 124.66 = 1.41 Stable ip-Over Stability Ratio NHTSA Static Stability Factor (calculated) Star Rating **** Moments of Inertia aw Moment of Inertia 3103.52 lb*ft*sec2 Pitch Moment of Inertia 2993.16 lb*ft*sec oll Moment of Inertia 603.12 lb*ft*se

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.

DXF Output Screen

			-			
Model Data	Page 1	Data Page 2	Data Page 3	Printe	er File Outp	DXF Output
20	11 FOR	POLICE INTE	RCEPTOR (3.2	7) MSP	POLICE PKG	4 DOOR SEDAN
used as first a manufacturin an exemplar v	pproxim g variat /ehicle s he DXF	nations. Some i ions from veho hould be meas output is provi	measurement le to vehicle. ured TO VERI	s are de Whene FY DAT	ependant on ver feasible, t TA IMPORTAI	mensions are meant to be such factors as the vehicle in question or NT TO YOUR CASE. The . It is not meant to be the
DXF File Nam	e 2011	_FORD_POLIC	E_INTERCEPT	OR_(3.2	27)_MSP_POL	LICE_PKG_4_DOOR_SEDAN_
Length				212	Inches	Drawing Notation
Wheelbase				115	Inches	On
Width				78	Inches	Off
Front Track				63	Inches	Units
Rear Track				66	Inches	Inches
Front Overar	ng			43	Inches	Feet
Bumper to B	ase of w	indshield		65	Inches	Meters
Bumper to T	op of w	indshield		91	Inches	
Rear Bumper	r to Base	of Rear windo	w	38	Inches	
Rear Bumper	r to Top	of Rear windo	w	64	Inches	
Front Tire Di	ameter			24	Inches	
Rear Tire Dia	meter			24	Inches	
CG behind F	ront axle	2		50.6	Inches	DXF Output

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

I	
The Crish Zone B.1 - [01473.0XF]	
Pile Edit Draw View Snaps Text/Dimension Utilities Recon 3D Window Help	- 8
🗅 🖆 🖬 🛝 💩 🔹 🐃 🔤 🚛 🛲 🖙 🕵 🖙 🎜 🕬 🎆 😂 적 적 연 및 및 및 🎱 🖉 🚇	
FRONT of 2001 FORD CROWN VICTORIA 4.6L MSP POLICE PACKAGE 4DR SEDAN	
0	
Quick Pisk DXF Output Data	
A David Charles (Market	
Lingth: 17.67 Peet	
Edt Width: 6.50 Feet	
Text/Dimensions Front bumper to Front Ade: 3.67 Feet	
Wheelbase:	
Front Track: 5.25 Feet	
Symbols Rear Track:	
Templates CG behind Front Axle:	
g Forms D Leavring Center	
	2
elect Objects : Selection Tool A:282.66* D:8.55* X:1.78* Y:-8.3	N

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 order to obtain Stiffness Values!

In addition to the NHTSA Crash Test data, the program includes a "Similar Vehicle Reader". Initially developed in cooperation with Greg Anderson and maintained by 4N6XPRT Systems starting with the 2013 version, the reader allows quick retrieval of vehicles similar to the desired vehicle. The Reader drives the initial selection of the available tests. Alternatively, we have an ADVANCED SEARCH module which allows the creation of "CLASS" vehicles.

STIFFNESS DATA, based on the selected test or test grouping is automatically calculated based on the reported crush depths and widths for front, side, and rear tests.

The User can - **WITHOUT** the need for the internet:

★ Lookup individual tests and get basic front, side, or rear (as appropriate to the test)
 STIFFNESS VALUES from the selected test.
 The values are based on the reported crush depths and lengths within each test.

SYSTEM REQUIREMENTS

4N6XPRT StifCalcs[®] is a MS-Windows program designed to work under a 32 <u>or</u> 64-bit (2000/XP/Vista/7) Windows System. ★ Obtain Similar Vehicle group summary STIFFNESS VALUES with Statistical measures.

★ Create "CLASS" vehicles and get summary **STIFFNESS VALUES** with Statistical measures.

FRONTAL STATISTICAL MEASURES EXAMPLE:

		V S1 /	/ehicle tiffness A E	s Valu	e s G Kv
Average (AVG)		305.7	93.5	523.6	143.1
Minimum (MIN)		115.0	13.2	465.2	23.5
Maximum (MAX)		461.6	200.0	614.1	387.3
Standard Deviation (STDev-sample)		73.4	38.4	36.2	72.8
Number of Tests (n)	53				

WITH an internet connection the User will also be able to -

★ RESEARCH and <u>easily download</u> the



that are available for the individual tests

CHARPET SPECIALS - Selected Vehicle: 2 Preference Secret Mer Per To Horse and Vehicle Sauch WHISP Test Selectors Advance Available Test Test Deformation Occupa-	19/51016 SACAKS Weston: 3.2.0.1	Steps to Download Media from the NHTSA Web Site
Firit	Available Tests in the NHTSA database for a 2001 - 2007 DODGE CARAVAN Similar Vehicles Searched Year Range (2001 - 2007)	 Select the desired Test Click the <u>NHTSA DOWNLOAD</u> button
Text No. Nor Nor 2001 COCc2 2001 COCc2 4145 COL COCc2 2001 COCc2 4901 COCc2 COCc2 2001 COCc2 4917 COCc2 COCc2 2001 COCc2 4917 COCc2 COCc2 2001 COCc2 4910 COCc2 COCc2 2002 CPR12/26 2005 2005 CPR12/26 CPR12/26 2002	Currently Selected Test Number: 4936	 Check the boxes for the media you want to download
971 005 04939 570 005 04939 570 202 04939 570 202 04939 570 202 04939 570 202 04939 570 202 04939 570 202 04939	Taster of Planes Andrés (13) Planter Offeren Andrés (13) Plante Norgen: Constanting status 4 2 di 150 Plante Norgen: Constanting status 4 2 di 150	4 - Click the DOWNLOAD CHECKED MEDIA button
	Nater of Views Andree + Views Counterating views 2 of 0(4) Car Per hrugens Tater of Reports Analake 1 Rearet Hrugens Core Car	5 - Watch the selected media download, OR continue working on other things while the download progresses
Print Veor Máie 3564 2001 00052 3722 2005 CHEVARE 3561 2000 00052 3667 2001 00052	Pin Tropus:	6 - When the downloads are complete, find the media in the desired SAVE directory under the Test number

PLEASE PRINT

Contact Name:
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Fax:
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landling **:	\$
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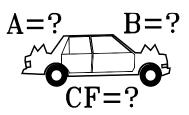
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1-800-266-9778

BASIC VEHICLE CRASH TEST SEARCH

PRT StifCalcs - SELECTED VEHICLE : 2001 LINCOLN TOWN CA

A - B - G Values Crush Factor (CF)

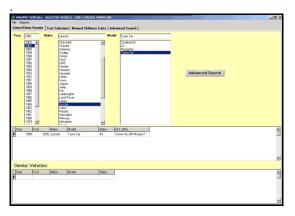
G

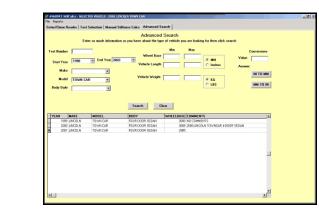
149.1 596.4 1341.9 2385.7

149.1 596.4 1341.9 2385.7

149.1 596.4 1341.9 2385.7

Select the desired vehicle through our SIMILAR VEHICLE READER





Once the desired vehicle is						
found/selected, click on the Test						
Selection tab. From here, select the						
test to be viewed						

SELECTED VEHICLE + 2004 LINCOLN TOWN CA

2001 LINCOLN TOWN CAR

Pre/Post Collison Crush Depths (inches)

Centerline crush

Α

194.5 359.1 494 599

163.4 301.8 415.1 503.4

145.7 269 370 448.7

A - Maximum force per inch of damage without permenant damage, Ib/in

B = Crush resistance per inch of damage width, b/in~2

G = Energy dissipated without permenant damage, Ib

Vehicle Closing Speed

Right side crush

В

126.8 108.1 90.9 75.2

89.6 76.4 64.2 53.1

71.2 60.7

51 42.2

(Pass. Side)

ASIC VEHICLE SEARCH NHTSA TEST SELECTION ADVANCED VEHICLE SEAR lable Tests Test Information Occupant Information Vehicle Info Stiffness Calc Pre/Post Vehicle Depth Damage Profile Distance Depths Maximum Vehicle Depth

4654 pound

78.2 inche

2.5 mph 5 mph 7.5 mph 10 mph

2.5 mph 5 mph 7.5 mph 10 mph

2.5 mph 5 mph 7.5 mph 10 mph

int Reports Settings Help Reg. To: 4N6XPRT SYSTEMS

G Makiela Midd

Vehicle Test Weight =

Test Crush Length -

sing a Rated No Damage Speed o Jsing a Rated No Damage Speed of Ising a Rated No Damage Speed of

ush = 23.8

sing a Rated No Damage Speed o Ising a Rated No Damage Speed of

Ising a Rated No Damage Speed of

imum Crush =26.7 inches

ig a Rated No Damage Speed of

Ising a Rated No Damage Speed of

Ising a Rated No Damage Speed of

Damage Speed o

Rated No Damage Speed = Imapct speed with a barrier

Normal "Bated No Damage Speed" is 2.5 or 5 mph. Some specific

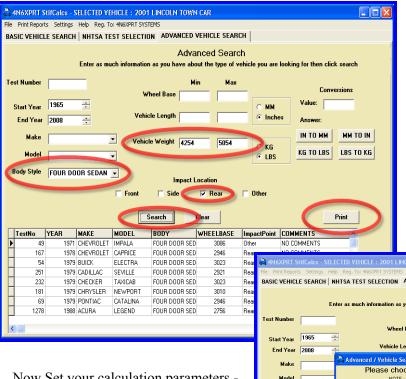
resulting in no permenant vehicle deformation

Step 1

	BASI	IC VEHICLE	SEARCH	NHTSA TES	T SELECTION ADVANC	ED VEHICLE S	EARCH						
	Avail	lable Tests T	est Informatio	n Occupant	Information Vehicle Info !	Stiffness Calcs							
					Available T	ests in t	he Ni	HTSA (databa	ASP	for a		
					1998	- 2008 L	INCC	IN IC	DMM (JAH			
S	_	Print	E Me	odify Year Ra	ange	F	rontal T	est(s)					
3	Г	Test Number	Year	Make	Model	Impact Spee	Max Crush	Crush Factor	VDI	PDOF	Test Config	VIN	-
		2764	1998	FORD	CROWN VICTORIA	35.3	29.9	16.7	12FDEW3	180	VEHICLE INTO BARRIER	2FAFP73W7W	×
		3077	1995	FORD	CROWN VICTORIA	24.6	28.1	8.6	9999999	0	VEHICLE INTO BARRIER	2FAFP74W7to	2
		3103	1999	FORD	CROWN VICTORIA	29.3	27.9	12.3	9999999	0	VEHICLE INTO BARRIER	2FAFP74W80	2
the		3219		LINCOLN	TOWN CAR	35.1	27.8	17.7	12FDEW3	180	VEHICLE INTO BARRIER	1LNHM81W8Y	Ŷ
une	D	3480	2001	LINCOLN	TOWN CAR	35.1	27.6	17.9			VEHICLE INTO BARRIER	1LNHM82W11	1
		3614		FORD	CROWN VICTORIA	35	20.4	24	12FDEW6	0	VEHICLE INTO BARRIER	2FAFP73wX1>	2
		4476	2003	FORD	CROWN VICTORIA	35.3	25.3	19.7	12FDEW6	0	VEHICLE INTO BARRIER	2FAFP73WX3	2
		4496	2003	FORD	CROWN VICTORIA	29.7	0	0		0	SLED WITH VEHICLE BODY	2FAFP73W53×	1
		4894	2003	LINCOLN	TOWN CAR	0	0	0		0	STATIC AIR BAG TEST SIDE	1LNHM81W93	r
													-
		<))										>	
			E Me	dify Year Ba	ange		Rear Te	et(c)					
							near re	si(s)					
				NO	REAR TESTS 1	998-2008	\$						
		Print	- M.	dify Year Ba			Side Te	atta)					
	_												
		Test Number	Year	Make	Model	Impact Spee	Max Crush	Crush Factor	VDI	PDOF	Test Config	VIN	1
4		2989	1999	UNCOLN	TOWN CAR	38.3	20	29.4	03LPAW2	270	IMPACTOR INTO VEHICLE	1LNHM81W0KY645	ż.
		4426	2003	FORD	CROWN VICTORIA	38.4	18.4	32	10LPAW3	297	IMPACTOR INTO VEHICLE	2FAFP73W83K1091	5
	D	4427	2003	B LINCOLN	TOWN CAR	38.1	17.1	34	10LPAW3	297	IMPACTOR INTO VEHICLE	1LNHM81W93Y622	2
													1
		<))										>	2
Trapezodial Average	1	M (100)										-	

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.

"CLASS" VEHICLE CRASH TEST SEARCH



Now Set your calculation parameters -

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:

				1 LINCOLN TOWN C.	ar				
File Print Repor						1			
BASIC VEHICLE SEARCH NHTSA TEST SELECTION ADVANCED VEHICLE SEARCH									
Advanced Search Enter as much information as you have about the type of vehicle you are looking for then click search									
Test Number		_		Min	Max			Conversions	
			1	Wheel Base		_		Conversions	
Start Year	1965	÷				0	MM Value:		
End Year	2008	-	Veh	icle Length		۰	Inches Answer		
		- Adva	inced / Vehi	icle Search Printout				м мм т	
Make					ameters	for the		M MM I	UIN
Model	-	-	Please choose the parameters for the report NDTE : Default settings are already selected for you BS LBS TO						O KG
Body Style FOUR DOOR Rear Tests Crush Depth [inch] Crush Length [inch] Speed Type 25 5.0 • Average • Width • Doanage • Cloaing 7.5 • 10.0 • Max • Indent • KE						Print]		
TestNo		MA						^	
49	1971 1978		ault settings	Print	Car	ncel			
▶ 167 54	1978				- Inch	ude Not Calc	dated Tasts		
251		CADICUNC	IVE YIELE	0010001000	inci	JOE NOT LAIC	ulated Lests		
232		CHECKER	TAXICAB	FOUR DOOR SED	3023	Rear	NO COMMENTS	E	
181	1979	CHRYSLER	NEWPORT	FOUR DOOR SED	3010	Rear	NO COMMENTS		
69	1979	PONTIAC	CATALINA	FOUR DOOR SED	2946	Rear	NO COMMENTS		
1278	1988	ACURA	LEGEND	FOUR DOOR SED	2756	Rear	NO COMMENTS		
								~	

G CF

588

603

665 15.1

42.9 21

12.7

B

631

94.6

272.4

354.7

Std Dev

No Damage Speed - Crush Depth -Indentation (Crush) Length - and Speed, then view your results, and if desired, print them to hard copy

🛱 Display Auto Calculated Tests	

Prin

l	Test No	YEAR	MAKE	MODEL	Body Style	No Damage Speed	Crush Distance	Impact Velocity	Stiffness A	Stiffness B	Stiffness G	Crush Fact
	167	1978	CHEVROLET	CAPRICE	FOUR DOOR SEDAN	5.0	16.3	20.3	216.4	40.5	577.7	10
	54	1979	BUICK	ELECTRA	FOUR DOOR SEDAN	5.0	23	24	199.8	33.1	603.8	
	251	1979	CADILLAC	SEVILLE	FOUR DOOR SEDAN	5.0	13.2	19.9	292.4	66.1	647.1	
	232	1979	CHECKER	TAXICAB	FOUR DOOR SEDAN	5.0	10.8	20.2	336.3	94.6	597.9	1
	181	1979	CHRYSLER	NEWPORT	FOUR DOOR SEDAN	5.0	16.3	24.5	270.2	64.9	562.8	1
	69	1979	PONTIAC	CATALINA	FOUR DOOR SEDAN	5.0	18.4	24.1	237.3	49.4	570.4	1
Í	1278	1988	ACURA	LEGEND	FOUR DOOR SEDAN	5.0	11.5	20.2	354.7	93.2	674.8	1

To select multiple records hold the ctrl key down and click on the records you wish to selec

Print this page

Remove Selected

Cancel

Print All Pages

calculate the AVERAGE, MINIMUM, MAXIMUM, and **Standard Deviation** of the Stiffness Values calculated based upon the parameters you set in the preceding step.

The program will

4N6XPRT Systems Expert System Software for Litigation

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FED Tax ID No.: 95-3121248

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4N6XPRT StifCalcs [®] :	\$ 650.00 *		\$
Expert VIN DeCoder [®] :	\$ 550.00 *		\$ \$ \$
		SUB-TOTA	L \$
Handling **: (Cash or Check with order = \$5.00, Cr Notarized Affidavit filing requirement - <u>\$25.0</u> <i>Normal delivery will be via er</i> □ - Deliver via electronic download link (e-m □ - Please deliver on USB at an <u>additional c</u>	00 per required notarized signat nail of a download link to a self o nail address required)	<u>ture</u> :	\$ \$ \$_0.00 \$
California shipping addresses add 8.75% sal (California orders delive	es tax ered by e-mail attachment DO NOT owe s	SUB-TOTA	L \$ \$
		TOTAL	 \$
Enclosed is:		- • • • • •	*
Check Money Order Purchase Order	Credit Card: Visa Ma	aster Card	American Express
Card #		Expires	SecCode
Billing Add. :		Billing 2	Zıp:
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.

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. Exp Card Number:	ress / Visa / MasterCard		
Expiration Date (MM/Y	YY):/		
1234 5678 9012 345 123 Loren been bren been bren been bren bren b		American Express →	AMERICANI 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,

il United DE

Daniel W. Vomhof III General Manager/Technical Support

A Division of Expert Witness Services, Inc.

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 <u>ALL OPTIONS</u> 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	-

<u>NHTSA Crash Test Information</u> Impact location - Front / Side / Rear Impact Speed - Lower / Higher

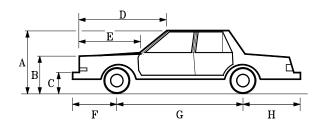
PAYMENT INFORMATION Visa/MasterCard / American Express:

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 (<i>when provided by VIN</i>) 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 No Significant Dimensional Changes VIN DeCoding when VIN is provided Information available					
Mid-60's to present also in	ncludes (<i>when available</i>)				
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*

<u>Medium/Heavy Truck</u> <u>Specifications</u>

\$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:

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\$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:			

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YEAR & MAKE:

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Impact location - Front / Side / Rear Impact Speed - Lower / Higher

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Card type: Am. Express / Visa / MasterCard Card Number: Expiration Date (MM/YY): MERICAN EXPRES 099 1234 5678 9012 345 ←Visa/MasterCard American Express → 9500F Card ID

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)

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Daniel W. Vomhof III General Manager/Technical Support

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