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 51,000 different vehicles and 203 different manufacturers spanning more than 76 years.

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

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

Individual Vehicle Data Search Service (R)

Provided by: 4N6XPRT SYSTEMS (R) Forensic Expert Software 8387 University Avenue La Mesa, CA 91942-9342

(619) 464-3478 / (800) 266-9778 / FAX: (619) 464-2206 Web Site - <u>www.4N6XPRT.com</u> Email - 4n6@4n6xprt.com

Through the use of

EXPERT AUTOSTATS(R)

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DEVELOPED BY:

Daniel W. Vomhof III & Daniel W. Vomhof, Ph.D.

VEHICLE DATA RESEARCH BY:

Sheryl Cozby, Marion Vomhof, Muriel Vomhof, & Cindy Christensen

Expert VIN DeCoder®

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Version Number 4.1.0.2

DeCoded VIN: 1G2NW12E33C228004

Model: 2003 Pontiac Grand AM GT 2 door Coupe

Engine Size: 3.4L / 207cu.in.

Engine Description: V6 Cylinder Overhead Valves

Horse Power: 210 @ 5200 rpm

Torque: 215 lb-ft at 4000 rpm

Injection System: Multi-Port Fuel Injection (MFI)

41-47 psi

Manufacturer: Buick - Oldsmobile - Cadillac

Assembly Plant: Lansing (B), MI

PSI:

Drive Wheels: This is a Front Wheel Drive vehicle w/ Manual Seatbelts + Driver & Passenger Air Bags

Ignition:

Electronic

The First through Third characters (1G2) indicate a Pontiac Passenger Car made in the U.S.A.

The Fourth through Fifth characters (NW) indicate a Grand AM GT

The Sixth character (1) indicates a 2 door Coupe

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

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

The Ninth character (the check digit) is entered as 3.

The VIN appears Valid, the calculated value is 3.

The Tenth character (3) indicates the model year 2003

The Eleventh character (C) indicates the vehicle was made in the assembly plant in Lansing (B), MI

The Twelfth through Seventeenth characters (228004) indicate the Serial Number and are unique to this vehicle.

Expert AutoStats®

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

9/9/2022

2003 PONTIAC GRAND AM 2 DOOR COUPE

2003 PONTIAC GRAND AM 2 DOOR COUPE			
Curb Weight: Curb Weight Distribution - Front:	3050 lbs.	1383 Rear: 36	kg. %
Gross Vehicle Weight Rating:	3921 lbs.	1779	kg.
Number of Tires on Vehicle: Drive Wheels:	FRONT		
Horizontal Dimensions Total Length Wheelbase:	Inches	Feet 15.50 8.92	Meters 4.72 2.72
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:	40 25 5 51 82	3.33 2.08 0.42 4.25 6.83	1.02 0.64 0.13 1.30 2.08
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:	39 25 8 27	3.25 2.08 0.67 2.25	0.99 0.64 0.20 0.69
Width Dimensions Maximum Width: Front Track: Rear Track:	70 59 59	5.83 4.92 4.92	1.78 1.50 1.50
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:	22 26 28 37 27 41 43	1.83 2.17 2.33 3.08 2.25 3.42 3.58	0.56 0.66 0.71 0.94 0.69 1.04 1.09

Expert AutoStats®

2003 PONTIAC GRAND AM 2 DOOR COUPE

Interior Dimensions	Inches	Feet	Meters
Front Seat Shoulder Width	53	4.42	1.35
Front Seat to Headliner	38	3.17	0.97
Front Leg Room - seatback to floor (max)	42	3.50	1.07
Rear Seat Shoulder Width	51	4.25	1.30

Rear Seat Shoulder Width	51	4.25	1.30
Rear Seat to Headliner	37	3.08	0.94
Front Leg Room - seatback to floor (min)	36	3.00	0.93

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

Steering Data

Turning Circle (Diame	ter)	456	38	11.58
Steering Ratio:	:1			
Wheel Radius:		12	1.00	0.30

Tire Size (OEM): **P215/60R15**

Acceleration & Braking Information

Brake Type: FRONT DISC - REAR DRUM

ABS System: ALL WHEEL ABS

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

			-	•		•	-	•	-		
d =	140.0	ft	t =	3.2	sec	a	=	-27.6	ft/sec²	G-force =	-0.86

Acceleration:

O to 30mph	t = 3.6 sec	$a = \boxed{12.2} ft/sec^2$	G-force =	0.38
0 to 60mph	t = 7.7 sec	$a = \boxed{11.4} \text{ ft/sec}^2$	G-force =	0.35
45 to 65mph	t = 6.2 sec	$a = \boxed{4.7}$ ft/sec ²	G-force =	0.15

Transmission Type: 4spd AUTOMATIC

Notes:

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

N.S.D.C = 1999 - 2005

1.31

Stable

2.182.871.992.73

2003 PONTIAC GRAND AM 2 DOOR COUPE

Tip-Over Stability Ratio =

Other Information

NHTSA Star Rating (calculated)			***	
Center of Gravity (No Load):		Inches	Feet	Meters
behind front axle	=	38.52	3.21	0.98
in front of rear axle	=	68.48	5.71	1.74
from side of vehicle	=	35.00	2.92	0.89
from ground	=	22.47	1.87	0.57

from ground	=	22.47	1.87
from front corner	=	85.97	7.16
from rear corner	=	113.04	9.42
from front bumper	=	78.52	6.54
from rear bumper	=	107.48	8.96

Moments of Inertia Approximations (No Load):	lb*ft*sec²	kg*m*sec²
Yaw Moment of Inertia	=	1935.50	267.59
Pitch Moment of Inertia	=	1870.50	258.61
Roll Moment of Inertia	=	399.00	55.16

Front Profile Information

Angle Front Bumper to Hood Front	=	50.2 de	g
Angle Front of Hood to Windshield Base	=	11.1 de	g
Angle Front of Hood to Windshield Top	=	18.0 de	g
Angle of Windshield	=	27.3 de	g
Angle of Steering Tires at Max Turn	=	26.9 de	g

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:

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

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

Stiffness Values and Test Data

Derived from

NHTSA Crash Test #3227

2000 PONTIAC GRAND AM

Provided By

4N6XPRT StifCalcs®

Registered to:

4N6XPRT SYSTEMS 8387 UNIVERSITY AVENUE LA MESA CA 91941-3842 21R-030201SC01301

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Similar Vehicle database reader

You entered: 2002 PONTIAC GRANDAM

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

Year Range	Make	Model	Body Styles	Wheelbase
1999 - 2004 Remarks:	OLDSMOBILE	ALERO	2D, 4D	107
1999 - 2005 Remarks:	PONTIAC	GRANDAM	2D, 4D	107, 116

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!).

If you have suggestions and/or corrections, we request and urge you to contact us - 4n6@4n6xprt.com.

Test Information

Test # 3227		NHT	SA Test F	Reference (Guide Versi	on#	V4			
Test Date 1999-12-09					Contra	act#	DTNH22-97-	C-01033		
Contract/Study Title	INDICANT F	MVSS 21	4 COMP	LIANCE T	EST - 2000	PON	TIAC GRAND	AM		
Test Objective(s)	TO GENERA	TE COMP	PARATIV	E SIDE IM	PACT PERF	FORM	IANCE INFOR	MATION		
Test Type	COMPLIANO	CE - INDI	CANT TE	ST			Configuration	IMPACT	OR INTO VEH	HICLE
Impact Angle	270			Si	de Impact F	Point	99999	mm	0.0	inches
					Offset Dist	tance	0	mm	0.0	inches
					Closing S	peed	62.1	Km/Hr	38.59	MPH
Test Performer	CALSPAN									
Test Reference #	RUN1847									
Test Track Surface	CONCRETE				Condi	ition	DRY			
Ambient Temperature	21 C	69.8	F	Total Nu	ımber of Cu	ırves	48			
Data Recorder Type	OTHER						Data Link	OTHER		
Test Commentary	FY 2000 FM	VSS 2140	INDICA	NT TEST	PERFORME	ED A	NCAP VELOC	TTY		
Fixed Barrier Information										
	_									_
Barrier Type				Pole l	Barrier Dian	neter		mm		inches
Barrier Shape										
Barrier Commentary										

2000 PONTIAC GRAND AM LEFT FRONT SEAT OCCUPANT

Test #	3227				
Vehicle #	2		Sex	MALE	
Location	LEFT FRONT SE	AT	Age	99	
Position	CENTER POSITION	ON	Height	999 mm 39.3 incl	nes
Type	NHTSA SIDE IMP	PACT DUMMY	Weight	999.0 kg 2202 pou	ınds
Size	50 PERCENTILE				
Cal	ibration Method	PART 572			
Occupar	nt Manufacturer	MFG:FIRST TECHNOLO	OGY SAFETY SYSTE	MS S/N:015	
Occupa	ant Modification	UNMODIFIED			
Occu	pant Description	SUBPART F SIDE IMPA	CT DUMMY		
Occupa	ant Commentary	CONTACTS: CNTRH1:L	SHOULDER; CNTR	C1:DOOR TRIM; CNTRL2:D	OOR TRIM
		<u>Head</u>			
Head to -					
Windshie	elder Header 340	mm <u>13.4</u> inch	ies Head Injury (Criteria (HIC) 1532	
	WindShield 636	mm <u>25.0</u> inch	ies HIC Lov	wer Time Interval (ms) 43.	8
	Seatback 999	9 mm <u>0.0</u> inch	ies HIC Up	per Time Interval (ms) 77.	7
	Side Header 155		ies		
9	Side Window 302		ies		
Neck to Se	atback 9999 r	mm 0.0 inches			_
	First Contact Re	egion (Head) OTHER			╛
5	Second Contact Re	gion (Head)			
•		<u>Chest</u>			
Chest to -	s . []				
		nm 21.4 inches	Arm to Door 9		
Steering V		nm 12.9 inches	Hip to Door 1	37 mm <u>5.4</u> inche	S
		nm 0.0 inches	Dalida Daalal atawal A	and and the control of	\neg
	Severity Index 99	99 H	Pelvic Peak Lateral A	`` /	\dashv
Thoracic Tr	auma Index 0	Dalt Daalt Laad 0000		Acceleration (g's) 999.9	
	•	Belt Peak Load 9999		pound Force	
Firet C		Belt Peak Load 9999	Newtons 2247.9	pound Force	\neg
	ontact Region (Che	· -			\dashv
Second Co	ontact Region (Ches	st/Abdomen) NONE			_
		<u>Legs</u>	-		
Knees to			(nees to Seatback 9		S
		999 Newtons		Is Force	
Right Femu		999 Newtons	<u>-2247.9</u> pound	ls Force	_
	First Contact R				_
	Second Contact Re	egion (Legs)			

Registered Owner: 4N6XPRT SYSTEMS

2000 PONTIAC GRAND AM LEFT FRONT SEAT OCCUPANT

Test #	3227	
Vehicle #	2	Sex MALE
Location	LEFT FRONT S	SEAT Age 99
Position	CENTER POSI	TION Height 999 mm 39.3 inches
Type	NHTSA SIDE IN	MPACT DUMMY Weight 999.0 kg 2202 pounds
Size	50 PERCENTIL	E
Cali	ibration Method	PART 572
Occupar	nt Manufacturer	MFG:FIRST TECHNOLOGY SAFETY SYSTEMS S/N:015
Occupa	ant Modification	UNMODIFIED
Occup	pant Description	SUBPART F SIDE IMPACT DUMMY
Occupa	ant Commentary	CONTACTS: CNTRH1:L SHOULDER; CNTRC1:DOOR TRIM; CNTRL2:DOOR TRIM
		<u>Restraints</u>
Restraii	nt # 1 3 POIN	T BELT
Mounte	ed	
Deployr	ment NOT AP	PLICABLE
Restraii	nt Commentary	NO COMMENTS
Restraii	nt# 2 NONE	
Mounte		
Deployr	ment NOT AP	PLICABLE

NO COMMENTS

Restraint Commentary

2000 PONTIAC GRAND AM LEFT REAR SEAT OCCUPANT

Test #	3227						
Vehicle #	2			Sex	MALE		
Location	LEFT REAR SEA	T		Age	99		
Position	NON-ADJUSTAB	LE SEAT] Height	999 mm	39.3 inches	3
Туре	NHTSA SIDE IMP	ACT DUMMY] Weight	999.0 kg	2202 pound	ls
Size	50 PERCENTILE						
Cali	ibration Method	PART 572					
Occupar	nt Manufacturer	MFG:FIRST TECH	HNOLO	GY SAFETY SYSTE	MS S/N:016		
Occupa	ant Modification	NO COMMENTS					
Occu	pant Description	SUBPART F SIDE	IMPAC	CT DUMMY			
Occupa	ant Commentary	CONTACTS: CNT	C1: IN	TEROR LEFT SIDE	TRIM; CNTL1:	B PILLAR TRIM	Λ
l lood to		<u>H</u>	<u>ead</u>				
Head to -	elder Header 999	9 mm 0.0	J inché	oo Hood Injury (Critorio (LIC)	1020	
vviriusine	elder Header 999 WindShield 999		」 inche] inche	, ,	ver Time Interva		
	Seatback 999		inche		per Time Interva		
	Side Header 192		inche	•	per fille lillerva	ii (1115 <i>)</i> [30.0	
ç	Side Window 320		inche				
Neck to Sea		mm 0.0 inch	_	53			
TACCIN TO OCI	First Contact Re		ILLAR				
Ş	Second Contact Re						
	occoria comaci res						
		Ch	<u>iest</u>				
Chest to -							
	Dash 9999 n	nm 0.0 inch	nes	Arm to Door	04 mm 4	inches	
Steering V	Vheel 9999 n	nm 0.0 inch	nes	Hip to Door	37 mm 5	inches	
_		nm 21.9 inch	nes	. –			
Chest S	everity Index 99	99	Р	Pelvic Peak Lateral Ad	cceleration (g's)	0	
Thoracic Tr	auma Index 0			Thorax Peak A	Acceleration (g's	999.9	
	Lap E	Belt Peak Load 9	999	Newtons 2247.9	pound Force		
	Shoulder B	elt Peak Load 9	999	Newtons 2247.9	pound Force		
First Co	ontact Region (Che	est/Abdomen) OTH	IER				
Second Co	ontact Region (Che	st/Abdomen) NO	NE				
			Legs				
Knees to	Dash 9999 n	nm 0.0 inch		nees to Seatback 2	20 mm 8	inches	
		999 Newto	_		s Force		
		999 Newto	_	 i'	s Force		
	First Contact R			pound]	
	Second Contact Re	· · · · / 	•				

Registered Owner: 4N6XPRT SYSTEMS

2000 PONTIAC GRAND AM LEFT REAR SEAT OCCUPANT

Test #	3227						
Vehicle #	2			Sex	MALE		
Location	LEFT RE	AR SEA		Age	99		
Position	NON-AD	JUSTAB	LE SEAT	Height	999 mm	39.3 inches	
Type	NHTSA S	SIDE IMP	ACT DUMMY	Weight	999.0 kg	2202 pounds	
Size	50 PERC	ENTILE					
Cal	libration Me	ethod	PART 572				
Occupar	nt Manufac	cturer	MFG:FIRST TECHNOLO	GY SAFETY SYSTE	MS S/N:016		
Occupa	ant Modific	ation	NO COMMENTS				
Occu	ipant Desc	ription	SUBPART F SIDE IMPAC	T DUMMY			
Occupa	ant Comme	entary	CONTACTS: CNTC1: INT	EROR LEFT SIDE	TRIM; CNTL1:	B PILLAR TRIM	
			Restraints	<u>5</u>			
Restrai	int # 1 3	POINT B	ELT				
Mounte	ed						
Deploy	ment N	OT APPL	ICABLE				
Restrai	int Comme	entary	NO COMMENTS				
Restrai	int# 2 N	ONE					
Mounte	_						
Deploy	ment N	OT APPL	ICABLE				

NO COMMENTS

Restraint Commentary

Vehicle 1 0 NHTSA DEFORMABLE IMPACTOR

Test #	3227								
VIN					NHTSA Te	st Vehicle Numbe	er 1		
Year	0				Vehicle Mo	dification Indicato	RESEARC	H VEHICLE	
Make	NHTSA		Post-test S	Steering Col	umn Shear C	apsule Seperation	NOT APPL	ICABLE	
Model	DEFORMAB	LE IMPA	CTOR	Steerin	g Column Co	llapse Mechanisn	NOT APPL	ICABLE	
Body	OTHER								
Engine	OTHER								
Displacement	0 Lite	er Tra	ansmission	OTHER					
Vehicle Modific	ation(s) Descr	iption	UNMODIF	IED					
Vehicle Comme	entary NHTS	SA SIDE I	IMPACTOR	₹					
Vehicle Len	gth 4120	mm	162.2 i	nches	CG	behind Front Axl	e 1104 mm	43.5	inches
Vehicle V	Vidth 1676	mm	66.0 i	nches	Center of D	amage to CG Axi	s 9999 mm	0.0	inches
Vehicle Wheel	lbase 2590	mm	102.0		Total Leng	th of Indentation	9999 mm	0.0	inches
Vehicle Test We	eight 1363	KG	3004 p	oounds	Maximum S	Static Crush Depth	n 9999 mm	0.0	inches
						Pre-Impact Spee	d 62 kph	38.6	mph
Vel	hicle Damage	Index 9	99		Princi	pal Direction of F	orce 27		
Damaga Dr	ofilo Diotono	Maaa			Crush from	o Dra 9 Daat Te	act Domoso	Magaurana	onto
Damage Pro				<u>i</u>	Crush iron	n Pre & Post Te			
· _	ured Left-to-Ri	·	¬ ´			Pre-Test	Post-Test	Crush D	- ·
DPD 1		0.0	inches	Left Bur	nper Corner	inches	0.0 incl		inches
DPD 2 S		0.0	inches			9 mm	99999 mm	-99990] mm
DPD 3 L		0.0	inches		Centerline	0.4 inches	0.0 incl	nes -3936.6	inches
DPD 4		0.0	inches			9 mm	99999 mm	-99990] mm
_	9999 mm	0.0	inches	Right Run	nper Corner	0.4 inches	0.0 incl	198 -3936 F	inches
DPD 6	9999 mm	0.0	inches	rtight bui	ilper contier	9 mm	99999 mm		
						<u> </u>	[33333] IIIII	-33330]
Rumner F	ngagement			Sill En	gagement		Δ-nills	ar Engageme	nt
	pact Only)				mpact Only)		•	e Impact Only	
`	99.0			•	PPLICABLE		Г	999.0	,,
	33.0			NOIA	I I LIVADLL				_
Moving	g Test Cart			Moving Te	est Cart/Vehic	cle	Vehicle (Orientation o	n Cart
А	ngle			Crab	bed Angle		Mov	ing Test Cart	t
NOT A	PPLICABLE				27.0		NOT.	APPLICABL	E
Magnitude	e of the Tilt Angle			Magniture o	f the Crabbed Ar	ngle	Magr	itude of the Ang	ıle
Measured b	oetween surface o	f a		Measure	Clockwise from	1	Measured betw	een the Vehicle	Orientation
Rollover Test	Cart and the Gro	und	Long	itudinal Vector	to Velocity Vector	or of Vehicle	and Direct	ion of Test Cart	Motion

Registered Owner: 4N6XPRT SYSTEMS

Vehicle 1 0 NHTSA DEFORMABLE IMPACTOR

Test #	3227				
VIN	<u> </u>	NI	HTSA Test Vehicle Nun	nber 1	
Year	0		hicle Modification Indication	_	VEHICI E
Make	NHTSA	Post-test Steering Column			
Model	DEFORMABLE IMPA		ollumn Collapse Mechar		
Body	OTHER		namin Collapse Mechai	IIIII III IIII	PADLL
Engine	OTHER				
Displacement		ansmission OTHER]
•		UNMODIFIED			
Vehicle Comme	· · · · · - · · · · · · · · · · · · · ·	MPACTOR			
Vehicle Len		162.2 inches	CG behind Front	Axle 1104 mm	43.5 inches
Vehicle V	Vidth 1676 mm	66.0 inches Ce	nter of Damage to CG	Axis 9999 mm	0.0 inches
Vehicle Wheel	base 2590 mm	102.0 inches	otal Length of Indentation	on 9999 mm	0.0 inches
Vehicle Test We	eight 1363 KG	3004 pounds Ma	ximum Static Crush De	epth 9999 mm	0.0 inches
			Pre-Impact Sp	eed 62 kph	38.6 mph
Vel	nicle Damage Index	99	Principal Direction o	f Force 27	
	<u>P</u>	re & Post Test Dam	age Measureme	<u>nts</u>	
(Measureme	ents are taken in a longitudina	aldirection. Except for Engine Bloo	k, all measurements are take	e from the Rear Vehicle S	urface forward.)
L	eft Side	Cen	terline	Righ	nt Side
Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test
mm inche		mm inches	mm inches	mm inches	mm inches
		Length of Ver	nicle at Centerline		
		9 0.4	99999 0.0		
		Engi	ne Block		
		9 0.4	99999 0.0		
9 0.4	99999 0.0	Front Bu	ımper Corner	9 0.4	99999 0.0
		Front	of Engine		
		9 0.4	99999 0.0		
9 0.4	99999 0.0	Fi	rewall	9 0.4	99999 0.0
		9 0.4	99999 0.0		
9 0.4	99999 0.0	Upper Leadi	ng Edge of Door	9 0.4	99999 0.0
9 0.4	99999 0.0	Lower Leadir	ng Edge of Door	9 0.4	99999 0.0
9 0.4	99999 0.0	Bottom	of 'A' Post	9 0.4	99999 0.0
	99999 0.0	Upper Traili	ng Edge of Door	9 0.4	99999 0.0
9 0.4	99999 0.0		ng Edge of Door	9 0.4	99999 0.0
			ng Column		
		9 0.4	99999 0.0		
			ımn to 'A' Post (Horizor	ntal)	
		9 0.4	99999 0.0		
		Center of Steering Column 19 0.4	umn to Headliner (Vertion) 99999 0.0	cai)	
		19 ().4	99999 0.0		

Vehicle 2 2000 PONTIAC GRAND AM

Test #	3227									
VIN	1G2NE12T1	/M72730	6		NHTSA Te	st Vehicle	Number	2		
Year	2000				Vehicle Mo	dification l	ndicator	PRODUCTIO	N VEHICL	.E
Make	PONTIAC		Post-test S	teering Colu	umn Shear C	apsule Se	eperation	UNKNOWN		
Model	GRAND AM] Steering	g Column Co	llapse Me	chanism	UNKNOWN		
Body	TWO DOOR	COUPE								
Engine	4 CYLINDER	TRANS	VERSE FR	ONT						
Displacement	2.4 Lite	er Tra	ansmission	AUTOM	ATIC - FRON	IT WHEEL	DRIVE]	
Vehicle Modific	ation(s) Descr	iption	NO COMM	ENTS						
Vehicle Comme	entary 2000	PONTIA	C GRAND A	AM 2 DOOF	COUPE					
Vehicle Leng	gth 4718	mm	185.7 ir	nches	CG	behind F	ront Axle	1130 mm	44.5	inches
Vehicle V	Vidth 1754	mm	69.1 ir	nches	Center of D	amage to	CG Axis	9999 mm	0.0	inches
Vehicle Wheel	lbase 2720	mm	107.1		Total Leng	th of Inde	ntation	3010 mm	118.5	inches
Vehicle Test We	eight 1591	KG	3507 p	ounds	Maximum S	Static Crus	sh Depth	381 mm	15.0	inches
						Pre-Impa	ct Speed	0 kph	0.0	mph
Vel	hicle Damage	Index 9	99999.		Princi	ipal Direct	ion of For	ce 297		
Damaga Dr	ofilo Diotono	- M	uramanta		Cruch from	n Dro 0	Doot Too	ot Damaga M	000118080	onto
Damage Pro					Crush iron			st Damage M		
` _	ured Left-to-Ri	·	_		_	Pre-Test	•	Post-Test	Crush E	1
DPD 1 (0.0	inches	Left Bun	nper Corner	0.0	inches	inche		inches
DPD 2		5.1	inches			99999	mm	99999 mm	0] mm
DPD 3		14.2	inches		Centerline	0.0	inches	0.0 inche	es 0.0	inches
DPD 4		12.8	inches			99999	mm	99999 mm	0] mm
=	276 mm	10.9	inches	Right Rum	nper Corner	0.0	inches	0.0 inche	s 0.0	inches
DPD 6	0 mm	0.0	inches	rtight ban	iper comer	99999	mm	99999 mm	0] mm
						33333	111111	33333 111111	U	1
Rumner F	ngagement			Sill End	gagement			A-nillar	Engageme	nt
•	pact Only)			_	mpact Only)			•	Impact Only	
`	99.0			<u> </u>	NGAGEMEN	UT		<u> </u>	999.0	,, 1
	33.0			DIIXLOIL	NOAGLINE				333.0	_
Moving	Test Cart			Moving Te	st Cart/Vehic	cle		Vehicle O	rientation o	n Cart
А	ngle			Crabl	bed Angle			Movin	g Test Cart	
NOT A	PPLICABLE				0.0			UN	KNOWN	
Magnitude	of the Tilt Angle			Magniture of	the Crabbed Ar	ngle		Magnitu	ude of the Ang	le
Measured b	oetween surface o	fa		Measure	Clockwise from	1		Measured betwee	n the Vehicle	Orientation
Rollover Test	Cart and the Grou	ınd	Longi	itudinal Vector	to Velocity Vector	or of Vehicle		and Direction	n of Test Cart	Motion

Registered Owner: 4N6XPRT SYSTEMS

Vehicle 2 2000 PONTIAC GRAND AM

Test #	3227						
VIN	1G2NE12T1YM727	306	NHTSA Tes	t Vehicle Numbe	er 2		
Year	2000	000		ification Indicator		N VEHICL	
	PONTIAC	Post-test Steering				II VEINOLI	
Model	GRAND AM		ering Column Coll		_		
Body	TWO DOOR COUP		ching column com	apsc Mcchanish	ONICIONI		
•	4 CYLINDER TRAN						
_			OMATIC - FRONT	WHEEL DRIVE			
•	ation(s) Description	NO COMMENTS					
Vehicle Comme	` '	AC GRAND AM 2 DO	OOR COUPE				
Vehicle Len	gth 4718 mm	185.7 inches	CGI	behind Front Axl	e 1130 mm	44.5	inches
Vehicle V	Vidth 1754 mm	69.1 inches	Center of Da	mage to CG Axis	s 9999 mm	0.0	inches
Vehicle Wheel	base 2720 mm	107.1 inches		n of Indentation	3010 mm	118.5	inches
Vehicle Test We	eight 1591 KG	3507 pounds	Maximum St	atic Crush Depth	381 mm	15.0	inches
	<u> </u>	·		re-Impact Speed		0.0	mph
Vel	nicle Damage Index	999999.	Princip	al Direction of Fo			•
	Ū		·				
		Pre & Post Tes	t Damage Me	easurement	S		
(Measureme		linaldirection. Except for E	-		_	urface forward	.)
	eft Side		Centerline			t Side	-,
Pre-Test	Post-Test	Pre-1		st-Test	Pre-Test	Post-T	Test
mm inche			inches mm	inches	mm inches	mm	inches
			th of Vehicle at Ce				
			0.0 99999				
			Engine Block				
		99999	0.0 99999	0.0			
99999 0.0	99999 0.0		Front Bumper Cor		99999 0.0	99999	0.0
		_	Front of Engine			<u> </u>	<u>_</u>
		99999	0.0 99999				
99999 0.0	99999 0.0		Firewall		99999 0.0	99999	0.0
-		99999	0.0 99999	0.0			
99999 0.0	99999 0.0	Uppe	er Leading Edge o	f Door	99999 0.0	99999	0.0
99999 0.0	99999 0.0	Lowe	er Leading Edge of	f Door	99999 0.0	99999	0.0
99999 0.0	99999 0.0		Bottom of 'A' Post	[99999 0.0	99999	0.0
99999 0.0	99999 0.0	Upp	er Trailing Edge o	of Door	99999 0.0	99999	0.0
99999 0.0	99999 0.0	Low	er Trailing Edge o	of Door	99999 0.0	99999	0.0
- 			Steering Colum	n _			
		99999	0.0 99999	0.0			
		Center of Seer	ing Column to 'A'	Post (Horizontal))		
		99999	0.0 99999	0.0			
		Center of Steel	ring Column to He	adliner (Vertical)			
		99999	0.0 99999	0.0			

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Registered Owner: 4N6XPRT SYSTEMS Serial Number: 21R-030201SC01301

2000 PONTIAC GRAND AM

NHTSA Crash Test - #3227 - Side Impact

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

Test Vehicle Weight = 3507 pounds Impactor Weight = 3004 KE Equivalent Speed = 26.2 MPH Impactor Test Speed = 38.6

Test Crush Length = 118.5 inches

Damage Profile Distance Collision Crush Depths (inches)

	DPD1	DPD2	DPD3	DPD4	DPD5	DPD6	(Frant)
(Rear)	0.0	5.1	14 2	12.8	10.9	0.0	(FIOIII)

		CRASH	3 Stiffness Coe	erricents	SWAC Stiffness
		<u>A</u>	<u>B</u>	<u>G</u>	<u>Kv</u>
Minimum Crush = 0.0 inches					0.0
Using a Rated No Damage Speed of	1.0mph	0.0	0.0	0.0	
Using a Rated No Damage Speed of	2.0mph	0.0	0.0	0.0	
Using a Rated No Damage Speed of	3.0mph	0.0	0.0	0.0	
Using a Rated No Damage Speed of	5.0mph	0.0	0.0	0.0	
Average Crush = 8.6 inches					221.3
Using a Rated No Damage Speed of	1.0mph	69.7	204.7	11.9	
Using a Rated No Damage Speed of	2.0mph	133.8	188.8	47.4	
Using a Rated No Damage Speed of	3.0mph	192.5	173.5	106.8	
Using a Rated No Damage Speed of	5.0mph	293.1	144.9	296.5	
Maximum Crush = 14.2 inches					81.1
Using a Rated No Damage Speed of	1.0mph	42.2	75.1	11.9	
Using a Rated No Damage Speed of	2.0mph	81.0	69.2	47.4	
Using a Rated No Damage Speed of	3.0mph	116.6	63.6	106.8	
Using a Rated No Damage Speed of	5.0mph	177.5	53.1	296.5	

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

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

CDASH 3 Stiffnoss Confficents

SMAC Stiffnoss

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	14.2	27.3	1.1	4.1

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 21.0

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

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

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

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

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

G = Energy dissipated without permanent damage, lb

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

Available Test Results Side Impact Test Summary

Report Filter Settings

Year Range: 1999 - 2005

Make: PONTIAC Model: GRANDAM

Test	Vehicle	No							
Number	Info	Damage	Average		I n (dention	Lengt	h	
		Speed	Crush	KEES	S t	iffness	Value	s	Crush
		(mph)	(inch)	(mph)	Α	В	G	Kv	Factor
3527	2000 PONTIAC GRAND AM TWO DOOR COUPE	2.0	7.3	26.2	122.5	203.9	36.8	239.1	37.7
2983	1999 OLDSMOBILE ALERO FOUR DOOR SEDAN	2.0	9.4	22.2	130.2	139.7	60.7	168.7	21.0
3227	2000 PONTIAC GRAND AM TWO DOOR COUPE	2.0	8.6	26.2	133.8	188.8	47.4	221.3	32.0
3040	1999 PONTIAC GRAND AM FOUR DOOR SEDAN	2.0	7.3	26.1	180.5	295.9	55.0	347.1	37.0
		Avera	ge (AVG)		141.7	207.1	50.0	244.0	31.9
		Minim	um (MIN)		122.5	139.7	36.8	168.7	21.0
		Maximu	ım (MAX))	180.5	295.9	60.7	347.1	37.7
	Standard Deviation	on (STDev	-sample)		26.2	65.2	10.3	74.9	7.8
	N	umber of	Tests (n)	4					

Available Test Results Side Impact Test Summary

Report Filter Settings

Year Range: 1999 - 2005

Make: PONTIAC Model: GRANDAM

Test	Vehicle	No							
Number	Info	Damage	Max		l n d	ention	Lengt	h	
		Speed	Crush	KEES	S t i	ffness	Values	S	Crush
		(mph)	(inch)	(mph)	Α	В	G	Kv	Factor
3527	2000 PONTIAC GRAND AM TWO DOOR COUPE	2.0	16.5	26.2	53.8	39.3	36.8	46.1	16.6
3227	2000 PONTIAC GRAND AM TWO DOOR COUPE	2.0	15.0	26.2	76.6	61.8	47.4	72.4	18.3
3040	1999 PONTIAC GRAND AM FOUR DOOR SEDAN	2.0	15.9	26.1	83.1	62.7	55.0	73.5	17.0
2983	1999 OLDSMOBILE ALERO FOUR DOOR SEDAN	2.0	13.9	22.2	88.2	64.2	60.7	77.5	14.2
		Averaç	ge (AVG)		75.4	57.0	50.0	67.4	16.5
		Minimu	ım (MIN))	53.8	39.3	36.8	46.1	14.2
		Maximu	m (MAX)	88.2	64.2	60.7	77.5	18.3
	Standard Deviation	on (STDev	-sample))	15.2	11.8	10.3	14.4	1.7
	N	umber of	Гests (n)	4					

Expert VIN DeCoder®

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Version Number 4.1.0.2

DeCoded VIN: 3N1AB7APXEY248145

Model:	2014 Nissan Sentra 4 door Sedan
Engine Size:	1.8 L/ 110 cu.in.
Engine Description:	In-line 4 cylinder with Dual Overhead Valves
	F
Horse Power:	130 @ 6000 rpm
Tamana.	120 16 55 54 2600 999
Torque:	128 lb-ft at 3600 rpm
Injection System:	Fuel Injection
injection system.	i del Injeccion
PSI:	N/A psi Ignition: electronic
Manufacturer:	Nissan
Assembly Plant:	Aguascalientes, MEXICO
Drive Wheels:	This is a Front wheel Drive vehicle with Manual Belts w/ Dual Front, Front Side, and

The First through Third characters (3N1) indicate a Nissan Car made in Mexico

The Fourth character (A) indicates the OEM engine: 1.8 L/ 110 cu.in., L4, DOHV

The Fifth through Sixth characters (B7) indicate a Sentra

The Seventh character (A) indicates a 4 door Sedan

The Eighth character (P) indicates Two Wheel Drive with Manual Belts w/ Dual Front, Front Side, and Curtain Airbags

The Ninth character (the check digit) is entered as X.

The VIN appears Valid, the calculated value is 10. (The display Character should be X)

The Tenth character (E) indicates the model year 2014

The Eleventh character (Y) indicates the vehicle was made in the assembly plant in Aguascalientes, MEXICO

The Twelfth through Seventeenth characters (248145) indicate the Serial Number and are unique to this vehicle.

Expert AutoStats®

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

9/11/2022

Curb Weight: 2837 lbs. 1287 kg. 59 % % Curb Weight Distribution -Front: 41 Rear: Gross Vehicle Weight Rating: 3754 llbs. 1703 kg. Number of Tires on Vehicle: 4 Drive Wheels: FRONT **Horizontal Dimensions** Inches Feet Meters Total Length 182 15.17 4.62 wheelbase: 106 8.83 2.69 Front Bumper to Front Axle: Front Bumper to Front of Front Well: Front Bumper to Front of Hood: 5 0.42 0.13 Front Bumper to Base of Windshield: 40 1.02 3.33 Front Bumper to Top of Windshield: 72 6.00 1.83 Rear Bumper to Rear Axle: Rear Bumper to Rear of Rear Well: 0.33 0.10 Rear Bumper to Rear of Trunk: 4 Rear Bumper to Base of Rear Window: 18 1.50 0.46 Width Dimensions 69 5.75 1.75 Maximum Width: 1.52 60 5.00 Front Track: 5.00 60 1.52 Rear Track: **Vertical Dimensions** Height: 59 4.92 1.50

Ground to -

Front Bumper (Top)

Headlight - center

Base of Windshield

Rear Bumper - top:

Trunk - top rear:

Base of Rear Window:

Hood - top front:

2014 NISSAN SENTRA 4 DOOR SEDAN

0.51

0.71

0.74

1.02

0.61

1.12

1.17

1.67

2.33

2.42

3.33

2.00

3.67

3.83

20

28

29

40

24

44

46

Expert AutoStats®

2014 NISSAN SENTRA 4 DOOR SEDAN

Interior Dimensions	Inches	Feet	Meters
Front Seat Shoulder Width	55	4.58	1.40
Front Seat to Headliner	39	3.25	0.99
Front Leg Room - seatback to floor (max)	42	3.50	1.07
Rear Seat Shoulder Width Rear Seat to Headliner Front Leg Room - seatback to floor (min)	54 37 37	4.50 3.08 3.08	1.37 0.94 0.94

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

Steering Data

Turning Circle (Dia	meter)	420	35	10.67
Steering Ratio:	:1			
Wheel Radius:				
Tire Size (OFM):	205/55R16		·	' <u>'</u>

Acceleration & Braking Information

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

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

d = [124.0 ft	t =	2.8 sec	$a = \boxed{-31.2} \text{ ft/sec}^2$	G-force =	-0.97
-------	-----------------	-----	----------------	--------------------------------------	-----------	-------

Acceleration:

0 to 30mph		$a = \boxed{12.9} \text{ ft/sec}^2$	
0 to 60mph		$a = \boxed{9.1} ft/sec^2$	
45 to 65mph	t = 5.2 sec	a = 5.6 ft/sec²	G-force = 0.18

Transmission Type: 6spd MANUAL

Notes:

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

N.S.D.C = 2013 - 2015

2014 NISSAN SENTRA 4 DOOR SEDAN

Other Information

Tip-Over Stability Ratio =	1.30	Stable
NHTSA Star Rating (calculated)		****

Center of Gravity (No Load):		Inches	Feet	Meters
behind front axle	=	43.46	3.62	1.10
in front of rear axle	=	62.54	5.21	1.59
from side of vehicle	=	34.50	2.88	0.88
from ground	=	23.16	1.93	0.59
from front corner	=			
from rear corner	=			
from front bumper	=			
from rear bumper	=			

Moments of Inertia Approximations	(No Load):	lb*ft*sec²	kg*m*sec²
Yaw Moment of Inertia	=	1716.11	237.26
Pitch Moment of Inertia	=	1659.63	229.45
Roll Moment of Inertia	=	360.66	49.86

Front Profile Information

Angle Front Bumper to Hood Front	=	60.9	deg
Angle Front of Hood to Windshield Base	=	17.4	deg
Angle Front of Hood to Windshield Top	=	22.7	deg
Angle of Windshield	=	28.0	deg
Angle of Steering Tires at Max Turn	=	28.9	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:

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

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

Stiffness Values and Test Data

Derived from

NHTSA Crash Test #9079

2015 NISSAN SENTRA

Provided By

4N6XPRT StifCalcs®

Registered to:

4N6XPRT SYSTEMS 8387 UNIVERSITY AVENUE LA MESA CA 91941-3842 21R-030201SC01301

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Serial Number: 21R-030201SC01301

Similar Vehicle database reader

You entered: 2014 NISSAN SENTRA

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

Year Range	Make	Model	Body Styles	Wheelbase
2013 - 2015	NISSAN	SENTRA	4D	106
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!).

If you have suggestions and/or corrections, we request and urge you to contact us - 4n6@4n6xprt.com.

Test Information

Test # 9079		NHT	SA Test R	deference Guic	de Version #	V5			
Test Date 2015-02-0 2	2				Contract #	DTNH22-12-	D-00260		
Contract/Study Title	NEW CAR	ASSESSME	NT PROC	GRAM FRON	TAL BARRIE	R IMPACT TES	T		
Test Objective(s)	TO OBTAIN	VEHICLE	CRASHV	VORTHINESS	AND OCCU	JPANT RESTRA	AINT INFO	DRMATION	
Test Type	NEW CAR	ASSESSME	NT TEST	•		Configuration	VEHICLE	INTO BARRI	ER
Impact Angle	0			Side I	mpact Point	0	mm	0.0	inches
				Off	fset Distance	0	mm	0.0	inches
				Cl	osing Speed	56.7	Km/Hr	35.23	MPH
Test Performer	CALSPAN								
Test Reference #	CV1501.00	04							
Test Track Surface	CONCRETE				Condition	SNOWY			
Ambient Temperature	N/A C	12.2	F	Total Number	er of Curves	137			
Data Recorder Type	DIGITAL D	ATA ACQU	ISITION			Data Link	UMBILI	CAL CABLE	
Test Commentary	CV1501.00	04 - M201	55205 - 2	2015 NISSAN	I SENTRA F	RONTAL NCAF)		
			Fix	ed Barrier In	formation				
Barrier Type	RIGID			Pole Barr	ier Diameter	0	mm	0	inches
Barrier Shape	LOAD CELL	BARRIER							
Barrier Commentary				H 36 LOADCI	ELLS				

2015 NISSAN SENTRA LEFT FRONT SEAT OCCUPANT

Test #	9079				
Vehicle #	1		Sex	MALE	
Location	LEFT FRONT SE	AT	Age	0	
Position	CENTER POSITION	ON	Height	0 mm 0.0 inch	es
Туре	HYBRID III DUMN	ИΥ	Weight	0.0 kg 0 pour	nds
Size	50 PERCENTILE				
Cali	ibration Method	HYBRID III			
Occupar	nt Manufacturer	MFG: FIRST TECHN	IOLOGY S/N:1046		
Occupa	ant Modification	NO COMMENTS			
Occu	pant Description	NO COMMENTS			
Occupa	ant Commentary	CNTRH2 = HEADRE	ST		
Head to -		<u>Head</u>	<u>1</u>		
Windshie	lder Header 360	mm 14.2	inches Head Injury	Criteria (HIC) 293	
	WindShield 684	mm 26.9	inches HIC Lo	wer Time Interval (ms) 63.8	
	Seatback 0	mm 0.0	inches HIC Up	pper Time Interval (ms) 78.8	
	Side Header 212	mm 8.3	inches		
5	Side Window 325	mm <u>12.8</u>	inches		
Neck to Sea	atback 0 r	nm 0.0 inches			_
	First Contact Re	egion (Head) AIR B	AG		
S	Second Contact Reg	gion (Head)]
		Ches	<u>t</u>		
Chest to -		<u> </u>	– Б		
		nm 21.0 inches		30 mm <u>5.1</u> inches	
Steering V		nm 12.0 inches	· -	30 mm <u>5.1</u> inches	
		nm 0.0 inches			7
	everity Index 0		Pelvic Peak Lateral A	`• · <u></u>	<u></u>
Thoracic Tr	auma Index 0			Acceleration (g's) 52.9	_
	•	Belt Peak Load 21	Newtons 4.7	pound Force	
		elt Peak Load 21	Newtons 4.7	pound Force	7
	ontact Region (Che		AG		<u></u>
Second Co	ontact Region (Ches	st/Abdomen) NONE			_
		<u>Le</u>	<u>gs</u>		
Knees to	Dash 147 n	nm 5.8 inches	Knees to Seatback	mm 0.0 inches	
Left Femu	ır Peak Load 🔀	Newtons	- 195.1 pound	ds Force	
Right Femu	ır Peak Load -12	291 Newtons	-290.2 pound	ds Force	
	First Contact R	egion (Legs) DASH	PANEL]
	Second Contact Re	egion (Legs)			

Registered Owner: 4N6XPRT SYSTEMS

2015 NISSAN SENTRA LEFT FRONT SEAT OCCUPANT

Test #	9079]				
Vehicle #	1		Sex	MALE		
Location	LEFT FRO	ONT SEAT	Age	0		
Position	CENTER	POSITION	Height	0 mm	0.0 inches	
Type	HYBRID I	II DUMMY	Weight	0.0 kg	0 pounds	
Size	50 PERCE	ENTILE				
Cal	libration Me	thod HYBRID III				
Occupai	nt Manufact	urer MFG: FIRST TECHNOL	OGY S/N:1046			
Occupa	ant Modifica	ation NO COMMENTS				
Occu	ıpant Descri	ption NO COMMENTS				
Occupa	ant Comme	ntary CNTRH2 = HEADREST				
		Restrain	<u>ts</u>			
Restrai	int # 1 3 I	POINT BELT				
Mounte	ed B	LT - CONVENTIONAL MOUNT				
Deploy	ment NC	OT APPLICABLE				
Restrai	int Commer	ntary BELT PRETENSIONER	& LOAD LIMITER			
Restrai	int# 2 FF	RONTAL AIRBAG				
Mounte	ed ST	EERING WHEEL				
Deploy	ment DE	PLOYED PROPERLY				-

Restraint Commentary

FRONTAL AIRBAG

2015 NISSAN SENTRA RIGHT FRONT SEAT OCCUPANT

Test # 9079
Vehicle # 1 Sex FEMALE
Location RIGHT FRONT SEAT Age 0
Position FORWARD OF CENTER POSITION Height 0 mm 0.0 inches
Type HYBRID III DUMMY Weight 0.0 kg 0 pounds
Size 5 PERCENTILE
Calibration Method HYBRID III
Occupant Manufacturer MFG: DENTON S/N:139
Occupant Modification NO COMMENTS
Occupant Description NO COMMENTS
Occupant Commentary CNTRH2 = HEADREST
Head to -
Windshielder Header 277 mm 10.9 inches Head Injury Criteria (HIC) 353
WindShield 595 mm 23.4 inches HIC Lower Time Interval (ms) 67.9
Seatback 0 mm 0.0 inches HIC Upper Time Interval (ms) 82.9
Side Header 239 mm 9.4 inches
Side Window 353 mm 13.9 inches
Neck to Seatback 0 mm 0.0 inches
First Contact Region (Head) AIR BAG
Second Contact Region (Head)
<u>Chest</u>
Chest to -
Dash 395 mm 15.6 inches Arm to Door 55 mm 2.2 inches
Steering Wheel 0 mm 0.0 inches Hip to Door 182 mm 7.2 inches
Seatback 0 mm 0.0 inches
Chest Severity Index
Thoracic Trauma Index 0 Thorax Peak Acceleration (g's) 55.6
Lap Belt Peak Load 0 Newtons 0.0 pound Force
Shoulder Belt Peak Load 21 Newtons 4.7 pound Force
First Contact Region (Chest/Abdomen) AIR BAG Second Contact Region (Chest/Abdomen) NONE
Second Contact Region (Chest/Abdomen) NONE
<u>Legs</u>
Knees to Dash 91 mm 3.6 inches Knees to Seatback 0 mm 0.0 inches
Left Femur Peak Load -2325 Newtons -522.7 pounds Force
Right Femur Peak Load <u>-972</u> Newtons <u>-218.5</u> pounds Force
First Contact Region (Legs) DASHPANEL
Second Contact Region (Legs)

2015 NISSAN SENTRA RIGHT FRONT SEAT OCCUPANT

Test #	9079					
Vehicle #	1		Sex	FEMALE		
Location	RIGHT FRONT S	EAT	Age	0		
Position	FORWARD OF C	ENTER POSITION	Height	0 mm	0.0 inches	
Type	HYBRID III DUMI	MY	Weight	0.0 kg	0 pounds	
Size	5 PERCENTILE					
Cali	ibration Method	HYBRID III				
Occupar	nt Manufacturer	MFG: DENTON S/N:139				
Occupa	ant Modification	NO COMMENTS				
Occup	pant Description	NO COMMENTS				
Occupa	ant Commentary	CNTRH2 = HEADREST				
		Restraints	<u>š</u>			
Restrai	nt # 1 3 POINT I	BELT				
Mounte	ed BELT - CO	ONVENTIONAL MOUNT				
Deployi	ment NOT APP	LICABLE				
Restrai	nt Commentary	BELT PRETENSIONER &	LOAD LIMITER			
Restrai	nt# 2 FRONTAL	AIRBAG				
Mounte		NEL - TOP				
Deployi		ED PROPERLY				

Restraint Commentary

FRONTAL AIRBAG

Vehicle 1 2015 NISSAN SENTRA

Test #	9079								
VIN	3N1AB7APXF	Y21636	2		NHTSA Te	st Vehicle Number	1		
Year	2015				Vehicle Mod	dification Indicator	PRODUCTIO	N VEHICL	.E
Make	NISSAN		Post-test S	Steering Colu	ımn Shear C	apsule Seperation	SEPARATION	ı	
Model	SENTRA			Steering	g Column Co	llapse Mechanism	UNKNOWN		
Body	FOUR DOOR	SEDAN							
Engine	4 CYLINDER	TRANS	VERSE FR	ONT					
Displacement	1.8 Liter	Tra	ansmission	AUTOMA	TIC - FRON	T WHEEL DRIVE			
Vehicle Modific	ation(s) Descrip	tion [NONE						
Vehicle Comme	entary CV150	1.0004	- M201552	<u>05 - 2015 NI</u>	SSAN SENT	RA FRONTAL NC	AP		
Vehicle Leng	gth 4623	mm	182.0 i	nches	CG	behind Front Axle	1143 mm	45.0	inches
Vehicle V	Vidth 1753	mm	69.0 i	nches	Center of D	amage to CG Axis	-408 mm	-16.1	inches
Vehicle Wheel	base 2699	mm	106.3		Total Leng	th of Indentation	1471 mm	57.9	inches
Vehicle Test We	eight 1495] KG	3295	oounds	Maximum S	Static Crush Depth	510 mm	20.1	inches
						Pre-Impact Speed	57 kph	35.2	mph
Vel	nicle Damage In	ndex 1	2FDEW3		Princi	pal Direction of For	rce 0		
Damaga Dr	ofilo Diotopoo	Mooo	uromonto		Cruch from	a Dra 9 Doot To	ot Damaga Ma	oourom.	onto
	ofile Distance			<u> </u>	Crusii iion	n Pre & Post Te			
` _	red Left-to-Righ		¬ ´		0	Pre-Test	Post-Test	Crush E	7
DPD 1 2		9.9	inches	Left Burr	per Corner	179.1 inches	161.0 inches		inches
DPD 2 4		16.9	inches			4548 mm	4090 mm	458] mm
DPD 3 5		19.7	inches		Centerline	182.0 inches	162.2 inches	19.8	inches
DPD 4 5		20.1	inches			4623 mm	4119 mm	504] mm
_	188 mm	19.2	inches	Right Bum	per Corner	179.0 inches	157.9 inches	21.1	inches
DPD 6	328 mm	12.9	inches	ragni bani	per corner	4547 mm	4010 mm	537	mm
						1047	4010	1001	,
Bumper F	ngagement			Sill Eng	agement		A-pillar F	Engageme	ent
•	pact Only)			J	npact Only)		•	npact Only	
`).0				PLICABLE		<u> </u>	0.0	ή
			<u> </u>	110171	T LIGITED L				_
Moving	Test Cart			Moving Te	st Cart/Vehic	ele	Vehicle Ori	entation o	n Cart
А	ngle			Crabb	ed Angle		Moving	Test Cart	ĵ.
DIRECT	ENGAGEMENT	Γ			0.0		NOT AP	PLICABL	E
Magnitude	of the Tilt Angle			Magniture of	the Crabbed An	ngle	Magnitud	de of the Ang	ıle
Measured b	etween surface of a	3		Measure	Clockwise from		Measured between	the Vehicle	Orientation
Rollover Test	Cart and the Groun	nd	Long	itudinal Vector t	to Velocity Vecto	or of Vehicle	and Direction	of Test Cart	Motion

Registered Owner: 4N6XPRT SYSTEMS

Vehicle 1 2015 NISSAN SENTRA

Test #	9079						
VIN	3N1AB7APXFY216	362	NHTSA Toet	t Vehicle Number	. 1		$\overline{}$
Year	2015	<u> </u>		fication Indicator	PRODUCTIO	N VEHICLE	=
Make	NISSAN	Post-test Steering					=
Model	SENTRA		ering Column Colla	•		<u> </u>	=
Body	FOUR DOOR SEDA		ering Column Colle	apse Mechanism	CINICIONIN		
Engine	4 CYLINDER TRAN						
Displacement			OMATIC - FRONT	WHEEL DRIVE			
•	ation(s) Description	NONE	JIIIATIO TITOTT	WHEEL BILLY			$\overline{}$
Vehicle Comme	` ' - 	4 - M20155205 - 201	5 NISSAN SENTR	RA FRONTAL NO	CAP		一
Vehicle Len	· 	_		pehind Front Axle		45.0 inc	ches
Vehicle V	` ==			mage to CG Axis			ches
Vehicle Wheel				of Indentation	1471 mm		ches
Vehicle Test W		3295 pounds	ū	atic Crush Depth	510 mm		ches
70111010 1001 11	oigin: <u> </u>	pounds		re-Impact Speed		35.2 mp	
Vel	nicle Damage Index	12FDEW3		al Direction of Fo			J
	note Barriage index		1 1110160			<u> </u>	
		Pre & Post Test	Damage Me	asurements	.		
(8.4			-		_		
	ents are taken in a longitud	inaidirection. Except for Er		rements are take fron			
	eft Side		Centerline		_	t Side	
Pre-Test	Post-Test	Pre-T		t-Test	Pre-Test	Post-Test	-
mm inche	s mm inches		inches mm	inches	mm inches	mm in	ches
			h of Vehicle at Cer	- 			
		4623	182.0 4119	162.2			
		040	Engine Block				
4540 470 4	T4000 464.0	, <u> </u>	8.5 216	8.5	547 179.0	4040	70
<u>4548</u> <u>179.1</u>	4090 161.0		Front Bumper Cori		547 179.0	4010 15	<u>/.9</u>
		4000	Front of Engine				
3630 142.9	7 2500 440.5	<u> 4008</u>	157.8 3737 Firewall	147.1	C20 442.0	2502	
3630 142.9	3569 140.5	3692 [145.4 0	ີ່ [0.0	628 142.8	3562 140	0.2
3248 127.9	3240 127.6		r Leading Edge of		249 127.9	3245 12	7.8
3224 126.9		- ' '	r Leading Edge of	_	229 127.1	3225 12	
3392 133.5		_	Bottom of 'A' Post	=	393 133.6	3336 13	
2138 84.2	2129 83.8	=	er Trailing Edge of	_	139 84.2	2134 84.	
	2119 83.4	-		_	130 83.9	2126 83.	
2130 83.9	<u> </u>	_ LOW	er Trailing Edge of Steering Columr		130 [03.3	<u> </u>	.1
		2800	110.2 2820	111.0			
			ing Column to 'A' F				
			10.6 265	10.4			
		<u></u> -	ing Column to Hea				
			16.5 449	17.7			
		T4U	10.0				

2015 NISSAN SENTRA

NHTSA Crash Test - #9079 - Front Impact

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

Test Vehicle Weight = 3295 pounds

Vehicle Closing Speed = 35.2 MPH

Test Crush Length = 69.0 inches

Pre/Post Collision Crush Depths (inches)

Left Side Crush Centerline Crush Right Side Crush (Pass. Side)

(Driver Side) 18.0 19.8 21.1

		CRASH 3 Stiffness Coefficents			SMAC Stiffness
		A	<u>B</u>	<u>G</u>	<u> </u>
Minimum Crush = 18.0 inches					146.1
Using a Rated No Damage Speed of	2.5mph	173.7	126.1	119.6	
Using a Rated No Damage Speed of	5.0mph	320.8	107.5	478.4	
Using a Rated No Damage Speed of	7.5mph	441.4	90.5	1076.5	
Using a Rated No Damage Speed of	10.0mph	535.5	74.9	1913.8	
Average Crush = 19.7 inches					122.2
Using a Rated No Damage Speed of	2.5mph	158.8	105.5	119.6	
Using a Rated No Damage Speed of	5.0mph	293.4	90.0	478.4	
Using a Rated No Damage Speed of	7.5mph	403.7	75.7	1076.5	
Using a Rated No Damage Speed of	10.0mph	489.8	62.7	1913.8	
Maximum Crush = 21.1 inches					106.3
Using a Rated No Damage Speed of	2.5mph	148.1	91.7	119.6	
Using a Rated No Damage Speed of	5.0mph	273.6	78.2	478.4	
Using a Rated No Damage Speed of	7.5mph	376.5	65.8	1076.5	
Using a Rated No Damage Speed of	10.0mph	456.7	54.5	1913.8	

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

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

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

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	20.1	33.3	1.9	5.4

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 21.0

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

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

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Registered Owner: 4N6XPRT SYSTEMS Serial Number: 21R-030201SC01301

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

2015 NISSAN SENTRA

NHTSA Crash Test - #9079 - Front Impact

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

Test Vehicle Weight = 3295 pounds

Vehicle Closing Speed = 35.2 MPH

Test Crush Length = 57.9 inches

Pre/Post Collision Crush Depths (inches)

Left Side Crush Centerline Crush Right Side Crush (Pass. Side)

(Driver Side) 18.0 19.8 21.1

		CRASH	3 Stiffness Co	efficents	SMAC Stiffness
		A	<u>B</u>	<u>G</u>	<u>Kv</u>
Minimum Crush = 18.0 inches					174.1
Using a Rated No Damage Speed of	2.5mph	207.0	150.2	142.5	
Using a Rated No Damage Speed of	5.0mph	382.3	128.2	570.2	
Using a Rated No Damage Speed of	7.5mph	526.0	107.8	1282.9	
Using a Rated No Damage Speed of	10.0mph	638.1	89.3	2280.7	
Average Crush = 19.7 inches					145.6
Using a Rated No Damage Speed of	2.5mph	189.3	125.7	142.5	
Using a Rated No Damage Speed of	5.0mph	349.7	107.2	570.2	
Using a Rated No Damage Speed of	7.5mph	481.1	90.2	1282.9	
Using a Rated No Damage Speed of	10.0mph	583.6	74.7	2280.7	
Maximum Crush = 21.1 inches					126.6
Using a Rated No Damage Speed of	2.5mph	176.5	109.3	142.5	
Using a Rated No Damage Speed of	5.0mph	326.1	93.2	570.2	
Using a Rated No Damage Speed of	7.5mph	448.6	78.4	1282.9	
Using a Rated No Damage Speed of	10.0mph	544.2	64.9	2280.7	

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

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

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	20.1	33.3	1.9	5.4

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 21.0

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

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

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Registered Owner: 4N6XPRT SYSTEMS Serial Number: 21R-030201SC01301

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

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

G = Energy dissipated without permanent damage, lb

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

Available Test Results Front Impact Test Summary

Report Filter Settings

Year Range: 2013 - 2015

Make: NISSAN Model: SENTRA

Test	Vehicle	No								
Number	Info	Damage	Damage Average		Vehicle Width					
		Speed	Crush	KEES	S t	iffness	Value	s	Crush	
		(mph)	(inch)	(mph)	Α	В	G	Kv	Factor	
9079	2015 NISSAN SENTRA FOUR DOOR SEDAN	5.0	17.4	35.2	331.5	114.9	478.4	156.0	28.4	
8068	2013 NISSAN SENTRA FOUR DOOR SEDAN	5.0	11.9	34.9	473.8	237.3	473.0	323.3	40.8	
		Average (AVG) Minimum (MIN)			402.7	176.1	475.7	239.6	34.6	
					331.5	114.9	473.0	156.0	28.4	
	Maximum (MAX) Standard Deviation (STDev-sample))	473.8	237.3	478.4	323.3	40.8	
					100.6	86.6	3.8	118.3	8.7	
	N	lumber of	Tests (n)	2						

Available Test Results Front Impact Test Summary

Report Filter Settings

Year Range: 2013 - 2015

Make: NISSAN Model: SENTRA

Test	Vehicle	No							
Number	Info	Damage	Max		\	/ehicle	Width		
		Speed	Crush	KEES	S t	iffness	Value	s	Crush
		(mph)	(inch)	(mph)	Α	В	G	Kv	Factor
9079	2015 NISSAN SENTRA FOUR DOOR SEDAN	5.0	21.1	35.2	273.6	78.2	478.4	106.3	23.5
8068	2013 NISSAN SENTRA FOUR DOOR SEDAN	5.0	15.0	34.9	377.0	150.3	473.0	204.7	32.5
	Average (AVG)				325.3	114.2	475.7	155.5	28.0
		Minimum (MIN)			273.6	78.2	473.0	106.3	23.5
	Maximum (MAX) Standard Deviation (STDev-sample)				377.0	150.3	478.4	204.7	32.5
					73.1	50.9	3.8	69.6	6.4
Number of Tests (n)			2						

Expert VIN DeCoder®

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Version Number 4.1.0.2

1G1ND52FX4M609127 DeCoded VIN:

Model:	2004 Chevrolet Classic 4 door Sedan
Engine Size:	2.2L / 134cu.in.
Engine Description:	Inline 4 With Dual Overhead Camshaft
Horse Power:	145 @ 5600 rpm
	-
Torque:	150 lb-ft at 4000 rpm
Injection System:	Fuel Injection
PSI:	55-65 psi Ignition: Electronic
	F
Manufacturer:	Saturn
Assembly Plant:	Lansing (A), MI
- 1 7	Duive Wheels Unidentified w/ Manuel Coathelts . Duiven & December 15 Page
Drive Wheels:	Drive Wheels Unidentified w/ Manual Seatbelts + Driver & Passenger Air Bags

The First through Third characters (1G1) indicate a Chevrolet Passenger Car made in the U.S.A.

The Fourth through Fifth characters (ND) indicate a Classic

The Sixth character (5) indicates a 4 door Sedan

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

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

The Ninth character (the check digit) is entered as X.

The VIN appears Valid, the calculated value is 10. (The display Character should be X)

The Tenth character (4) indicates the model year 2004

The Eleventh character (M) indicates the vehicle was made in the assembly plant in Lansing (A), MI

The Twelfth through Seventeenth characters (609127) indicate the Serial Number and are unique to this vehicle.

Expert AutoStats®

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

9/9/2022

2004 CHEVROLET MALIBU 4 DOOR SEDAN

2004 CHEVROLET MALIBU 4 DOOR SEDAN			
Curb Weight: Curb Weight Distribution - Front:	3262 lbs.	1480 Rear: 38	kg. %
Gross Vehicle Weight Rating:	4267 lbs.	1935	s kg.
Number of Tires on Vehicle: Drive Wheels:	FRONT		
Horizontal Dimensions Total Length Wheelbase:	Inches	Feet 15.67 8.83	Meters 4.78 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:	39 24 6 49 79	3.25 2.00 0.50 4.08 6.58	0.99 0.61 0.15 1.24 2.01
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:	43 28 6 25	3.58 2.33 0.50 2.08	1.09 0.71 0.15 0.64
Width Dimensions Maximum Width: Front Track: Rear Track:	70 60 59	5.83 5.00 4.92	1.78 1.52 1.50
Vertical Dimensions Height: Ground to -	58	4.83	1.47
Front Bumper (Top) Headlight - center Hood - top front: Base of Windshield Rear Bumper - top: Trunk - top rear: Base of Rear Window:	21 29 30 38 25 42 43	1.75 2.42 2.50 3.17 2.08 3.50 3.58	0.53 0.74 0.76 0.97 0.64 1.07 1.09

Expert AutoStats®

2004 CHEVROLET MALIBU 4 DOOR SEDAN

Rear Seat to Headliner

Interior Dimensions	Inches	Feet	Meters
Front Seat Shoulder Width	57	4.75	1.45
Front Seat to Headliner	40	3.33	1.02
Front Leg Room - seatback to floor (max)	42	3.50	1.07
Rear Seat Shoulder Width	56	4.67	1.42

Front Leg Room - seatback to floor (min) 39 3.25 0.99

38

3.17

0.97

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

Steering Data

Turning Circle (Diameter) 456 38 11.58

 Steering Ratio:
 15.90:1

 Wheel Radius:
 12
 1.00
 0.30

Tire Size (OEM): **P205/65**R**15**

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 = 139.0 ft t = 3.2 sec a = -27.8 ft/sec² G-force = -0.86

Acceleration:

0 to 30mph 2.7 **16.3** ft/sec² G-force = 0.51 t = sec a = G-force = 0 to 60mph t = 7.6 11.6 ft/sec² 0.36 sec a = G-force = 45 to 65mph 4.2 7.0 ft/sec² 0.22 sec a =

Transmission Type: 4spd AUTOMATIC

Notes:

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

N.S.D.C = 2004 - 2007

2004 CHEVROLET MALIBU 4 DOOR SEDAN

Other Information

Tip-Over Stability Ratio =	1.31	Stable
NHTSA Star Rating (calculated)		****

Center of Gravity (No Load):		Inches	Feet	Meters
behind front axle	=	40.28	3.36	1.02
in front of rear axle	=	65.72	5.48	1.67
from side of vehicle	=	35.00	2.92	0.89
from ground	=	22.77	1.90	0.58
from front corner	=	86.66	7.22	2.20
from rear corner	=	114.21	9.52	2.90
from front bumper	=	79.28	6.61	2.01
from rear bumper	=	108.72	9.06	2.76

Moments of Inertia Approximations	(No Load):	lb*ft*sec²	kg*m*sec²
Yaw Moment of Inertia	=	2153.86	297.78
Pitch Moment of Inertia	=	2080.38	287.62
Roll Moment of Inertia	=	437.16	60.44

Front Profile Information

Angle Front Bumper to Hood Front	=	56.3	deg
Angle Front of Hood to Windshield Base	=	10.5	deg
Angle Front of Hood to Windshield Top	=	19.6	deg
Angle of Windshield	=	31.0	deg
Angle of Steering Tires at Max Turn	=	26.6	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:

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

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

Stiffness Values and Test Data

Derived from

NHTSA Crash Test #4863

2004 CHEVROLET MALIBU

Provided By

4N6XPRT StifCalcs®

Registered to:

4N6XPRT SYSTEMS 8387 UNIVERSITY AVENUE LA MESA CA 91941-3842 21R-030201SC01301

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Serial Number: 21R-030201SC01301

Similar Vehicle database reader

You entered: 2004 CHEVROLET MALIBU

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

Year Range	Make	Model	Body Styles	Wheelbase
2003 - 2011 Remarks: CONV	SAAB IS OLD BODY in 2003, new	9-3 convertible body begins in 2004.	4D, 5D, CONV	105.3
2004 - 2007 Remarks:	CHEVROLET	MALIBU	2D, 4D, SW	106.3, 116
2004 - 2007 Remarks: Quasi-	CHEVROLET station wagon version of N	MALIBU MAXX falibu with extended WB	5D	112.3
2005 - 2009 Remarks:	PONTIAC	G6	2D, 4D, CONV	112.3
2007 - 2010 Remarks:	SATURN	AURA	4D	112.3
2008 - 2012 Remarks:	CHEVROLET	MALIBU	2D, 4D, SW	106.3, 116

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!).

If you have suggestions and/or corrections, we request and urge you to contact us - 4n6@4n6xprt.com.

Test Information

Test # 4863	NHTSA Test Reference Guide Version	# V 5			
Test Date 2003-12-15	Contract #	DTNH22-01-	D-32005		
Contract/Study Title	NEW CAR ASSESMENT PROGRAM FRONTAL BARRIE	R IMPACT TEST	-		
Test Objective(s)	TO OBTAIN VEHICLE CRASHWORTHINESS AND OCC	UPANT RESTRA	AINT INFO	RMATION	
Test Type	NEW CAR ASSESSMENT TEST] Configuration	VEHICLE	INTO BARRI	ER
Impact Angle	Side Impact Poin	t 9999	mm	0.0	inches
	Offset Distance	e 0	mm	0.0	inches
	Closing Spee	d 57.1	Km/Hr	35.50	MPH
Test Performer					
Test Reference #					
Test Track Surface	CONCRETE Condition	DRY			
Ambient Temperature	21 C 69.8 F Total Number of Curve	s 193			
Data Recorder Type	DIGITAL DATA ACQUISITION	Data Link	UMBILI	CAL CABLE	
Test Commentary	FY 04 NCAP - 2004 CHEVROLET MALIBU M40104				
	Fixed Barrier Information				
Dawia a T	Dicip			0000	1 :
Barrier Type		er[9999	mm	9999	inches
•	LOAD CELL BARRIER				
Barrier Commentary	FRONTAL FLAT BARRIER WITH 36 LOADCELLS				

2004 CHEVROLET MALIBU LEFT FRONT SEAT OCCUPANT

Costion CENTER POSITION		
Cocation	Test # 4863	
Position CENTER POSITION	Vehicle # 1	Sex MALE
Type	Location LEFT FRONT SEAT	Age 99
Size	Position CENTER POSITION	Height 9999 mm 0.0 inches
Calibration Method Cocupant Manufacturer MFG: YECTOR S/N:061 NO COMMENTS Occupant Description Occupant Description Occupant Commentary CNTRH2: HEAD RESTRAINT	Type HYBRID III DUMMY	Weight 999.0 kg 2202 pounds
Occupant Manufacturer Occupant Modification Occupant Description Occupant Commentary No COMMENTS	Size 50 PERCENTILE	
NO COMMENTS	Calibration Method HYBRID III	
Occupant Description Occupant Commentary Head Head to - Windshielder Header 368 mm 14.5 inches Head Injury Criteria (HIC) 447 Windshield 673 mm 26.5 inches HIC Lower Time Interval (ms) 63.3 seatback 9999 mm 0.0 inches HIC Upper Time Interval (ms) 99.3 side Header 223 mm 8.8 inches Side Window 315 mm 12.4 inches Neck to Seatback 9999 mm 0.0 inches First Contact Region (Head) AIR BAG Second Contact Region (Head) Steering Wheel 326 mm 12.8 inches Hip to Door 108 mm 4.3 inches Seatback 9999 mm 0.0 inches Chest to - Dash 540 mm 21.3 inches Arm to Door 108 mm 4.3 inches Steering Wheel 326 mm 12.8 inches Hip to Door 143 mm 5.6 inches Seatback 9999 mm 0.0 inches Chest Severity Index 322 Pelvic Peak Lateral Acceleration (g's) 10 Thorax Peak Acceleration (g's) 44.5 Lap Belt Peak Load 6934 Newtons 1558.8 pound Force First Contact Region (Chest/Abdomen) AIR BAG Second Contact Region (Chest/Abdomen) AIR BAG Second Contact Region (Chest/Abdomen) AIR BAG Knees to Dash 170 mm 6.7 inches Knees to Seatback 9999 mm 0.0 inches Left Femur Peak Load 2167 Newtons 487.2 pounds Force Right Femur Peak Load 1937 Newtons 435.5 pounds Force	Occupant Manufacturer MFG: VECTOR S/N	:061
Head	Occupant Modification NO COMMENTS	
Head to - Windshielder Header 368	Occupant Description NO COMMENTS	
Need to - Newtons Ne	Occupant Commentary CNTRH2: HEAD RE	STRAINT
Need to - Newtons Ne		
Windshielder Header	<u>Hea</u>	<u>d</u>
WindShield 673	Head to -	
Seatback 9999 mm 0.0 inches HIC Upper Time Interval (ms) 99.3 Side Header 223 mm 8.8 inches Side Window 315 mm 12.4 inches Neck to Seatback 9999 mm 0.0 inches First Contact Region (Head) Second Contact Region (Head) Chest Chest Chest Chest Chest Chest to - Dash 540 mm 21.3 inches Arm to Door 108 mm 4.3 inches Steering Wheel 326 mm 12.8 inches Hip to Door 143 mm 5.6 inches Seatback 9999 mm 0.0 inches Chest Severity Index 432 Pelvic Peak Lateral Acceleration (g's) 0 Thoracic Trauma Index 0 Thorax Peak Acceleration (g's) 44.5 Lap Belt Peak Load Shoulder Belt Peak Load Shoulder Belt Peak Load First Contact Region (Chest/Abdomen) Second Contact Region (Chest/Abdomen) Legs Knees to Dash 170 mm 6.7 inches Knees to Seatback 9999 mm 0.0 inches Left Femur Peak Load 2167 Newtons 435.5 pounds Force Right Femur Peak Load 1937 Newtons 435.5 pounds Force	Windshielder Header 368 mm 14.5	inches Head Injury Criteria (HIC) 447
Side Header 223 mm 8.8 inches Side Window 315 mm 12.4 inches Neck to Seatback 9999 mm 0.0 inches First Contact Region (Head) Second Contact Region (Head) Second Contact Region (Head) Chest Chest to - Dash 540 mm 21.3 inches Arm to Door 108 mm 4.3 inches Steering Wheel 326 mm 12.8 inches Hip to Door 143 mm 5.6 inches Seatback 9999 mm 0.0 inches Chest Severity Index 432 Pelvic Peak Lateral Acceleration (g's) 0 Thoracic Trauma Index 0 Thorax Peak Acceleration (g's) 44.5 Lap Belt Peak Load 6934 Newtons 1558.8 pound Force Shoulder Belt Peak Load 0 Newtons 0.0 pound Force First Contact Region (Chest/Abdomen) Second Contact Region (Chest/Abdomen) Legs Knees to Dash 170 mm 6.7 inches Knees to Seatback 9999 mm 0.0 inches Left Femur Peak Load 2167 Newtons 487.2 pounds Force Right Femur Peak Load 1937 Newtons 435.5 pounds Force	WindShield 673 mm 26.5	inches HIC Lower Time Interval (ms) 63.3
Side Window 315	Seatback 9999 mm 0.0	inches HIC Upper Time Interval (ms) 99.3
Neck to Seatback 9999 mm 0.0 inches First Contact Region (Head) Second Contact Region (Head) Chest Chest Chest to - Dash 540 mm 21.3 inches Arm to Door 108 mm 4.3 inches Steering Wheel 326 mm 12.8 inches Hip to Door 143 mm 5.6 inches Seatback 9999 mm 0.0 inches Chest Severity Index 432 Pelvic Peak Lateral Acceleration (g's) 0 Thoracic Trauma Index 0 Thorax Peak Acceleration (g's) 44.5 Lap Belt Peak Load 6934 Newtons 1558.8 pound Force Shoulder Belt Peak Load 0 Newtons 0.0 pound Force First Contact Region (Chest/Abdomen) Second Contact Region (Chest/Abdomen) AIR BAG NONE Legs Knees to Dash 170 mm 6.7 inches Knees to Seatback 9999 mm 0.0 inches Left Femur Peak Load 2167 Newtons 487.2 pounds Force Right Femur Peak Load 1937 Newtons 435.5 pounds Force	Side Header 223 mm 8.8	inches
First Contact Region (Head) Second Contact Region (Head) Chest Chest Chest Chest Chest Chest Chest to - Dash 540 mm 21.3 inches Arm to Door 108 mm 4.3 inches Steering Wheel 326 mm 12.8 inches Hip to Door 143 mm 5.6 inches Seatback 9999 mm 0.0 inches Chest Severity Index 432 Pelvic Peak Lateral Acceleration (g's) 0 Thoracic Trauma Index 0 Thorax Peak Acceleration (g's) 44.5 Lap Belt Peak Load 6934 Newtons 1558.8 pound Force Shoulder Belt Peak Load 0 Newtons 0.0 pound Force First Contact Region (Chest/Abdomen) Second Contact Region (Chest/Abdomen) Second Contact Region (Chest/Abdomen) Legs Knees to Dash 170 mm 6.7 inches Knees to Seatback 9999 mm 0.0 inches Left Femur Peak Load 2167 Newtons 487.2 pounds Force Right Femur Peak Load 1937 Newtons 435.5 pounds Force	Side Window 315 mm 12.4	inches
Chest to -	Neck to Seatback 9999 mm 0.0 inches	
Chest to - Dash 540 mm 21.3 inches Arm to Door 108 mm 4.3 inches Steering Wheel 326 mm 12.8 inches Seatback 9999 mm 0.0 inches Chest Severity Index 432 Pelvic Peak Lateral Acceleration (g's) 0 Thoracic Trauma Index 0 Thorax Peak Acceleration (g's) 44.5 Lap Belt Peak Load Shoulder Belt Peak Load ONewtons 1558.8 pound Force Shoulder Belt Peak Load ONewtons 0.0 pound Force First Contact Region (Chest/Abdomen) Second Contact Region (Chest/Abdomen) Knees to Dash 170 mm 6.7 inches Knees to Seatback 9999 mm 0.0 inches Legs Knees to Dash 170 mm 6.7 inches Knees to Seatback 9999 mm 0.0 inches Left Femur Peak Load -2167 Newtons 487.2 pounds Force Right Femur Peak Load -1937 Newtons 435.5 pounds Force	First Contact Region (Head) AIR B	AG
Dash 540 mm 21.3 inches Arm to Door 108 mm 4.3 inches Steering Wheel 326 mm 12.8 inches Seatback 9999 mm 0.0 inches Chest Severity Index 432 Pelvic Peak Lateral Acceleration (g's) Thoracic Trauma Index 0 Thorax Peak Acceleration (g's) Lap Belt Peak Load 6934 Newtons 1558.8 pound Force Shoulder Belt Peak Load 0 Newtons 0.0 pound Force First Contact Region (Chest/Abdomen) Second Contact Region (Chest/Abdomen) Legs Knees to Dash 170 mm 6.7 inches Knees to Seatback 9999 mm 0.0 inches Left Femur Peak Load -2167 Newtons 487.2 pounds Force Right Femur Peak Load -1937 Newtons 435.5 pounds Force	Second Contact Region (Head)	
Dash 540 mm 21.3 inches Arm to Door 108 mm 4.3 inches Steering Wheel 326 mm 12.8 inches Seatback 9999 mm 0.0 inches Chest Severity Index 432 Pelvic Peak Lateral Acceleration (g's) Thoracic Trauma Index 0 Thorax Peak Acceleration (g's) Lap Belt Peak Load 6934 Newtons 1558.8 pound Force Shoulder Belt Peak Load 0 Newtons 0.0 pound Force First Contact Region (Chest/Abdomen) Second Contact Region (Chest/Abdomen) Legs Knees to Dash 170 mm 6.7 inches Knees to Seatback 9999 mm 0.0 inches Left Femur Peak Load -2167 Newtons 487.2 pounds Force Right Femur Peak Load -1937 Newtons 435.5 pounds Force		
Dash 540 mm 21.3 inches Arm to Door 108 mm 4.3 inches Steering Wheel 326 mm 12.8 inches Hip to Door 143 mm 5.6 inches Seatback 9999 mm 0.0 inches Chest Severity Index 432 Pelvic Peak Lateral Acceleration (g's) 0 Thoracic Trauma Index 0 Thorax Peak Acceleration (g's) 44.5 Lap Belt Peak Load 6934 Newtons 1558.8 pound Force Shoulder Belt Peak Load 0 Newtons 0.0 pound Force First Contact Region (Chest/Abdomen) Second Contact Region (Chest/Abdomen) Second Contact Region (Chest/Abdomen) Legs Knees to Dash 170 mm 6.7 inches Knees to Seatback 9999 mm 0.0 inches Left Femur Peak Load -2167 Newtons 487.2 pounds Force Right Femur Peak Load -1937 Newtons 435.5 pounds Force	Ches	<u>st</u>
Steering Wheel 326 mm 12.8 inches	Chest to -	
Seatback 9999 mm 0.0 inches Chest Severity Index 432 Pelvic Peak Lateral Acceleration (g's) Thoracic Trauma Index 0 Thorax Peak Acceleration (g's) 44.5 Lap Belt Peak Load 6934 Newtons 1558.8 pound Force Shoulder Belt Peak Load 0 Newtons 0.0 pound Force First Contact Region (Chest/Abdomen) Second Contact Region (Chest/Abdomen) Legs Knees to Dash 170 mm 6.7 inches Knees to Seatback 9999 mm 0.0 inches Left Femur Peak Load -2167 Newtons 487.2 pounds Force Right Femur Peak Load -1937 Newtons 435.5 pounds Force	Dash 540 mm 21.3 inches	Arm to Door 108 mm 4.3 inches
Chest Severity Index 432 Pelvic Peak Lateral Acceleration (g's) Thoracic Trauma Index 0 Thorax Peak Acceleration (g's) 44.5 Lap Belt Peak Load 6934 Newtons 1558.8 pound Force Shoulder Belt Peak Load 0 Newtons 0.0 pound Force First Contact Region (Chest/Abdomen) AIR BAG Second Contact Region (Chest/Abdomen) NONE Legs Knees to Dash 170 mm 6.7 inches Knees to Seatback 9999 mm 0.0 inches Left Femur Peak Load -2167 Newtons 487.2 pounds Force Right Femur Peak Load -1937 Newtons 435.5 pounds Force	Steering Wheel 326 mm 12.8 inches	Hip to Door 143 mm 5.6 inches
Thoracic Trauma Index Lap Belt Peak Load Shoulder Belt Peak Load First Contact Region (Chest/Abdomen) Second Contact Region (Chest/Abdomen) Legs Knees to Dash Thorax Peak Acceleration (g's) AIR BAG Newtons NONE Legs Knees to Dash Thorax Peak Acceleration (g's) AIR BAG Newtons NONE Legs Knees to Seatback Second Contact Region (Chest/Abdomen) NONE Legs Knees to Dash Thorax Peak Acceleration (g's) AIR BAG Newtons AIR BAG NONE A	Seatback 9999 mm 0.0 inches	<u></u>
Lap Belt Peak Load 6934 Newtons 1558.8 pound Force Shoulder Belt Peak Load 0 Newtons 0.0 pound Force First Contact Region (Chest/Abdomen) AIR BAG Second Contact Region (Chest/Abdomen) NONE Legs Knees to Dash 170 mm 6.7 inches Knees to Seatback 9999 mm 0.0 inches Left Femur Peak Load -2167 Newtons -487.2 pounds Force Right Femur Peak Load -1937 Newtons -435.5 pounds Force		Pelvic Peak Lateral Acceleration (g's)
Shoulder Belt Peak Load First Contact Region (Chest/Abdomen) Second Contact Region (Chest/Abdomen) Legs Knees to Dash To mm 6.7 inches Knees to Seatback Second Seatback First Contact Region (Chest/Abdomen) Legs Knees to Dash To mm To mm To mm To meas First Contact Region (Chest/Abdomen) NONE Legs Knees to Seatback First Contact Region (Chest/Abdomen) NONE Legs Knees to Seatback First Contact Region (Chest/Abdomen) NONE Legs Knees to Seatback First Contact Region (Chest/Abdomen) NONE Newtons Legs Knees to Seatback First Contact Region (Chest/Abdomen) NONE Newtons Legs Knees to Seatback First Contact Region (Chest/Abdomen) None Legs Knees to Seatback First Contact Region (Chest/Abdomen) None Legs Knees to Seatback First Contact Region (Chest/Abdomen) None Legs Knees to Seatback First Contact Region (Chest/Abdomen) None Legs Knees to Seatback First Contact Region (Chest/Abdomen) None Legs Knees to Seatback First Contact Region (Chest/Abdomen) None Legs Knees to Seatback First Contact Region (Chest/Abdomen) None Legs Knees to Seatback First Contact Region (Chest/Abdomen) None Legs Knees to Seatback First Contact Region (Chest/Abdomen) None Legs Knees to Seatback First Contact Region (Chest/Abdomen) None Legs Knees to Seatback First Contact Region (Chest/Abdomen) None Legs Knees to Seatback First Contact Region (Chest/Abdomen) None Legs Knees to Seatback First Contact Region (Chest/Abdomen) None Legs Knees to Seatback First Contact Region (Chest/Abdomen) None Legs Knees to Seatback First Contact Region (Chest/Abdomen) None Legs Knees to Seatback First Contact Region (Chest/Abdomen) None Legs Knees to Seatback First Contact Region (Chest/Abdomen) None Legs First Contac	Thoracic Trauma Index 0	
First Contact Region (Chest/Abdomen) Second Contact Region (Chest/Abdomen) Legs Knees to Dash 170 mm 6.7 inches Knees to Seatback 9999 mm 0.0 inches Left Femur Peak Load -2167 Newtons -487.2 pounds Force Right Femur Peak Load -1937 Newtons -435.5 pounds Force	·	·
Second Contact Region (Chest/Abdomen) Legs Knees to Dash 170 mm 6.7 inches Knees to Seatback 9999 mm 0.0 inches Left Femur Peak Load -2167 Newtons -487.2 pounds Force Right Femur Peak Load -1937 Newtons -435.5 pounds Force	Shoulder Belt Peak Load	Newtons 0.0 pound Force
Legs Knees to Dash 170 mm 6.7 inches Knees to Seatback 9999 mm 0.0 inches Left Femur Peak Load -2167 Newtons -487.2 pounds Force Right Femur Peak Load -1937 Newtons -435.5 pounds Force		
Knees to Dash 170 mm 6.7 inches Knees to Seatback 9999 mm 0.0 inches Left Femur Peak Load -2167 Newtons -487.2 pounds Force Right Femur Peak Load -1937 Newtons -435.5 pounds Force	Second Contact Region (Chest/Abdomen) NONE	
Left Femur Peak Load -2167 Newtons -487.2 pounds Force Right Femur Peak Load -1937 Newtons -435.5 pounds Force	Le	e <u>gs</u>
Left Femur Peak Load -2167 Newtons -487.2 pounds Force Right Femur Peak Load -1937 Newtons -435.5 pounds Force		
First Contact Region (Legs) DASHPANEL	Right Femur Peak Load -1937 Newtons	pounds Force
	First Contact Region (Legs) DASH	PANEL
Second Contact Region (Legs)	Second Contact Region (Legs)	

Registered Owner: 4N6XPRT SYSTEMS

2004 CHEVROLET MALIBU LEFT FRONT SEAT OCCUPANT

Test #	4863					
Vehicle#	1		Sex	MALE		
Location	LEFT FRONT SE	AT	Age	99		
Position	CENTER POSITI	ON	Height	9999 mm	0.0 inches	
Туре	HYBRID III DUMI	MY	Weight	999.0 kg	2202 pounds	
Size	50 PERCENTILE					
Cal	libration Method	HYBRID III				
Occupa	nt Manufacturer	MFG: VECTOR S/N:061				
Occup	ant Modification	NO COMMENTS				
Occu	pant Description	NO COMMENTS				
Occupa	ant Commentary	CNTRH2: HEAD RESTRA	AINT			
		Restraints	<u>5</u>			
Restra	int# 1 3 POINT	BELT				
Mounte	ed BELT - Co	ONVENTIONAL MOUNT				
Deploy	ment DEPLOYI	ED PROPERLY				
Restra	int Commentary	SHOULDER BELT PRET	ENSIONER AND FO	ORCE LIMITER	₹	
Restrai	int# 2 FRONTA	AIRBAG				
Mounte	ed STEERIN	G WHEEL				
Deploy	ment DEPLOYI	ED PROPERLY				

NONE

Restraint Commentary

2004 CHEVROLET MALIBU RIGHT FRONT SEAT OCCUPANT

Test #	4863						
Vehicle #	1			Sex	MALE		
Location	RIGHT FRONT S	EAT		Age	99		
Position	CENTER POSITI	ON		Height	9999 mm (inche	S
Туре	HYBRID III DUMI	MY		Weight	999.0 kg	2202 poun	ds
Size	50 PERCENTILE						
Cal	libration Method	HYBRID III					
Occupa	nt Manufacturer	MFG: VECTO	R S/N:064				
Occupa	ant Modification	NO COMMEN	rs				
Occu	pant Description	NO COMMEN	rs				
Occupa	ant Commentary	CNTRH2: HEA	D RESTR	RAINT			
			<u>Head</u>				
Head to -							
Windshie	elder Header 361	mm 14.	inch	nes Head Injury (Criteria (HIC)	397	
	WindShield 613	mm 24.	inch	ies HIC Lo	wer Time Interval	(ms) 64.9	
	Seatback 999	9 mm 0.0	inch	ies HIC Up	per Time Interval	(ms) 100. 9)
	Side Header 221	mm 8.7	inch	ies			
;	Side Window 320	mm 12 .	inch	ies			
Neck to Se	atback 9999 ı	mm 0.0 i	nches				
	First Contact Re	egion (Head)	AIR BAG				
9	Second Contact Re	gion (Head)					
			<u>Chest</u>				
Chest to -				_			
	Dash <u>539</u> r	nm 21.2 i	nches	Arm to Door 1	10 mm 4. :	inches	
Steering V	Wheel <u>9999</u> r	nm <u>0.0</u> i	nches	Hip to Door 1	40 mm 5 .	5 inches	
Sea	tback 9999 r	nm 0.0 i	nches				
Chest S	Severity Index 43	7	F	Pelvic Peak Lateral A	cceleration (g's)	0	
Thoracic Tr	rauma Index 0				Acceleration (g's)	46.7	
	Lap E	Belt Peak Load	7041		pound Force		
	Shoulder E	Belt Peak Load	0	Newtons 0.0	pound Force		
First C	ontact Region (Che	· -	IR BAG				
Second Co	ontact Region (Che	st/Abdomen)	IONE				
			Legs				
Knees to	Dash 186 r	nm 7.3 i		Knees to Seatback 9	999 mm 0.	inches	
Left Femi			wtons		ls Force		
Right Femu			wtons		ls Force		
-	First Contact F	Region (Legs)	ASHPAN	<u> </u>			
	Second Contact Re	_					

Registered Owner: 4N6XPRT SYSTEMS

2004 CHEVROLET MALIBU RIGHT FRONT SEAT OCCUPANT

Test #	4863					
Vehicle#	1		Sex	MALE		
Location	RIGHT FRONT S	EAT	Age	99		
Position	CENTER POSITI	ON	Height	9999 mm	0.0 inches	
Type	HYBRID III DUM	MY	Weight	999.0 kg	2202 pounds	
Size	50 PERCENTILE					
Cal	ibration Method	HYBRID III				
Occupar	nt Manufacturer	MFG: VECTOR S/N:064				
Occupa	ant Modification	NO COMMENTS				
Occu	pant Description	NO COMMENTS				
Occupa	ant Commentary	CNTRH2: HEAD RESTRA	AINT			
		Restraints	<u>5</u>			
Restrai	int # 1 3 POINT	BELT				
Mounte	ed BELT - C	ONVENTIONAL MOUNT				
Deploy	ment DEPLOY	ED PROPERLY				
Restrai	int Commentary	SHOULDER BELT PRET	ENSIONER AND FO	ORCE LIMITER	R	
Restrai	int# 2 FRONTA	L AIRBAG				
Mounte	ed DASH PA	NEL - MID				-
Deploy	ment DEPLOY	ED PROPERLY				

Restraint Commentary

NONE

2004 CHEVROLET MALIBU RIGHT REAR SEAT OCCUPANT

Test #	4863				
Vehicle#	1		Sex	NOT APPLICABLE	
Location	RIGHT REAR SEA	AT	Age	1	
Position	NON-ADJUSTAB	LE SEAT	Height	9999 mm 0.0 inc	hes
Туре	HYBRID III DUMM	ЛҮ	Weight	999.0 kg 2202 poo	unds
Size	3 YEAR OLD CHI	LD			
Cali	ibration Method	HYBRID III			
Occupar	nt Manufacturer	MFG: DENTON S/N:044	1		
Occupa	ant Modification	UNMODIFIED			
Occu	pant Description	SUBPART C THREE YE	AR OLD CHILD		
Occupa	ant Commentary	CONTACTS: CNTRH1:	CHEST, CNTRH2: CF	RS	
Head to -		<u>Head</u>			
Windshie	elder Header 999	9 mm 0.0 inch	nes Head Injury (Criteria (HIC) 1027	
	WindShield 9999	9 mm 0.0 inch	nes HIC Lov	wer Time Interval (ms) 68	.7
	Seatback 580	mm 22.8 inch	nes HIC Up	per Time Interval (ms) 10	4.7
	Side Header 9999		nes		
5	Side Window 383		nes		
Neck to Sea		nm 0.0 inches			_
	First Contact Re	egion (Head) OTHER			ᆜ
S	Second Contact Rec	gion (Head)			
		<u>Chest</u>			
Chest to -					
		nm 0.0 inches		32 mm 9.1 inche	
Steering V		nm 0.0 inches	Hip to Door 2	98 mm 11.7 inche	es
		nm 22.9 inches	5.1.5.1.4.14		\neg
	severity Index 574	4	Pelvic Peak Lateral A	, , ,	╡
Inoracic Ir	auma Index 0	Dalt Daalt Laad		Acceleration (g's) 53.2	
	•	Belt Peak Load 0	Newtons 0.0	pound Force	
First C		elt Peak Load 0	Newtons 0.0	pound Force	\neg
	ontact Region (Che				=
Second Co	ontact Region (Ches	st/Abdomen) NONE			
		<u>Legs</u>			
Knees to			Knees to Seatback 4		es
	ur Peak Load <u>0</u>	Newtons		s Force	
Right Femu	ır Peak Load 0	Newtons	0.0 pound	s Force	<u> </u>
	First Contact R				\exists
	Second Contact Re	egion (Legs)			

2004 CHEVROLET MALIBU RIGHT REAR SEAT OCCUPANT

Test #	4863					
Vehicle#	1		Sex	NOT APPLIC	ABLE	
Location	RIGHT REAR	SEAT	Age	1		
Position	NON-ADJUST	ABLE SEAT	Height	9999 mm	0.0 inches	
Туре	HYBRID III DU	MMY	Weight	999.0 kg	2202 pounds	
Size	3 YEAR OLD	CHILD]			
Cali	ibration Method	HYBRID III				
Occupar	nt Manufacturer	MFG: DENTON S/N:044				
Occupa	ant Modification	UNMODIFIED				
Occu	pant Description	SUBPART C THREE YEA	AR OLD CHILD			
Occupa	ant Commentary	CONTACTS: CNTRH1: C	HEST, CNTRH2: CF	RS		
		Restraints	<u>s</u>			
Restrai	nt# 1 CONVI	RTIBLE CHILD SAFETY SE	AT, FRONT FACING	i		
Mounte	ed LATCH	- LOWER ANCHORAGES A	ND TOP TETHER			
Deploy	ment NOT A	PPLICABLE				
Restrai	nt Commentary	EVENFLO VANGAURD V	/ LATCH			
Restrai	nt # 2 5 POIN	T BELT				
Mounte						
Deploy	_	PPLICABLE				

EVENFLO VANGAURD V LATCH

Restraint Commentary

2004 CHEVROLET MALIBU LEFT REAR SEAT OCCUPANT

Test # 4863	
Vehicle # 1	Sex NOT APPLICABLE
Location LEFT REAR SEAT	Age 1
Position NON-ADJUSTABLE SEAT	Height 9999 mm 0.0 inches
Type HYBRID III DUMMY	Weight 999.0 kg 2202 pounds
Size 3 YEAR OLD CHILD	
Calibration Method HYBRID III	
Occupant Manufacturer MFG: DENTON S/N:142	
Occupant Modification UNMODIFIED	
Occupant Description SUBPART C THREE YEAR	R OLD CHILD
Occupant Commentary CONTACTS: CNTRH1: Ch	IEST, CNTRH2: CRS
<u>Head</u>	
Head to -	
Windshielder Header 9999 mm 0.0 inches	Head Injury Criteria (HIC)
WindShield 9999 mm 0.0 inches	HIC Lower Time Interval (ms) 66.6
Seatback <u>563</u> mm <u>22.2</u> inches	HIC Upper Time Interval (ms) 102.6
Side Header 9999 mm 0.0 inches	
Side Window 355 mm 14.0 inches	
Neck to Seatback 9999 mm 0.0 inches	
First Contact Region (Head) OTHER	
Second Contact Region (Head)	
<u>Chest</u>	
Chest to -	
Dash 9999 mm 0.0 inches	Arm to Door 205 mm 8.1 inches
Steering Wheel 9999 mm 0.0 inches	Hip to Door 267 mm 10.5 inches
Seatback 538 mm 21.2 inches	
	lvic Peak Lateral Acceleration (g's)
Thoracic Trauma Index 0	Thorax Peak Acceleration (g's) 51.7
	lewtons 0.0 pound Force
	lewtons 0.0 pound Force
First Contact Region (Chest/Abdomen) NONE	
Second Contact Region (Chest/Abdomen) NONE	
<u>Legs</u>	
Knees to Dash 9999 mm 0.0 inches Knees	ees to Seatback 380 mm 15.0 inches
Left Femur Peak Load 0 Newtons 0.	·
Right Femur Peak Load 0 Newtons 0.	0 pounds Force
First Contact Region (Legs) NONE	
Second Contact Region (Legs)	

Registered Owner: 4N6XPRT SYSTEMS

2004 CHEVROLET MALIBU LEFT REAR SEAT OCCUPANT

Test #	4863					
Vehicle #	1		Sex	NOT APPLIC	ABLE	
Location	LEFT REAR SEA	T	Age	1		
Position	NON-ADJUSTAB	LE SEAT	Height	9999 mm	0.0 inches	
Type	HYBRID III DUM	MY	Weight	999.0 kg	2202 pounds	
Size	3 YEAR OLD CH	ILD				
Cal	ibration Method	HYBRID III				
Occupai	nt Manufacturer	MFG: DENTON S/N:142				
Occupa	ant Modification	UNMODIFIED				
Occu	pant Description	SUBPART C THREE YEA	AR OLD CHILD			
Occupa	ant Commentary	CONTACTS: CNTRH1: C	HEST, CNTRH2: CF	RS		
		Restraints	<u>5</u>			
Restrai	int # 1 CONVER	TIBLE CHILD SAFETY SEA	AT, FRONT FACING			
Mounte	ed LATCH - I	LOWER ANCHORAGES A	ND TOP TETHER			
Deploy	ment NOT APP	LICABLE				
Restrai	int Commentary	BRITAX ROUNDABOUT	LATCH			
Restrai	int # 2 5 POINT I	BELT				
Mounte						
Deploy						

BRITAX ROUNDABOUT LATCH

Restraint Commentary

Vehicle 1 2004 CHEVROLET MALIBU

Test #	4863									
VIN	1G1ZS52F24	F129806			NHTSA Te	est Vehicle N	lumber	1		
Year	2004				Vehicle Mo	dification Ind	dicator	PRODUCT	ION VEHICL	E
Make	CHEVROLET	Γ	Post-test S	Steering Colu	umn Shear C	apsule Sep	eration	UNKNOWN	l	
Model	MALIBU			Steering	g Column Co	llapse Mech	nanism	UNKNOWN	l	
Body	FOUR DOOF	SEDAN								
Engine	4 CYLINDER	TRANS	VERSE FR	ONT						
Displacement	2.2 Lite	er Tra	ansmission	AUTOM	ATIC - FRON	IT WHEEL [DRIVE			
Vehicle Modific	ation(s) Descr	iption	NONE							
Vehicle Comme	entary 2004	CHEVRO	DLET MALI	BU M40104						
Vehicle Len	gth 4779	mm	188.1 i	nches	CG	behind Fro	nt Axle	1156 mm	45.5	inches
Vehicle V	Vidth 1775	mm	69.9 i	nches	Center of D	amage to C	G Axis	9999 mm	0.0	inches
Vehicle Wheel	base 2700	mm	106.3		Total Leng	th of Indent	ation	9999 mm	0.0	inches
Vehicle Test We	eight 1635	KG	3604 p	oounds	Maximum S	Static Crush	Depth	585 mm	23.0	inches
						Pre-Impact	Speed	57 kph	35.5	mph
Vel	nicle Damage	Index 1	2FDEW3		Princi	ipal Directio	n of For	ce 0		
Damaga Da	ofilo Diotoro	- 1/			Ourrale francis	- D 0 D	t T	t Damasa I		
Damage Pro				<u>.</u>	Crush iron		ost res	st Damage I		
· _	ured Left-to-Rio	·	¬ ´		_	Pre-Test		Post-Test	Crush I	
DPD 1		13.2	inches	Left Bun	nper Corner		nches	169.6 inch		inches
DPD 2		16.0	inches			4711 n	nm	4309 mm	402] mm
_	184 mm	19.1	inches		Centerline	188.1 ii	nches	167.4 inch	nes 20.7	inches
DPD 4		19.2	inches			4779 n	nm	4252 mm	527	mm
_	127 mm	16.8	inches	Right Rum	per Corner	185.5 ii	nches	168.7 inch	nes 16.7	inches
DPD 6	368 mm	14.5	inches	ragnt ban	iper corner		nm	4286 mm] mm
						 		-1200 111111	723]
Rumner F	ngagement			Sill End	gagement			A-nilla	ır Engageme	≥nt
•	pact Only)			-	mpact Only)			•	Impact Onl	
`	0.0				PPLICABLE				0.0	γ <i>)</i>
	0.0			NOT AL	TEIOABLE				0.0	_
Moving	Test Cart			Moving Te	st Cart/Vehic	cle		Vehicle (Orientation o	n Cart
Α	ngle			Crabb	oed Angle			Mov	ing Test Car	t
DIRECT	ENGAGEMEN	IT			0.0			NOT /	APPLICABL	.E
Magnitude	of the Tilt Angle			Magniture of	the Crabbed Ar	ngle		Magn	itude of the Ang	gle
Measured b	etween surface o	fa		Measure	Clockwise from	1		Measured betwe	een the Vehicle	Orientation
Rollover Test	Cart and the Grou	ınd	Long	itudinal Vector	to Velocity Vect	or of Vehicle		and Directi	on of Test Cart	Motion

Serial Number: 21R-030201SC01301

Registered Owner: 4N6XPRT SYSTEMS

Vehicle 1 2004 CHEVROLET MALIBU

T1 41	4000				
Test # VIN		nc N	UTCA Toot Vobiolo Nive	ber 1	
			HTSA Test Vehicle Number		NI VEHICI E
Year			hicle Modification Indicat		N VEHICLE
Mak Mode		Post-test Steering Column	ollumn Collapse Mechanis		
Bod			numm Collapse Mechanis	SIII UNKNOWN	
Engin					
Displacemen			 : - FRONT WHEEL DRI\	/E	1
•	fication(s) Description	NONE	5-1 ROM1 WHILL DRIV	/ L	<u> </u>
Vehicle Com	` ′ =	OLET MALIBU M40104			
Vehicle Le		188.1 inches	CG behind Front A	xle 1156 mm	45.5 inches
Vehicle	· ===		nter of Damage to CG A		0.0 inches
Vehicle Whe	===		otal Length of Indentation		0.0 inches
Vehicle Test	===		eximum Static Crush Der		23.0 inches
		poundo mo	Pre-Impact Spe		35.5 mph
\	/ehicle Damage Index	12FDEW3	Principal Direction of		
	F	Pre & Post Test Dam	age Measuremer	nts	
(Measure	_	naldirection. Except for Engine Bloc			urface forward)
(Mododin	Left Side				
Pre-Tes		Pre-Test	terline Post-Test	Pre-Test	nt Side Post-Test
	hes mm inches	mm inches	mm inches	mm inches	mm inches
111111 1110	nes mm mones		nicle at Centerline	min mones	min mones
		4779 188.1	4252 167.4		
			ne Block		
		384 15.1	384 15.1		
4711 185	.5 4309 169.6	<u> </u>	umper Corner	4711 185.5	4286 168.7
			of Engine		
		4250 167.3	3996 157.3		
3671 144	.5 3599 141.7	Fi	rewall	3662 144.2	3567 140.4
		3664 144.3	3584 141.1		
3307 130	.2 3307 130.2	Upper Leadii	ng Edge of Door	3294 129.7	3297 129.8
3306 130	.2 3321 130.7	Lower Leadir	ng Edge of Door	3300 129.9	3302 130.0
3335 131	.3 3337 131.4	Bottom o	of 'A' Post	3325 130.9	3333 131.2
2210 87.0	2210 87.0	Upper Trailin	ng Edge of Door	2195 86.4	2196 86.5
2239 88.1	2249 88.5	Lower Trailin	ng Edge of Door	2224 87.6	2228 87.7
		Steeri	ng Column		
		2827 111.3	2836 111.7		
			ımn to 'A' Post (Horizont	al)	
		339 13.3	322 12.7		
		Center of Steering Colu	umn to Headliner (Vertica	al)	

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457 18.0

Registered Owner: 4N6XPRT SYSTEMS Serial Number: 21R-030201SC01301

423 16.7

2004 CHEVROLET MALIBU

NHTSA Crash Test - #4863 - Front Impact

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

Test Vehicle Weight = 3604 pounds Vehicle Closing Speed = 35.5 MPH Test Crush Length = 69.9 inches

Pre/Post Collision Crush Depths (inches)

Left Side Crush Centerline Crush Right Side Crush (Pass. Side)

(Driver Side) 15.8 20.7 16.7

		CRASH	3 Stiffness Co	efficents	SMAC Stiffness
		_ <u>A</u>	<u>B</u>	<u>G</u>	<u> Kv</u>
Minimum Crush = 15.8 inches					208.0
Using a Rated No Damage Speed of	2.5mph	215.5	179.7	129.2	
Using a Rated No Damage Speed of	5.0mph	398.3	153.5	516.8	
Using a Rated No Damage Speed of	7.5mph	548.5	129.4	1162.7	
Using a Rated No Damage Speed of	10.0mph	666.1	107.3	2067.1	
Average Crush = 18.5 inches					152.0
Using a Rated No Damage Speed of	2.5mph	184.2	131.3	129.2	
Using a Rated No Damage Speed of	5.0mph	340.5	112.2	516.8	
Using a Rated No Damage Speed of	7.5mph	468.9	94.6	1162.7	
Using a Rated No Damage Speed of	10.0mph	569.4	78.4	2067.1	
Maximum Crush = 20.7 inches					121.0
Using a Rated No Damage Speed of	2.5mph	164.4	104.6	129.2	
Using a Rated No Damage Speed of	5.0mph	303.9	89.3	516.8	
Using a Rated No Damage Speed of	7.5mph	418.4	75.3	1162.7	
Using a Rated No Damage Speed of	10.0mph	508.1	62.4	2067.1	

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

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

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

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

G = Energy dissipated without permanent damage, lb

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

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

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

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	19.2	33.0	2.5	7.0

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 21.0

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

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

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Registered Owner: 4N6XPRT SYSTEMS Serial Number: 21R-030201SC01301

Available Test Results Front Impact Test Summary

Report Filter Settings

Year Range: 2004 - 2007 Make: CHEVROLET Model: MALIBU

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)			Vehicle iffness B			Crush Factor
5183	2004 SAAB 9-3 FOUR DOOR SEDAN	5.0	16.5	29.5	291.3	86.7	489.2	125.7	21.2
6056	2007 SAAB 9-3 FOUR DOOR SEDAN	5.0	19.4	34.7	334.5	102.4	546.6	139.8	24.8
5191	2004 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	16.4	29.7	341.3	102.7	567.0	148.5	21.5
6448	2008 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	11.9	24.7	360.3	119.2	544.3	187.3	20.5
6998	2011 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	18.6	35.1	360.9	117.1	556.0	159.3	26.6
5851	2006 SAAB 9-3 FOUR DOOR SEDAN	5.0	11.3	24.7	364.5	126.8	524.0	199.1	21.6
5271	2005 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	18.4	35.0	366.4	119.1	563.3	162.2	26.5
4863	2004 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	17.0	35.5	371.3	133.4	516.8	180.7	29.7
6268	2008 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	17.7	34.9	378.9	128.0	560.7	174.5	27.5
5250	2005 PONTIAC G6 FOUR DOOR SEDAN	5.0	17.0	35.3	393.2	139.8	552.9	189.7	29.2
5844	2007 SATURN AURA FOUR DOOR SEDAN	5.0	15.6	35.1	442.4	170.2	574.9	231.5	31.5
6997	2011 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	6.4	20.1	496.8	232.8	530.2	412.8	25.0
		Avera	ge (AVG)		375.1	131.5	543.8	192.6	25.5
		Minim	um (MIN))	291.3	86.7	489.2	125.7	20.5
		Maximu	ım (MAX)	496.8	232.8	574.9	412.8	31.5
	Standard Deviation	on (STDev	-sample))	52.3	38.2	24.7	75.0	3.7

Number of Tests (n) 12

Available Test Results Front Impact Test Summary

Report Filter Settings

Year Range: 2004 - 2007 Make: CHEVROLET Model: MALIBU

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)			Vehicle iffness B			Crush Factor
6997	2011 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	15.7	20.1	202.9	38.8	530.2	68.9	10.2
5183	2004 SAAB 9-3 FOUR DOOR SEDAN	5.0	18.2	29.5	263.7	71.1	489.2	103.0	19.2
4863	2004 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	23.0	35.5	273.7	72.5	516.8	98.2	21.9
5250	2005 PONTIAC G6 FOUR DOOR SEDAN	5.0	22.6	35.3	296.0	79.2	552.9	107.5	22.0
5191	2004 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	18.9	29.7	296.5	77.5	567.0	112.1	18.7
5851	2006 SAAB 9-3 FOUR DOOR SEDAN	5.0	13.6	24.7	303.6	87.9	524.0	138.2	18.0
6448	2008 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	14.1	24.7	304.8	85.3	544.3	134.1	17.4
6268	2008 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	21.8	34.9	307.2	84.1	560.7	114.7	22.3
6056	2007 SAAB 9-3 FOUR DOOR SEDAN	5.0	20.9	34.7	310.9	88.4	546.6	120.7	23.0
6998	2011 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	21.3	35.1	313.8	88.5	556.0	120.4	23.1
5271	2005 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	19.9	35.0	339.7	102.4	563.3	139.4	24.6
5844	2007 SATURN AURA FOUR DOOR SEDAN	5.0	18.7	35.1	369.3	118.7	574.9	161.3	26.3
		Averag	ge (AVG)	298.5	82.9	543.8	118.2	20.6
		Minimu	ım (MIN)	202.9	38.8	489.2	68.9	10.2
		Maximu	m (MAX	()	369.3	118.7	574.9	161.3	26.3
	Standard Deviation	n (STDev	-sample)	40.7	19.0	24.7	23.7	4.2

Number of Tests (n) 12

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Expert VIN DeCoder®

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Version Number 4.1.0.2

DeCoded VIN: 1GMDX03E41D251663

Model:	2001 Pontiac Montana 4x2 APV Extended Four Door Cab/Utility
Engine Size:	3.4 L / 207 cu.in.
Engine Description:	V6 Cylinder with Over Head Valves
	-
Horse Power:	185 @ 5200 rpm
Torque:	210 lb-ft @ 4000 rpm
Injection System:	Fuel Injection
PSI:	41-47 psi Ignition: electronic
Manufacturer:	Chevrolet, Pontiac, GM Canada
Assembly Plant:	Doraville, GA
Drive Wheels:	This is a Front Wheel Drive vehicle

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

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

The Fifth through Sixth characters (X0) indicate a Montana 4x2 APV Extended

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

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

The Ninth character (the check digit) is entered as 4.

The VIN appears Valid, the calculated value is 4.

The Tenth character (1) indicates the model year 2001

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

The Twelfth through Seventeenth characters (251663) indicate the Serial Number and are unique to this vehicle.

Expert AutoStats®

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

9/9/2022

2001 PONTIAC MONTANA EXTENDED 4 DOOR MINI VAN

2001 PUNITAC MUNIANA EXTENDED 4 DOOR MINI	VAN		
Curb Weight: Curb Weight Distribution - Front:	3942 lbs. 59 %	178 Rear: 41	
Gross Vehicle Weight Rating:	5357 lbs.	243	8 0 kg.
Number of Tires on Vehicle: Drive Wheels:	FRONT		
Horizontal Dimensions Total Length Wheelbase:	Inches 201 121	Feet 16.75 10.08	Meters 5.11 3.07
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:	37 21 6 34 70	3.08 1.75 0.50 2.83 5.83	0.94 0.53 0.15 0.86 1.78
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:	43 27 4 5	3.58 2.25 0.33 0.42	1.09 0.69 0.10 0.13
Width Dimensions Maximum Width: Front Track: Rear Track:	72 62 63	6.00 5.17 5.25	1.83 1.57 1.60
Vertical Dimensions Height: Ground to -	68	5.67	1.73
Front Bumper (Top) Headlight - center Hood - top front: Base of Windshield Rear Bumper - top: Trunk - top rear: Base of Rear Window:	22 30 32 43 23 35 46	1.83 2.50 2.67 3.58 1.92 2.92 3.83	0.56 0.76 0.81 1.09 0.58 0.89 1.17

Expert AutoStats®

2001 PONTIAC MONTANA EXTENDED 4 DOOR MINI VAN

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

Front Leg Room - seatback to floor (min) 39 3.25 0.99

39

3.25

0.99

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

Steering Data

Turning Circle (Diameter) 468 39 11.89
Steering Ratio: 17.50:1

Wheel Radius: 13 1.08 0.33

Tire Size (OEM): **P215/70R15**

Acceleration & Braking Information

Rear Seat to Headliner

Brake Type: FRONT DISC - REAR DRUM

ABS System: ALL WHEEL ABS

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

 $d = \begin{bmatrix} 161.0 \end{bmatrix}$ ft $t = \begin{bmatrix} 3.7 \end{bmatrix}$ sec $a = \begin{bmatrix} -24.0 \end{bmatrix}$ ft/sec² G-force = $\begin{bmatrix} -0.75 \end{bmatrix}$

Acceleration:

0 to 30mph **12.6** ft/sec² G-force = 0.39 3.5 t = sec a = G-force = 0 to 60mph t = 10.4 8.5 ft/sec² 0.26 sec a = 45 to 65mph ft/sec² G-force = sec a =

Transmission Type: 4spd AUTOMATIC

Notes:

Federal Bumper Standard Requirements: No Requirement

N.S.D.C = 2001 - 2006

1.17 Reasonably Stable

2001 PONTIAC MONTANA EXTENDED 4 DOOR MINI VAN

Other Information

Tip-Over Stability Ratio =

Tip over Stability Racio =	1.1/	Kcason	ably Scabic	
NHTSA Star Rating (calculated)			***	
Center of Gravity (No Load):		Inches	Feet	Meters
behind front axle	=	49.61	4.13	1.26
in front of rear axle	=	71.39	5.95	1.81
from side of vehicle	=	36.00	3.00	0.91
from ground	=	26.62	2.22	0.68
from front corner	=	93.79	7.82	2.38
from rear corner	=	119.92	9.99	3.05
from front bumper	=	86.61	7.22	2.20
from rear bumper	=	114.39	9.53	2.91
Moments of Inertia Approximations (No	Load):	lb*ft*s	ec² kg*m*s	ec²
Yaw Moment of Inertia	=	2717.2	26 375.	67
Pitch Moment of Inertia	=	2758.0	381.	31
Roll Moment of Inertia	=	632.2	87.	41

Front Profile Information

Angle Front Bumper to Hood Front	=	59.0	deg
Angle Front of Hood to Windshield Base	=	21.4	deg
Angle Front of Hood to Windshield Top	=	28.0	deg
Angle of Windshield	=	32.6	deg
Angle of Steering Tires at Max Turn	=	29.6	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:

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

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

Stiffness Values and Test Data

Derived from

NHTSA Crash Test #2750

1998 CHEVROLET VENTURE

Provided By

4N6XPRT StifCalcs®

Registered to:

4N6XPRT SYSTEMS 8387 UNIVERSITY AVENUE LA MESA CA 91941-3842 21R-030201SC01301

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Serial Number: 21R-030201SC01301

Similar Vehicle database reader

You entered: 2001 PONTIAC MONTANA

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

Year Range	Make	Model	Body Styles	Wheelbase
1997 - 2004 Remarks:	CHEVROLET	VENTURE	VAN	112, 120
1997 - 1998 Remarks: ALSO I	PONTIAC MONTANA	TRANSPORT	MiniVan	112, 120
1997 - 2004 Remarks:	OLDSMOBILE	SILHOUETTE	VAN	120, 120
1999 - 2004 Remarks: WAS T	PONTIAC RANSPORT	MONTANA	VAN	112, 120

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!).

If you have suggestions and/or corrections, we request and urge you to contact us - 4n6@4n6xprt.com.

Test Information

	_								
Test # 2750		NHTSA	Test Refe	rence Guide '	ersion #	V4			
Test Date 1997-12-08				Co	ontract #	DTNH22-96-	D-02010		
Contract/Study Title	NEW CAR A	SSESMENT I	PROGRAM	M FRONTAL	BARRIER	R IMPACT TEST	-		
Test Objective(s)	TO OBTAIN	VEHICLE CR	ASHWOF	RTHINESS A	ND OCCL	JPANT RESTRA	AINT PER	FORMANCE	
Test Type [NEW CAR A	SSESSMENT	TEST			Configuration	VEHICL	E INTO BAR	RIER
Impact Angle	0			Side Imp	act Point	0	mm	0.0	inches
				Offse	Distance	e 0	mm	0.0	inches
				Clos	ng Speed	56.5	Km/Hr	35.11	MPH
Test Performer	CALSPAN								
Test Reference #	RUN 1739								
Test Track Surface	CONCRETE				ondition	DRY			
Ambient Temperature	20 C	68.0	F To	tal Number	of Curves	91			
Data Recorder Type	FM TAPE RE	CORDER				Data Link	UMBILI	CAL CABLE	
Test Commentary	FY 97 NCAP	#13							
Fixed Barrier Information									
Barrier Type [RIGID			Pole Barrier	Diamete	999	mm	999	inches
Barrier Shape	FLAT BARR	ER							
Barrier Commentary			BARRIER	WITHOUT L	OAD CEI	LL ASSEMBLY.			

1998 CHEVROLET VENTURE LEFT FRONT SEAT OCCUPANT

Test # 2750	
Vehicle # 1 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:061	
Occupant Modification NO COMMENTS	
Occupant Description NO COMMENTS	
Occupant Commentary NO COMMENTS	
<u>Head</u>	
Head to -	
Windshielder Header 435 mm 17.1 inches Head Injury Criteria (HIC) 538	
WindShield 650 mm 25.6 inches HIC Lower Time Interval (ms) 58.5	
Seatback 9999 mm 0.0 inches HIC Upper Time Interval (ms) 94.5	
Side Header 250 mm 9.8 inches	
Side Window 365 mm 14.4 inches	
Neck to Seatback 9999 mm 0.0 inches	
First Contact Region (Head) AIR BAG	
Second Contact Region (Head)	
<u>Chest</u>	
Chest to -	
Dash 520 mm 20.5 inches Arm to Door 122 mm 4.8 inches	
Steering Wheel 295 mm 11.6 inches Hip to Door 172 mm 6.8 inches	
Seatback 9999 mm 0.0 inches	
Chest Severity Index 581 Pelvic Peak Lateral Acceleration (g's) 0	
Thoracic Trauma Index 0 Thorax Peak Acceleration (g's) 43	
Lap Belt Peak Load 4793 Newtons 1077.5 pound Force	
Shoulder Belt Peak Load 5176 Newtons 1163.6 pound Force	
First Contact Region (Chest/Abdomen) AIR BAG	
Second Contact Region (Chest/Abdomen) NONE	
<u>Legs</u>	
Knees to Dash 147 mm 5.8 inches Knees to Seatback 9999 mm 0.0 inches	
Left Femur Peak Load -8313 Newtons -1868.8 pounds Force	
Right Femur Peak Load 4959 Newtons 1114.8 pounds Force	
First Contact Region (Legs) DASHPANEL	
Second Contact Region (Legs)	

1998 CHEVROLET VENTURE LEFT FRONT SEAT OCCUPANT

Test #	2750					
Vehicle#	1		Sex	MALE		
Location	LEFT FRONT SE	AT	Age	99		
Position	CENTER POSITI	ON	Height	999 mm	39.3 inches	;
Type	HYBRID III DUMI	MY	Weight	999.0 kg	2202 pound	S
Size	50 PERCENTILE					
Cali	ibration Method	HYBRID III				
Occupar	nt Manufacturer	MFG:HUMANOID S/N:06	1			
Occupa	ant Modification	NO COMMENTS				
Occu	pant Description	NO COMMENTS				
Occupa	ant Commentary	NO COMMENTS				
		Restraints	<u> </u>			
Restrai	nt # 1 3 POINT	BELT				
Mounte	ed					
Deploy	ment NOT APP	LICABLE				
Restrai	nt Commentary	DEPOWERED AIRBAG				
Restrai	nt# 2 FRONTA I	AIDRAG				
		AINDAU				
Mounte						
Deployi	ment [DEPLOYI	ED PROPERLY				

DEPOWERED AIRBAG

Restraint Commentary

1998 CHEVROLET VENTURE RIGHT FRONT SEAT OCCUPANT

1998 CHEVROLET VENTURE RIGHT FRONT SEAT OCCUPANT

Test #	2750					
Vehicle #	1		Sex	MALE		
Location	RIGHT FRO	ONT SEAT	Age	99		
Position	CENTER P	OSITION] Height	999 mm	39.3 inches	
Туре	HYBRID III	DUMMY] Weight	999.0 kg	2202 pounds	
Size	50 PERCEI	NTILE]			
Cal	libration Meth	od HYBRID III				
Occupa	nt Manufactu	rer MFG:HUMANOID S/N:2	45			
Occup	ant Modificati	on NO COMMENTS				
Occu	ipant Descrip	tion NO COMMENTS				
Occupa	ant Comment	ary NO COMMENTS				
		Restraint	s			
Restrai	int # 1 3 P	DINT BELT	<u> </u>			
Mounte						
Deploy		T APPLICABLE				
	int Comment					
Restra	int # 2 [FRO	ONTAL AIRBAG				
Mounte	ed	<u> </u>		<u> </u>		
Deploy	ment DE	PLOYED PROPERLY				
Restra	int Comment	ary DEPOWERED AIRBAG				

Vehicle 1 1998 CHEVROLET VENTURE

Test #	2750								
VIN	1GNDX06E2	WD1345	17		NHTSA Te	est Vehicle Numbe	r 1		
Year	1998				Vehicle Mo	dification Indicator	PRODUCTION	ON VEHICL	.E
Make	CHEVROLE1	Γ	Post-test S	Steering Col	umn Shear C	apsule Seperation	UNKNOWN		
Model	VENTURE			Steerin	g Column Co	ollapse Mechanism	UNKNOWN		
Body	VAN								
Engine	V6 INLINE FI	RONT							
Displacement	3.4 Lite	er Tr	ansmission	AUTOM	ATIC - FRON	IT WHEEL DRIVE]	
Vehicle Modific	ation(s) Descri	iption	NO COMM	IENTS					
Vehicle Comme	entary 98 CF	IEVROL	ET VENTU	RE EXTEN	DED 3-DOOI	R VAN			
Vehicle Len	gth 5100	mm	200.8 i	nches	CG	behind Front Axle	e 1354 mm	53.3	inches
Vehicle V	Vidth 1830	mm	72.0 i	nches	Center of D	amage to CG Axis	0 mm	0.0	inches
Vehicle Wheel	lbase 3050	mm	120.1		Total Leng	th of Indentation	1705 mm	67.1	inches
Vehicle Test We	eight 2032	KG	4479	oounds	Maximum S	Static Crush Depth	615 mm	24.2	inches
						Pre-Impact Speed	57 kph	35.1	mph
Vel	hicle Damage	Index 1	2FDEW3		Princ	ipal Direction of Fo	orce 180		
Damaga Dr	ofilo Diotopo	o Mooo	uromonto		Cruch from	n Dra 9 Daat Ta	et Demoge M	loggurom	onto
Damage Pro				<u> </u>	Crushilor	n Pre & Post Te			
· _	ured Left-to-Rio	·	¬	–		Pre-Test	Post-Test	Crush D	
DPD 1		17.1	inches	Left Bur	nper Corner	197.8 inches	177.2 inche		inches
DPD 2		21.1	」inches			5025 mm	4500 mm	525] mm
DPD 3		23.6	」inches		Centerline	200.8 inches	175.6 inche	es 25.2	inches
DPD 4		24.2	inches			5100 mm	4460 mm	640] mm
_	545 mm	21.5	inches	Right Bun	nper Corner	197.4 inches	176.4 inche	es 21.1	inches
DPD 6	475 mm	18.7	inches	ragin ban	ilpoi Goilloi	5015 mm	4480 mm	535] mm
						11111		000	,
Bumper F	ngagement			Sill En	gagement		A-pillar	Engageme	ent
·	pact Only)				mpact Only)		•	Impact Only	
` <u> </u>	99.0			•	PPLICABLE			999.0	Ϋ́
									_
Moving	g Test Cart			Moving Te	est Cart/Vehic	cle	Vehicle O	rientation o	n Cart
A	ngle			Crab	bed Angle		Movir	ng Test Cart	t
NOT A	PPLICABLE				0.0		NOT A	PPLICABL	E
-	e of the Tilt Angle			•	f the Crabbed Ar	~		ude of the Ang	
Measured b	etween surface of	fa			e Clockwise from		Measured between		
Rollover Test	Cart and the Grou	ınd	Long	itudinal Vector	to Velocity Vect	or of Vehicle	and Directio	n of Test Cart	Motion

Registered Owner: 4N6XPRT SYSTEMS

Vehicle 1 1998 CHEVROLET VENTURE

		Venicle 1 1990 One V	MOLLI VENTORE		
Test #	2750				
VIN	1GNDX06E2WD1345	517 NF	HTSA Test Vehicle Number	ſ 1	
Year	1998	Veh	icle Modification Indicator	PRODUCTIO	N VEHICLE
Make	CHEVROLET	Post-test Steering Column S	Shear Capsule Seperation	UNKNOWN	
Model	VENTURE	Steering Col	umn Collapse Mechanism	UNKNOWN	
Body	VAN				
Engine	V6 INLINE FRONT				
Displacement	3.4 Liter Ti	ransmission AUTOMATIC	- FRONT WHEEL DRIVE		
Vehicle Modific	cation(s) Description	NO COMMENTS			
Vehicle Comm	entary 98 CHEVROL	<u>ET VENTURE EXTENDED :</u>	3-DOOR VAN		
Vehicle Len	ngth <u>5100</u> mm	200.8 inches	CG behind Front Axle	mm	53.3 inches
Vehicle \	Width 1830 mm	72.0 inches Cen	iter of Damage to CG Axis	0 mm	0.0 inches
Vehicle Whee	elbase 3050 mm	120.1 inches Tot	tal Length of Indentation	1705 mm	67.1 inches
Vehicle Test W	/eight 2032 KG	4479 pounds Max	kimum Static Crush Depth		24.2 inches
	_		Pre-Impact Speed		35.1 mph
Ve	hicle Damage Index	12FDEW3	Principal Direction of Fo	rce 180	
	_				
	<u>F</u>	Pre & Post Test Dama	<u>age Measurements</u>	<u> </u>	
(Measurem	nents are taken in a longitudir	naldirection. Except for Engine Block	, all measurements are take fror	n the Rear Vehicle Su	rface forward.)
L	₋eft Side	Cente	erline	Right	t Side
Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test
mm inche	es mm inches	mm inches	mm inches	mm inches	mm inches
		Length of Vehi	cle at Centerline		
		5100 200.8	4460 175.6		
		Engin	e Block		
		550 21.7	550 21.7		
5025 197.8	4500 177.2	Front Bur	mper Corner 5	015 197.4	4480 176.4
		Front	of Engine		
		4555 179.3	4140 163.0		
3980 156.7	3675 144.7	Fire	ewall 4	030 158.7	3675 144.7
		3985 156.9	3745 147.4		
3788 149.1	3757 147.9	Upper Leading	g Edge of Door 3	783 148.9	3767 148.3
3679 144.8	3553 139.9	Lower Leading	g Edge of Door 3	675 144.7	3672 144.6
3695 145.5		Bottom of	f 'A' Post	688 145.2	3688 145.2
2650 104.3		Upper Trailin	· · - =	644 104.1	2642 104.0
2663 104.8	2638 103.9		-	658 104.6	2694 106.1
			g Column		
		3230 127.2	3225 127.0		
			mn to 'A' Post (Horizontal)		
		435 17.1	405 15.9		
		Center of Steering Colu	mn to Headliner (Vertical)		

395

15.6

490 19.3

Registered Owner: 4N6XPRT SYSTEMS

1998 CHEVROLET VENTURE

NHTSA Crash Test - #2750 - Front Impact

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

Test Vehicle Weight = 4479 pounds Vehicle Closing Speed = 35.1 MPH Test Crush Length = 72.0 inches

Pre/Post Collision Crush Depths (inches)

Left Side Crush Centerline Crush Right Side Crush (Pass. Side)

(Driver Side) 20.7 25.2 21.1

		CRASH 3 Stiffness Coefficents			SMAC Stiffness	
		_ <u>A</u>	<u>B</u>	<u>G</u>	<u> </u>	
Minimum Crush = 20.7 inches					143.8	
Using a Rated No Damage Speed of	2.5mph	196.5	124.0	155.7		
Using a Rated No Damage Speed of	5.0mph	363.0	105.7	622.9		
Using a Rated No Damage Speed of	7.5mph	499.2	88.9	1401.6		
Using a Rated No Damage Speed of	10.0mph	605.4	73.5	2491.8		
Average Crush = 23.0 inches					115.8	
Using a Rated No Damage Speed of	2.5mph	176.4	99.9	155.7		
Using a Rated No Damage Speed of	5.0mph	325.7	85.2	622.9		
Using a Rated No Damage Speed of	7.5mph	448.0	71.6	1401.6		
Using a Rated No Damage Speed of	10.0mph	543.3	59.2	2491.8		
Maximum Crush = 25.2 inches					96.7	
Using a Rated No Damage Speed of	2.5mph	161.2	83.5	155.7		
Using a Rated No Damage Speed of	5.0mph	297.7	71.2	622.9		
Using a Rated No Damage Speed of	7.5mph	409.5	59.8	1401.6		
Using a Rated No Damage Speed of	10.0mph	496.6	49.5	2491.8		

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

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

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	24.2	36.4	1.3	3.6

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 21.0

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

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

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Registered Owner: 4N6XPRT SYSTEMS Serial Number: 21R-030201SC01301

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

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

G = Energy dissipated without permanent damage, lb

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

1998 CHEVROLET VENTURE

NHTSA Crash Test - #2750 - Front Impact

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

Test Vehicle Weight = 4479 pounds

Vehicle Closing Speed = 35.1 MPH

Test Crush Length = 67.1 inches

Pre/Post Collision Crush Depths (inches)

Left Side Crush Centerline Crush Right Side Crush (Pass. Side)

(Driver Side) 20.7 25.2 21.1

		CRASH	SMAC Stiffness		
		_A	<u>B</u>	<u>G</u>	Kv
Minimum Crush = 20.7 inches					154.3
Using a Rated No Damage Speed of	2.5mph	211.0	133.1	167.2	
Using a Rated No Damage Speed of	5.0mph	389.6	113.5	668.6	
Using a Rated No Damage Speed of	7.5mph	535.8	95.4	1504.4	
Using a Rated No Damage Speed of	10.0mph	649.7	78.9	2674.5	
Average Crush = 23.0 inches					124.3
Using a Rated No Damage Speed of	2.5mph	189.3	107.2	167.2	
Using a Rated No Damage Speed of	5.0mph	349.6	91.4	668.6	
Using a Rated No Damage Speed of	7.5mph	480.9	76.9	1504.4	
Using a Rated No Damage Speed of	10.0mph	583.1	63.6	2674.5	
Maximum Crush = 25.2 inches					103.8
Using a Rated No Damage Speed of	2.5mph	173.1	89.6	167.2	
Using a Rated No Damage Speed of	5.0mph	319.6	76.4	668.6	
Using a Rated No Damage Speed of	7.5mph	439.5	64.2	1504.4	
Using a Rated No Damage Speed of	10.0mph	533.0	53.1	2674.5	

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

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

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

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

CDACH 2 Stiffness Coefficents

SMAC Stiffness

Serial Number: 21R-030201SC01301

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	24.2	36.4	1.3	3.6

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 21.0

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

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

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Available Test Results Front Impact Test Summary

Report Filter Settings

Year Range: 1999 - 2004

Make: PONTIAC Model: MONTANA

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)			Vehicle iffness B			Crush Factor
2963	1998 CHEVROLET VENTURE VAN	5.0	25.1	37.8	303.0	79.1	579.9	105.1	22.7
2552	1997 CHEVROLET VENTURE VAN	5.0	23.2	35.3	311.2	81.2	596.6	110.2	21.5
5087	2001 CHEVROLET VENTURE MINIVAN	5.0	22.3	35.0	316.4	85.0	588.4	115.8	21.9
3070	1998 CHEVROLET VENTURE VAN	5.0	18.3	29.8	323.7	87.7	597.5	126.7	19.4
2895	1998 CHEVROLET VENTURE VAN	5.0	17.6	29.0	339.7	92.8	622.1	135.4	19.1
2750	1998 CHEVROLET VENTURE VAN	5.0	21.7	35.1	346.5	96.3	622.9	131.0	22.8
2902	1998 CHEVROLET VENTURE VAN	5.0	20.0	37.5	401.0	130.4	616.5	173.6	28.2
3676	2001 CHEVROLET VENTURE MINIVAN	5.0	15.2	34.7	470.0	183.8	601.0	250.9	31.7
		Averaç	ge (AVG)		351.4	104.5	603.1	143.6	23.4
		Minim	um (MIN))	303.0	79.1	579.9	105.1	19.1
		Maximu	ım (MAX)	470.0	183.8	622.9	250.9	31.7
	Standard Deviation	on (STDev	-sample))	56.9	35.9	15.9	48.3	4.3
	N	umber of	Tests (n)	8					

Available Test Results Front Impact Test Summary

Report Filter Settings

Year Range: 1999 - 2004

Make: PONTIAC Model: MONTANA

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	•	V Sti				Crush Factor
2963	1998 CHEVROLET VENTURE VAN	5.0	41.8	37.8	182.0	28.6	579.9	37.9	13.7
2902	1998 CHEVROLET VENTURE VAN	5.0	33.7	37.5	238.0	46.0	616.5	61.2	16.7
2552	1997 CHEVROLET VENTURE VAN	5.0	26.6	35.3	272.0	62.0	596.6	84.2	18.7
5087	2001 CHEVROLET VENTURE MINIVAN	5.0	24.0	35.0	293.9	73.4	588.4	99.9	20.4
2750	1998 CHEVROLET VENTURE VAN	5.0	25.2	35.1	297.7	71.2	622.9	96.7	19.6
3070	1998 CHEVROLET VENTURE VAN	5.0	19.8	29.8	298.9	74.8	597.5	108.0	17.9
2895	1998 CHEVROLET VENTURE VAN	5.0	19.1	29.0	313.0	78.7	622.1	114.9	17.6
3676	2001 CHEVROLET VENTURE MINIVAN	5.0	17.0	34.7	419.4	146.3	601.0	199.8	28.3
	Average (AVG)				289.4	72.6	603.1	100.3	19.1
)	182.0	28.6	579.9	37.9	13.7		
	Maximum (MAX)					146.3	622.9	199.8	28.3
Standard Deviation (STDev-sample)					67.7	34.3	15.9	47.6	4.2
	N	umber of	Гests (n)	8 (

Expert VIN DeCoder®

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Version Number 4.1.0.2

DeCoded VIN: 1G1ZT54834F137456

Model:	2004 Chevrolet Malibu LS 4 door Sedan
Engine Size:	3.5 L/ 214 cu.in.
Engine Description:	V6 Cylinder with Dual Overhead Cam
Horse Power:	215 @ 5600 rpm
	T-
Torque:	230 1b-ft at 4000 rpm
Injection System:	Fuel Injection
PSI:	N/A Ignition: Electronic
C1	al
Manufacturer:	Chevrolet
Assembly Plant:	Fairfax II, KS
ASSEMBLY PLANT.	[FAIIIAN II, NO
Drive Wheels:	This is a Front Wheel Drive vehicle w/ Active (Manual) Seatbelts + Front and Side Air
Di ive wheels.	Page 11 one wheel bille vehicle w/ Active (Mahadi) Seatbells + 11 one and Side All

The First through Third characters (1G1) indicate a Chevrolet Passenger Car made in the U.S.A.

The Fourth through Fifth characters (ZT) indicate a Malibu LS

The Sixth character (5) indicates a 4 door Sedan

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

The Eighth character (8) indicates the OEM engine: 3.5 L/ 214 cu.in., V6, DOHC

The Ninth character (the check digit) is entered as 3.

The VIN appears Valid, the calculated value is 3.

The Tenth character (4) indicates the model year 2004

The Eleventh character (F) indicates the vehicle was made in the assembly plant in Fairfax II, KS

The Twelfth through Seventeenth characters (137456) indicate the Serial Number and are unique to this vehicle.

Expert AutoStats®

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

9/9/2022

2004 CHEVROLET MALIBU 4 DOOR SEDAN

2004 CHEVROLET MALIBU 4 DOOR SEDAN			
Curb Weight: Curb Weight Distribution - Front:	3262 lbs.	1480 Rear: 38	kg. %
Gross Vehicle Weight Rating:	4267 lbs.	1935	s kg.
Number of Tires on Vehicle: Drive Wheels:	FRONT		
Horizontal Dimensions Total Length Wheelbase:	Inches	Feet 15.67 8.83	Meters 4.78 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:	39 24 6 49 79	3.25 2.00 0.50 4.08 6.58	0.99 0.61 0.15 1.24 2.01
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:	43 28 6 25	3.58 2.33 0.50 2.08	1.09 0.71 0.15 0.64
Width Dimensions Maximum Width: Front Track: Rear Track:	70 60 59	5.83 5.00 4.92	1.78 1.52 1.50
Vertical Dimensions Height: Ground to -	58	4.83	1.47
Front Bumper (Top) Headlight - center Hood - top front: Base of Windshield Rear Bumper - top: Trunk - top rear: Base of Rear Window:	21 29 30 38 25 42 43	1.75 2.42 2.50 3.17 2.08 3.50 3.58	0.53 0.74 0.76 0.97 0.64 1.07 1.09

Expert AutoStats®

2004 CHEVROLET MALIBU 4 DOOR SEDAN

Interior Dimensions	Inches	Feet	Meters
Front Seat Shoulder Width	57	4.75	1.45
Front Seat to Headliner	40	3.33	1.02
Front Leg Room - seatback to floor (max)	42	3.50	1.07
Rear Seat Shoulder Width	56	4.67	1.42
Rear Seat to Headliner	38	3.17	0.97
Front Leg Room - seatback to floor (min)	39	3.25	0.99

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

Steering Data

Turning Circle (Diameter) 456 38 11.58

Steering Ratio: 15.90:1

Wheel Radius: 12 1.00 0.30

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 = 139.0 ft t = 3.2 sec a = -27.8 ft/sec² G-force = -0.86

Acceleration:

0 to 30mph 2.7 **16.3** ft/sec² G-force = 0.51 t = sec a = G-force = 0 to 60mph t = 7.6 11.6 ft/sec² 0.36 sec a = 45 to 65mph 4.2 7.0 ft/sec² G-force = 0.22 sec a =

Transmission Type: 4spd AUTOMATIC

Notes:

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

N.S.D.C = 2004 - 2007

1.31

Stable

2004 CHEVROLET MALIBU 4 DOOR SEDAN

Tip-Over Stability Ratio =

Other Information

NHTSA Star Rating (calculated)			***	
Center of Gravity (No Load):		Inches	Feet	Meters
behind front axle	=	40.28	3.36	1.02
in front of rear axle	=	65.72	5.48	1.67
from side of vehicle	=	35.00	2.92	0.89
from around	=	22.77	1.90	0.58

trom side of venicle	=	33.00	2.32	0.03
from ground	=	22.77	1.90	0.58
from front corner	=	86.66	7.22	2.20
from rear corner	=	114.21	9.52	2.90
from front bumper	=	79.28	6.61	2.01
from rear bumper	=	108.72	9.06	2.76

Moments of Inertia Approximations (No Load):	lb*ft*sec²	kg*m*sec²
Yaw Moment of Inertia	=	2153.86	297.78
Pitch Moment of Inertia	=	2080.38	287.62
Roll Moment of Inertia	=	437.16	60.44

Front Profile Information

Angle Front Bumper to Hood Front	=	56.3	deg
Angle Front of Hood to Windshield Base	=	10.5	deg
Angle Front of Hood to Windshield Top	=	19.6	deg
Angle of Windshield	=	31.0	deg
Angle of Steering Tires at Max Turn	=	26.6	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:

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

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

Stiffness Values and Test Data

Derived from

NHTSA Crash Test #6268

2008 CHEVROLET MALIBU

Provided By

4N6XPRT StifCalcs®

Registered to:

4N6XPRT SYSTEMS 8387 UNIVERSITY AVENUE LA MESA CA 91941-3842 21R-030201SC01301

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Serial Number: 21R-030201SC01301

Similar Vehicle database reader

You entered: 2004 CHEVROLET MALIBU

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

Year Range	Make	Model	Body Styles	Wheelbase
2003 - 2011 Remarks: CONV	SAAB IS OLD BODY in 2003, new	9-3 convertible body begins in 2004.	4D, 5D, CONV	105.3
2004 - 2007 Remarks:	CHEVROLET	MALIBU	2D, 4D, SW	106.3, 116
2004 - 2007 Remarks: Quasi-	CHEVROLET station wagon version of N	MALIBU MAXX falibu with extended WB	5D	112.3
2005 - 2009 Remarks:	PONTIAC	G6	2D, 4D, CONV	112.3
2007 - 2010 Remarks:	SATURN	AURA	4D	112.3
2008 - 2012 Remarks:	CHEVROLET	MALIBU	2D, 4D, SW	106.3, 116

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!).

If you have suggestions and/or corrections, we request and urge you to contact us - 4n6@4n6xprt.com.

Test Information

Test # 6268			NHTS	SA Test	Referenc	e Guide Ve	rsion #	V5					
Test Date 2007-12-06	ce 2007-12-06 Contract # DTNH22-06-D-00027												
Contract/Study Title	35 MPH N	ICAP	FRON	ΓAL - 20	008 MAL	IBU LS 4-D	OOR S	SEDAN					
Test Objective(s)	OBTAIN A	TD A	AND VE	HICLE	DATA								
Test Type	NEW CAR	ASS	ESSMEI	NT TES	T			Configur	ation	VEHICLE	INTO I	BARRIE	ER
Impact Angle	0					Side Impac	t Point	0		mm	0.0		inches
						Offset D	istance	0		mm	0.0		inches
						Closing	Speed	56.1		Km/Hr	34.87		MPH
Test Performer	KARCO EN	IGIN	EERING	j									
Test Reference #	M80102												
Test Track Surface	CONCRET	E				Cor	dition	DRY					
Ambient Temperature	18		54.4] F	Total I	Number of	Curves	174					
Data Recorder Type	DIGITAL D	ATA	ACQU:	ISITION	1			Data L	ink	OTHER			
Test Commentary	DATALINI	(IS I	NONE, (ON-BO	ARD DA	S							
Fixed Barrier Information													
													-
Barrier Type	_				Pol	e Barrier Di	ametei	r 0		mm	0		inches
Barrier Shape	_												
Barrier Commentary	NO COM	JEN	ΓS										

2008 CHEVROLET MALIBU LEFT FRONT SEAT OCCUPANT

Test # 6268	
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 FTSS, S/N:035	
Occupant Modification UNMODIFIED	
Occupant Description No COMMENTS	
Occupant Commentary NO COMMENTS	
<u>Head</u>	
Head to	
Windshielder Header 388 mm 15.3 inches Head Injury Criteria (H	
WindShield 629 mm 24.8 inches HIC Lower Time	` '
Seatback <u>0</u> mm <u>0.0</u> inches HIC Upper Time	Interval (ms) 109.7
Side Header 239 mm 9.4 inches	
Side Window 310 mm 12.2 inches	
Neck to Seatback 0 mm 0.0 inches	
First Contact Region (Head)	
Second Contact Region (Head)	
<u>Chest</u>	
Chest to -	
	im 4.2 inches
	ım 4.7 inches
Seatback 0 mm 0.0 inches	o (ele) 0
Chest Severity Index Thoracic Trauma Index O Pelvic Peak Lateral Acceleration Thorax Peak Acceleration Thorax Peak Acceleration	
Lap Belt Peak Load 7809 Newtons 1755.5 pound Fo	
First Contact Region (Chest/Abdomen) AIR BAG	The state of the s
Second Contact Region (Chest/Abdomen) NONE	
Legs	
	ım [0.0] inches
Left Femur Peak Load -2021 Newtons -454.3 pounds Force	
Right Femur Peak Load -1248 Newtons -280.6 pounds Force	
First Contact Region (Legs) DASHPANEL	
Second Contact Region (Legs)	

Registered Owner: 4N6XPRT SYSTEMS

2008 CHEVROLET MALIBU LEFT FRONT SEAT OCCUPANT

Test #	6268						
Vehicle#	1			Sex	MALE		
Location	LEFT FR	ONT SEA	AT	Age	0		
Position	CENTER	POSITIO	N] Height	0 mm	0.0 inches	
Type	HYBRID	III DUMM	ΙΥ] Weight	0.0 kg	0 pounds	
Size	50 PERC	ENTILE]			
Cali	ibration Me	ethod	HYBRID III				
Occupar	nt Manufac	cturer	FTSS, S/N:035				
Occupa	ant Modific	ation	UNMODIFIED				
Occu	pant Desc	ription	NO COMMENTS				
Occupa	ant Comme	entary	NO COMMENTS				
			Restraints	<u>s</u>			
Restrai	nt # 1 3	POINT B	ELT				
Mounte	ed B	ELT - CO	NVENTIONAL MOUNT				
Deploy	ment D	EPLOYE	D PROPERLY				
Restraint Commentary NO COMMENTS							
Restrai	nt#2 F	RONTAL	AIRBAG				
Mounte	_	TEERING					
Deploy	_		D PROPERLY				
	nt Comme		NO COMMENTS				

2008 CHEVROLET MALIBU RIGHT FRONT SEAT OCCUPANT

Test # 6268	
Vehicle # 1	Sex MALE
Location RIGHT FRONT SEAT	Age 0
Position CENTER POSITION	Height 0 mm 0.0 inches
Type HYBRID III DUMMY	Weight 0.0 kg 0 pounds
Size 50 PERCENTILE	
Calibration Method HYBRID III	
Occupant Manufacturer FTSS, S/N:034	
Occupant Modification UNMODIFIED	
Occupant Description No COMMENTS	
Occupant Commentary NO COMMENTS	
	<u>lead</u>
Head to -	7 · · · · · · · · · · · · · · · · · · ·
Windshielder Header 389 mm 15.3	inches Head Injury Criteria (HIC) 389
WindShield 635 mm 25.0	inches HIC Lower Time Interval (ms) 65
Seatback 0 mm 0.0	inches HIC Upper Time Interval (ms)
Side Header 265 mm 10.4	inches □
Side Window 315 mm 12.4	inches
	hes
• • • • • • • • • • • • • • • • • • • •	R BAG
Second Contact Region (Head)	
	h 4
	<u>hest</u>
Chest to - Dash 597 mm 23.5 inc	hes Arm to Door 106 mm 4.2 inches
	hes Hip to Door 108 mm 4.3 inches
Chest Severity Index 0	Pelvic Peak Lateral Acceleration (g's)
Thoracic Trauma Index 0	Thorax Peak Acceleration (g's) 42.2
	7635 Newtons 1716.4 pound Force
	7258 Newtons 1631.7 pound Force
	R BAG
Second Contact Region (Chest/Abdomen)	
Krassite Deels 194	Legs
	hes Knees to Seatback 0 mm 0.0 inches
Left Femur Peak Load 460 Newf	·
Right Femur Peak Load -788 Newl	·
	SHPANEL
Second Contact Region (Legs)	

2008 CHEVROLET MALIBU RIGHT FRONT SEAT OCCUPANT

Test #	6268						
Vehicle#	1			Sex	MALE		
Location	RIGHT I	FRONT SE	AT	Age	0		
Position	CENTE	R POSITIO	N	Height	0 mm	0.0 inches	
Туре	HYBRID	III DUMM	Υ	Weight	0.0 kg	0 pounds	
Size	50 PER	CENTILE					
Cali	ibration M	lethod	HYBRID III				
Occupar	nt Manufa	cturer	FTSS, S/N:034				
Occupa	ant Modifi	cation	UNMODIFIED				
Occu	pant Des	cription	NO COMMENTS				
Occupa	ant Comm	nentary	NO COMMENTS				
			Restraints	<u> </u>			
Restrai	int # 1	POINT B	ELT				
Mounte	ed [BELT - CO	NVENTIONAL MOUNT				
Deploy	ment [DEPLOYE	D PROPERLY				
Restrai	int Comm	entary	NO COMMENTS				
Restrai	int# 2 [FRONTAL	AIRBAG				
Mounte	_		NEL - TOP				
Deploy	ment	DEPLOYE	D PROPERLY				
	int Comm	entary	NO COMMENTS				

Restraint Commentary

2008 CHEVROLET MALIBU RIGHT REAR SEAT OCCUPANT

	Sex	NOT APPLICABLE	
AT	Age	0	
LE	Height	0 mm 0.0 inch	nes
	Weight	0.0 kg 0 pou	inds
CHILD			
HYBRID III			
FIRST TECHNOLOGY SA	AFETY SYSTEMS, S	S/N:022	
UNMODIFIED			
NO COMMENTS			
NO COMMENTS			
<u>Head</u>			
mm 0.0 inche	es Head Injury C	Criteria (HIC) 338	
mm 0.0 inche	es HIC Low	ver Time Interval (ms) 41.	5
1 mm 22.2 inche	es HIC Upp	per Time Interval (ms) 77.	5
mm 0.0 inche	es		
mm 11.3 inche	es		
mm 0.0 inches			
egion (Head) NONE			
egion (Head)			
<u>Chest</u>			
	Arm to Door 27		S
	Hip to Door 28	36 mm 11.3 inche	S
mm 19.3 inches			_
P6		· · · · · · · · · · · · · · · · · · ·	닠
		·= ·	
	Newtons 0.0	pound Force	_
			_
st/Abdomen) NONE			
<u>Legs</u>			
mm 0.0 inches Kr	nees to Seatback 21	14 mm 8.4 inche	S
Newtons [D.0 pounds	s Force	
Newtons [D.0 pounds	s Force	
Region (Legs) NONE			
egion (Legs)			
	CHILD HYBRID III FIRST TECHNOLOGY SA UNMODIFIED NO COMMENTS NO COMMENTS Head Head mm 0.0 inches mm 0.0 inches egion (Head) egion (Head) Chest mm 0.0 inches egion (Head) Chest mm 0.0 inches egion (Head) Chest MONE Selt Peak Load est/Abdomen) st/Abdomen) St/Abdomen) NONE Legs mm 0.0 inches Elegs mm 0.0 inches mm 19.3 inches Chest NoNE Region (Legs) NONE	Age LE Height Weight CHILD HYBRID III FIRST TECHNOLOGY SAFETY SYSTEMS, S UNMODIFIED NO COMMENTS NO COMMENTS Head Head Head Head Head Head Head HIC Lov I mm 0.0 inches Head Injury C I mm 0.0 inches HIC Lov I mm 0.0 inches HIC Upp I mm 0.0	Age

2008 CHEVROLET MALIBU RIGHT REAR SEAT OCCUPANT

Test #	6268				
Vehicle #	1		Sex	NOT APPLICAE	BLE
Location	RIGHT REAR SE	AT	Age	0	
Position	NOT APPLICAB	LE	Height	0 mm 0	.0 inches
Type	CRABI		Weight	0.0 kg 0	pounds
Size	12 MONTH OLD	CHILD			
Cal	ibration Method	HYBRID III			
Occupa	nt Manufacturer	FIRST TECHNOLOGY SA	AFETY SYSTEMS, S	S/N:022	
Occup	ant Modification	UNMODIFIED			
Occu	pant Description	NO COMMENTS			
Occupa	ant Commentary	NO COMMENTS			
		Restraints	<u>5</u>		
Restra	int # 1 INFANT	SAFETY SEAT			
Mounte	ed LATCH -	LOWER ANCHORAGES N	O TOP TETHER		
Deploy	ment NOT APF	PLICABLE			
Restra	int Commentary	GRACO SNUGRIDE, MO	DEL NUMBER 8F0	9TAN3	
Restra	int # 2 5 POINT	RFIT			
Mounte	ed CHILD S	EAI			
Deploy	ment NOT APF	PLICABLE			

NO COMMENTS

Restraint Commentary

2008 CHEVROLET MALIBU LEFT REAR SEAT OCCUPANT

Test #	6268				
Vehicle #	1		Sex	NOT APPLICABLE	
Location	LEFT REAR SEA	T	Age	0	
Position	NOT APPLICABL	<u>.E</u>	Height	0 mm 0.0 inch	nes
Туре	CRABI		Weight	0.0 kg 0 pou	nds
Size	12 MONTH OLD	CHILD			
Cali	ibration Method	HYBRID III			
Occupar	nt Manufacturer	FIRST TECHNOLOGY S	AFETY SYSTEMS, S	S/N:017	
Occupa	ant Modification	UNMODIFIED			
Occu	pant Description	NO COMMENTS			
Occupa	ant Commentary	NO COMMENTS			
Head to -		<u>Head</u>			
Windshie	lder Header 0	mm inch	es Head Injury (Criteria (HIC) 467	
	WindShield 0	mm <u>0.0</u> inch	es HIC Lov	wer Time Interval (ms) 48	
	Seatback 462	mm <u>18.2</u> inch	es HIC Up	per Time Interval (ms) 84	
	Side Header 0	mm <u>0.0</u> inch	es		
5	Side Window 370		es		
Neck to Sea	atback 0 r	mm 0.0 inches			_
	First Contact Re	egion (Head) OTHER			╛
S	Second Contact Reg	gion (Head)			
01		<u>Chest</u>			
Chest to -	D		A to Door	00 mar 40 0 mate	_
		nm 0.0 inches		60 mm 10.2 inche	
Steering V		nm 0.0 inches	Hip to Door 3	20 mm 12.6 inche	S
		nm 14.4 inches	Dahila Daali Lataral Ar	analamatian (ala)	\neg
	everity Index 0 auma Index 0	r	Pelvic Peak Lateral Ad	(0)	<u> </u>
THOTACIC II		Belt Peak Load 0	Newtons 0.0	(0 /	_
	•	Belt Peak Load 0	Newtons 0.0	pound Force pound Force	
Eirot C	ontact Region (Che		Newtons U.U	pound Force	¬
	ontact Region (Ches				_
Second Co	intact Region (Ches	SUADUOITIETT) [NONE			
		<u>Legs</u>	- -		
Knees to			nees to Seatback 1		S
	ır Peak Load <u>[0</u>			s Force	
Right Femu	ır Peak Load <u>0</u>		0.0 pound	s Force	_
	First Contact R	· · · · -			_
	Second Contact Re	egion (Legs)			

2008 CHEVROLET MALIBU LEFT REAR SEAT OCCUPANT

Test #	6268				
Vehicle #	1		Sex	NOT APPLICAE	BLE
Location	LEFT REAR SEA	T	Age	0	
Position	NOT APPLICABL	.E	Height	0 mm 0.	.0 inches
Type	CRABI		Weight	0.0 kg 0	pounds
Size	12 MONTH OLD	CHILD			
Cal	libration Method	HYBRID III			
Occupa	nt Manufacturer	FIRST TECHNOLOGY SA	AFETY SYSTEMS, S	S/N:017	
Occup	ant Modification	UNMODIFIED			
Occu	pant Description	NO COMMENTS			
Occupa	ant Commentary	NO COMMENTS			
		Restraints	<u>5</u>		
Restra	int # 1 INFANT S	AFETY SEAT			
Mounte	ed LAP/SHO	ULDER BELT, NO TOP TE	THER		
Deploy	ment NOT APP	LICABLE			
Restra	int Commentary	MAXI-COSI, MODEL NU	IMBER 22-371 ORE		
Restrai	int # 2 5 POINT I	BELT			
Mounte					
Deploy					

NO BASE USED FOR THIS CRS

Restraint Commentary

Vehicle 1 2008 CHEVROLET MALIBU

Test #	6268									
VIN	1G1ZG57B48	F160469			NHTSA Te	est Vehicle	Number	1		
Year	2008				Vehicle Mod	dification Ir	ndicator	PRODUCT	ION VEHICL	_E
Make	CHEVROLET	Pos	st-test St	eering Colu	mn Shear C	apsule Se	peration	UNKNOWN	1	
Model	MALIBU			Steering	Column Co	llapse Med	chanism	UNKNOWN	1	
Body	FOUR DOOR	SEDAN								
Engine	4 CYLINDER	INLINE FRO	TNC							
Displacement	2.4 Lite	r Trans	mission	AUTOMA	TIC - FRON	IT WHEEL	DRIVE			
Vehicle Modific	ation(s) Descri	ption UN	MODIFIE	D						
Vehicle Comme	entary NO C	OMMENTS								
Vehicle Len	gth 4845	mm 19	00.7 in	ches	CG	behind Fr	ont Axle	1265 mm	49.8	inches
Vehicle V	Vidth 1780	mm 70).1 in	ches	Center of D	amage to	CG Axis	0 mm	0.0	inches
Vehicle Wheel	lbase 2860	mm 11	2.6		Total Leng	th of Inder	ntation	1478 mm	58.2	inches
Vehicle Test We	eight 1779	_ KG 39)21 pc	ounds	Maximum S	Static Crusl	n Depth	554 mm	21.8	inches
						Pre-Impac	t Speed	56 kph	34.9	mph
Vel	hicle Damage I	ndex 12FI	DEW6		Princi	ipal Directi	on of For	ce 0		
Damaga Dr	ofilo Distance	a Magaura	monto		Cruch from	n Dro 9 F	Post Tos	ot Damaga I	Moogurom	onto
	ofile Distance			•	Ciusii iioii		ost ies	st Damage I		
· _	ured Left-to-Rig		•	. " .	•	Pre-Test		Post-Test	Crush I	
_	265 mm		nches	Left Bum	per Corner		inches	159.8 inch		」inches
DPD 2			nches			4585	mm	4060 mm	525	」mm
DPD 3			nches		Centerline	190.7	inches	168.9 inch	nes 21.8	inches
DPD 4			nches			4845	mm	4291 mm	554	mm
_	475 mm		nches	Right Bum	per Corner	180.5	inches	168.3 inch	nes 12.2	inches
DPD 6	310 mm	12.2 ir	nches		po. 00o.	4585	mm	4275 mm] mm
									<u> </u>	_
Bumper E	ngagement			Sill Ena	agement			A-pilla	ır Engageme	ent
·	pact Only)			•	npact Only)			•	e Impact Onl	
`	0.0				PLICABLE				0.0	Ή
								<u></u>		_
Moving	g Test Cart			Moving Tes	st Cart/Vehic	cle		Vehicle (Orientation o	n Cart
A	ngle			Crabb	ed Angle			Mov	ing Test Car	t
DIRECT	ENGAGEMEN	T			0.0				APPLICABL	
	e of the Tilt Angle			•	the Crabbed An	-			itude of the Ang	
	etween surface of				Clockwise from			Measured between		
Rollover Test	Cart and the Grou	nd	Longiti	udinal Vector t	o Velocity Vecto	or of Vehicle		and Directi	ion of Test Cart	Motion

Registered Owner: 4N6XPRT SYSTEMS Serial Number: 21R-030201SC01301

Vehicle 1 2008 CHEVROLET MALIBU

Test #	6268									
VIN		 957B48F16046	ig	NHT	SA Test \	Vehicle Numb	er 1			
Year	2008	307В401 10040 П				cation Indicate		ODUCTIO	N VEHICI	_
Make		ROLET	Post-test Steering					KNOWN	IV VEITIOE	
Model	MALIE				•	ose Mechanis		KNOWN		
Body		DOOR SEDAN		cring Colui	тит Сопар	ose iviculariis	<u>[OI4</u>	KINOWIN		
Engine		INDER INLINE			\neg					
Displacement	2.4	_		OMATIC -	 FRONT V	WHEEL DRIV	E			
Vehicle Modific			UNMODIFIED				_			
Vehicle Comme	. ,	NO COMMEN								
Vehicle Len	,	4845 mm	190.7 inches		CG be	hind Front Ax	de 1265	mm	49.8	inches
Vehicle V	•	1780 mm	70.1 inches	Cente		age to CG Ax	_	mm	0.0	inches
Vehicle Wheel		2860 mm	112.6 inches			of Indentation			58.2	inches
Vehicle Test We		1779 KG	3921 pounds		•	ic Crush Dep		mm	21.8	inches
	J					e-Impact Spe		kph	34.9	mph
Vel	nicle Da	mage Index	12FDEW6			Direction of I				•
		_			·		_			
		F	Pre & Post Tes	t Dama	ge Mea	asuremen	ts			
(Measurem	ents are ta		naldirection. Except for E					ar Vehicle Su	ırface forwar	d.)
	eft Side	_		Center					t Side	,
Pre-Test	ore orac	Post-Test	Pre-		Post-	Test	Pre-	Test	Post-	Test
mm inche	s r	mm inches	mm	inches	mm	inches	mm	inches	mm	inches
			Leng	th of Vehicl	e at Cent	terline				
			4845	190.7		168.9				
				Engine	Block	·				
			575	22.6	575	22.6				
4585 180.5	40	159.8		Front Bum	per Corne	er	4585	180.5	4275	168.3
				Front of	Engine					
			4305	169.5	3300	129.9				
3940 155.1	37	146.3		Firev	vall		3945	155.3	3840	151.2
			3750	147.6	0	0.0				
3405 134.1	34	133.9	Upp	er Leading	Edge of [Door	3415	134.4	3415	134.4
3364 132.4	33	132.2	Low	er Leading	Edge of D	Door	3381	133.1	3373	132.8
3386 133.3	33	133.3		Bottom of '	A' Post		3396	133.7	3377	133.0
2282 89.8	22	89.8	Up _l	per Trailing	Edge of [Door	2290	90.2	2289	90.1
2292 90.2	22	92 90.2	Lov	ver Trailing	Edge of [Door	2314	91.1	2305	90.7
				Steering						
			2890	113.8		117.5				
			Center of See				al)			
			435	17.1		16.9				
			Center of Stee				l)			
			415	16.3	427	16.8				

2008 CHEVROLET MALIBU

NHTSA Crash Test - #6268 - Front Impact

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

Test Vehicle Weight = 3921 pounds

Vehicle Closing Speed = 34.9 MPH

Test Crush Length = 70.1 inches

Pre/Post Collision Crush Depths (inches)

Left Side Crush Centerline Crush Right Side Crush (Pass. Side)

(Driver Side) 20.7 21.8 12.2

		CRASH 3 Stiffness Coefficents			SWAC Stiffness
		_A	<u>B</u>	<u> </u>	<u> Kv</u>
Minimum Crush = 12.2 inches					366.2
Using a Rated No Damage Speed of	2.5mph	297.4	315.6	140.2	
Using a Rated No Damage Speed of	5.0mph	548.9	268.7	560.7	
Using a Rated No Damage Speed of	7.5mph	754.5	225.6	1261.6	
Using a Rated No Damage Speed of	10.0mph	914.1	186.3	2242.8	
Average Crush = 19.1 inches					149.1
Using a Rated No Damage Speed of	2.5mph	189.8	128.5	140.2	
Using a Rated No Damage Speed of	5.0mph	350.3	109.4	560.7	
Using a Rated No Damage Speed of	7.5mph	481.5	91.9	1261.6	
Using a Rated No Damage Speed of	10.0mph	583.4	75.9	2242.8	
Maximum Crush = 21.8 inches					114.7
Using a Rated No Damage Speed of	2.5mph	166.4	98.8	140.2	
Using a Rated No Damage Speed of	5.0mph	307.2	84.1	560.7	
Using a Rated No Damage Speed of	7.5mph	422.2	70.6	1261.6	
Using a Rated No Damage Speed of	10.0mph	511.5	58.3	2242.8	

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

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

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

SMAC Stiffness

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

CDASH 3 Stiffnoss Confficents

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	19.9	33.8	1.0	3.0

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 21.0

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

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

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

Registered Owner: 4N6XPRT SYSTEMS Serial Number: 21R-030201SC01301

2008 CHEVROLET MALIBU

NHTSA Crash Test - #6268 - Front Impact

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

Test Vehicle Weight = 3921 pounds

Vehicle Closing Speed = 34.9 MPH

Test Crush Length = 58.2 inches

Pre/Post Collision Crush Depths (inches)

Left Side Crush Centerline Crush Right Side Crush (Pass. Side)

(Driver Side) 20.7 21.8 12.2

		CRASH 3 Stiffness Coefficents			SMAC Stiffness
		_ <u>A</u>	<u>B</u>	<u></u> G	<u> </u>
Minimum Crush = 12.2 inches					441.0
Using a Rated No Damage Speed of	2.5mph	358.2	380.0	168.8	
Using a Rated No Damage Speed of	5.0mph	661.1	323.6	675.3	
Using a Rated No Damage Speed of	7.5mph	908.6	271.7	1519.4	
Using a Rated No Damage Speed of	10.0mph	1100.9	224.3	2701.1	
Average Crush = 19.1 inches					179.6
Using a Rated No Damage Speed of	2.5mph	228.6	154.8	168.8	
Using a Rated No Damage Speed of	5.0mph	421.9	131.8	675.3	
Using a Rated No Damage Speed of	7.5mph	579.9	110.7	1519.4	
Using a Rated No Damage Speed of	10.0mph	702.6	91.4	2701.1	
Maximum Crush = 21.8 inches					138.1
Using a Rated No Damage Speed of	2.5mph	200.4	119.0	168.8	
Using a Rated No Damage Speed of	5.0mph	369.9	101.3	675.3	
Using a Rated No Damage Speed of	7.5mph	508.4	85.1	1519.4	
Using a Rated No Damage Speed of	10.0mph	616.0	70.2	2701.1	

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

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

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	19.9	33.8	1.0	3.0

4N6XPRT Systems Specific Crush Factor (CF Specific to this test) = 21.0

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

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

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

Registered Owner: 4N6XPRT SYSTEMS Serial Number: 21R-030201SC01301

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

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

G = Energy dissipated without permanent damage, lb

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

Available Test Results Front Impact Test Summary

Report Filter Settings

Year Range: 2004 - 2007 Make: CHEVROLET Model: MALIBU

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)			Vehicle iffness B			Crush Factor
5183	2004 SAAB 9-3 FOUR DOOR SEDAN	5.0	16.5	29.5	291.3	86.7	489.2	125.7	21.2
6056	2007 SAAB 9-3 FOUR DOOR SEDAN	5.0	19.4	34.7	334.5	102.4	546.6	139.8	24.8
5191	2004 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	16.4	29.7	341.3	102.7	567.0	148.5	21.5
6448	2008 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	11.9	24.7	360.3	119.2	544.3	187.3	20.5
6998	2011 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	18.6	35.1	360.9	117.1	556.0	159.3	26.6
5851	2006 SAAB 9-3 FOUR DOOR SEDAN	5.0	11.3	24.7	364.5	126.8	524.0	199.1	21.6
5271	2005 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	18.4	35.0	366.4	119.1	563.3	162.2	26.5
4863	2004 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	17.0	35.5	371.3	133.4	516.8	180.7	29.7
6268	2008 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	17.7	34.9	378.9	128.0	560.7	174.5	27.5
5250	2005 PONTIAC G6 FOUR DOOR SEDAN	5.0	17.0	35.3	393.2	139.8	552.9	189.7	29.2
5844	2007 SATURN AURA FOUR DOOR SEDAN	5.0	15.6	35.1	442.4	170.2	574.9	231.5	31.5
6997	2011 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	6.4	20.1	496.8	232.8	530.2	412.8	25.0
		Avera	ge (AVG))	375.1	131.5	543.8	192.6	25.5
		Minim	um (MIN))	291.3	86.7	489.2	125.7	20.5
		Maximu	ım (MAX	.)	496.8	232.8	574.9	412.8	31.5
	Standard Deviation	on (STDev	-sample)	52.3	38.2	24.7	75.0	3.7

Number of Tests (n) 12

Available Test Results Front Impact Test Summary

Report Filter Settings

Year Range: 2004 - 2007 Make: CHEVROLET Model: MALIBU

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)			Vehicle iffness B			Crush Factor
6997	2011 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	15.7	20.1	202.9	38.8	530.2	68.9	10.2
5183	2004 SAAB 9-3 FOUR DOOR SEDAN	5.0	18.2	29.5	263.7	71.1	489.2	103.0	19.2
4863	2004 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	23.0	35.5	273.7	72.5	516.8	98.2	21.9
5250	2005 PONTIAC G6 FOUR DOOR SEDAN	5.0	22.6	35.3	296.0	79.2	552.9	107.5	22.0
5191	2004 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	18.9	29.7	296.5	77.5	567.0	112.1	18.7
5851	2006 SAAB 9-3 FOUR DOOR SEDAN	5.0	13.6	24.7	303.6	87.9	524.0	138.2	18.0
6448	2008 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	14.1	24.7	304.8	85.3	544.3	134.1	17.4
6268	2008 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	21.8	34.9	307.2	84.1	560.7	114.7	22.3
6056	2007 SAAB 9-3 FOUR DOOR SEDAN	5.0	20.9	34.7	310.9	88.4	546.6	120.7	23.0
6998	2011 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	21.3	35.1	313.8	88.5	556.0	120.4	23.1
5271	2005 CHEVROLET MALIBU FOUR DOOR SEDAN	5.0	19.9	35.0	339.7	102.4	563.3	139.4	24.6
5844	2007 SATURN AURA FOUR DOOR SEDAN	5.0	18.7	35.1	369.3	118.7	574.9	161.3	26.3
		Averaç	ge (AVG)	298.5	82.9	543.8	118.2	20.6
		Minimu	ım (MIN)	202.9	38.8	489.2	68.9	10.2
		Maximu	m (MAX	()	369.3	118.7	574.9	161.3	26.3
	Standard Deviation	n (STDev	-sample)	40.7	19.0	24.7	23.7	4.2

Expert VIN DeCoder®

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Version Number 4.1.0.2

DeCoded VIN: 1G3HN52K5X4834557

Model: 1999 Oldsmobile Eighty Eight 4 door Sedan

Engine Size: 3.8L / 231cu.in.

Engine Description: V6 Cylinder with Overhead Valves (OHV)

Horse Power: 205 @ 5200 rpm

Torque: 230 1b-ft at 4000 rpm

Injection System: Multi-Port Fuel Injection (MFI)

41-47 psi

Manufacturer: Buick, Olsmobile, Cadillac

Assembly Plant: Orion, MI

PSI:

Drive Wheels: This is a Front Wheel Drive vehicle w/ Manual Seatbelts + Driver & Passenger Air Bags

Ignition:

Electronic

The First through Third characters (1G3) indicate a Oldsmobile Passenger Car made in the U.S.A.

The Fourth through Fifth characters (HN) indicate an Eighty Eight

The Sixth character (5) indicates a 4 door Sedan

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

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

The Ninth character (the check digit) is entered as 5.

The VIN appears Valid, the calculated value is 5.

The Tenth character (X) indicates the model year 1999

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

The Twelfth through Seventeenth characters (834557) indicate the Serial Number and are unique to this vehicle.

Expert AutoStats®

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

9/9/2022

1999 OLDSMOBILE EIGHTY-EIGHT 4 DOOR SEDAN

1999 OLDSMOBILE EIGHTY-EIGHT 4 DOOR SEDAN			
Curb Weight:	3460 lbs.	1569	kg.
Curb Weight Distribution - Front:	65 % R	ear: 35	%
Gross Vehicle Weight Rating:	4552 1bs.	2065	kg.
Number of Tires on Vehicle:	4		
Drive Wheels:	FRONT		
Horizontal Dimensions	Inches	Feet	Meters
Total Length	200	16.67	5.08
wheelbase:	111	9.25	2.82
Front Bumper to Front Axle:	47	3.92	1.19
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:	62	5.17	1.57
Front Bumper to Top of Windshield:	89	7.42	2.26
Rear Bumper to Rear Axle:	42	3.50	1.07
Rear Bumper to Rear of Rear Well:	26	2.17	0.66
Rear Bumper to Rear of Trunk:	6	0.50	0.15
Rear Bumper to Base of Rear Window:	27	2.25	0.69
Width Dimensions	F = -1		
Maximum Width:	74	6.17	1.88
Front Track:	60	5.00	1.52
Rear Track:	60	5.00	1.52
Vertical Dimensions			
Height:	56	4.67	1.42
Ground to -			
Front Bumper (Top)	21	1.75	0.53
Headlight - center	30	2.50	0.76
Hood - top front:			
Base of Windshield	37	3.08	0.94
Rear Bumper - top:	23	1.92	0.58
Trunk - top rear:	38	3.17	0.97
Base of Rear Window:	41	3.42	1.04

Expert AutoStats®

1999 OLDSMOBILE EIGHTY-EIGHT 4 DOOR SEDAN

Interior Dimensions Front Seat Shoulder Width Front Seat to Headliner Front Leg Room - seatback to floor (max)	Inches 59 39 43	Feet 4.92 3.25 3.58	Meters 1.50 0.99 1.09
Rear Seat Shoulder Width	58	4.83	1.47
Rear Seat to Headliner	38	3.17	0.97
Front Leg Room - seatback to floor (min)	39	3.25	0.99

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

Steering Data

Turning Circle (Diameter) 468 39 11.89

Steering Ratio: 16.71:1

Wheel Radius: 12 1.00 0.30

Tire Size (OEM): 205-70R15

Acceleration & Braking Information

Brake Type: FRONT DISC - REAR DRUM

ABS System: ABS UNKNOWN

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

d = 145.0 ft t = 3.3 sec a = -26.6 ft/sec² G-force = -0.83

Acceleration:

0 to 30mph ft/sec² G-force = t = sec a = G-force = 0 to 60mph t = 7.0 12.6 ft/sec² 0.39 sec a = 45 to 65mph ft/sec² G-force = sec a =

Transmission Type: 4spd AUTOMATIC

Notes:

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

N.S.D.C = 1996 - 1999

1.36

Stable

1999 OLDSMOBILE EIGHTY-EIGHT 4 DOOR SEDAN

Tip-Over Stability Ratio =

Other Information

NHTSA Star Rating (calculated)			***	
Center of Gravity (No Load):		Inches	Feet	Meters
behind front axle	=	38.85	3.24	0.99
in front of rear axle	=	72.15	6.01	1.83
from side of vehicle	=	37.00	3.08	0.94
from ground	=	21.98	1.83	0.56
from front corner	=	93.48	7.79	2.37
from rear corner	=	120.00	10.00	3.05
from front bumper	=	85.85	7.15	2.18
from rear bumper	=	114.15	9.51	2.90
•				

Moments of Inertia Approximations (No Load):
--	----

ments of Inertia Approximations	(No Load):	lb*ft*sec²	kg*m*sec²
Yaw Moment of Inertia	=	2357.80	325.98
Pitch Moment of Inertia	=	2276.40	314.72
Roll Moment of Inertia	=	472.80	65.37

Front Profile Information

Angle Front Bumper to Hood Front	=		deg
Angle Front of Hood to Windshield Base	=		deg
Angle Front of Hood to Windshield Top	=		deg
Angle of Windshield	=	32.2	deg
Angle of Steering Tires at Max Turn	=	27.2	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:

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

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

4N6XPRT Systems

Expert System Software for Litigation

8387 University Avenue La Mesa, CA 91942 Phone: (619) 464-3478 Fax: (619) 464-2206

Toll Free: 1-800-266-9778

E-Mail: 4n6@4n6xprt.com

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

Dear Conference Attendee,

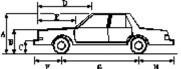
We at 4N6XPRT Systems were pleased to be able to provide you with the preceding data for the crash test vehicles.

Information regarding the Services available to you through our company, as well as the Programs used to create the data report follows this page.

We look forward to providing you similar information in the near future.

Sincerely,

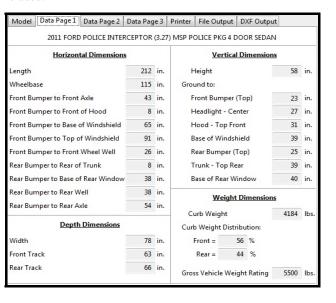
Daniel W. Vomhof III Daniel W. Vomhof, Ph.D.



Expert AutoStats®

Expert AutoStats® is a program that has over 50,000 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.



4N6XPRT BioMeknx®



Collecting the Biomechanical data of importance to the Accident Investigator into one easily accessible reference location Biomechanics is the application of physics to describe, evaluate, or model living tissue and biological materials. Originally it was the application of the part of physics known as Mechanics to living systems. This is the same portion of physics which is used as the basis for much of accident reconstruction.

Biomechanics is important in many aspects of forensic work from vehicle accident reconstruction to slip-trip-stumble-fall cases. This particular program contains modules containing information on a variety of biomechanics and injury modalities, physical data found in the literature for failure of bone and tissue, calculation modules to evaluate individual specific parameters, and definitions and terminology used in the literature and found in medical reports.

4N6XPRT BioMeknx® is a program designed for the accident investigator. The BioMeknx program incorporates information from a number of different sources, as well as over 30 years of reconstruction experience. 4N6XPRT BioMeknx™ compiles into one source a number of items of information to assist in reconstructing accidents by tying in the human component more tightly without the need to be a BioMechanics expert. Identification of body location, body part illustrations, failure threshold limits, definitions of terms, calculation modules for body link lengths, weights, stride lengths, and formulas for other types of calculations are only some of the material included in the program.

To gather into your library the material included in the 4N6XPRT BioMeknxTM, you would need a minimum of 10-15 Anatomy and Physiology, Human Factors, and Biomechanics books, as well as conduct over 50 hours of internet research.

3FAPP1280MR117253

Expert VIN DeCoder®



Expert VIN DeCoder® is a program that "DeCodes" the 17 character VIN number for Cars, Vans, Pickups, and Utility vehicles manufactured from 1981 to the present.

Cars/Vans/Utility/Lt. Trucks Modules: 1981 to Present

Ford Mercury/Lincoln Chrysler/AMC/Jeep European Import Chevrolet/Geo
Pontiac / Buick / Oldsmobile
Cadillac/Saturn
Asian Import



The 4N6XPRT Ped & Bike Calcs®) program is a program that provides FIRST ESTIMATE calculations to evaluate the speed of a vehicle involved in striking a pedestrian or bicyclist, IF Vehicle, scene, and pedestrian {or pedestrian and bicycle in a vehicle-bike accident} measurements are available. This program may also be used when skateboards or roller skates are involved.



Expert Qwic Calcs®

>>>Calculate Time given D & V<<< Enter Distance (in feet): 45 Enter Velocity (in mph): 6 Expert Qwic Calcs® quickly provides answers to questions important in vehicle collision litigation. The user inputs data in response to relevant

questions, Expert Qwic Calcs® 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:

			/ehicle tiffnes:		
		,	Α Ι	В	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 download the PICTURES, VIDEOS, and and REPORTS available for individual tests.

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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Card Number:Security coo	de (card ID) on back (of Visa/MasterC	ard card or front of Ame	rican Express Card:
Card ID	←Visa/MasterCard	Security	American l	Express →
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PROGRAM (Pricing effective as of 5/3/20 - p	ORDER FORM: prices subject to change without n	notice)	Individual Ve	hicle Data FAX/Order Form
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Expert VIN DeCoder®:	\$ 575.00 *	\$	MODEL.	
Notarized Affidavit Filing Requir	e Order = \$15.00)	\$ \$ \$10.00,	Vehicle T Car Body DR PICKUPS:Dual Rear Wheel - S	DeCoder & AutoStats please also provide: Type:Car - Pickup - Utility - Van No. of Doors:2/3/4/5 Style:Coupe/Conv./Sedan/Wagon IVE WHEELS: 4x2 / 4x4 std. / Extra / Super / Crew Cab - Short Bed / Long E / Passenger - Short / Long Wheelbase
(\$25.00 per require	u roungeu signuare)			VIN Information
Normal delivery is s □ - Deliver via electronic download lin □ - Deliver on USB - additional cost		\$ 0.00 \$	1 2 3	4 5 6 7 8 9
	SUB-TOTAL	\$	10 11	12 13 14 15 16 17
California shipping addresses add (California orders delivered electronic	ally DO NOT owe sales tax	\$ \$	Impac	SA Crash Test Information t location - Front / Side / Rear act Speed - Lower / Higher s/Number:
Authorized signature:		·		

Individual Vehicle Data Search Service®

Charges & Services

Individual Vehicle Specifications

\$50.00-First vehicle*, \$40.00/Additional Vehicles*, \$30.00/Additional Similar Model*

Medium/Heavy Truck Specifications

\$50.00-First vehicle*, \$40.00/Additional Vehicles*, \$30.00/Additional Similar Model*

Motorcycle Specifications (1970+)

\$50.00-First cycle*, \$40.00/Additional cycles*, \$30.00/Additional Similar Model*

NHTSA Crash Test Results

\$50.00 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 50,000 Cars, Vans, Lt. Pickups, and Utility Vehicles covering 1945 to the present.

Minimum Vehicle specifications include:

Overall Length
Overall Width
Overall Height
Wheelbase

Curb Weight
Weight Distribution
Front/Rear Track
CG Location

Model years with No Significant Dimensional Changes VIN DeCoding when VIN is provided Information available

Mid-60's to present **also includes** (*when available*)
Front/Rear Overhang Bumper Heights

Hood height Bumper-to-hood Bumper-deights Ground-to-hood

Dimensions are given in both Imperial and metric (SI) units. Motorcycle specifications will be similar to the Vehicle specifications with appropriate changes where applicable.

NHTSA Crash Test Results

Test results include: General Test information, Barrier Data when provided, Vehicle Data as reported by the testing organization, Occupant (Dummy) data when provided, and A-B-G Stiffness calculations based on the test results.

4N6XPRT Systems[®]

Providing Vehicle dimensional data, VIN DeCoding, and NHTSA Crash Test Results as a service to the Litigation community, in the form of:

Expert Systems Software Programs for Litigation

Expert AutoStats®
4N6XPRT StifCalcs®
4N6XPRT BioMeknx®
4N6XPRT Ped & Bike Calcs®
Expert Qwic Calcs®
Expert TireStuf®
Expert VIN DeCoder®

Vehicle Data Service

Individual Vehicle Data Search Service®

8387 University Avenue, Suite P La Mesa, CA 91942-9342

> Phone: 1-800-266-9778 Fax: **(619) 464-2206**

E-Mail: 4n6@4n6xprt.com

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

Expert VIN DeCoder®

Expert VIN DeCoder® is a program that "DeCodes" the 17 character VIN number for vehicles manufactured from 1981 to the present.

Modules: 1981 to Present

Control Module - One Required per Set

Ford Cars (includes Festiva & Merkur) Mercury/Lincoln Cars Ford vans/Utility/Lt. Trucks

Chevrolet/Geo Cars
Pontiac/GM of Canada Cars
Oldsmobile Cars
Buick Cars
Cadillac/Saturn Cars
General Motors Vans/Utility/Lt. Trucks

Chrysler/AMC/Jeep Cars Chrysler/Jeep Vans/Utility/Lt. Trucks

European Import Cars/Vans/Utility/Lt. Trucks Asian Import Cars/Vans/Utility/Lt. Trucks

SYSTEM REQUIREMENTS

Expert VIN DeCoder® has been tested on a wide variety of IBM laptop and desktop clones ranging from 8088 through Pentium® chips. A math coprocessor chip is NOT required. Expert VIN DeCoder® has also been tested under the various versions of MSDOS 3.0 thru 7.0, DrDOS 6.0, and PC DOS 7.0. It also works as a DOS program under Windows 3.x, Windows, 95, Windows 98, Windows NT, OS/2 2.x, OS/2 Warp, and various versions of LINUX.

A variety of dot matrix printers emulating the EPSON series have been used with no difficulty. The output is also compatible with the Hewlett-Packard II, IIP, III and IIIP Laser printers. Expert VIN DeCoder® works with monochrome and color monitors.

As of April 1995 the 4N6XPRT Systems® programs Expert AutoStats®, Expert Qwic Calcs®, Expert TireStuf®, 4N6XPRT Ped & Bike Calcs®, and Expert VIN DeCoder® are accessible from within RECTEC.

PLEASE PRINT

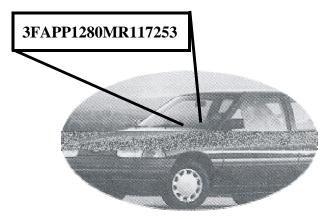
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Company/Dept:
Mailing Address:
City:State:Zip:
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Phone:
Fax:
E-Mail:
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1-800-266-9778

Expert VIN DeCoder® example

INPUT:

Enter VIN Numbers to be DeCoded: 3FAPP1280MR117253 1)

3FA PP128 0 MR 117253

2) Is this the VIN Number to be DeCoded (Y/N)? Y

OUTPUT:

EXPERT VIN DeCoder

The VIN Number is 3FA PP128 0 MR 117253

The vehicle should be a 1991 Ford

The model: Escort 2/3-door Hatchback GT
The assembly plant: Hermosillo, Mexico
The 4 passenger vehicle had: Passive (Automatic) Front Belts

The OEM engine was: In-line 4 cylinder with Double Overhead Cam
Engine Displacement/Type = 1.8 L/ 112 cu.in. L4, DOHC
Brake Horsepower (SAE) = 127 @ 6500 rpm
Torque (SAE) = 114 lb-ft at 4500 rpm
Engine manufacturer = Mazda

The fuel distribution system: Electronic Fuel Injection (EFI)
Fuel pump/line pressure = 35-45 psi
The ignition system = electronic

This is a Front Wheel Drive vehicle.

The first three characters {3, F, A} indicates that the vehicle was a Ford made in Mexico

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

The fifth character {P} indicates it was a Passenger Car

The sixth with the seventh character {12} indicates a Escort 2/3-door Hatchback GT

The eighth character {8} indicates the OEM engine : 1.8 L/ 112 cu.in. L4, DOHC

The 9th Character { the Check Digit } is 0 The calculated Check Digit value is

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 50,000 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

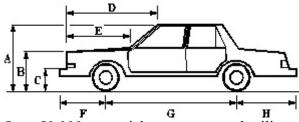
Expert AutoStats® has been tested on a wide variety of IBM laptop and desktop clones ranging from 8088 through Pentium® chips. A math coprocessor chip is NOT required. Expert AutoStats® has also been tested under the various versions of MS-DOS 3.0 thru 7.0, DrDOS 6.0, and PC DOS 7.0. It also works as a DOS program under Windows 3.x, Windows, 95, Windows 98, Windows NT, Windows Me, Windows 2000, Windows XP, Windows Vista/7/8/10, OS/2 2.x, OS/2 Warp, and various versions of LINUX.

A variety of dot matrix printers emulating the EPSON series have been used with no difficulty. The output is also compatible with the Hewlett-Packard II, IIP, III and IIIP Laser printers and Hewlett-Packard Desk Jet inkjet printers. Expert AutoStats® works with monochrome and color monitors.

PLEASE PRINT

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Phone:	
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Select Your Vehicle

Expert AutoStats®	Model Data Page 1	Data Page 2	Data Page 3	Printer	File Output D	(F Output		
Version 5.2.0.2 Serial Number:	Make of Vehicle:	FORD			Select the Ma	nufacture	from t	the
12R-930512AQ03201	Year of Vehicle:	2011			list below.			
Copyright© 1991-2012	Model of Vehicle:	10000			Once a Manu	facturer h	as been	1
Expert Witness Services, Inc All Rights Reserved	Number of Doors:				Selected the I		able	
All Rights Reserved					Models will b	e below.		
Introduction	Bodystyle of Vehicle:				Fill in the emp	oty boxes t	o the l	eft
Examine Vehicle Specs	Car Pickup	Other		Clear	to narrow the	search.		
	Van Utility	Cilie		Cicui	I			
rint Blank Vehicle Spec Form	Manufact		St	art Year	End '	Year		
anufacturers & Years Available	FORD		19	930	2012			
ASHTO Design Vehicle Specs	FRAZER FRAZER NASH			947 948	1951 1957			
Data Definitions	FUNKE & WILL			002	2004			Ü
	GENERIC			979	1989			
About Expert Autostats®	GEO GLAS			987 963	1998 1966			
<< <exit autostats®="">>></exit>	GMC			947	2011			0000
								-
PROVIDED BY:	Model			Body St	yle	WB (in)	OAL	(in
4N6XPRT Systems	FUSION HYBRID			4 DOOR		108	191	
8387 University Avenue	MUSTANG MUSTANG			2 DOOR	COUPE	107	188 188	
La Mesa CA 91941	MUSTANG GT			2 DOOR		107	188	
12R-930512AQ03201	MUSTANG GT				CONVERTIBLE	107	188	
	MUSTANG SHELBY	ST500		2 DOOR		107	188	
4N6XPRT Systems®	MUSTANG SHELBY				CONVERTIBLE	107	188	
Forensic Expert Software	POLICE INTERCEPTO	OR (3.27) MSP PO	DLICE PKG	4 DOOR	SEDAN	115	212	ı
La Mesa, CA 91942-9342	POLICE INTERCEPTO	OR (3.55) MSP PO	DLICE PKG	4 DOOR	SEDAN	115	212	٦
(619) 464-3478 / (800) 266-9778 Fax: (619) 464-2206	RANGER 112WB			2 DOOR	4X2 PICKUP	112	188	i
raic (619) 464-2206 www.4N6XPRT.com	RANGER 112WB			2 DOOR	4X4 PICKUP	112	188	1
4N6@4N6XPRT.com	RANGER 118WB			2 DOOR	4X2 PICKUP	118	200	1

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	je 3	Printer	File Outp	out	OXF O	utput		
	2011 FORD	POLICE INTER	RCEPTOR	(3.2	7) MSP P	OLICE PKG	4 DC	OR SE	EDAN		
	Horizont	tal Dimension	<u>s</u>			Vert	tical [Dimen	sions		
Length			212	in.	H	leight				58	in.
Wheelba	ise		115	in.	Grou	und to:					
Front Bu	imper to Front	Axle	43	in.	F	ront Bump	per (T	op)		23	in.
Front Bu	imper to Front	of Hood	8	in.	F	leadlight -	Cent	er		27	in.
Front Bu	imper to Base o	of Windshield	65	in.	H	Hood - Top	Fron	nt		31	in.
Front Bu	imper to Top o	f Windshield	91	in.	В	ase of Wir	ndshi	eld		39	in.
Front Bu	imper to Front	Wheel Well	26	in.	R	lear Bump	er (To	pp)		25	in.
Rear Bur	mper to Rear of	Trunk	8	in.	Т	runk - Top	o Rea	r		39	in.
Rear Bur	mper to Base of	f Rear Window	38	in.	В	ase of Rea	r Wir	dow		40	in.
Rear Bur	mper to Rear W	/ell	38	in.		Wei	aht [imen	sions		
Rear Bur	mper to Rear A	xle	54	in.				illien	ISIOIIS		1
	Depth	Dimensions				urb Weigh b Weight D		ution		4184	lbs.
Width			78	in.		Front =	50				
Front Tra	ack		63	in.		Rear =	4	1 %			
Rear Tra	ck		66	in.	Gros	ss Vehicle	Weig	nt Rati	ing	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 Pa	ge 1	Data Page	2 Data	Page 3	Printer	File Output	DXF Output		
2011	FORD	POLICE INT	ERCEPT	TOR (3.2	7) MSP P	OLICE PKG 4 [OOR SEDAN		
Accelerat	tion/E	Braking							
Acceleration 0-30	mph	13.8	ft/sec	2		Bumper Stre	ength	2.5	mpl
Acceleration 0-60	mph	9.8	ft/sec	2		Steering Rat	io	:1	
Acceleration 45-6	5 mpl	6.5	ft/sec	2		Interior	Dimensions		
Braking 60-0 mph		138	feet			Front Should		61	in.
Drive Wheels			REAR			Front Head	Room	40	in.
Turn Circle (Diam	eter)		40	feet		Front Leg Ro	oom	42	in.
Number of Wheel	ls		4			Rear Should	er Room	60	in.
Wheel Radius			12	in.		Rear Head R	oom	38	in.
Tire Size		P235	/55R17			Rear Leg Ro	om	38	in.
ALL DISC - ALL V	VHEE	L ABS							
3pt - front and re	ear - F	RONT SEAT	AIRBA	GS					
4spd AUTOMAT	IC								
N.S.D.C. = 2011	L - 201	11							
= No	t in D	atabase							

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

Model	Data Page 1	Data F	age 2	Data Page 3	Printer	File O	utput	DXF Ou	tput	
	2011 FORD	POLIC	E INTE	RCEPTOR (3.2)	7) MSP P	OLICE F	KG 4 E	OOR SEI	DAN	
				Angle Meas	urement	s				
Angle Fr	ont Bumper to	Hood	Front	=		45.0	degre	ees		
Angle Front of Hood to Windshield Base =						8.0	degrees			
Angle Fr	ont of Hood to	Winds	hield	Top =		16.8	degrees			
Angle of	Windshield			=		33.2	degre	ees		
Angle of	Steering Tires	at Max	Turn	=		27.5	degre	ees		
				Center of	Gravity					
Inches fr	om ground	=	2	22.77	Inch	es from	side o	of vehicle	=	39.00
Inches b	ehind front axle	=	5	50.60	Inche	s in fro	nt of r	ear axle	=	64.40
Inches fr	om front bump	er =	9	93.60	Inch	es from	rear b	umper	=	118.40
Inches fr	om front corne	r =	10	01.40	Inch	es from	rear c	orner	=	124.66
Tip-Over	Stability Ratio				=	1.	41	Stable		
NHTSA S	Static Stability F	actor (calcul	ated) Star Ratir	ng	=		****		
				Moments	f Inertia					
Yaw Mor	ment of Inertia				=			31	03.52	lb*ft*sec²
Pitch Moment of Inertia =				= 1	2993.16 I			lb*ft*sec²		
Roll Mor	ment of Inertia				=			6	03.12	lb*ft*sec²

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 Da	ta Page 3 Prin	ter File Outpo	ut DXF Output		
2011 FORD POLICE INTERCEPTOR (3.27) MSP POLICE PKG 4 DOOR SEDAN					
While every attempt has been made to a used as first approximations. Some mea manufacturing variations from vehcle to an exemplar vehicle should be measure provision of the DXF output is provided final drawing of the vehicle.	surements are o o vehicle. When d TO VERIFY DA	dependant on s ever feasible, t TA IMPORTAN	uch factors as he vehicle in question or IT TO YOUR CASE. The		
DXF File Name 2011_FORD_POLICE_IN	NTERCEPTOR_(3	.27)_MSP_POL	ICE_PKG_4_DOOR_SEDAN_		
Length	212	Inches	Drawing Notation		
Wheelbase	115	Inches	On On		
Width	78	Inches	Off		
Front Track	63	Inches	Units		
Rear Track	66	Inches	Inches		
Front Overang	43	Inches	○ Feet		
Bumper to Base of windshield	65	Inches	Meters		
Bumper to Top of windshield	91	Inches			
Rear Bumper to Base of Rear window	38	Inches			
Rear Bumper to Top of Rear window	64	Inches			
Front Tire Diameter	24	Inches			
Rear Tire Diameter	24	Inches			
CG behind Front axle	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

The Crash Zone 8.1 - [5147]		
Pile Edit Draw View Snaps	Text/Dimension Utilities Recon 3D Window Help	_ ∂ ×
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Line Types		^
	FRONT of 2001 FORD CROWN VICTORIA 4.6L MSP POLICE PACKAGE 4DR SEDAN	a
~ ≈ *** ***		
~	DXF Output Data	
Draw / Snaps / Hatch Draw / Snaps / Hatch	Length:	
(a) Edit	Width: 6.50 Feet	
	Front bumper to Front Axle: 3.67 Feet	
	Wheelbase: 9.58 Feet	
30 3D Tools	Front Track: 5.25 Feet	
(S) INCOM	Rear Track: 5.33 Feet	
ă .		
Forms	CG behind Front Axle: 4.31 Feet	
? Learning Center		>
Select Objects : Selection Tool	A:282.06* D:8.55* X:1.78* Y:-8.36*	

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!

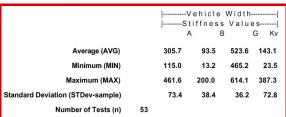
In addition to the NHTSA Crash Test data, the program includes a "Similar Vehicle Reader". Initially developed in cooperation with Greg Anderson and maintained by 4N6XPRT Systems starting with the 2013 version. The reader allows quick retrieval of vehicles similar to the desired vehicle. The Reader drives 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.
- ★ 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:**



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

★ RESEARCH and download the

PICTURES. VIDEOS.

and

REPORTS

that are available for the individual tests

SYSTEM REQUIREMENTS

4N6XPRT StifCalcs® is a MS-Windows program designed to work under a 32 **or** 64-bit (2000/XP/Vista/7/8/10) Windows System.

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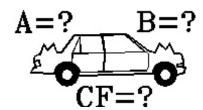
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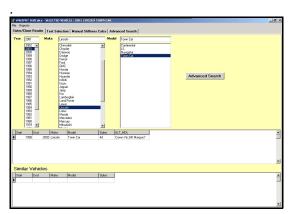
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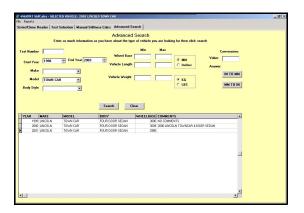
BASIC VEHICLE CRASH TEST SEARCH

ASIC VEHICLE SEARCH NHTSA TEST SELECTION ADVANCED VEHICLE SEARCH

NO REAR TESTS 1998-2008

Select the desired vehicle through our SIMILAR VEHICLE READER



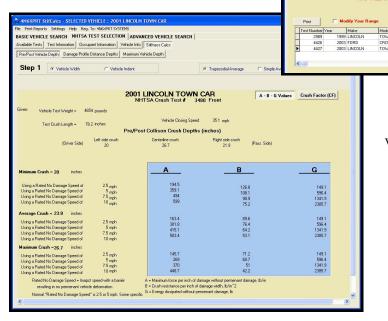


Available Tests in the NHTSA database for a 1998 - 2008 LINCOLN TOWN CAR

Side Test(s)

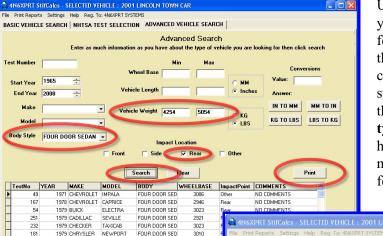
Once the desired vehicle is found/selected, click on the Test Selection tab. From here, select the test to be viewed

Once a test is selected, the available data



for the Test, Occupant(s), Vehicle(s), and Stiffness data can be viewed. The stiffness values are automatically generated from the available test data.

"CLASS" VEHICLE CRASH TEST SEARCH



Using the ADVANCED SEARCH tab, you can also create a CLASS of vehicle for when there are no tests available for the specific vehicle and test type. To create a class of REAR IMPACT stiffness values for the Lincoln, first set the weight range, body style, and test type, then search the database, when you have a sufficient number of tests (that is, more than one or two) that have been found, click the PRINT button:

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

1979 PONTIAC

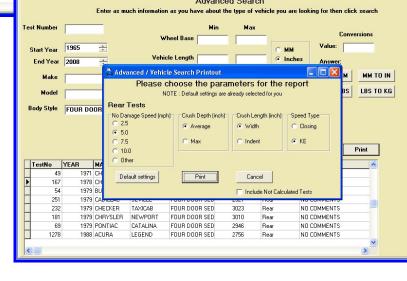
1988 ACURA

CATALINA

LEGEND

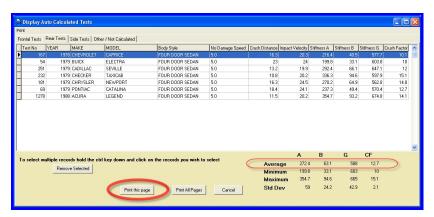
FOLIB DOOR SED

EDUB DOOR SED



BASIC VEHICLE SEARCH | NHTSA TEST SELECTION | ADVANCED VEHICLE SEARCH

The program will calculate the



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

4N6XPRT Systems

Expert System Software for Litigation

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	SUB-TOTAL	\$
Handling **: (Cash or Check with order = \$5.00, Cre Notarized Affidavit filing requirement - \$25.00 Normal delivery will be via em □ - Deliver via electronic download link (e-ma □ - Please deliver on USB at an additional co	O per required notarized signature: nail of a download link to a self extracting zip file ail address required)	\$ \$ 0.00 \$
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Card #	Expires So	ecCode
	Billing Zip	
	Signature:	
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E-Mail: 4n6@4n6xprt.com

Dear Customer,

Due to the governments desire (both U.S. & California) to "protect us" we will need the following information from you in order to process your credit card(s). Please complete this form and return it with your order.

Card type: Am. Express Card Number:	/ Visa / MasterCard		
Expiration Date (MM/YY):	/		
1234 5678 9012 345 123 Losen grown forent g	← Visa/MasterCard	American Express →	3712 3468 95006 6 FROST
Security code (card ID) Address for where the credi		Card card or front of Amer	rican Express Card:
(This is the address number -	for instance, ours would be 838 , not where we would send to	7 University Avenue - that the creath the data or product to)	lit card bill would go to,
City/State/Zip for where the	credit card bill is sent:		
(- for instance	e, ours would be La Mesa, CA 9 not where we would send t	1941 - that the credit card bill wou the data or product to)	ld go to,
Authorized signature:			
We appreciate your o	cooperation in supplying	us with this information a	and understanding that it

Sincerely,

Daniel W. Vomhof III

General Manager/Technical Support

Individual Vehicle Data Search Service[®] Charges & Services

Individual Vehicle Specifications

\$50.00-First vehicle*, \$40.00/Additional Vehicles*, \$30.00/Additional Similar Model*

Medium/Heavy Truck Specifications

\$50.00-First vehicle*, \$40.00/Additional Vehicles*, \$30.00/Additional Similar Model*

Motorcycle Specifications (1970+)

\$50.00-First cycle*, \$40.00/Additional cycles*, \$30.00/Additional Similar Model*

NHTSA Crash Test Results

\$50.00 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 or Email. Our fax machine is on 24 hours/day and can be reached at:

(619) 464-2206

FAX/Order Form

□ Expert VIN Decoder & Expert AutoStats □ NHTSA Crash Test Results □ BOTH

Please circle ALL OPTIONS that apply

YEAR & MAKE	:
MODEL:	
	ting DeCoder & AutoStats de the following information:
No. of Doors: Body Style: SUV & P/U: PICKUPS: VANS:	2/3/4/5 Coupe/Conv./Sedan/Wagon 4x2 / 4x4 / Dual Rear Wheel Std. / Extra / Super / Crew Cab Short Bed / Long Bed Cargo / Passenger
	Short / Long Wheelbase VIN Information
$\frac{1}{10} \frac{2}{11}$	4 5 6 7 8 9

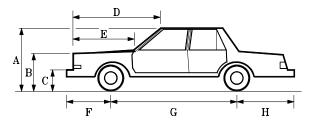
NHTSA Crash Test Information

Impact location - Front / Side / Rear

PAYMENT INFORMATION Visa/MasterCard / American Express:

Expires:/	Sec.Code
Name & Address:	
Phone:	
Email:	
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

VIN DeCoding Information

How often have you been confronted with the following on a Traffic Collision Report - "87 Ford, 4 door, Blue"? We have the answer to the problem of determining WHICH Ford 4 door model this was!

We will DeCode the VIN number and provide you with the information contained within that VIN number

Information generally includes:

Year OEM Engine
Make Displacement/Type
Model Rated Horsepower
Drive Wheels Rated Torque
Rated Pass. Load Iginition System
Plant of Manufacture Fuel Line Pressure

Also (when provided by VIN)

Gross Vehicle Weight Safety Equipment

Transmission

A DMV search for a vehicle identification from the registration will typically cost less than \$10.00 and will give the VIN number, Make, and Year of vehicle. However, to also obtain the vehicle Model requires a "Manual Search" which will typically cost \$30.00/vehicle/year searched or more.

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 includes** (when available)

Front/Rear Overhang Bumper Heights
Hood height Turning Circle
Bumper-to-hood Ground-to-hood

Dimensions are given in both Imperial and metric (SI) units. Motorcycle specifications will be similar to the Vehicle specifications with appropriate changes where applicable.

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*.

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 your request and e-mail or 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.

Individual Vehicle Data Search Service® Charges & Services

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NHTSA Crash Test Results

\$50.00 per test - Includes A, B, & G values Calculations are based on the test results

	Contact Name & Address:
Phone: ()
Fax: (_)
E-Mail_	
P	PAYMENT INFORMATION
Visa/	MasterCard / American Express:
	Expires: /
Credit Ca	ard billing address and Zip:
Address:	

Security Code # _____

FAX/Order Form

□ Expert VIN Decoder & Expert AutoStats □ NHTSA Crash Test Results □ BOTH

Please circle ALL OPTIONS that apply

YEAR & MAKE:					
MODEL:					
If you are reque VIN DeCoder please also prov	& AutoStats				
No. of Doors: Body Style: SUV - P/U:	2/3/4/5 Coupe/Conv./Sedan/Wagon 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					
Case Reference/Num	ber:				

FAX/Order Form

□ Expert VIN Decoder & Expert AutoStats □ NHTSA Crash Test Results □ BOTH

Please circle ALL OPTIONS that apply

YEAR & MAKE:

No. of Doors: Body Style: SUV - P/U:	2/3/4/5			
	~ '~ '~			
TIM D/II.	Coupe/Conv./Sedan/Wagon			
	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>NHT</u> YEAR & MAK	SA Crash Test Information E:			
MODEL:				

Reference/Number:

Expert System Software for Litigation

8387 University Avenue La Mesa, CA 91942-9342

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

FED Tax ID No.: 95-3121248

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

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Expiration Date (MM/YY):	/		
1234 5678 9012 345 123 Lonard graum binard graum binard passes binard passes binard passes binard passes binard passes binard passes Card ID	← Visa/MasterCard	American Express →	3712 3 9500b
Security code (card ID) Address for where the credi		Card card or front of Ame	erican Express Card:
($\overline{\it This}$ is the address number -	for instance, ours would be 838 not where we would send	7 University Avenue - that the cre the data or product to)	dit card bill would go to,
City/State/Zip for where the	credit card bill is sent:		
(- for instance	e, ours would be La Mesa, CA 9 not where we would send	1941 - that the credit card bill wo the data or product to)	uld go to,
Authorized signature:			
We appreciate your of is being required of us to obtain		us with this information	and understanding that

it

Sincerely,

Daniel W. Vomhof III

General Manager/Technical Support