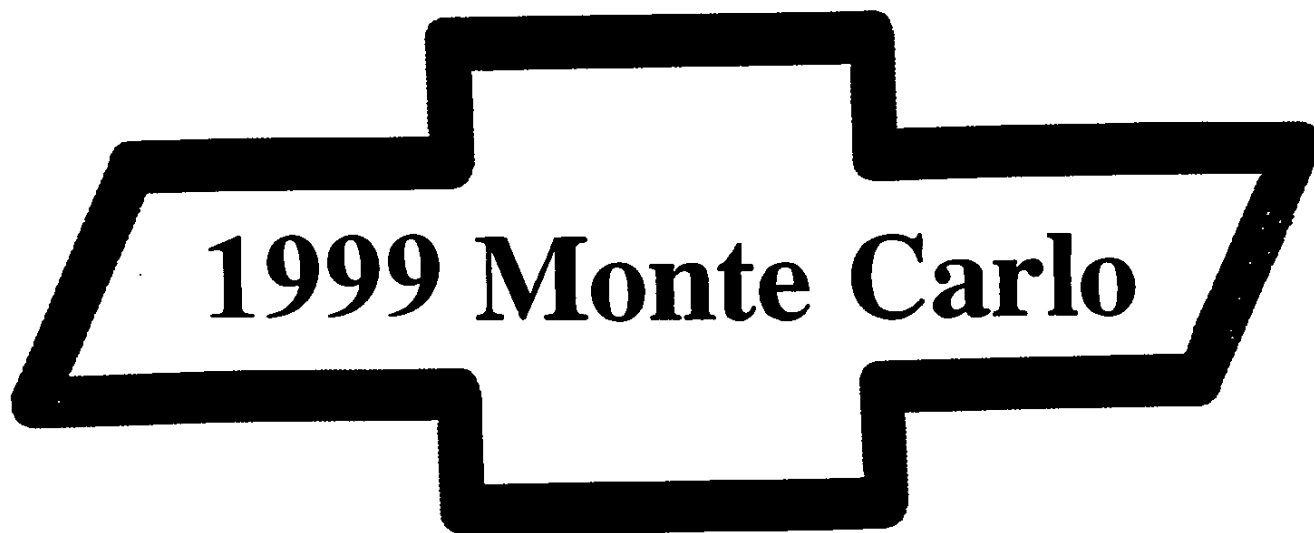
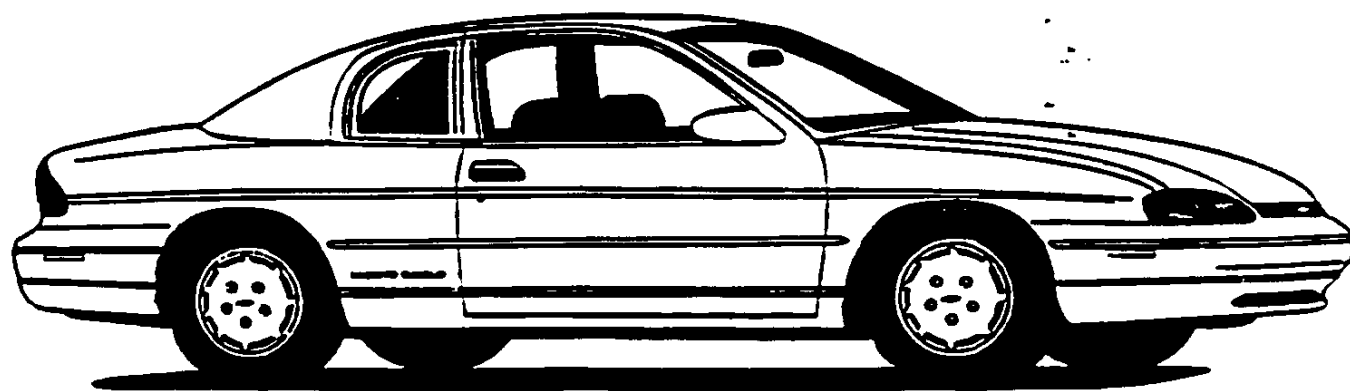




**GENUINE CHEVROLET**

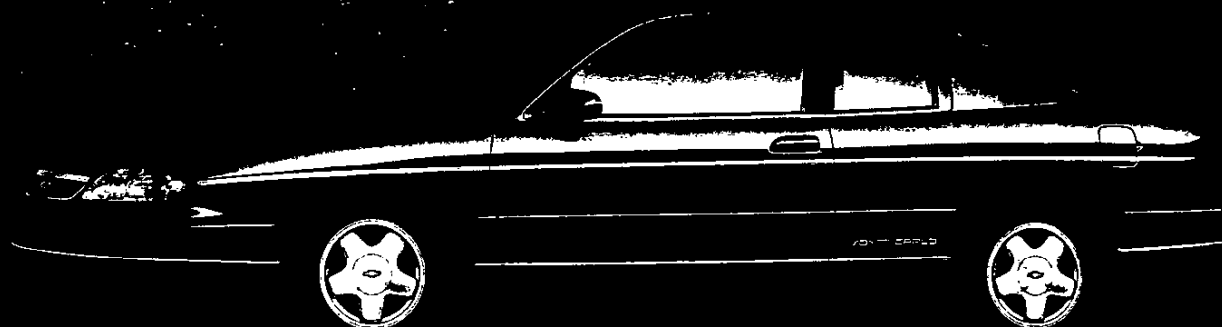




10



# Monte Carlo



## Focus

### Monte Carlo LS Coupe with Preferred Equipment Group (PEG) 1SB (image above)

The Focus vehicle for 1999 is Monte Carlo LS Coupe with PEG 1SB. This luxurious, well appointed vehicle delivers the fun-to-drive characteristics and superior value story expected from Chevrolet. This model represents the best opportunity for Monte Carlo high volume sales at your dealership.

#### Ordering recommendations:

Recommended Monte Carlo LS Coupe content, based on anticipated national sales volume, is listed below to assist your dealership in ordering.

#### Monte Carlo LS Coupe with PEG 1SB Includes:

- Luggage-Area Cargo Net
- Power Trunk Opener and Remote Keyless Entry
- Driver and Front Passenger Temperature Controls
- Electronic Speed Control.

#### Suggested individual options:

- Electric Rear-Window Defogger
- Sporty Aluminum Wheels (require P225/60R-16 B/W touring tires).

See Feature Availability Chart for vehicle contenting.

#### Popular colors:

Bright White, Torch Red, Black and Dark Jade Green Metallic.

## Monte Carlo Owners ... a Closer Look

Monte Carlo attracts image-conscious buyers who appreciate performance and enjoy driving. To reflect how they want the world to see them, they seek sporty, classy styling with performance that shows a wild side.

## About Dealer Order Guide inserts

The Dealer Order Guide inserts are your first look at Chevrolet Passenger Car models for 1999. This information is preliminary and subject to change. Use these inserts to assist in ordering your initial shipments. Most of your volume should come from the Focus vehicle, which is the model chosen for its saleability. It is equipped with the product features that customers want most. (Model, PEG and optional equipment vary by region.) Refer to the Retail Sales Analysis (RSA) to verify or select your dealership's Focus vehicle content. There is also the Feature vehicle, which is the "image" model Chevrolet will profile most in its advertising. This vehicle is meant to capture attention and create consumer awareness.

## Feature

### Monte Carlo Z34 Coupe (image below)



The Feature vehicle for 1999 is the Monte Carlo Z34 Coupe. The Z34 performance attributes include the acclaimed 3800 Series II V6 engine and the road-holding Ride and Handling Suspension as standard features. It's truly a coupe designed with the performance enthusiast in mind.

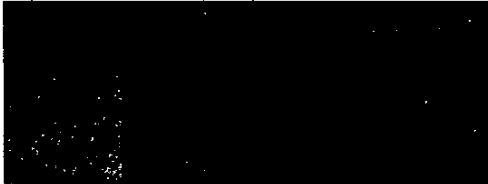
#### Standard Z34 features include:

- 3800 Series II V6 Engine with Sequential Fuel Injection
- Ride and Handling Suspension
- Four-Wheel Disc Brakes with ABS
- Analog Instrumentation with Tachometer
- 16" Machined-Face Aluminum Wheels and Goodyear Eagle RS-A Performance Tires
- Custom Cloth Bucket Seats with Center Storage Armrest
- Dual Exhaust Tailpipes
- Leather-Wrapped Steering Wheel with Radio Controls
- Electronic Speed Control
- Remote Keyless Entry System
- Power Trunk Opener.

#### Lead color:

Torch Red.

**Trim Colors**

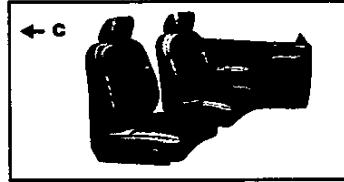
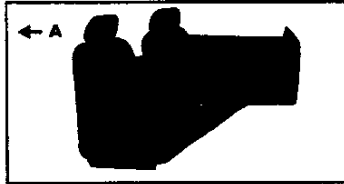


Custom Cloth available in Neutral, Medium Blue, Graphite and Medium Gray (standard on LS Coupe and Z34 Coupe).



Leather seating surfaces available in Neutral and Graphite (optional on LS Coupe and Z34 Coupe).

**Seat Styles**

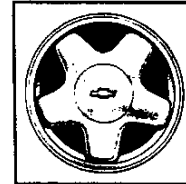


- A. Custom Cloth front 60/40 split-bench seat with storage armrest and cupholder (standard on Lumina LS and optional on Lumina Sedan).
- B. Custom Cloth front bucket seats with storage console and cup holder (optional on LS Coupe, standard on Z34).
- C. Leather Seating Surfaces on front bucket seats with storage console and cup holder (optional on LS and Z34 Coupe).

**Wheels**



Monte Carlo LS standard 15" deluxe bolt-on wheel cover.



(RPO PY0) Monte Carlo LS optional 16" sporty aluminum wheel.\*



Monte Carlo Z34 standard 16" machined-face aluminum wheel.

\*Also available in White with Bright White exterior (RPO 16P). Requires optional (RPO QNX) P225/60R-16 touring tires.

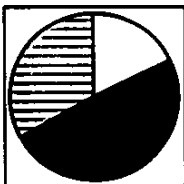
**Most Popular Exterior Colors with Corresponding Interior Color Availability**

**Interior Material Colors**

Exterior Colors	Interior Material Colors			
	Neutral	Medium Blue	Graphite	Medium Gray
Bright White	✓	✓	✓	✓
Dark Jade	✓		✓	✓
Green Metallic	✓		✓	✓
Torch Red	✓		✓	✓
Black	✓		✓	✓

See order guide for color availability by model.

**Most Popular Exterior Colors by Percentage**



Clockwise, at left, are the four colors anticipated to be the most popular Monte Carlo choices for 1999, based on national sales volume. They are listed for reference only. To identify the top-selling colors in your area by model, use the Retail Sales Analysis (RSA).

Bright White (#16)	18%
Dark Jade Green Metallic (#56)	16%
Torch Red (#70)	16%
Black (#41)	17%
Other colors	33%

NOTE: For 1999, Medium Auburn Nightmist Metallic (#52) replaces Deep Purple Metallic (#89) as an exterior color.

# Monte Carlo

S.P.A.C.E. is an acronym used to help organize and explain key features and benefits in five major categories a customer needs and wants. Overall improvements, changes and deletions are highlighted. Please review the supplied information, keeping in mind that this material is provided to you before production start-up — and is liable to change.



S.P.A.C.E. (New-for-'99 features appear in blue.)

## SAFETY AND SECURITY



• **NEXT GENERATION DRIVER AND FRONT-PASSENGER AIR BAGS\*** — inflate with reduced speed and deployment force, helping to reduce the risk of deployment injury. Even with Next Generation air bags, however, never place a rear-facing infant restraint in the front seat of any vehicle with an active air bag. • **FOUR-WHEEL ANTI-LOCK BRAKE SYSTEM (ABS)** (four-wheel disc brakes standard on Z34) — helps reduce wheel lockup, helping the driver maintain steering control during braking, even on slippery surfaces. • **AVAILABLE OnStar SYSTEM** (dealer-installed) — uses satellite technology to offer support 24 hours a day, seven days a week, with features like a hands-free, voice-activated cellular phone, route guidance information, remote door-unlocking capability and stolen-vehicle tracking. • **PASS-Key II THEFT-DETERRENT SYSTEM** — features an ignition key that is equipped with a small resistance-coded pellet that must match a measurement circuit in the steering column to start the engine.

## PERFORMANCE



• **3600 SERIES II V6 ENGINE ON Z34** — this V6 engine delivers 200 hp at 5200 rpm, for truly impressive performance and includes dual-outlet tailpipes. • **RIDE AND HANDLING SUSPENSION** (standard on Z34) — delivers a balance of ride quality and responsive handling. • **3100 V6 SFI ENGINE AND FOUR-SPEED ELECTRONICALLY CONTROLLED AUTOMATIC TRANSMISSION** (standard in tandem only on LS) — smoothly deliver ample power for passing and merging. Shifts are virtually seamless. • **FOUR-WHEEL DISC BRAKES** — are standard on Z34 for increased braking performance.

## APPEARANCE



• **ONE NEW EXTERIOR COLOR** — Medium Auburn Nightmist Metallic replaces Deep Purple Metallic (not available on Z34). • **OPTIONAL REAR DECKLID SPOILER** — gives both models an added sporty appearance. • **BASECOAT/CLEARCOAT PAINT** — provides a more durable, lustrous finish while reducing water-spotting and etching from acid rain. • **TWO-SIDE GALVANIZED STEEL** — on all exterior body panels (except roof) helps prevent corrosion. • **16" MACHINED-FACE ALUMINUM WHEELS** — standard on Z34, enhance its bold, sporty appearance. • **STANDARD BODY-COLOR BODYSIDE MOLDINGS** — help protect both Monte Carlo models from incidental dents and dings. • **DUAL BODY-COLOR SPORT MIRRORS** — enhance its sporty image.

## COMFORT AND CONVENIENCE



• **OPTIONAL ELECTRIC SUNROOF** — allows more outside air and sunlight to enter the vehicle. • **LEATHER-WRAPPED STEERING WHEEL WITH DUPLICATE RADIO CONTROLS** (standard on Z34, optional on LS models) — for added convenience and a sporty feel. • **SPLIT-FOLDING REAR SEAT** — creates a flexible cargo area that easily expands to accommodate longer items. • **DRIVER AND FRONT-PASSENGER TEMPERATURE CONTROLS** (standard on Z34, optional on LS) — individual controls create a more comfortable environment for drivers and front passengers with different temperature preferences.

## EASY-TO-OWN



• **SCOTCHGARD™ PROTECTOR** — on cloth seats, door panels, floor carpeting and floor mats, resists stains and makes cleanups easy. • **LONG-LIFE AUTOMATIC TRANSMISSION FLUID** — extends transmission fluid service intervals to up to 100,000 miles.† • **EXTENDED-LIFE ENGINE COOLANT** — has a first scheduled replacement interval of 5 years or 150,000 miles, whichever comes first.† • **PLATINUM-TIP SPARK PLUGS** — allow up to 100,000 miles before the first scheduled tune-up.† • **STAINLESS-STEEL EXHAUST SYSTEM** — includes all pipes, catalytic converter and muffler to resist corrosion, for a long service life. • **GENUINE CUSTOMER CARE** — a 3-year/36,000-mile, no deductible, Bumper to Bumper limited warranty, 24-Hour Roadside Assistance via a toll-free hot line and Courtesy Transportation,\*\* if your vehicle ever needs warranty work.

\*Always use safety belts and proper child restraints, even with Next Generation air bags. See the owner's manual for more safety information. †Maintenance needs vary with different uses and driving conditions. See owner's manual for more information. \*\*Courtesy Transportation is available at participating dealerships.

Monte Carlo

© 1998. All information correct at time of printing.

## Competitive Models

- Mercury Cougar
- Chrysler Sebring
- Dodge Avenger
- Honda Accord

## New for 1999

- Medium Auburn Nightmist Metallic replaces Deep Purple Metallic exterior paint color on LS. Not available on Z34.

Monte Carlo

Feature Availability	Monte Carlo LS Coupe	Monte Carlo Z34 Coupe
<b>INTERIOR</b>		
Air Bags - Next Generation Driver and Front-Passenger <sup>1</sup>	S	S
Air Conditioning - with CFC-Free Refrigerant	S	S
Cargo Net - Luggage-Area	O <sup>2</sup>	S
Cup Holders - Instrument Panel (60/40 seat)	S	NA
- Center Console (bucket seats)	O	S
Defogger(s) - Electric Rear-Window	O	O
Door Locks - Power	S	S
Floor Mats - Carpeted, Front and Rear	S	S
Gauges - Tachometer, Engine Temperature and Odometer	S	S
Lights, Interior - Theatre Lighting	S	S
Low Coolant-Level Monitor Light	S	S
Low Oil-Level and Oil-Wear Indicator Monitors	S	S
OnStar System - Dealer-Installed	O	O
PASS-Key II Theft-Deterrent System	S	S
Scotchgard™ Protector	S	S
Seats - 6-Way Power Driver	O	O
- Custom Cloth, 60/40 Split-Bench, Front	S	NA
- Custom Cloth, Buckets with Console, Front	O	S
- Leather Seating Surfaces, Buckets with Console, Front	O	O
- Split-Folding, Rear	S	S
Speed Control - Electronic	O	S
Steering Column - Tilt-Wheel™	S	S
Steering Wheel with Radio Controls - Leather-Wrapped	O <sup>2</sup>	S
Stereo - AM/FM Stereo w/Cassette Player	S	S
- AM/FM Stereo w/CD Player	O	O
Visor Mirrors - LH and illuminated RH Vanity	S	S
Sunroof - Electric	O <sup>2</sup>	O
Temperature Controls - Driver and Front-Passenger	O <sup>2</sup>	S
Trunk - Power Opener	O <sup>2</sup>	S
Windows - Power with Driver's Express-Down Feature	S	S
Wipers - Intermittent Variable Windshield	S	S
<b>EXTERIOR</b>		
Daytime Running Lamps with Automatic Lamp Control	S	S
Exhaust System - Stainless-Steel (dual outlets on Z34)	S	S
Mirrors - Outside Dual Body-Color Twin Remote Electric	S	S
Moldings - Body-Side, Body-Color	S	S
Paint - Basecoat/Clearcoat	S	S
Spoiler - Rear Decklid	O	O
Tires - P205/70R-15 All-Season Touring	S	NA
- P225/60R-16 All-Season Touring	O <sup>2</sup>	NA
- P225/60R-16 Goodyear Eagle RS-A Performance	NA	S
Wheel Covers - 15" Bolt-On	S	NA
Wheels - 16" Sporty Aluminum	O <sup>2</sup>	NA
- 16" Machined-Face Aluminum	NA	S
<b>FUNCTIONAL</b>		
Brakes - 4-Wheel Anti-Lock (ABS)	S	S
- Power, Front Disc/Rear Drum	S	NA
- Power, 4-Wheel Disc	NA	S
Engines - 3100 V6 SFI	S	NA
- 3800 Series II V6 SFI	NA	S
Remote Keyless Entry System	O <sup>2</sup>	S
Suspension - 4-Wheel Independent	S	S
- Ride and Handling	NA	S
Transmission - 4-Speed Electronically Controlled Automatic	S	S

S — Standard. O — Optional. (Some options may be available only as apart of a Preferred Equipment Group; see your order guide for feature availability.) NA — Not available. 1 Always use safety belts and proper child restraints, even with Next Generation air bags. See the owner's manual for more safety information. 2 Requires optional PEG 1SB. 3 Requires optional (RPO PY0)16" sporty aluminum wheels. 4 Requires (RPO QNX) optional P225/60R-16 touring tires.

General Motors, GM, the GM Emblem, Chevrolet, the Chevrolet Emblem, Z34, OnStar and Monte Carlo are registered trademarks and Chevy is a trademark of the General Motors Corporation. Scotchgard is a trademark of the 3M Corp. PASS-Key is a registered trademark of Delco Electronics Corp. © 1998 General Motors Corporation. All rights reserved. 9DF All information correct at time of printing — 3/98.

## 1999 MONTE CARLO HIGHLIGHTS

### NEW FOR 1999

- Carryover

### EXTERIOR

- Carryover

### INTERIOR

- Carryover

### COLORS

- Auburn, Nightmist Medium (met) new for Monte Carlo LS



100  
100

**MONTE CARLO**

**STANDARD EQUIPMENT SUMMARY**

		<u>1WW27</u>	<u>1WX27</u>
<b><u>CHASSIS</u></b>			
<b>AXLES:</b>	3.29 W/3100 SFI V6 ENGINE	S	-
	3.29 W/3800 SFI V6 ENGINE	-	S
<b>BRAKES:</b>	4-WHEEL ANTI-LOCK FRONT DISC, REAR DRUM	S	-
	4-WHEEL ANTI-LOCK DISC FRONT AND REAR	-	S
<b>ENGINE:</b>	3100 SFI V6	S	-
	3800 SFI V6	-	S
<b>FUEL TANK:</b>	16.6 GALLON CAPACITY	S	S
<b>STEERING:</b>	POWER	S	S
	TILT-WHEEL	S	S
<b>TRANSMISSION:</b>	4-SPEED AUTOMATIC	S	S
<b><u>INTERIOR</u></b>			
<b>AIR BAGS:</b>	DRIVER AND FRONT PASSENGER	S	S
<b>AIR CONDITIONING:</b>		S	S
<b>CARGO NET:</b>	LUGGAGE AREA	-	S
<b>FABRIC PROTECTOR:</b>	SCOTCHGARD - INCLUDES SEATS, DOOR TRIM AND FLOOR COVERING	S	S
<b>FLOOR MATS:</b>	FRONT & REAR CARPETED	S	S
<b>GAGES:</b>	TACHOMETER	S	S
<b>GLASS:</b>	TINTED/SOLAR-RAY	S	S
<b>LIGHTING:</b>	AUXILIARY GLOVE BOX, TRUNK, IP MOUNTED ASHTRAY, DOME LAMP, DUAL READING LAMPS	S	S
	INTERIOR, SUSTAINED ILLUMINATION	S	S
<b>LOCKS:</b>	POWER DOOR	S	S
	REMOTE KEYLESS ENTRY W/ILLUMINATION	-	S
	PASS KEY II THEFT DETERRENT SYSTEM	S	S
<b>MIRRORS:</b>	VISOR, LH AND ILLUMINATED RH	S	S
<b>RADIO:</b>	ELECTRONICALLY TUNED AM/FM STEREO RADIO W/SEEK-SCAN, STEREO CASSETTE TAPE, DIGITAL CLOCK, AUTOMATIC TONE CONTROL, THEFT LOCK AND SPEED COMPENSATED VOLUME (INCLS PREMIUM FRONT AND REAR COAXIAL SPEAKERS)	S	S
<b>RADIO CONTROLS:</b>	STEERING WHEEL (INCLS LEATHER WRAPPED STEERING WHL)	-	S

**MONTE CARLO**

**STANDARD EQUIPMENT SUMMARY**

**1WW27    1WX27**

INTERIOR continued

<b>SEATS:</b>	CUSTOM CLOTH 60/40 SEAT W/CENTER STORAGE ARMREST WITH CUPHOLDER AND 4-WAY MANUAL DRIVER SEAT ADJUSTER AND SPLIT FOLDING REAR SEAT	<b>S</b>	<b>-</b>
	CUSTOM CLOTH BUCKET WITH CONSOLE, 4-WAY MANUAL DRIVER SEAT ADJUSTER AND SPLIT FOLDING REAR SEAT	<b>-</b>	<b>S</b>
<b>SPEED CONTROL:</b>	ELECTRONIC, W/RESUME SPEED	<b>-</b>	<b>S</b>
<b>TEMPERATURE CONTROLS:</b>	DRIVER AND PASSENGER SIDE	<b>-</b>	<b>S</b>
<b>TRUNK OPENER:</b>	POWER	<b>-</b>	<b>S</b>
<b>WARNING LIGHTS:</b>	ENGINE OIL WEAR INDICATOR, LOW COOLANT LEVEL, LOW ENGINE OIL	<b>S</b>	<b>S</b>
<b>WINDOWS:</b>	POWER	<b>S</b>	<b>S</b>

**EXTERIOR**

<b>LIGHTS:</b>	AUTOMATIC DAYTIME RUNNING	<b>S</b>	<b>S</b>
<b>MIRRORS:</b>	DUAL BODY COLOR REMOTE, ELECTRIC	<b>S</b>	<b>S</b>
<b>MOLDINGS:</b>	BODYSIDE, COLOR-KEYED	<b>S</b>	<b>S</b>
<b>PAINT:</b>	BASE COAT/CLEAR COAT	<b>S</b>	<b>S</b>
<b>TIRES:</b>	P205/70R-15 BLACKWALL TOURING	<b>S</b>	<b>-</b>
	P225/60R-16 BLACKWALL PERFORMANCE	<b>-</b>	<b>S</b>
<b>WHEEL COVER:</b>	15" DELUXE BOLT-ON FULL (SILVER)	<b>S</b>	<b>-</b>
<b>WHEELS:</b>	16" MACHINE-FACED ALUMINUM	<b>-</b>	<b>S</b>
<b>WIPERS:</b>	VARIABLE INTERMITTENT	<b>S</b>	<b>S</b>

# MONTE CARLO LS COUPE

## Model 1WW27 MONTE CARLO LS COUPE

**MUST ORDER ONE GROUP -- NO DELETIONS ALLOWED**

Base Preferred Equipment Group

(Refer Standard Equipment Summary Page)

Preferred Equipment Group 1

Cargo Retaining Net, Luggage Area

Power Trunk Opener

Temperature Control: Driver and Passenger Side

Speed Control: Electronic, w/Resume Speed

Keyless Entry: Remote

1SA	1SB
X	X
	X
	X
	X
	X
	X

### ADDITIONAL OPTIONS

#### ACKNOWLEDGMENTS:

- R8S Multiple Order Numbers
- R8T Preliminary Invoice (Refer Vehicle Price Schedule)
- VK3 **BRACKET:** License Plate, Front
- DEFOGGER: (MUST SPECIFY)**
- C49 Rear Window: Electric
- R9W Rear Window Defogger Not Desired
- EMISSIONS: (MUST SPECIFY) (Refer Emission Requirements Tab Section)**
- FE9 Federal Emission Requirements
- NG1 CT, DC, DE, MA, MD, NH, NJ, NY, PA, RI, VA Emission Requirements
- YF5 California Emission Requirements
- NB8 CT, DC, DE, MA, MD, NH, NJ, NY, PA, RI, VA Emission Override (Reqs FE9 Emissions)
- NC7 Federal Emission Override (Reqs YF5 or NG1 Emissions)
- K05 **HEATER:** Engine Block

#### RADIO EQUIPMENT:

- UN0 Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Digital Clock, Automatic Tone Control, Compact Disc Player, Theft Lock & Speed Compensated Volume (Incls Premium Front & Rear Coaxial Speakers)
- UK3 Radio Controls, Steering Wheel (Incls Leather Wrapped Steering Wheel) (Reqs 1SB)

#### SEAT TYPE: (MUST SPECIFY)

- AM6 Split (Base)
- AR9 Bucket (Incls Console)
- WG1 **SEATS, ADDITIONAL:** Power (Driver's Side Only)
- K34 **SPEED CONTROL:** Electronic w/Resume Speed (Incl w/1SB)
- D81 **SPOILER:** Rear Deck
- CF5 **SUNROOF:** Electric, Sliding (Reqs 1SB)
- QNX **TIRES:** P225/60-R16 B/W Touring Radial (Replaces P205/70R-15 Tires)  
(Reqs 16" PY0 Wheels)

#### WHEELS:

- PY0 16" Sporty Aluminum (Replaces Base 15" Deluxe Bolt-On Wheel Cover) (Reqs QNX Tires)
- 16P 16" White Aluminum (Reqs Color 16U Exterior White Paint and QNX Tires)

# MONTE CARLO LS COUPE

## INTERIOR AND EXTERIOR COLOR AVAILABILITY CHART

**PLEASE NOTE:** The Exterior Paint and Interior Trim Combinations Shown Below are the only Combinations that are available

TRIM LEVEL Seat Type	(a)SEAT OPTION	INTERIOR COLORS			
		Med Gray	Graphite	Neutral	Blue
Custom Cloth 60/40	AM6	92D	12D	52D	30D
Custom Cloth Bucket	AR9	92D	12D	52D	30D
Leather Bucket	AR9		122	522	
Exterior Colors Solid Paint	Color Code	RECOMMENDED INTERIOR TRIM COLORS			
Auburn, Nightmist Medium (Met)	52U	x	x	x	
Black	41U	x	x	x	
Blue, Regal Medium (Met)	27U	x	x	x	x
Blue, Navy (Met)	28U	x		x	x
Driftwood, Lt (Met)	33U			x	
Green, Jade Dk (Met)	56U	x	x	x	
Pewter, Lt (Met)	11U	x	x	x	
Red, Dk Carmine (Met)	51U	x	x	x	
Red, Torch	70U	x	x	x	
White, Bright	16U	x	x	x	x

(a)Seat Option AM6 or AR9 Must Be Specified

# MONTE CARLO Z34 COUPE

## Model 1WX27 MONTE CARLO Z34 COUPE

MUST ORDER ONE 1SA -- NO DELETIONS ALLOWED

1SA

Base Preferred Equipment Group (Refer Standard Equipment Summary Page)

X

### ADDITIONAL OPTIONS

#### ACKNOWLEDGMENTS:

- R8S Multiple Order Numbers
- R8T Preliminary Invoice (Refer Vehicle Price Schedule)
- VK3 **BRACKET:** License Plate, Front
- DEFOGGER: (MUST SPECIFY)**
- C49 Rear Window: Electric
- R9W Rear Window Defogger Not Desired
- EMISSIONS: (MUST SPECIFY) (Refer Emission Requirements Tab Section)**
- FE9 Federal Emission Requirements
- NG1 CT, DC, DE, MA, MD, NH, NJ, NY, PA, RI, VA Emission Requirements
- YF5 California Emission Requirements
- NB8 CT, DC, DE, MA, MD, NH, NJ, NY, PA, RI, VA Emission Override (Reqs FE9 Emissions)
- NC7 Federal Emission Override (Reqs YF5 or NG1 Emissions)
- K05 **HEATER:** Engine Block

#### RADIO EQUIPMENT:

- UN0 Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Digital Clock, Automatic Tone Control, Compact Disc Player, Theft Lock & Speed Compensated Volume (Incls Premium Front & Rear Coaxial Speakers)
- WG1 **SEATS, ADDITIONAL:** Power (Driver's Side Only)
- D81 **SPOILER:** Rear Deck
- CF5 **SUNROOF:** Electric, Sliding

# MONTE CARLO Z34 COUPE

## INTERIOR AND EXTERIOR COLOR AVAILABILITY CHART

**PLEASE NOTE:** The Exterior Paint and Interior Trim Combinations Shown Below are the only Combinations that are available

TRIM LEVEL		INTERIOR COLORS			
		Med Gray	Graphite	Neutral	Blue
Custom Cloth Bucket		92D	12D	52D	30D
Leather Bucket			122	522	

Exterior Colors	Color Code	RECOMMENDED INTERIOR TRIM COLORS			
Solid Paint					
Black	41U	X	X	X	
Blue, Navy (Met)	28U	X		X	X
Driftwood, Lt (Met)	33U			X	
Green, Jade Dk (Met)	56U	X	X	X	
Pewter, Lt (Met)	11U	X	X	X	
Red, Dk Carmine (Met)	51U	X	X	X	
Red, Torch	70U	X	X	X	
White, Bright	16U	X	X	X	X

# MANUFACTURERS MOTOR VEHICLE SPECIFICATIONS

METRIC (U.S. CUSTOMARY)

# 1999

<b>Manufacturer</b> CHEVROLET MOTOR DIVISION GENERAL MOTORS CORPORATION	<b>Vehicle Line</b>  MONTE CARLO	
<b>Mailing Address</b>  30007 VAN DYKE WARREN, MI 48090-9065		Revised

**Direct questions concerning these specifications to the manufacturer listed above.**

**The information contained herein is prepared, distributed by, and is solely the responsibility of the vehicle manufacturing company to whose products it relates. This specification form was developed by the vehicle manufacturing companies under the auspices of the American Automobile Manufacturers Association.**

**The General Specifications herein are those in effect at date of compilation and are subject to change without notice or incurring obligation by the manufacturer.**

## AAMA

American Automobile Manufacturers Association

Blank Forms Provided by Technical Affairs Division



# Specifications

METRIC

## Table of Contents

---

1	Vehicle Models/Origin	Ø Indicates Format Change From Previous Year
2	Power Teams	
3	Engine	
4	Lubrication System	
5	Cooling System	
6	Fuel System	
7	Vehicle Emission Control	
7	Exhaust System	
8-10	Transmission, Axles and Shafts	
11	Suspension	
12-13	Brakes, Tires and Wheels	
14	Steering	
15-16	Electrical	
17	Body-Miscellaneous information	
17	Frame	
18	Glass	
18	Headlamps	
19	Climate Control System	
20-21	Convenience Equipment	
21	Trailer Towing	
22-24	Vehicle Dimensions	
25	Vehicle Fiducial Marks	
26	Vehicle Mass	
27	Optional Equipment Differential Mass (Weight)	
28-34	Vehicle Dimensions Definitions - Key Sheets	
35	Index	

---

### NOTE:

1. This form uses both Metric units and U.S. Customary units. The metric unit of measure is presented first, and the U.S. Customary unit follows in parenthesis.
2. UNLESS OTHERWISE INDICATED:
  - a. Specifications apply to standard models without optional equipment. Significant deviations are noted.
  - b. Nominal design dimensions are used throughout these specifications.
  - c. All linear dimensions are in millimeters (inches), and all mass (weight) specifications are in kilograms (pounds).
3. The General Specifications herein are those in effect at date of compilation and are subject to change without notice or incurring obligation by the manufacturer.
4. Additional Vehicle Dimensions (based in part on SAE J1100 "Motor Vehicle Dimensions") may be available from the manufacturer.

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

## Vehicle Origin

Design & development (company)	G.M., Midsize Car Division
Where built (country)	Canada
Authorized U.S. sales marketing representative	Chevrolet Motor Division

## Vehicle Models

Model Description & Drive (FWD / RWD / AWD / 4WD)*	Introduction Date	Make, Vehicle Models, Series, Body Type (Mfg's Model Code)	No. of Designated Seating Positions (Front / Rear)	Max. Trunk/Cargo Load-Kilograms (Pounds)	EPA Fuel Economy (City/Hwy)
MONTE CARLO LS 2-Door Notchback Coupe (FWD)		1WW27	6 (3/3) 5 (2/3) Opt.		19/29 - L82
MONTE CARLO Z34 2-Door Notchback Coupe (FWD)		1WX27	5 (2/3)		19/30 - L36

\* FWD - Front Wheel Drive RWD - Rear Wheel Drive AWD - All Wheel Drive 4WD - Four Wheel Drive



# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description  
 Engine Code

3.1 LITER V6  
 L82

### Engine - General

Type & description (inline, V, angle, flat, location, front, mid, rear, transverse, longitudinal, sohc, dohc, ohv, hemi, wedge, pre-chamber, etc.)	60 Degree V, Front, Transverse, OHV	
Manufacturer	General Motors Powertrain	
No. of cylinders	Six	
Bore	89.0 mm	
Stroke	84.0 mm	
Bore Spacing (C / L to C / L)	111.76 mm	
Cylinder block material & mass kg. (lbs.) (machined)	Cast Iron, 55.6 (122.6)	
Cylinder block deck height	224.0 mm	
Cylinder block length	435.5 mm	
Deck clearance (minimum) (above or below block)	0.58 mm (Above)	
Cylinder head material & mass kg. (lbs.)	Cast Aluminum, 6.9 (15.2)	
Cylinder head volume cm <sup>3</sup> (inches <sup>3</sup> )	26.2 (1.6)	
Cylinder liner material	Not Applicable	
Head gasket thickness (compressed)	1.55 mm	
Minimum combustion chamber total volume cm <sup>3</sup> (inches <sup>3</sup> )	60.29 (3.7)	
Cyl. no. system (front to rear)*	L Bank	2-4-6
	R Bank	1-3-5
Firing order	1-2-3-4-5-6	
Intake manifold material & mass kg. (lbs.)**	Cast Aluminum, 8.7 (19.2)	
Exhaust manifold material & mass kg. (lbs.)**	Cast Iron, Right: 4.3 (9.5), Left: 2.3 (5.1)	
Knock sensor (number & location)	One, Left Side of Block	
Fuel required unleaded, diesel, etc.	Unleaded	
Fuel antiknock index (R + M) + 2	86	
Engine Mounts	Quantity	Total 4 (1 Engine Mount, 1 Transmission Mount and 2 Torque Reacting Mounts)
	Material and type (elastomeric, hydroelastic, hydraulic damper, etc.)	Engine Mount - Hydroelastic; Transmission Mount - Hydroelastic; Torque Reacting Mounts - Natural Rubber and Neoprene
	Added isolation (sub-frame, crossmember, etc.)	Isolated Cradle
Total dressed engine mass (wt) dry***	184 kg	

### Engine - Pistons

Material & mass, g (weight, oz.) - piston only	Aluminum Alloy, 375 (13.2)
--	----------------------------

### Engine - Camshaft

Location	Above Crankshaft at Center of "V"	
Material & mass kg (weight, lbs.)	Assembled Steel, 2.3 (5.1)	
Drive type	Chain / belt	Chain
	Width / pitch	15.88 mm / 9.53 mm

- \* Rear of engine - drive takeoff. View from drive takeoff end to determine left & right side of engine.
- \*\* Finished state.
- \*\*\* Dressed engine mass (weight) includes the following: All those items necessary to make the engine a complete ready-to-run unit.

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description  
 Engine Code

3.8 LITER V6  
 L36

### Engine - General

Type & description (inline, V, angle, flat, location, front, mid, rear, transverse, longitudinal, sohc, dohc, ohv, hemi, wedge, pre-chamber, etc.)	90 Degree V, Front, Transverse, OHV	
Manufacturer	General Motors Powertrain	
No. of cylinders	Six	
Bore	96.52 mm	
Stroke	86.36 mm	
Bore Spacing (C/L to C/L)	107.7 mm	
Cylinder block material & mass kg. (lbs.) (machined)	Cast Iron, 55.7 (122.8)	
Cylinder block deck height	216.49 mm	
Cylinder block length	396.0 mm	
Deck clearance (minimum) (above or below block)	0.56 mm (Above)	
Cylinder head material & mass kg. (lbs.)	Cast Iron, 14.4 (31.7)	
Cylinder head volume cm <sup>3</sup> (inches <sup>3</sup> )	62.93 (3.81)	
Cylinder liner material	Not Applicable	
Head gasket thickness (compressed)	1.5 mm	
Minimum combustion chamber total volume cm <sup>3</sup> (inches <sup>3</sup> )	75.675 (4.618)	
Cyl. no. system (front to rear)*	L Bank	1-3-5
	R Bank	2-4-6
Firing order	1-6-5-4-3-2	
Intake manifold material & mass kg. (lbs.)**	Lower: Aluminum, Upper: Composite, 11.4 (25.1)	
Exhaust manifold material & mass kg. (lbs.)**	Right: Tubular Stainless Steel, 3.5 (7.7), Left: Cast Nodular Iron, 3.8 (8.4)	
Knock sensor (number & location)	Two Sides of Block	
Fuel required unleaded, diesel, etc.	Unleaded	
Fuel antiknock index (R + M) + 2	87	
Engine Mounts	Quantity	Total 4 (1 Engine Mount, 1 Transmission Mount and 2 Torque Reacting Mounts)
	Material and type (elastomeric, hydroelastic, hydraulic damper, etc.)	Engine Mount - Hydroelastic; Transmission Mount - Hydroelastic; Torque Reacting Mounts - Natural Rubber and Neoprene
	Added isolation (sub-frame, crossmember, etc.)	Isolated Cradle
Total dressed engine mass (wt) dry***	201 kg	

### Engine - Pistons

Material & mass, g (weight, oz.) - piston only	Eutectic Aluminum Alloy, 387.0 (13.65)
--	--

### Engine - Camshaft

Location	In Block
Material & mass kg (weight, lbs.)	5150 Steel, 2.5 (5.5)
Drive type	Chain / belt
	Width / pitch
	Chain
	0.398 mm Over Guides / 0.323 mm

- \* Rear of engine - drive takeoff. View from drive takeoff end to determine left & right side of engine.
- \*\* Finished state.
- \*\*\* Dressed engine mass (weight) includes the following: All those items necessary to make the engine a complete ready-to-run unit.

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issue            Revised (●)           

## METRIC (U.S. Customary)

Engine Description Engine Code	3.1 LITER V6 L82
-----------------------------------	---------------------

### Engine - Valve System

Hydraulic lifters (std., opt., n.a.)	Standard
Valves	Number intake / exhaust
	Head O.D. intake / exhaust
	Six/Six 43.64 mm / 36.20 mm

### Engine - Connecting Rods

Material & mass kg., (weight, lbs.)*	Forged Steel, 0.59 (1.3)
Length (axes C/L to C/L)	144.78 mm

### Engine - Crankshaft

Material & mass kg., (weight, lbs.)*	Cast Iron, 17.2 (37.9)
End thrust taken by bearing (no.)	Three
Number & Length of main bearing journals	One - 29.5 mm; Two and Three - 24.0 mm. Four - 36.0 mm
Seal (material, one, two piece design, etc.)	Front
	Rear
	Viton/Steel, One Piece Viton/Steel, One Piece

### Engine - Lubrication System

Normal oil pressure kPa (psi) at engine rpm	280 - 360 (40.6 - 52.2) @ 2400
Type oil intake (floating, stationary)	Stationary
Oil filter system (full flow, part, other)	Full Flow
Capacity of oilcase, less filter-refill-L (qt.)	3.8 (4.0)

### Engine - Diesel Information (NOT APPLICABLE)

Diesel engine manufacturer	
Glow plug, current drain at 0°F.	
Injector nozzle	Type
	Opening pressure kPa (psi)
Pre-chamber design	
Fuel Injection pump	Manufacturer
	Type
Fuel injection pump drive (belt, chain, gear)	
Supplementary vacuum source (type)	
Fuel heater (yes/no)	
Water separator, description (std., opt.)	
Turbo manufacturer	
Oil cooler-type (oil to engine coolant; oil to ambient air)	
Oil filter	

### Engine - Intake System (NOT APPLICABLE)

Turbo charger - manufacturer	
Super charger - manufacturer	
Intercooler	

\* Finished State

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description	3.8 LITER V6
Engine Code	L36

### Engine - Valve System

Hydraulic lifters (std., opt., n.a.)	Standard	
Valves	Number intake / exhaust	Six/Six
	Head O.D. intake / exhaust	45.72 mm / 38.6 mm

### Engine - Connecting Rods

Material & mass kg., (weight, lbs.)*	Pearlitic Malleable Iron, 0.63 (1.4)
Length (axes C/L to C/L)	145.85 mm

### Engine - Crankshaft

Material & mass kg., (weight, lbs.)*	Nodular Cast Iron, 15.4 (34.0)	
End thrust taken by bearing (no.)	Two	
number & length of main bearing journals	21.95 mm; Four	
Seal (material, one, two piece design, etc.)	Front	Rubber Lip, One Piece
	Rear	Rubber Lip, One Piece

### Engine - Lubrication System

Normal oil pressure kPa (psi) at engine rpm	414 (60) @ 2000
Type oil intake (floating, stationary)	Stationary
Oil filter system (full flow, part, other)	Full Flow
Capacity of oil case, less filter-refill-L (qt.)	3.78 (4.0)

### Engine - Diesel Information

(NOT APPLICABLE)

Diesel engine manufacturer		
Glow plug, current drain at 0°F.		
Injector nozzle	Type	
	Opening pressure kPa (psi)	
Pre-chamber design		
Fuel injection pump	Manufacturer	
	Type	
Fuel injection pump drive (belt, chain, gear)		
Supplementary vacuum source (type)		
Fuel heater (yes/no)		
Water separator, description (std., opt.)		
Turbo manufacturer		
Oil cooler-type (oil to engine coolant, oil to ambient air)		
Oil filter		

### Engine - Intake System

(NOT APPLICABLE)

Turbo charger - manufacturer	
Super charger - manufacturer	
Intercooler	

\* Finished State

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description  
 Engine Code

3.1 LITER V6  
 L82

### Engine - Cooling System

Coolant recovery system (std., opt., n.a.)		Standard	
Coolant fill location (rad., bottle)		Bottle	
Radiator cap relief valve pressure kPa (psi)		103.4 (15)	
Circulation thermostat	Type (choke, bypass)	Bypass	
	Starts to open at °C (°F)	90 (195)	
Water pump	Type (centrifugal, other)	Centrifugal	
	GMP 1000 pump rpm	12	
	Number of pumps	One	
	Drive (V-belt, other)	Poly V-Belt	
	Bearing type	Double Row (Ball/Roller)	
	Impeller material	Cast Iron	
Housing material		Aluminum	
By-pass recirculation type (inter., ext.)		External	
Cooling System capacity	With heater - L (qt.)	10.7 (11.3)	
	With air conditioner - L (qt.)	10.7 (11.3)	
	Opt. equipment specify - L (qt.)	Not Applicable	
Water jackets full length of cyl. (yes, no)		No	
Water all around cylinder (yes, no)		Yes	
Water jackets open at head face (yes, no)		Yes	
Radiator core	Std., A/C, HD	A/C is Standard Equipment	
	Type (cross-flow, etc.)	Cross-Flow	
	Construction (fin & tube mechanical, braze, etc.)	High Efficiency Radiator (H.E.R.), Fin & Tube	
	Material, mass kg (wgt., lbs.)	Aluminum, 3.22 (7.16)	
	Width	774.0 mm (30.5 in.)	
	Height	382.4 mm (15.0 in.)	
	Thickness	16.0 mm (0.630 in.)	
Radiator end tank material		Plastic	
Fan	Std., elec., opt.	Electric	Electric
	Number of blades & type (flex, solid, material)	Seven Blades, Solid, Plastic	Seven Blades, Solid, Plastic
	Number & location (front, rear of radiator)	Rear (LH)	Rear (RH)
	Diameter & projected width	360.0 mm (14.2 in.), Diameter	360.0 mm (14.2 in.), Diameter
	Ratio (fan to crankshaft rev.)	Not Applicable	Not Applicable
	Fan cutout type	ECM Controlled	ECM Controlled
	Drive type (direct, remote)	Direct	Direct
	RPM at idle (elec.)	1800 Primary	1650 Secondary
	Motor rating (wattage/elec.)	150 W	90 W
	Motor switch (type & location/elec.)	Engine Mounted Coolant Temp. Sensor, A/C Liquid Line Press. Switch or Transducer	(Same)
	Switch point (temp./pressure/elec.)	(See Below)	(See Below)
	Fan shroud (material)		Not Available

**PRIMARY FAN (LH)**  
 A/C Head Pressure or  
 Engine Coolant

**ON**  
 190 PSI  
 223 deg. F.

**OFF**  
 140 PSI  
 216 deg. F.

**SECONDARY FAN (RH)**  
 A/C Head Pressure or  
 Engine Coolant

**ON**  
 240 PSI  
 235 deg. F.

**OFF**  
 190 PSI  
 228 deg. F.



# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issue            Revised (●)           

## METRIC (U.S. Customary)

Engine Description	3.8 LITER V6
Engine Code	L36

### Engine - Cooling System

Coolant recovery system (std., opt., n.a.)		Standard	
Coolant fill location (rad., bottle)		Bottle	
Radiator cap relief valve pressure kPa (psi)		103.4 (15.0)	
Circulation thermostat	Type (choke, bypass)	Bypass	
	Starts to open at °C (°F)	90 (194)	
Water pump	Type (centrifugal, other)	Centrifugal	
	GMP 1000 pump rpm	10	
	Number of pumps	One	
	Drive (V-belt, other)	Poly V-Belt	
	Bearing type	Double Row (Ball/Roller)	
	Impeller material	Cast Iron	
Housing material		Aluminum	
By-pass recirculation type (inter., ext.)		External	
Cooling System capacity	With heater - L (qt.)	11.03 (11.7)	
	With air conditioner - L (qt.)	11.03 (11.7)	
	Opt. equipment specify - L (qt.)	Not Applicable	
Water jackets full length of cyl. (yes, no)		No	
Water all around cylinder (yes, no)		Yes	
Water jackets open at head face (yes, no)		Yes	
Radiator core	Std., A/C, HD	A/C is Standard Equipment	
	Type (cross-flow, etc.)	Cross-Flow	
	Construction (fin & tube mechanical, braze, etc.)	High Efficiency Radiator (H.E.R.) Fin & Tube	
	Material, mass kg (wgt., lbs.)	Aluminum, 3.2 (7.05)	
	Width	774.0 mm (30.5 in.)	
	Height	382.0 mm (15.0 in.)	
	Thickness	16.0 mm (0.630 in.)	
Fins per inch		20, 2.5 mm	
Radiator end tank material		Plastic	
Fan	Std., elec., opt.	Electric	Electric
	Number of blades & type (flex, solid, material)	Seven Blades, Solid, Plastic	Seven Blades, Solid, Plastic
	Number & location (front, rear of radiator)	Rear (LH)	Rear (RH)
	Diameter & projected width	360 mm (14.2 in.) Diameter	360 mm (14.2 in.) Diameter
	Ratio (fan to crankshaft rev.)	Not Applicable	Not Applicable
	Fan cutout type	PCM Controlled	PCM Controlled
	Drive type (direct, remote)	Direct	Direct
	RPM at idle (elec.)	1500 RPM (Parallel Mode)	1800 RPM (Parallel Mode)
	Motor rating (wattage/elec.)	90 W	115 W
	Motor Switch (type & Location/elec.)	Engine Mounted Coolant Temp. Sensor, A/C Liquid Line press. Switch or Transducer	same
	Switch point (temp./pressure/elec.)	Series Mode (Both Low Fan Speed)	Parallel Mode (Both High Fan Speed)
		On: 222.8°F Off: 219.2°F	On: 230°F Off: 226.4°F
	Engine Coolant or A/C head Pressure with Vehicle Speed	On: 190 PSI & Below 70 MPH	Off: 140 PSI or 75+MPH
On: 240 PSI & Below 48 MPH	Off: 190 PSI or 50+MPH		
Fan shroud (material)	Not Applicable		

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issue            Revised (●)           

## METRIC (U.S. Customary)

Engine Description  
 Engine Code

3.1 LITER V6  
 L82

### Engine - Fuel System (See Supplemental page for details of Fuel Injection, Supercharger, Turbocharger, etc. if used.)

Induction type: carburetor, fuel injection system, etc.		Sequential Fuel Injection
Manufacturer		Delphi
Carburetor no. of barrels		Not Applicable
Idle A/F mix.		PCM Controlled
Fuel injection	Point of injection (no.)	Ports (Six)
	Constant pulse flow	Pulse
	Control (electronic, mech.)	Electronic
	System pressure kPa (psi)	300 (43.5)
Idle speed-rpm (spec. neutral or drive and propane if used)	Manual	Not Applicable
	Automatic	PCM Controlled
Intake manifold heat control (exhaust or water thermostatic or fixed)		Fixed
Air cleaner type		Replaceable Paper Element
Fuel filter (type/location)		Inline, Replaceable / Near Fuel Tank
Fuel pump	Type (elec. or mech.)	Electric
	Location (eng., tank)	Tank
	Pressure range kPa (psi)	0-300 (0 - 43.5)
	Flow rate at regulated pressure L (gal)/hr @ kPa (psi)	72 @ 300 (19 @ 43.5)

### Fuel Tank

Capacity refill L (gallons)		62.8 (16.6)
Location (describe)		Underbody, Forward of Cross Member
Attachment		Two Steel Straps w/Four Vertical Fasteners
Material & Mass kg. (weight lbs.)		Stamped Zinc/Nickle Steel Upper & Lower w/Perimeter Seam Weld, 11.388 (25.065)
Filler pipe	Location & material	Left Rear Quarter Panel-Steel
	Connection to tank	Flexible Hose - Low Permeation
Fuel line (material)		Steel & Nylon - Low Permeation, High Conductivity Nylon
Fuel hose (material)		Nylon - Low Permeation, High Conductivity
Return line (material)		Steel & Nylon - Low Permeation, High Conductivity
Vapor line (material)		Steel & Nylon - Low Permeation
Extended range tank	Opt., n.a.	Not Available
	Capacity L (gallons)	Not Available
	Location & material	Not Available
	Attachment	Not Available
Auxiliary tank	Opt., n.a.	Not Available
	Capacity L (gallons)	Not Available
	Location & material	Not Available
	Attachment	Not Available
	Selector switch or valve	Not Available
Separate fill		Not Available

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issue \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description  
 Engine Code

3.8 LITER V6  
 L36

### Engine - Fuel System

(See Supplemental page for details of Fuel Injection, Supercharger, Turbocharger, etc. if used.)

Induction type: carburetor, fuel injection system, etc.		Sequential Fuel Injection
Manufacturer		Bosch
Carburetor no. of barrels		Not Applicable
Idle A/F mix.		PCM Controlled
Fuel injection	Point of injection (no.)	Ports (Six)
	Constant, pulse, flow	Pulse
	Control (electronic, mech.)	Electronic
	System pressure kPa (psi)	350 (50.8)
Idle speed-rpm (spec. neutral or drive and propane if used)	Manual	Not Applicable
	Automatic	PCM Controlled
Intake manifold heat control (exhaust or water thermostatic or fixed)		Throttle Body Water Heat; No Induction Air Heat
Air cleaner type		Replaceable Paper Element
Fuel filter (type/location)		Inline, Replaceable / Near Fuel Tank
Fuel pump	Type (elec. or mech.)	Electric
	Location (eng., tank)	Tank
	Pressure range kPa (psi)	270-350 (39.2 - 50.8)
	Flow rate at regulated pressure L (gal)/hr @ kPa (psi)	82 @ 350 (21.6 @ 50.8)

### Fuel Tank

Capacity refill L (gallons)		62.8 (16.6)
Location (describe)		Underbody, Forward of Rear Cross Member
Attachment		Two Steel Straps w/Four Vertical Fasteners
Material & Mass kg. (weight lbs.)		Stamped Zinc/Nickel Steel Upper & Lower with Perimeter Seam Wid. 11.338 (25.065)
Filler pipe	Location & material	Left Rear Quarter Panel-Steel
	Connection to tank	Flexible Hose - Low Permeation
Fuel line (material)		Steel & Low Permeation, High Conductivity Nylon
Fuel hose (material)		Low Permeation, High Conductivity Nylon
Return line (material)		Steel & Low Permeation, High Conductivity Nylon
Vapor line (material)		Steel & Low Permeation, High Conductivity Nylon
Extended range tank	Opt., n.a.	Not Available
	Capacity L (gallons)	Not Available
	Location & material	Not Available
	Attachment	Not Available
Auxiliary tank	Opt., n.a.	Not Available
	Capacity L (gallons)	Not Available
	Location & material	Not Available
	Attachment	Not Available
	Selector switch or valve	Not Available
Separate fill		Not Available

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description  
 Engine Code

3.1 LITER V6  
 L82

### Vehicle Emission Control

Type (air injection, engine modifications, other)		See Below	
Exhaust Emission Control	Air injection	Pump or pulse	Not Applicable
		Driven by	Not Applicable
		Air distribution (head, manifold, etc.)	Not Applicable
		Point of entry	Not Applicable
	Exhaust Gas Recirculation	Type (controlled flow, open orifice, other)	Controlled Flow
		Exhaust source	Exhaust Manifold
		Point of exhaust injection (spacer, carburetor, manifold, other)	Intake Manifold
	Catalytic Converter	Type	Three Way Catalyst
		Number of	One
		Locations(s)	Underbody
Volume L. (in <sup>3</sup> )		2.67 (163.0)	
Substrate type		Monolith/Ceramic	
Noble metal type		Platinum / Palladium / Rhodium	
Noble metal concentration (g/cm <sup>2</sup> )			
Crankcase Emission Control	Type (ventilates to atmosphere, induction system, other)		Induction System
	Energy source (manifold vacuum, carburetor, other)		Manifold Vacuum
	Discharges to (intake manifold, other)		Intake Manifold
	Air inlet (breather cap, other)		Right Rear Rocker Arm Cover
Evaporative Emission Control	Vapor vented to (crankcase, canister, other)	From Fuel Tank To	Canister
		From Carburetor To	Not Applicable
	Vapor storage provision		Canister
Electronic system	Closed loop (yes/no)		Yes
	Open loop (yes/no)		No

### Engine - Exhaust System

Type (single, single with cross-over, dual, other)		Single w/Crossover
⊙	Muffler no. & type (reverse flow, straight thru, separate resonator), Muffler volume (liters), Material & Mass kg. (weight lbs.)	Single, Reverse Flow, 17.0L, 409 Stainless Steel
⊙	Resonator no., type, & volume (liters)	Round Bottle, Straight Thru, 2.4L
Exhaust pipe	Branch o.d., wall thickness	Not Applicable
	Main o.d., wall thickness	Not Applicable
	Material & Mass kg. (weight lbs.)	Not Applicable
Intermediate pipe	o.d. & wall thickness	50.8 x 1.1 mm (2.0 x 0.043 in.)
	Material & Mass kg. (weight lbs.)	409 Stainless Steel
Tail pipe	o.d. & wall thickness	50.8 x 1.1 mm (2.0 x 0.043 in.)
	Material & Mass kg. (weight lbs.)	409 Stainless Steel - Painted Black

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (#) \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description 3.8 LITER V6  
 Engine Code L36

### Vehicle Emission Control

Type (air injection, engine modifications, other)		See Below	
Exhaust Emission Control	Air injection	Pump or pulse	Not Applicable
		Driven by	Not Applicable
		Air distribution (head, manifold, etc.)	Not Applicable
		Point of entry	Not Applicable
	Exhaust Gas Recirculation	Type (controlled flow, open orifice, other)	Controlled Flow
		Exhaust source	Exhaust Manifold
		Point of exhaust injection (spacer, carburetor, manifold, other)	Intake Manifold
	Catalytic Converter	Type	Three-Way Catalyst
		Number of	Two
		Location(s)	Mounted to Underbody
Volume L (in <sup>3</sup> )		2.67 (163.0)	
Substrate type		Ceramic/Monolith	
Noble metal type		Platinum, Rhodium, Palladium	
Noble metal concentration (g/cm <sup>2</sup> )		0.001346	
Crankcase Emission Control	Type (ventilates to atmosphere, induction system, other)		Positive Ventilation To Induction System
	Energy source (manifold vacuum, carburetor, other)		Manifold Vacuum
	Discharges to (intake manifold, other)		Intake Manifold
	Air inlet (breather cap, other)		Throttle Body
Evaporative Emission Control	Vapor vented to (crankcase, canister, other)	From Fuel Tank To	Canister
		From Carburetor To	Not Applicable
	Vapor storage provision		Canister
Electronic system	Closed loop (yes/no)		Yes
	Open loop (yes/no)		No

### Engine - Exhaust System

Type (single, single with cross-over, dual, other)		Dual, w/Crossover
⊘	Muffler no. & type (reverse flow, straight thru, separate resonator), Muffler volume (liters), Material & Mass kg. (weight lbs.)	Dual, Reverse Flow, 22.2L, 409 Stainless Steel
⊘	Resonator no., type, & volume (liters)	Round Bottle, Straight Thru, 2.4L
Exhaust pipe	Branch o.d., wall thickness	Not Applicable
	Main o.d., wall thickness	Not Applicable
	Material & Mass kg. (weight lbs.)	Not Applicable
Intermediate pipe	o.d. & wall thickness	57.2 x 1.4 mm, (2.25 x .055 in.)
	Material & Mass kg. (weight lbs.)	409 Stainless Steel
Tail pipe	o.d. & wall thickness	Two @ 57.2 x 1.4 mm (2.25 x .055 in.)
	Material & Mass kg. (weight lbs.)	409 Stainless Steel - Painted Black

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description 3.1 LITER V6  
 Engine Code L82

### Transmissions/Transaxle (Std., Opt., N.A.)

Manual 4-speed (manufacturer/country)	Not Applicable
Manual 5-speed (manufacturer/country)	Not Applicable
Manual 6-speed (manufacturer/country)	Not Applicable
Automatic (manufacturer/country)	Not Applicable
Automatic overdrive (manufacturer/country)	Gm Powertrain Group,USA

### Manual Transmission/Transaxle (NOT APPLICABLE)

Number of forward speeds		
Gear ratios	1st	
	2nd	
	3rd	
	4th	
	5th	
	6th	
	Reverse	
Synchronous meshing (specify gears)		
Shift lever location		
Trans. case material & mass kg. (lbs.)*		
Lubricant	Capacity L (pt.)	
	Type recommended	

### Clutch (Manual Transmission) (NOT APPLICABLE)

Clutch manufacturer		
Clutch type (dry, wet; single, multiple disc)		
Linkage (hydraulic, cable, rod, lever, other)		
Max. pedal effort (nom. spring load) N (lbs.)	Depressed	
	Released	
Assist (spring, power/percent, nominal)		
Type pressure plate springs		
Total spring load (nominal) N (lbs.)		
Clutch facing	Facing mfr. & material coding	
	Facing material & construction	
	Rivets per facing	
	Outside x inside dia. (nominal)	
	Total eff. area cm <sup>2</sup> (in. <sup>2</sup> )	
	Thickness (pressure plate side/fly wheel side)	
Rivet depth (pressure plate side/fly wheel side)		
Engagement cushion method		
Release bearing type & method lub.		
Torsional damping method, springs, hysteresis		

\* Includes shift linkage, lubricant, and clutch housing. If other specify.

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description  
 Engine Code

3.8L LITER V6  
 L36

### Transmissions/Transaxle (Std., Opt., N.A.)

Manual 4-speed (manufacturer/country)	Not Applicable
Manual 5-speed (manufacturer/country)	Not Applicable
Manual 6-speed (manufacturer/country)	Not Applicable
Automatic (manufacturer/country)	Not Applicable
Automatic overdrive (manufacturer/country)	Gm Powertrain Group, USA

### Manual Transmission/Transaxle

(NOT APPLICABLE)

Number of forward speeds		
Gear ratios	1st	
	2nd	
	3rd	
	4th	
	5th	
	6th	
	Reverse	
Synchronous meshing (specify gears)		
Shift lever location		
Trans. case material & mass kg. (lbs.)*		
Lubricant	Capacity L (pt.)	
	Type recommended	

### Clutch (Manual Transmission)

(NOT APPLICABLE)

Clutch manufacturer		
Clutch type (dry, wet, single, multiple disc)		
Linkage (hydraulic, cable, rod, lever, other)		
Max. pedal effort (nom. spring load) N (lbs.)	Depressed	
	Released	
Assist (spring, power/percent, nominal)		
Type pressure plate springs		
Total spring load (nominal) N (lbs.)		
Clutch facing	Facing mgr. & material coding	
	Facing material & construction	
	Rivets per facing	
	Outside x inside dia. (nominal)	
	Total eff. area cm <sup>2</sup> (in. <sup>2</sup> )	
	Thickness (pressure plate side/fly wheel side)	
	Rivet depth (pressure plate side/fly wheel side)	
Engagement cushion method		
Release bearing type & method lub.		
Torsional damping method, springs, hysteresis		

\* Includes shift linkage, lubricant, and clutch housing. If other specify.

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description	3.1 LITER V6
Engine Code	L82

### Automatic Transmission/Transaxle

Trade Name		Hydra-Matic 4T60-E (M13) Transaxle
Type and special features (describe)		Four-Speed Automatic w/Torque Converter Clutch - ECCC
Shift mechanics		Hydraulic Clutches/Electronic Controls
Gear selector	Location (column, floor, other)	Column & Floor (Mechanical)
	Ltr./No. designation (e.g. PRND21)	P - R - N - <b>(D)</b> - D - 2 - 1
	Shift interlock (yes, no, describe)	Yes - Brake, Ignition Key
Gear ratios	1st	2.92
	2nd	1.57
	3rd	1.00
	4th	0.70
	5th	Not Applicable
	6th	Not Applicable
	Reverse	2.38
Final drive ratio		3.29
Max. upshift vehicle speed - drive range km/h (mph)		One - Two = 66 (41)      Three - Four = 163 (101) Two - Three = 124 (77)
Max. upshift engine speed RPM		5600
Max. kickdown speed - drive range km/h (mph)		Two - One = 48 (30)      Four - Three: 151 (94) Three - Two = 113 (70)
Min. overdrive speed km/h (mph)		50 (31) Minimum 4-3
Torque converter	Type	ECCC
	Torus design	Yes
	Number of elements	Three
	Max. ratio at stall	1.95
	Type of cooling (air, liquid)	Liquid
	Nominal diameter	245.0 mm
Capacity factor "K"		180
Pump type		Variable Displacement Vane
Lubricant	Capacity refill L (qts.)	12.7 (13.4) Dry
	Type recommended	Dexron III
Oil cooler (std., opt., N.A., internal, external, air, liquid)		Standard, Integral with Radiator
Transmission mass kg (lbs.) & case material**		81.0 (178.50), Cast Aluminum

### All Wheel / 4 Wheel Drive

(NOT APPLICABLE)

Description & type (part-time, full-time, 2/4 shift while moving, mechanical, elect., chain/gear, etc.)		
Transfer case	Manufacturer and model	
	Type and location	
Low-range gear ratio		
System disconnect (describe)		
Center differential	Type (bevel, planetary, w or w/o viscous bias, torsen, etc.)	
	Torque split (% front/rear)	

\* Input speed +  $\sqrt{\text{torque}}$

\*\* Dry weight including torque converter. If other, specify.



# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 issued            Revised (●)           

METRIC (U.S. Customary)

Engine Description Engine Code	3.8 LITER V6 L36
-----------------------------------	---------------------

## Automatic Transmission/Transaxle

Trade Name	Hydra-Matic 4T65E Transaxle	
Type and special features (describe)	Four Speed, Front Wheel Drive, Electronically Controlled, Automatic Transaxle with Torque Converter Clutch and Overdrive	
Shift mechanics	Hydraulic Clutches/Electronic Controls	
Gear selector	Location (column, floor, other)	Floor
	Ltr./No. designation (e.g. PRND21)	P - R - N - <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">D</span> D - 2 - 1
	Shift interlock (yes, no, describe)	Yes - Brake, Ignition Key
Gear ratios	1st	2.92
	2nd	1.57
	3rd	1.00
	4th	0.70
	5th	Not Applicable
	6th	Not Applicable
	Reverse	2.39
	Final drive ratio	3.29
Max. upshift vehicle speed - drive range km/h (mph)	One - Two = 45 MPH Two - Three = 85 MPH	
Max. upshift engine speed RPM	5700	
Max. kickdown speed - drive range km/h (mph)	Two - One = 35 MPH Three - Two = 122 (76)	
Min. overdrive speed km/h (mph)	67 (42)	
Torque converter	Type	ECCC
	Torus design	Yes
	Number of elements	Three
	Max. ratio at stall	1.68
	Type of cooling (air, liquid)	Liquid
	Nominal diameter	245 mm (9.7 in.)
Capacity factor "K"	163 k	
Pump type	Variable Displacement Vane	
Lubricant	Capacity refill L (pt.)	12.7 (26.8), Dry Transmission
	Type recommended	Dexron III
Oil cooler (std., opt., N.A., internal, external, air, liquid)	Standard, Integral with Radiator	
Transmission mass kg (lbs.) & case material**	93.63 (206.4) Wet, Cast Aluminum	

## All Wheel / 4 Wheel Drive

(NOT APPLICABLE)

Description & type (part-time, full-time, 2/4 shift while moving, mechanical, elect., chain/gear, etc.)	
Transfer case	Manufacturer and model
	Type and location
Low-range gear ratio	
System disconnect (describe)	
Center differential	Type (bevel, planetary, w or w/o viscous bias, torsion, etc.)
	Torque split (% front/rear)

\* Input speed +  $\sqrt{\text{torque}}$

\*\* Dry weight including torque converter. If other, specify.

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (\*) \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description	3.1 LITER V6
Engine Code	L82

### Axle Ratio and Tooth Combinations (See 'Power Teams' for axle ratio usage) (AUTOMATIC TRANS - M13)

Effective final drive ratio (or overall top gear ratio)		3.33 (2.35)
Transfer ratio and method (chain, gear, etc.)		1.00 Chain
Front drive unit	Ring gear o.d.	Not Applicable
	No. of teeth	Not Applicable
	Pinion	Not Applicable
	Ring gear	Not Applicable

### Front Drive Unit

Description (integral to trans., etc.)		Planetary Final Drive Integral with Transmission
Limited slip differential (type)		Not Applicable
Drive pinion	Type	Not Applicable
	Offset	Not Applicable
No. of differential pinions		Two
Pinion / differential	Adjustment (shim, etc.)	Not Applicable
	Bearing adjustment	Not Applicable
Driving wheel bearing (type)		
Lubricant	Capacity L (pt.)	8.0 (16.9)
	Type recommended	Dexron II

### Axle Shafts - Front Wheel Drive

Manufacturer and number used		Two Per Car		
Type (straight, solid bar, tubular, etc.)	Left	Straight Solid Bar		
	Right	Straight Solid Bar		
Outer diam. x length* x wall thickness	Manual Transaxle	Left	Not Applicable	
		Right	Not Applicable	
	Automatic transaxle	Left	27.1 x 326.0 mm (1.07 x 12.83 in.)	
		Right	27.1 x 363.0 mm (1.07 x 14.19 in.)	
	Optional transaxle	Left	Not Applicable	
		Right	Not Applicable	
Slip yoke	Type	-		
	Number of teeth	-		
	Spline o.d.	-		
Universal joints	Make and mfg. no.	Inner	Delphi Saginaw Steering Systems	
		Outer	Delphi Saginaw Steering Systems	
	Number used		Four, Two on Each Shaft	
	Type, size, plunge	Inner	Tripot Joint, 27 Size 66.0 mm Plunge	
		Outer	Rzeppa Joint: Fixed, 27 Size	
	Attach (u-bolt, clamp, etc.)		Inboard Joint - Snap Ring, Outboard Joint (Nut/Washer - Clamping)	
Bearing	Type (plain, anti-friction)	Inboard Joint: Ball Bearing, Needle Roller Bearing (Anti-Friction Bearing) Outboard Joint: Ball Bearing		
	Lubrication (fitting, prepack)	Prepacked		
Drive taken through (torque tube, arms or springs)		Wishbone Lower Control Arm, Upper Macpherson Strut		
Torque taken through (torque tube, arms or springs)		Engine Mounting System		

\* Centerline to centerline of universal joints, or to centerline of attachment.

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description Engine Code	3.8 LITER V6 (231) L36
-----------------------------------	---------------------------

### Axle Ratio and Tooth Combinations (See 'Power Teams' for axle ratio usage)

Effective final drive ratio (or overall top gear ratio)	3.29
Transfer ratio and method (chain, gear, etc.)	
Front drive unit	Ring gear o.d.
	No. of teeth
	Ring gear

### Front Drive Unit

Description (integral to trans., etc.)	Integral to Transmission	
Limited slip differential (type)	Not Applicable	
Drive pinion	Type	Not Applicable
	Offset	Not Applicable
No. of differential pinions	Two	
Pinion / differential	Adjustment (shim, etc.)	Not Applicable
	Bearing adjustment	Not Applicable
Driving wheel bearing (type)	Sealed Ball Bearing	
Lubricant	Capacity L (pt.)	
	Type recommended	

### Axle Shafts - Front Wheel Drive

Manufacturer and number used		Delphi Saginaw Steering Systems		
Type (straight, solid bar, tubular, etc.)		Left	Straight Solid Bar	
		Right	Straight Solid Bar	
Outer diam. x length* x wall thickness	Manual Transaxle	Left	Not Applicable	
		Right	Not Applicable	
	Automatic transaxle	Left	27.8 x 323.0 mm	
		Right	27.8 x 353.0 mm	
	Optional transaxle	Left	Not Available	
		Right	Not Available	
Slip yoke	Type	Not Applicable		
	Number of teeth	Not Applicable		
	Spline o.d.	Not Applicable		
Universal joints	Make and mfg. no.	Inner	Delphi Saginaw Steering Systems	
		Outer	Delphi Saginaw Steering Systems	
	Number used	Inboard & Outboard on Each Shaft Assembly		
	Type, size, plunge	Inner	Tripot Joint, 32 Size 66.0 mm Plunge	
		Outer	Rzeppa Joint; Fixed Center, 32 Size	
	Attach (u-bolt, clamp, etc.)	Retaining Ring (Inboard)		Integral/Washer (Outboard)
Bearing	Type (plain, anti-friction)	Inner - Ball & Roller Outer - Ball		
	Lubrication (fitting, prepack)	Prepacked		
Drive taken through (torque tube, arms or springs)		Wishbone Lower Control Arm, Upper MacPherson Strut		
Torque taken through (torque tube, arms or springs)		Engine Mounting System		

\* Centerline to centerline of universal joints, or to centerline of attachment.

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary)

Model Code/Description And/Or  
 Engine Code/Description

3.1 LITER V6  
 L82

### Suspension - General Including Electronic Controls

Car leveling	Standard/optional/not available		Not Available	
	Manual/automatic control		Not Available	
	Type (air/hydraulic)		Not Available	
	Primary/assist spring		Not Available	
	Rear only/4 wheel leveling		Not Available	
	Single/dual rate spring		Not Available	
	Single/dual ride heights		Not Available	
	Provision for jacking		Body Rails, Under Rocker Panels; Jack Pad at Center of Rear Crossmember	
Shock absorber damping controls	Standard/option/not available		Not Available	
	Manual/automatic control		Not Available	
	Number of damping rates		Not Available	
	Type of actuation (manual/ electric motor/air, etc.)		Not Available	
	Sensors	Lateral acceleration		Not Available
		Deceleration		Not Available
Acceleration		Not Available		
Road surface		Not Available		
Shock absorber (front & rear)	Type		MacPherson Strut Front, MacPherson Strut Rear	
	Make		Delphi Chassis Systems	
	Piston diameter		35.0 mm (1.38 in.)	
	Rod diameter		25.0 mm (1.00 in.)	

### Suspension - Front

Type and description		MacPherson Strut with Coil Springs, One-Piece "A" Configuration Lower Control Arms
Travel	Full jounce (define load condition)	78.0 mm (3.07 in.)
	Full rebound	95.0 mm (3.74 in.)
Spring	Type (coil, leaf, other & material)	Coil
	Insulators (type & material)	Rubber
	Size (Leaf: length & width; Coil: design height & i.d.; Bar: length & diameter)	Coil: 200.3 mm (7.89 in.); 173.0 mm (6.81 in.)
	Spring rate N/mm (lb./in.)	23.5 (134.2)
	Rate at wheel N/mm (lb./in.)	26.8 (153.0)
Stabilizer	Type (link, linkless, frameless)	Linkless
	Material & O.D. bar/tube, wall thickness	Steel, 32.0 mm (1.26 in.) - Hollow; Wall thickness = 4.8 mm

### Suspension - Rear

Type and description		Tri-Link Independent MacPherson Strut with Coil Springs Lateral Links Attached to Body Cross Member, Trailing Arms
Travel	Full jounce (define load condition)	102.0 mm (4.02 in.)
	Full rebound	105.0 mm (4.13 in.)
Spring	Type (coil, leaf, other & material)	Coil
	Size (Leaf: length & width; Coil: design height & i.d.; Bar: length & diameter)	Coil: 224.0 mm (8.8 in.); 137.0 mm (5.4 in.)
	Spring rate N/mm (lb./in.)	18.5 / 33.3 Variable Rate
	Rate at wheel N/mm (lb./in.)	TBD
	Insulators (type & material)	Rubber
	If leaf	No. of leaves
	Shackle (comp. or tens.)	-
Stabilizer	Type (link, linkless, frameless)	Link
	Material & O.D. bar/tube, wall thickness	Steel, 16.0 mm (0.63 in.) Solid
Track bar (type)		Not Applicable

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 issued Revised (●)

## METRIC (U.S. Customary)

Model Code/Description And/Or  
 Engine Code/Description

**3.8 LITER V6**  
**L36**

### Suspension - General Including Electronic Controls

Car leveling	Standard/optional/not available	Not Available	
	Manual/automatic control	Not Available	
	Type (air/hydraulic)	Not Available	
	Primary/assist spring	Not Available	
	Rear only/4 wheel leveling	Not Available	
	Single/dual rate spring	Not Available	
	Single/dual ride heights	Not Available	
	Provision for jacking	Body Rails, Under Rocker Panels: Jack Pad at Center of Rear Crossmember	
Shock absorber damping controls	Standard/optional/not available	Not Available	
	Manual/automatic control	Not Available	
	Number of damping rates	Not Available	
	Type of actuation (manual/electric motor/air, etc.)	Not Available	
	Sensors	Lateral acceleration	Not Available
		Deceleration	Not Available
Acceleration		Not Available	
Road surface		Not Available	
Shock absorber (front & rear)	Type	MacPherson Strut Front, Tubular Rear	
	Make	Delphi Chassis Systems	
	Piston diameter	35.0 mm (1.38 in.)	
	Rod diameter	25.0 mm (1.00 in.)	

### Suspension - Front

Type and description		MacPherson Strut with Coil Springs, One-Piece "A" Configuration Lower Control Arms
Travel	Full jounce (define load condition)	78.0 mm (3.07 in.)
	Full rebound	95.0 mm (3.74 in.)
Spring	Type (coil, leaf, other & material)	Coil
	Insulators (type & material)	Rubber
	Size (Leaf: length & width; Coil: design height & I.d.; Bar: length & diameter)	Coil: 200.3 mm (7.89 in.); 173.0 mm (6.81 in.)
	Spring rate N/mm (lb./in.)	23.5 (134.2)
	Rate at wheel N/mm (lb./in.)	26.8 (153.0)
Stabilizer	Type (link, linkless, frameless)	Linkless
	Material & O.D. bar/tube, wall thickness	Steel, 34.0 mm (1.34 in.) - Hollow (Wall Thickness = 5.1 mm)

### Suspension - Rear

Type and description		Tri-Link Independent MacPherson Strut with Coil Springs Large Lateral Links Attached to Body Cross Member, Trailing Arms	
Travel	Full jounce (define load condition)	102.0 mm (4.02 in.)	
	Full rebound	105.0 mm (4.13 in.)	
Spring	Type (coil, leaf, other & material)	Coil	
	Size (Leaf: length & width; Coil: design height & I.d.; Bar: length & diameter)	Coil: 224.0 mm (8.8 in.); 137.0 mm (5.4 in.)	
	Spring rate N/mm (lb./in.)	18.5 / 33.3 Variable Rate	
	Rate at wheel N/mm (lb./in.)	TBD	
	Insulators (type & material)	Rubber	
	If leaf	No. of leaves	--
		Shackle (comp. or tens.)	--
Stabilizer	Type (link, linkless, frameless)	Link	
	Material & O.D. bar/tube, wall thickness	Steel, 20.0 mm (0.79 in.) Solid	
Track bar (type)		Not Applicable	

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary)

Model Code/Description And/Or  
 Engine Code/Description

ALL

### Brakes - Service

Description		Dual Piston Caliper - Front Disc; Single Piston Caliper - Rear Disc		
Manufacturer and brake type (std., opt., n.a.)	Front (disc or drum)	Disc		
	Rear (disc or drum)	DRUM (3.1L); DISC (3.8L)		
Valving type (proportion, delay, metering, other)		Proportioning		
Power brake (std., opt., n.a.)		Standard		
Booster type (remote, integral, vac., hyd., etc.)		Vacuum		
Vacuum	Source (inline, pump, etc.)	Inline		
	Reservoir (volume in. <sup>3</sup> )	Not Applicable		
	Pump-type (elec., gear or belt driven)	Not Applicable		
Traction assist	Operational speed range	Not Applicable		
	Type (engine or brake intervention)	Not Applicable		
Antilock device	Front/rear (std., opt., n.a.)	Standard - All Models		
	Manufacturer	Delphi Chassis Systems		
	Type (electronic, mech.)	Electronic		
	Number sensors or circuits	Four		
	Number antilock hydraulic circuits	Four Separate Brake Lines/Three Controlled Channels (LF, RF, RR)		
	Integral or add-on system	Add-On Mounted to Master Cylinder		
	Yaw control (yes, no)	Yes		
Hyd. power source (elec., vac., mtr., pwr., strg.)		Not Applicable		
Effective area cm <sup>2</sup> (in. <sup>2</sup> )*		Four Wheels 286.1 cm <sup>2</sup> (44.4 in. <sup>2</sup> )		
Gross Lining area cm <sup>2</sup> (in. <sup>2</sup> )** (F/R)		F: 167.7 (26.0); R: 118.4 cm <sup>2</sup> (18.4 in. <sup>2</sup> )		
Swept area cm <sup>2</sup> (in. <sup>2</sup> )** (F/R)		F: 1165.2 (180.6); R: 1034.0 cm <sup>2</sup> (160.3 in. <sup>2</sup> )		
Rotor	Outer working diameter	F/R	F: 262.5 mm (11.1 in.); R: 276.0 mm (10.9 in.)	
	Inner working diameter	F/R	F: 206.0 mm (8.1 in.); R: 208.0 mm (8.2 in.)	
	Thickness	F/R	F: 26.3 mm (1.04 in.); R: 11.0 mm (.43 in.)	
	Material & type (vented/solid)	F/R	F: Composite Vented; R: Composite Solid	
Drum	Diameter & width	F/R	225.0 x 45.0 mm (8.86 x 1.77 in.)	
	Type and material	F/R	Composite Solid	
Wheel cylinder bore		F: 42.0 mm (1.65 in.); R: 38.0 mm (1.50 in.)		
Master cylinder	Bore/stroke	F/R	Bore: 24.0 mm (0.94 in.); Stroke: 35.5 mm (1.40 in.)	
Pedal arc ratio		3.5:1		
Line press. at 445 N (100 lb.) pedal load (kPa (psi))		13600 kPa (1972 psi)		
Lining clearance		F/R	0/0 mm	
Brake lining	Front wheel	Bonded or riveted (rivets/seg.)		Integrally Molded
		Rivet Size		-
		Manufacturer		Delphi Chassis Systems
		Lining code *****		DM130EE
		Material		Semi-Metallic
		****	Primary or out-board	119.4 x 38.1 mm / (4.7 x 1.5 in.)
	Size	Secondary or in-board	119.4 x 38.1 mm / (4.7 x 1.5 in.)	
	Shoe thickness (no lining)		4.98 mm (0.196 in.)	
	Rear wheel	Bonded or riveted (rvts/seg.)		Integrally Molded (Disc); Riveted (Drum)
		Manufacturer		Delco Chassis Division
		Lining code *****		DM131 EE (Disc); 245 FF (Drum)
		Material		Semi-Metallic
****		Primary or out-board	91.0 x 33.5 x 9.0 mm (3.58 x 1.32 x .35 in.)	
Size		Secondary or in-board	91.0 x 33.5 x 9.0 mm (3.58 x 1.32 x .35 in.)	
Shoe thickness (no lining)		5.0 mm (0.197 in.)		

\* Excludes rivet holes, grooves, chamfers, etc.

\*\* Includes rivet holes, grooves, chamfers, etc.

\*\*\* Total swept area for four brakes. (Drum brake: Widest lining contact width for each brake x its contact circumference.)  
 (Disc brake: Square of Outer Working Dia. minus Square of inner Working Dia. multiplied by Pi/2 for each brake.)

\*\*\*\* Size for drum brakes includes length x width x thickness. \*\*\*\*\*Manufacturer I.D., catalog for formulation designation and coefficient of friction classification.

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary)

Model Code/Description And/Or  
 Engine Code/Description

ALL

### Tires And Wheels (Standard)

Tires	Size (service description)		P205/70R15 AL2 BW (95 S)
	Type (bias, radial, steel, nylon, etc.)		Steel Belted Radial
	Inflation pressure (cold) for recommended max. vehicle load	Front kPa (psi)	207 (30)
		Rear kPa (psi)	207 (30)
Rev./mile at 70 km/h (45 mph)		492 Rev/Km	
Wheels	Type & material		Stamped Steel
	Rim (size & flange type)		15 x 6
	Wheel offset		42.0 mm
	Attachment	Type (bolt or stud & nut)	Stud (M12 x 1.5)
		Circle diameter	115 mm
Number & size		Five & M12	
Spare	Tire and wheel		Compact Spare T125/70D16 16 x 4 Wheel
	Storage position & location (describe)		Horizontal, Under Trunk Compartment Load Floor

### Tires And Wheels (Optional)

Tire size (service description)		P215/65R15 - Police
Type (bias, radial, steel, nylon, etc.)		Steel Belted Radial
Wheel (type & material)		Stamped Steel
Rim (size, flange type and offset)		15 x 6 (42.0 mm Offset)
Tire size (service description)		
Type (bias, radial, steel, nylon, etc.)		
Wheel (type & material)		
Rim (size, flange type and offset)		
Tire size (service description)		P225/60R16 AL2 BW (97 S)
Type (bias, radial, steel, nylon, etc.)		Steel Belted Radial
Wheel (type & material)		Cast Aluminum
Rim (size, flange type and offset)		16 x 6.5 (38.0 mm Offset)
Tire size (service description)		P225/60R16 - AL3 BW - Z34 (97 H)
Type (bias, radial, steel, nylon, etc.)		Steel Belted Radial
Wheel (type & material)		Cast Aluminum
Rim (size, flange type and offset)		16 x 6.5 (38.0 mm Offset)
Spare tire and wheel size		
(if configuration is different than road tire or wheel, describe optional spare tire and/or wheel location & storage position)		

### Brakes - Parking

Type of control		Single Stroke, Foot Pedal Application, Push to Release
Location of control		Left of Driver's Left Knee
Operates on		Rear Service Brakes
If separate from service brakes	Type (internal or external)	-
	Drum diameter	-
	Lining size (length x width x thickness)	-

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary)

Model Code/Description And/Or  
 Engine Code/Description

ALL

### Steering

Manual (std., opt., n.a.)		Not Available		
Power (std., opt., n.a.)		Standard		
Speed-sensitive (std., opt., n.a.)		Not Available		
4-wheel steering (std., opt., n.a.)		Not Available		
Adjustable steering wheel/column (tilt, telescope, other)	Type	Tilt		
	Manufacturer	Delphi Saginaw Steering		
	(std., opt., n.a.)	Standard		
Wheel diameter** (W9) SAE J1100	Manual	Not Available		
	Power	380.0 mm		
Turning diameter m (ft.)	Outside front	Wall to wall (l. & r.)	Coupe: FE1 - 12.93 (42.42); F41 - 13.58 (44.55)	
		Curb to curb (l. & r.)	FE1 - 11.2 (36.7); F41 - 11.88 (39.0)	
	Inside rear	Wall to wall (l. & r.)	Not Available	
		Curb to curb (l. & r.)	7.18 (23.6)	
Scrub Radius*		Base - 15.78 mm; Touring - 16.39; Sport - 24.05 mm		
Manual	Gear	Type	Not Available	
		Manufacturer	Not Available	
		Ratios	Gear	Not Available
			Overall	Not Available
	No. wheel turns (stop to stop)		Not Available	
Power	Type (coaxial, elec. hyd., etc.)		Hydraulic	
	Manufacturer		Saginaw Division	
	Gear	Type	End Take-Off Rack and Pinion	
		Ratios	Gear	49.9 mm/Rev
			Overall	15.7:1
	Pump (drive)		Belt	
	No. wheel turns (stop to stop)		P205/70R15-2.76 (FE1)	P225/60R16 - 2.60 (FE1)
		P225/60R16-2.60 (F41)		
Linkage	Type		End Take-Off	
	Location (front or rear of wheels, other)		Rear	
	Tie rods (one or two)		Two	
Steering axis	Inclination at camber (deg.)		13.4	
	Bearings (type)	Upper	Ball Bearing	
		Lower	Ball Joint	
		Thrust	Not Applicable	
Steering spindle/knuckle & joint type		MacPherson Strut		

\* The horizontal distance in the front elevation between wheel centerline and kingpin (ball joint) axis at ground.

\*\* See Page 23.



# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary)

Model Code/Description And/Or  
 Engine Code/Description

ALL

### Wheel Alignment

Front wheel at curb mass (wt.)	Service checking	Caster (deg.)	1.8 ± 0.5	
		Camber (deg.)	0.7 ± 0.5	
		Toe-in outside track mm (in.)	0.0 ± 0.20 (Sum Toe)	
	Service reset*	Caster (deg.)	Pre-set	
		Camber (deg.)	0.7	
		Toe-in mm (in.)	0.0	
Periodic M.V. inspection	Caster (deg.)	Pre-set		
	Camber (deg.)	0.7		
	Toe-in mm (in.)	0.0		
Rear wheel at curb mass (wt.)	Service checking	Camber (deg.)	15" Whl. -0.35 ± 0.5	16" Whl. -0.45 ± 0.5
		Toe-in outside track (deg.)	0.0 ± 0.3 (Sum Toe)	
	Service reset*	Camber (deg.)	15" Whl. -0.35 ± 0.5	16" Whl. -0.45 ± 0.5
		Toe-in (deg.)	0.0 ± 0.3 (Sum Toe)	
	Periodic M.V. insp.	Camber (deg.)	15" Whl. -0.35 ± 0.5	16" Whl. -0.45 ± 0.5
		Toe-in mm (in.)	0.0 ± 0.3 (Sum Toe)	

\* Indicates pre-set, adjustable, trend set or other.

### Electrical - Instruments and Equipment

Speedometer	Type (analog, digital, std., opt.)	Analog	
	Trip odometer (std., opt., n.a.)	Not Available	
Head-up display	Standard, optional, not available		Not Available
	Type	Secondary, opto-electronic	Not Available
	Speedometer	Digital	Not Available
	Status/warning indicators	Turn signals, high beam, low fuel, check gauges	Not Available
	Brightness control	Day / night mode, adjustable	Not Available
EGR maintenance indicator		Not Available	
Charge indicator	Type	Not Available	
	Warning device (light, audible)	Tell-Tale Light	
Temperature indicator	Type	Not Available	
	Warning device (light, audible)	Tell-Tale Light	
Oil pressure indicator	Type	Not Available	
	Warning device (light, audible)	Tell-Tale Light	
Fuel indicator	Type	Analog	
	Warning device (light, audible)	Not Available	
Windshield wiper	Type (standard)	Depressed Park / Pulse Wiper	
	Type (optional)	Not Available	
	Blade length	560.0 mm (22.0 in.)	
	Swept area cm <sup>2</sup> (in. <sup>2</sup> )	7558.3 (1171.5)	
Windshield washer	Type (standard)	Wet-Arm System	
	Type (optional)	Not Available	
	Fluid level indicator (light, audible)	Not Available	
Rear window wiper, wiper/washer (std., opt., n.a.)		Not Available	
Horn	Type	Vibrator	
	Number used	Two	
Other	PRNDL Odometer Tachometer	Mechanical Mechanical Not Available	

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 issued Revised (●)

## METRIC (U.S. Customary)

Engine Description  
 Engine Code

3.1 LITER V6  
 L82

### Electrical - Supply System

Battery	Manufacturer	Delphi Energy & Engine Management Systems
	Model, std., (opt.)	SAE 78-600
	Voltage	12
	Amps at 0° F. cold crank	600
	Minutes-reserve capacity	115
	Amps/nrs.-20 hr. rate	69
	Location	Engine Compartment
Alternator	Manufacturer	Delphi
	Rating (idle/max. rpm)	36/100 Amps
	Ratio (alt. crank/rev.)	2.75
	Output at idle (rpm, park)	68 Amps
	Optional (type & rating)	Not Applicable
Regulator	Type	Integral with Alternator

### Electrical - Starting System

Motor	Manufacturer	Delphi
	Current drain -29 (-20) °C (°F)	325 Amps
	Power rating kw (hp)	1.4 (1.9)
Motor drive	Engagement type	Solenoid Actuated, Positive Engagement
	Pinion engages from (front, rear)	Front

### Electrical - Ignition System

Type	Electronic (std., opt., n.a.)	Standard	
	Other (specify)	Not Applicable	
Coil	Manufacturer	Delphi	
	Model	Direct Ignition	
	Current	Engine stopped - A	Less than 100 mA
		Engine idling - A	Less than 1.5 A (Avg.)
Spark plug	Manufacturer	Delphi	
	Model	41 - 940	
	Thread (mm)	14	
	Tightening torque N-m (lb. ft.)	9-20 (7-15)	
	Gap	1.5 mm	
	Number per cylinder	One	
Distributor	Manufacturer	Not Applicable	
	Model	Not Applicable	

### Electrical - Suppression

Locations & type	
------------------	--

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued            Revised (●)           

## METRIC (U.S. Customary)

Engine Description  
 Engine Code

3.8 LITER V6  
 L36

### Electrical - Supply System

Battery	Manufacturer	Delphi Energy & Engine Management Systems
	Model, std., (opt.)	SAE 78-690
	Voltage	12
	Amps at 0° F. cold crank	690
	Minutes-reserve capacity	115
	Amps/hrs. -20 hr. rate	69
	Location	Engine Compartment
Alternator	Manufacturer	Delphi
	Rating (idle/max. rpm)	36/100 Amps
	Ratio (alt. crank/rev.)	2.98
	Output at idle (rpm, park)	70 Amps w/AC on
	Optional (type & rating)	Not Applicable
Regulator	Type	Integral with Alternator

### Electrical - Starting System

Motor	Manufacturer	Delphi
	Current drain -29 (-20) °C (°F)	400 Amps
	Power rating kw (hp)	1.5 (2.0)
Motor drive	Engagement type	Solenoid Actuated, Positive Engagement
	Pinion engages from (front, rear)	Front

### Electrical - Ignition System

Type	Electronic (std., opt., n.a.)	Standard	
	Other (specify)	Not Available	
Coil	Manufacturer	Delphi	
	Model	Direct Ignition	
	Current	Engine stopped - A	Less than 100 mA
		Engine idling - A	Less than 1.5 A (Avg.)
Spark plug	Manufacturer	Delphi	
	Model	R44LTSM6	
	Thread (mm)	14	
	Tightening torque N-m (lb. ft.)	9-20 (7-15)	
	Gap	1.5 mm	
	Number per cylinder	One	
Distributor	Manufacturer	Not Applicable	
	Model	Not Applicable	

### Electrical - Suppression

Locations & type	Generator - Internal Capacitor Suppression Ignition - Internal Resistor/Capacitor Networks
------------------	---

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary)

Model Code/Description

ALL

### Body

Structure	Unitized Body - Frame. Body Side Assembly Includes Full Drawn Quarter Panels. Fully Stamped Inner/Outer Door Panels with Header Extending into Roof. Full-Length Deck Lid Inner/Outer Panels, Full-Drawn Floor Pan.
Bumper system front - rear	Body Color Soft Fascia, Foam Absorber and Rigid Reinforcing Bar Used at Both Front and Rear.
Anti-corrosion treatment	Double-Sided Galvanizing or Gavaneal of all Major Body/Sheet Metal Inner/Outer Panels Including Hood, Deck Lid, Doors, Rear End Panel, Plenum, Fenders, Compartment Pan, Quarter Panels, Rocker Panels and Wheelhouse Outer Panels.

### Body - Miscellaneous Information

Type of finish (lacquer, enamel, other)	Base Coat-Clear Coat Acrylic Enamel Over ELPO Primer	
Hood	Material & mass	Steel, 17.3 kg.
	Hinge location (front, rear)	Rear
	Type (counterbalance, prop)	Gas Charged Strut
	Release control (internal, external)	Internal
Trunk lid	Material & mass	Steel
	Type (counterbalance, other)	Goose Neck Hinges with Dual Torque Rods
	Internal release control (elec., mech., n.a.)	Electric, Optional
Hatchback lid	Material & mass	Not Available
	Type (counterbalance, other)	Not Available
	Internal release control (elec., mech., n.a.)	Not Available
Tailgate	Material & mass	Not Available
	Type (drop, lift, door)	Not Available
	Internal release control (elec., mech., n.a.)	Not Available
Vent window control (crank, friction, pivot, power)	Front	Not Applicable
	Rear	Not Applicable
Window regulator type (cable, tape, flex drive, etc.)	Front	Cross Arm Regulator
	Rear	Cross Arm Regulator
Seat cushion type (e.g., 60/40 bucket, bench, wire, foam, etc.)	Front	Custom Cloth - 60/40 Split Bench or 40/40 Bucket, Trim Material Bonded to Foam Leather - 40/40 Bucket on Foam
	Rear	Custom Cloth - Bench, Trim Material Bonded to Foam with Encapsulated Frame Leather - Bench, On Foam with Encapsulated Frame
	3rd seat	Not Applicable
Seat back type (e.g., 60/40 bucket, bench, wire, foam, etc.)	Front	Custom Cloth - 60/40 Split Bench or 40/40 Bucket, Trim Material Bonded to Foam Leather - 40/40 Bucket on Foam
	Rear	Custom Cloth - Bench, Trim Material Bonded to Foam with Encapsulated Frame Leather - Bench, On Foam with Encapsulated Frame
	3rd seat	Not Applicable

### Frame

Type and description (separate frame, unitized frame, partially-unitized frame)	Unitized Body/Frame, Bolted-On, Isolated, Powertrain Cradle with Mounting Provisions for Suspension, Steering Rack and Engine Mounts.
---	---

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issue            Revised (●)           

## METRIC (U.S. Customary)

Model Code/Description

ALL

### Restraint System

Seating Position			Left	Center	Right
Active	Type & description (lap & shoulder belt, lap belt, etc.)	First seat	3Pt. Single Loop W/Shldr. Retractor, End Release Buckle, Head Rest Guide/All Retractors are Web & Vehicle Sensitive Retractors	Lap Belt Manual Adjustment End Release Buckle	Three Pt. Single Loop W/Shldr. Retractor, End Release Buckle, Head Rest Guide, Child Cinch Retractor/All Retractors are Web & Vehicle Sensitive Retractors
	(lap & shoulder belt, lap belt, etc.)	Second seat	Three Pt. Single Loop W/Shldr. Retractor, End Release Buckle, Child Cinch Retractor, Child Comfort Guide/All Retractors are Web & Vehicle Sensitive Retractors	Lap Belt Manual Adjustment End Release Buckle	Three Pt. Single Loop W/Shldr. Retractor, End Release Buckle, Child Cinch Retractor, Child Comfort Guide/All Retractors are Web & Vehicle Sensitive Retractors
	Standard / Optional	Third seat			
Passive	Type & description (air bag, motorized-2-point belt, fixed belt, knee bolster, manual-lap belt)	First seat	Air Bag	Air Bag (Passenger Side)	Air Bag
	Standard / Optional	Second seat			
		Third seat			
<b>Glass</b>		<b>SAE Ref.No.</b>			
Windshield glass exposed surface area cm <sup>2</sup> (in. <sup>2</sup> )		S1	12,565 cm <sup>2</sup> (2410.6 in <sup>2</sup> )		
Side glass exposed surface area cm <sup>2</sup> (in. <sup>2</sup> ) - total 2 sides		S2	3815.14 cm <sup>2</sup>		
Backlight glass exposed surface area cm <sup>2</sup> (in. <sup>2</sup> )		S3	10,714 cm <sup>2</sup> (1660.3 in <sup>2</sup> )		
Total glass exposed surface area cm <sup>2</sup> (in. <sup>2</sup> )		S4	-		
Windshield glass (type/thickness)			Curved - Second Laminated Float; 5.4 mm		
Side glass (type/thickness)			5.0 mm		
Backlight glass (type/thickness)			Curved - Tempered Float; 4.0 mm		
Tinted (yes/no, location)					
Solar control (yes/no, coated/batched, location)			Yes; Windshield and Backlight		

### Headlamps

Description (sealed beam, halogen, replaceable bulb, etc.)	Halogen, Replacement Bulb Unit
Shape	Aero
Lo-beam type (2A1, 2B1, 2C1, etc.)	Trade No. 9006/HB4
Quantity	Two
Hi-beam type (1A1, 2A1, 1C1, 2C1, etc.)	Trade No. 9005/HB3
Quantity	Two

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 issued            Revised (#)           

## METRIC (U.S. Customary)

Engine Code/Description

ALL

### Climate Control System

Air conditioning (std., opt., man., auto.)		Standard - L82
Condenser	Type	Tube & Fin
	Eff. face area (sq. mm.)	315,181
	Fins per inch	13
Evaporator	Type	U Flow. Aluminum
	Eff. face area (sq. mm.)	48,437
	Fins per inch	14
Heater core	Material	Aluminum
	Eff. face area (sq. mm.)	33,028
	Fins per inch	30
Compressor	Type	V5
	Displacement (cc.)	Variable Displacement
	Manufacturer	Delphi Harrison Thermal Systems
	A/C pulley ratio	1.37
Accumulator	Type	Non-Serviceable, Sealed, Integral Design
	Height (mm.)	206
	Diameter (mm.)	89
Receiver	Type	Not Applicable
	Height (mm.)	Not Applicable
	Diameter (mm.)	Not Applicable
Refrigerant control (CCOT, TVS, etc.)		Variable Displacement Compressor VDOT
Heater water valve (yes / no)		No
Refrigerant (R - 12, R - 134a, etc.)		R134A
Charge level (lbs. - oz.)		1.875 lbs.
Cold engine lockout switch (yes / no)		No
Wide open throttle cutout switch (yes / no)		Yes
Power steering cutout switch (yes/no)		No

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary)

Model Code/Description

ALL

### Convenience Equipment (standard, optional, n.a.)

	Clock (digital, analog)	Digital - In Radio, Standard
	Compass / thermometer	Not Available
	Console (floor, overhead)	Optional, Floor (Overhead - Not Available)
	Defroster, electric windshield	Not Available
	Defroster, electric backlight	Optional
Electronic	Diagnostic monitor (integrated, individual)	Not Available
	Instrument cluster (list instruments)	Not Available
	Keyless entry	Optional
	Trip/finder (avg. spd., fuel)	Not Available
	Voice alert (list items)	Not Available
	Other	
	Fuel door lock (remote, key, electric)	
Integrated Child Seating	Std./opt. & location in vehicle	Not Available
	Number of occupants	Not Available
	Occupant weight/height (min. & max.)	Not Available
	Restraint system description (3 or 5-point belts/booster seat capability)	Not Available
Lamps	Daytime Running Light (Yes/No)	Yes, Standard
	Coming	Not Available
	Courtesy (map, reading) Dome	Standard
	Door lock, ignition	
	Engine compartment	Standard
	Fog	Not Available
	Glove compartment	Standard
	Trunk	Standard
	Illuminated entry system (list lamps, activation)	Sustained Interior Illumination
	Other Ashtray	Standard
	CHMSL	Standard
Daytime Running Lights (DRL)	Standard	
Mirrors	Day / night (auto., man.)	Standard - Manual
	L.H. (remote, power, heated)	Standard - Remote, Optional - Power
	R.H. (convex, remote, power, heated)	Standard - Manual, Optional - Power
		Visor vanity (RH / LH, illuminated)
	Navigation system (describe)	Not Available
	Parking brake-auto release (warning light)	Standard - Warning Light

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary)

Model Code/Description

ALL

### Convenience Equipment (standard, optional, n.a.)

Power equipment	Deck lid (release, pull down)		Optional. Electric Release	
	Door locks (manual, automatic, describe system)		Electric. Standard	
	Seats	2 - 4 - 6 way, etc.		Standard Four Way, Driver Side Only; Optional Six-Way
		Reclining (R.H., L.H.)		Standard - Manual
		Memory (R.H., L.H., preset recline)		Not Available
		Support (lumbar, hip, thigh, etc.)		Not Available
		Heated (R.H., L.H., other)		Not Available
	Side windows		Standard Power	
	Vent windows		Not Applicable	
	Rear windows		Not Applicable	
-----				
Radio systems	Antenna (location, whip, w/shield, power)		Standard. Fixed Whip Located on Right Rear Upper Quarter Panel	
	Standard	AM, FM, stereo, tape, compact disc, graphic equalizer, theft deterrent, radio prep package, headphone jacks, etc.	AM/FM Stereo, Seek & Scan/Standard	
	Optional		AM/FM Stereo, Seek & Scan, Cassette ATC (Theft Deterrent) - Optional AM/FM Stereo, Seek & Scan, Cassette - Optional AM/FM Stereo, Seek & Scan/Compact Disc ATC (Theft Deterrent) - Optional	
	Speaker (number, location)		Standard - Two In Front Doors, Two In Package Shelf, Optional - Dual Coax	
Roof: open air or fixed (flip-up, sliding, "T")		Not Available		
Speed control device		Optional. Automatic Electronic		
Speed warning device (light, buzzer, etc.)		Not Available		
Tachometer (rpm)		Optional (Included as Part of Optional Gauge Package)		
Telephone system (describe)		Not Available		
Theft deterrent system		Not Available		

### Trailer Towing

Towing capable	Yes / No	Yes
Engine / transmission / axle	Std. / Opt.	3.1L, Four-Spd. Auto., 3.33; 3.8L, Four-Spd. Auto., 3.43
Tow class (I, II, III)*	Std. / Opt.	One
Max. gross trailer wgt. (lbs.)	Std. / Opt.	1000
Max. trailer tongue load (lbs.)	Std. / Opt.	100
Towing package available	Yes / No	No

\* Class I - 2,000 lbs.    Class II - 3,500 lbs.    Class III - 5,000 lbs.



# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issue            Revised (●)           

## METRIC (U.S. Customary) Vehicle Dimensions

See Key Sheets for definitions

All dimensions to ground are for comparative purposes only. Dimensions are to be shown for all base body models of each vehicle line. SAE Ref. no. refers to the definition published in SAE Recommended Practice J1100 "Motor Vehicle Dimensions," unless otherwise specified.

Model Code/Description	SAE Ref. No.	ALL
------------------------	--------------	-----

### Width

Model Code/Description	SAE Ref. No.	Value
Tread (front)	W101	1512 (59.5)
Tread (rear)	W102	1500 (59.1)
Vehicle width	W103	1825 (71.9)
Body width at SgRP (front)	W117	1795 (70.7)
Vehicle width (front doors open)	W120	4057 (159.7)
Vehicle width (rear doors open)	W121	Not Applicable
Tumble-home (degrees)	W122	28
Outside mirror width	W410	1980 (78.0)

### Length

Model Code/Description	SAE Ref. No.	Value
Wheelbase	L101	2730 (107.5)
Vehicle length	L103	5099 (200.7)
Overhang (front)	L104	1172 (46.1)
Overhang (rear)	L105	1197 (47.1)
Upper structure length	L123	2876.5 (113.2)
Rear Wheel C/L "X" coordinate	L127	4525 (178.1)

### Height \*\*

Model Code/Description	SAE Ref. No.	Value
Passenger distribution (front/rear)	PD1, 2,3	2/3
Trunk/cargo load		**
Vehicle height	H101	1368 (53.9)
Cowl point to ground	H114	862 (33.9)
Deck point to ground	H138	
Rocker panel-front to ground	H112	194 (7.6)
Rocker panel-rear to ground	H111	195 (7.7)
Windshield slope angle (degrees)	H122	64
Backlight slope angle (degrees)	H121	69

### Ground Clearance \*\*

Model Code/Description	SAE Ref. No.	Value
Front bumper to ground	H102	
Rear bumper to ground	H104	
Bumper to ground front at curb mass (wt.)	H103	
Bumper to ground rear at curb mass (wt.)	H105	
Angle of approach (degrees)	H106	
Angle of departure (degrees)	H107	
Ramp breakover angle (degrees)	H147	
Axle differential to ground (front/rear)	H153	
Min. running ground clearance	H156	165 (6.5)
Location of min. running ground clear.		Exhaust Pipe Rear of Converter

\*\* All Vehicle Height And Ground Clearance Are Made Using EPA Loaded Vehicle Weight, Loading Conditions. EPA loaded vehicle weight is the base vehicle weight plus all coolant and fluids necessary for operation plus 100% of the fuel capacity, plus the weight of all options and accessories which weigh three pounds or more and which are sold on at least 33% of the car line, plus two occupants.

All linear dimensions are in millimeters (inches).

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary) Vehicle Dimensions

See Key Sheets for definitions

Model Code/Description

SAE  
 Ref.  
 No.

ALL

### Front Compartment

SgRP front, "X" coordinate	L31	3139.5 (123.6)
Effective head room	H81	963 (37.9)
Max. effective leg room (accelerator)	L34	1076 (42.4)
SgRP to heel point	H30	240 (9.4)
SgRP to heel point	L53	876 (34.5)
Back angle (degrees)	L40	26.0
Hip angle (degrees)	L42	98.0
Knee angle (degrees)	L44	128
Foot angle (degrees)	L46	87
Design H-point front travel	L17	218 (8.6)
Normal driving & riding seat track trvl.	L23	178.5 (7.0)
Shoulder room	W3	1460 (57.5)
Hip room	W5	1356 (53.4)
Upper body opening to ground	H50	1203 (47.4)
Steering wheel maximum diameter**	W9	375 (14.8)
Steering wheel angle (degrees)	H18	22
Accel. heel pt. to steer. whl. cntr.	L11	
Accel. heel pt. to steer. whl. cntr.	H17	
Undepressed floor covering thickness	H87	29 (1.1)

Front Compartment Interior Dimensions are Measured with the Seating Reference Point (SgRP) 39.5 mm forward and 5.5 mm Upward of Rearmost Position.

### Rear Compartment

SgRP point couple distance	L50	792 (31.2)
Effective head room	H63	938 (36.9)
Min. effective leg room	L51	888 (34.9)
SgRP (second to heel)	H31	249.5 (9.8)
Knee clearance	L48	22 (0.9)
Shoulder room	W4	1463 (57.6)
Hip room	W8	1310 (51.6)
Upper body opening to ground	H51	Not Applicable
Back angle (degrees)	L41	28
Hip angle (degrees)	L43	84
Knee angle (degrees)	L45	87
Foot angle (degrees)	L47	123
Depressed floor covering thickness	H73	18 (0.7)

### Luggage Compartment

Usable luggage capacity L (cu. ft.)	V1	444.4 (15.7)
Liftover height	H195	679 (26.7)

### Interior Volumes (EPA Classification)

Vehicle class		Mid-Size
Interior volume index including trunk/cargo (cu. ft.)**	E1	(112.1) 3173.1 Liters
Cargo Utility index (%)	V13	51.3

\* See page 14.

\*\* See definition page 33.

All linear dimensions are in millimeters (inches) unless otherwise noted.

\*\*\* EPA Loaded Vehicle Weight, Loading Conditions

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issue \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary) Vehicle Dimensions

See Key Sheets for definitions

Model Code/Description COUPE

Station Wagon/MPV\*  
 -Third Seat SAE Ref. No. (NOT APPLICABLE)

Seat facing direction	SD1	
SgRP couple distance	L85	
Shoulder room	W85	
Hip room	W86	
Effective leg room	L86	
Effective head room	H86	
SgRP to heel point	H87	
Knee clearance	L87	
Back angle (degrees)	L88	
Hip angle (degrees)	L89	
Knee angle (degrees)	L90	
Foot angle (degrees)	L91	

Station Wagon/MPV\* - Cargo Space (NOT APPLICABLE)

Cargo length (open front)	L200	
Cargo length (open second)	L201	
Cargo length (closed front)	L202	
Cargo length (closed second)	L203	
Cargo length at belt (front)	L204	
Cargo length at belt (second)	L205	
Cargo width (wheelhouse)	W201	
Rear opening width at floor	W203	
Opening width at belt	W204	
Min. rear opening width above belt	W205	
Cargo height	H201	
Rear opening height	H202	
Tailgate to ground height	H250	
Front seat back to load floor height	H197	
Cargo volume index m <sup>3</sup> (ft. <sup>3</sup> )	V2	
Hidden cargo volume index m <sup>3</sup> (ft. <sup>3</sup> )	V4	
Cargo volume index-rear of 2-seat	V10	
Cargo volume index*	V6	
Cargo width at floor*	W500	
Maximum cargo height*	H505	

Hatchback - Cargo Space (NOT APPLICABLE)

Cargo length at front seatback height	L208	
Cargo length at floor (front)	L209	
Cargo length at second seatback height	L210	
Cargo length at floor (second)	L211	
Front seatback to load floor height	H197	
Second seatback to load floor height	H198	
Cargo volume index m <sup>3</sup> (ft. <sup>3</sup> )	V3	
Hidden cargo volume index m <sup>3</sup> (ft. <sup>3</sup> )	V4	
Cargo volume index - rear of 2-seat	V11	

All linear dimensions are in millimeters (inches) unless otherwise noted.  
 \* MPV - Multipurpose Vehicle  
 \*\* EPA Loaded Vehicle Weight, Loading Conditions

# MVMA Specifications

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

## METRIC (U.S. Customary)

Model Code/  
Description

ALL

### Vehicle Fiducial Marks

Fiducial Mark Number*	Define Coordinate Location	
Front	<p>X - Fiducial Mark to Vertical Zero Grid Line - Front Measured Horizontally, from the Zero Grid Line to the Front Fiducial Mark Located on Top of the Front Seat Adjuster Mounting Bolt.</p> <p>Y - Fiducial Mark to Centerline of Car - Front, Width Measurement made from Centerline Car to Fiducial Mark Located on Top of the Front Seat Adjuster Mounting Bolt.</p> <p>Z - Fiducial Mark to Horizontal zero Grid Line - Front, Measured Vertically from Zero Grid Line to Front Fiducial Mark Located on Top of the Front Seat Adjuster Mounting Bolt.</p>	
Rear	<p>X - Fiducial Mark to Vertical Zero Grid Line - Rear, Measured Horizontally from the Zero Grid Line to Rear Fiducial Hole Located on the Rail (Compartment Pan - Longitudinal.)</p> <p>Y - Fiducial Mark to Centerline of Car - Rear, Width Measurement made from Centerline of Car to Fiducial Hole Located on the Rail (Compartment Pan - Longitudinal.)</p> <p>Z - Fiducial Mark to Horizontal Zero Grid Line - Rear, Measured Vertically from the Zero Grid Line to Rear Fiducial Hole Located on the Rail (Compartment Pan - Longitudinal.)</p>	
NOTE: Provide 3 of 4 Fiducial Mark Locations		
Front	W21**	-555.0 (-21.9)
	L54**	2775.0 (109.3)
	H81**	278.0 (10.9)
	*** H161**	340.7 (13.4)
	*** H163**	324.8 (12.8)
Rear	W22**	-488 (-19.2)
	L55**	5200 (204.7)
	H82**	388 (15.3)
	*** H162**	458.2 (18.0)
	*** H164**	439.1 (17.3)

- \* Reference - SAE Recommended Practice, J182a, Motor Vehicle Fiducial Marks.
  - \*\* Reference - SAE Recommended Practice J1100 - Motor Vehicle Dimensions.
  - \*\*\* EPA Loaded Vehicle Weight, Loading Conditions
- All linear dimensions are in millimeters (Inches) unless otherwise noted.



**MVMA Specifications**  
**METRIC (U.S. Customary)**

Vehicle Line MONTE CARLO  
 Model Year 1999 issued \_\_\_\_\_ Revised (#) \_\_\_\_\_

		Optional Equipment Differential Mass (weight)*			
Code	Equipment	MASS, kg. (lb.)			Remarks Restrictions, Requirements
		Front	Rear	Total	
AG1	Seat Adj-6 Way Pwr Drv Only	1.0 (2.2)	0.6 (1.3)	1.6 (3.5)	1WW27
AP9	Convenience Net	0.0 (0.0)	0.2 (0.4)	0.2 (0.4)	1WW27
AQ9	Seat Front-Bucket/Recliner	0.2 (0.4)	0.0 (0.0)	0.2 (0.4)	1WA00
AR9	Seat Front Bkt. Euro P/D Recliner	-1.8 (-4.0)	-1.6 (-3.4)	-3.4 (-7.4)	1WW27
AU0	Lock Control Remote Entry	0.2 (0.4)	0.0 (0.0)	0.2 (0.4)	1WW27
A90	Lock-RR Compt Lid, Rem Cont Ele.	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	1WA00
BF9	Cover-Flr. Mat Delete	-1.4 (-3.1)	-1.0 (-2.2)	-2.4 (-5.3)	1WW27, 1WX27
CF5	Sunroof - Electric	5.4 (11.9)	6.4 (14.1)	11.8 (26.0)	1WA00
CJ3	HVAC Sys, A/C Front (Dual Temp Control)	0.4 (0.9)	0.0 (0.0)	0.4 (0.9)	1WW27
C49	Defogger-RR Window, Electric	0.0 (0.0)	0.2 (0.4)	0.2 (0.4)	1WA00
DG7	Mirror - O/S, L&R, Elec. Painted	0.0 (0.0)	0.4 (0.9)	0.4 (0.9)	
D55	Console-Frt. Compt. Floor	1.8 (4.0)	1.8 (4.0)	3.6 (7.9)	1WA00
D81	Spoiler - R Aero Wing	-0.2 (-0.4)	1.6 (3.5)	1.4 (3.1)	1WW27, 1WX27
IPC	Trim, Interior Design	0.2 (0.4)	0.0 (0.0)	0.2 (0.4)	1WA00
KC4	Cooling System - Eng. Oil	1.0 (2.2)	0.0 (0.0)	1.0 (2.2)	1WA00
KD1	Cooling System - Trans Oil	1.4 (3.1)	-0.2 (-0.4)	1.2 (2.6)	1WA00

\* Also see Engine - General Section for dressed engine mass (weight.)

**MVMA Specifications**  
**METRIC (U.S. Customary)**

Vehicle Line MONTE CARLO  
 Model Year 1999 Issued \_\_\_\_\_ Revised (●) \_\_\_\_\_

		Optional Equipment Differential Mass (weight)*			
Code	Equipment	MASS. kg. (lb.)			Remarks Restrictions. Requirements
		Front	Rear	Total	
K05	Heater - Engine Block	0.2 (0.4)	0.0 (0.0)	0.2 (0.4)	1WA00
K34	Cruise Control Auto Electronic	1.2 (2.6)	0.0 (0.0)	1.2 (2.6)	1WW27
N81	Full Size Spare Tire	0.0 (0.0)	4.6 (10.2)	4.6 (10.2)	1WA00
PY0	Wheel - 16 x 6.5 Aluminum	-6.2 (13.7)	-6.2 (13.7)	-12.4 (27.3)	1WW27
QNX	Tire-P225/60R16/NBL	1.6 (3.5)	1.6 (3.5)	3.2 (7.1)	1WW27
UL0	Radio-AM/FM Stereo	0.6 (1.4)	0.2 (0.4)	0.8 (1.8)	
UL5	Radio-Delete	-1.2 (-2.6)	-0.8 (-1.8)	-2.0 (-4.4)	1WW27. 1WX27
UN0	Radio-AM/FM Compact Disc	0.2 (0.4)	0.0 (0.0)	0.2 (0.4)	
VK3	License Plt Frt Mount Package	0.8 (1.8)	-0.4 (-0.9)	0.4 (0.9)	1WA00

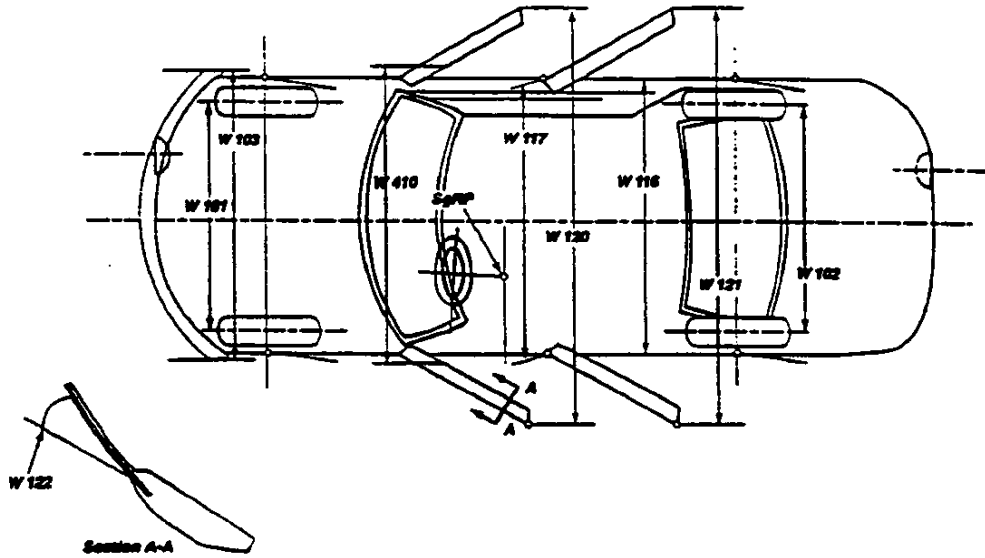
\* Also see Engine - General Section for dressed engine mass (weight.)

# Specifications Form

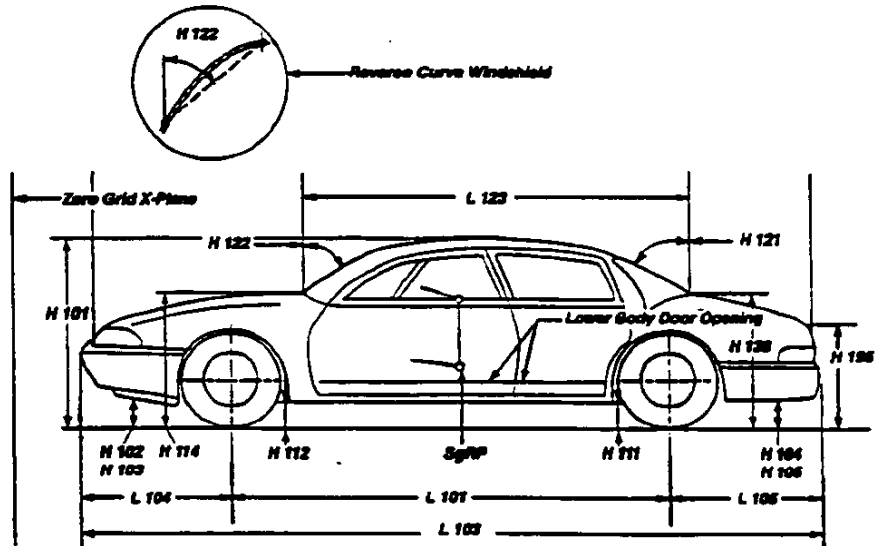
## METRIC (U.S. Customary)

### Exterior Vehicle And Body Dimensions - Key Sheet

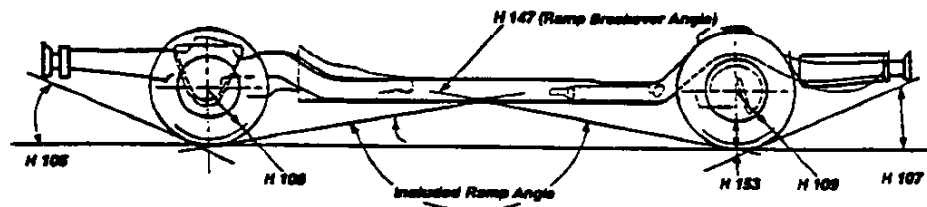
Exterior Width Dimensions



Exterior Length & Height Dimensions



Ground Clearance Dimensions



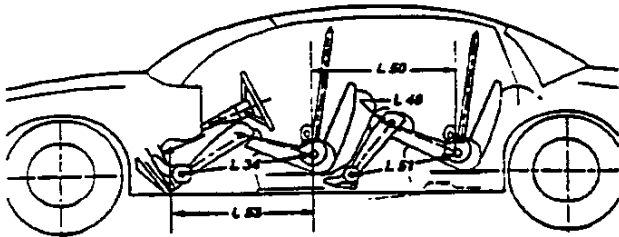


# Specifications Form

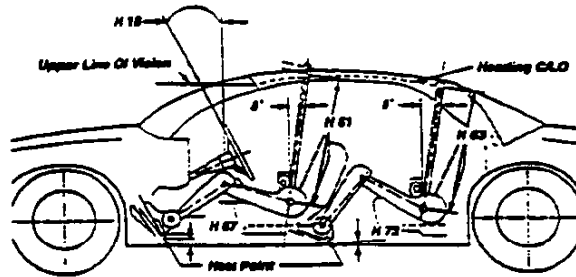
## METRIC (U.S. Customary)

### Interior Vehicle And Body Dimensions - Key Sheet

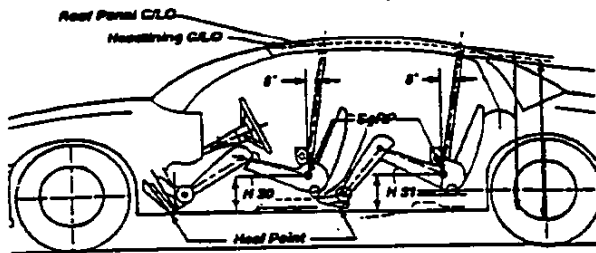
Interior Length Dimensions



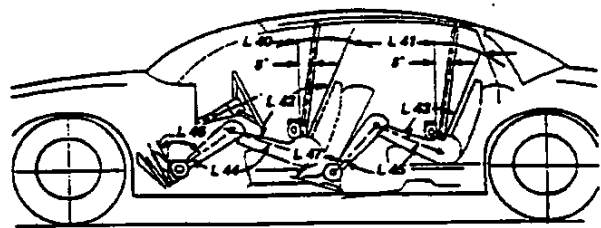
Interior Height Dimensions



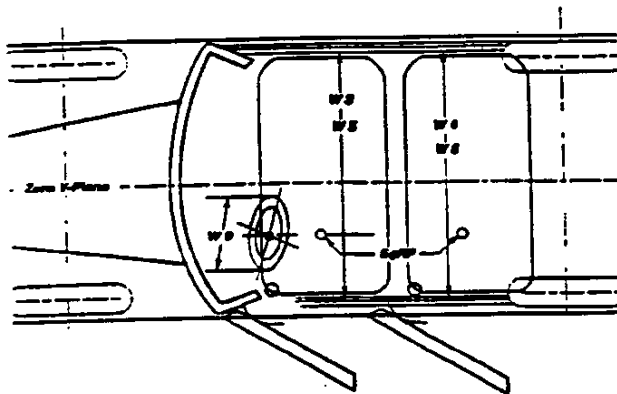
Interior Height Dimensions



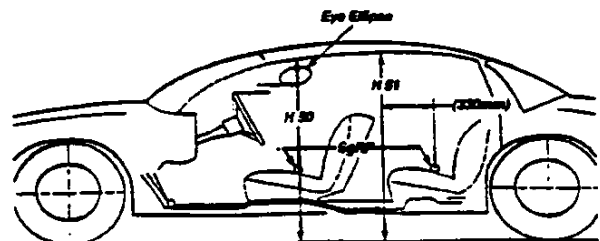
Interior Length Dimensions



Interior Width Dimensions



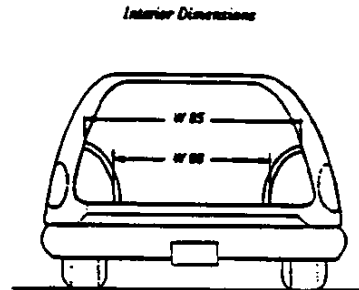
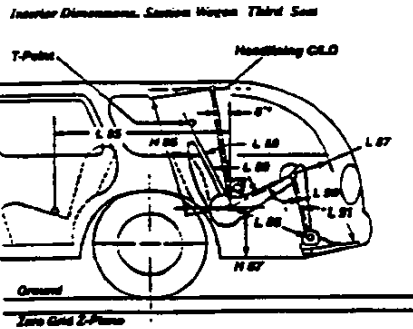
Interior Height Dimensions



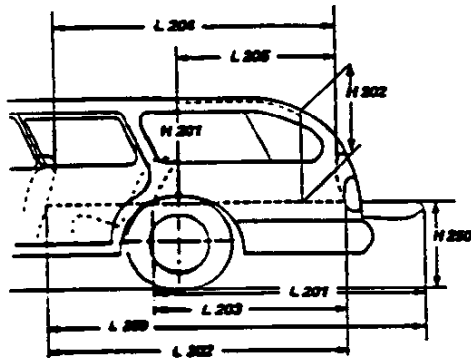
# Specifications Form

## METRIC (U.S. Customary)

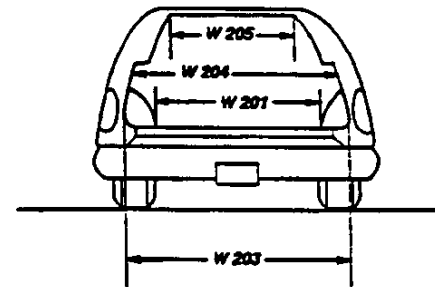
### Interior Vehicle And Body Dimensions - Key Sheet



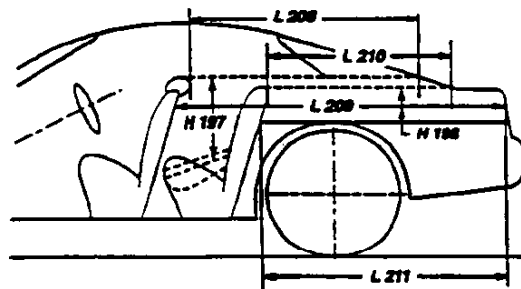
*Cargo Space Dimensions*



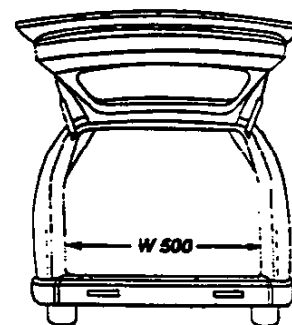
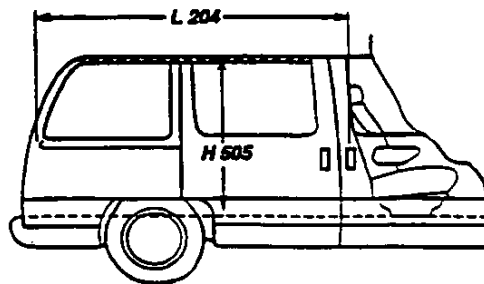
*Cargo Space Dimensions*



*Cargo Space Dimensions*



*Multipurpose Vehicle Cargo Space*



# Specifications Form

## METRIC (U. S. Customary)

### Exterior Vehicle And Body Dimensions - Key Sheet

#### Dimensions Definitions

#### Seating Reference Point

**SEATING REFERENCE POINT** means the manufacturer's design reference point which -

- (a) Establishes the rearmost normal design driving or riding position of each designated seating position in a vehicle;
- (b) Has coordinates established relative to the design vehicle structure;
- (c) Simulates the position of the pivot center of the human torso and thigh; and
- (d) is the reference point employed to position the two dimensional templates described in SAE Recommended Practice J826, "Devices for Use in Defining and Measuring Vehicle Seating Accommodations,".

#### Width Dimensions

- W101 TREAD-FRONT.** The dimension measured between the tire centerlines at the ground.
- W102 TREAD-REAR.** The dimension measured between the tire centerlines at the ground. In case of dual wheels, the dimension will be measured to the centerline of tire and wheel assemblies.
- W103 VEHICLE WIDTH.** The maximum dimension measured between the widest point on the vehicle, excluding exterior mirrors, flexible mud flaps, marker lamps, but including bumpers, moldings, sheet metal protrusions or dual wheels, if standard equipment.
- W117 BODY WIDTH AT SgRP-FRONT.** The dimension measured laterally between the widest points on the body at the SGRP-front, excluding door handles, applied moldings, or appliques.
- W120 VEHICLE WIDTH-FRONT DOORS OPEN.** The dimension measured between the widest point on the rear doors in maximum hold-open position.
- W121 VEHICLE WIDTH-REAR DOORS OPEN.** The dimension measured between the widest point on the rear doors in maximum hold-open position. For vehicles with a rear door on only one side, this dimension is to the zero "Y" plane.
- W122 TUMBLE-HOME. STRAIGHT SIDE GLASS.** The angle measured from a vertical to the outside surface of the front door glass at the SgRP "X" plane.  
**CURVED SIDE GLASS.** The angle measured from a vertical to a chord extending from the upper DLO to the lower DLO at the outside surface of the front door glass at the front SgRP "X" plane.
- W410 OUTSIDE MIRROR WIDTH:** The dimension between the widest point on the outside mirrors. The standard right and left mirror adjusted for normal driving will be shown unless otherwise noted. When only one outside mirror is standard, the dimension will be to the zero "Y" plane.

#### Length Dimensions

- L101 WHEELBASE (WB).** The dimension measured longitudinally between front and rear wheel centerline. In case of dual rear axles, the dimension shall be to the midpoint of the centerlines of the rear wheels.
- L103 VEHICLE LENGTH.** The maximum dimension measured longitudinally between the foremost point and the rearmost point on the vehicle, including bumper, bumper guards, tow hooks and/or rub strips, if standard equipment.
- L104 OVERHANG-FRONT.** The dimension measured longitudinally from the centerline of the front wheels to the foremost point on the vehicle including bumper, bumper guards, tow hook and/or rub strips, if standard equipment.
- L105 OVERHANG-REAR.** The dimension measured longitudinally from the centerline of the rear wheels; or in the case of dual rear axles, the dimension shall be the midpoint of the centerlines of the rear wheels, to the rearmost point on the vehicle including rear bumpers, bumper guards, tow hooks and rub strips, if standard equipment.

- L123 UPPER STRUCTURE LENGTH.** The dimension measured longitudinally from the cowl point to the deck point.
- L127 REAR WHEEL CENTERLINE "x" COORDINATE** or in the case of dual rear axles, the coordinate shall be the midpoint of the distance between the rear axle centerlines.

#### Height Dimensions

- H101 VEHICLE HEIGHT.** The dimension measured vertically from the highest point on the vehicle body to ground.
- H111 ROCKER PANEL-REAR TO GROUND.** The dimension measured vertically from the bottom of the rocker or side quarter panel at the front of the rear wheel opening, excluding flanges, to ground.
- H112 ROCKER PANEL-FRONT TO GROUND.** The dimension measured vertically from the foremost point on the bottom of the rocker panels, excluding flanges, to ground.
- H114 COWL POINT TO GROUND.** Measured at zero "Y" plane.
- H121 BACKLIGHT SLOPE ANGLE.** The angle between the vertical reference line and the surface of backlight at vehicle zero "Y" plane. For curve backlight, the angle is to chord of backlight arc from lower DLO to upper DLO.
- H122 WINDSHIELD SLOPE ANGLE.** The angle between the vertical reference line and a chord of the windshield arc running from the lower DLO to the upper DLO at the vehicle zero "Y" plane. In the case of wrap over glass, the angle to be measured will be formed by a chord 457 mm (18.0 in.) long drawn from the lower DLO to the intersecting point on the windshield.
- H138 DECK POINT TO GROUND.** Measured at zero "Y" plane.
- H109 STATICLOAD-TIRE RADIUS-REAR.** Specified by the manufacturer in accordance with composite TIRE SECTION STANDARD.

#### Ground Clearance Dimensions

- H102 FRONT BUMPER TO GROUND.** The minimum dimension measured vertically from the lowest point on the front bumper to ground, including bumper guards, if standard equipment.
- H103 FRONT BUMPER TO GROUND-CURBMASS(WT.).** Measured in the same manner as H102.
- H104 REAR BUMPER TO GROUND.** The minimum dimension measured vertically from the lowest point on the rear bumper to ground, including bumper guards, if standard equipment.
- H105 REAR BUMPER TO GROUND-CURB MASS(WT.).** Measured in the same manner as H104.
- H106 ANGLE OF APPROACH.** The angle measured between a line tangent to the front tire static loaded radius arc and the initial point of structural interference forward of the front tire to ground. The limiting structural component shall be designated.
- H107 ANGLE OF DEPARTURE.** The angle measured between a line tangent to the rear tire static loaded radius arc and the initial point of structural interference rearward of the rear tire to ground. The limiting component shall be designated.
- H147 RAMP BREAKOVER ANGLE.** The angle measured between two lines tangent to the front and rear tire static loaded radius and intersecting at a point on the underside of the vehicle which defines the largest ramp over which the vehicle can roll.
- H153 REAR AXLE DIFFERENTIAL TO GROUND.** The minimum dimension measured from the rear axle differential to ground.
- H156 MINIMUM RUNNING GROUND CLEARANCE.** The minimum dimension measured from the sprung vehicle to ground. Specify location.

# Specifications Form

## METRIC (U. S. Customary)

### Interior Vehicle And Body Dimensions - Key Sheet

#### Dimensions Definitions

#### Glass Areas

- S1 Windshield area.  
 S2 Side windows area. Includes the front door, rear door, vents, and rear quarter windows on both sides of the vehicle.  
 S3 Backlight areas.  
 S4 Total area. Total of all areas (S1 + S2 + S3).

#### Fiducial Mark Dimensions

- Fiducial Mark - Number 1**  
 L54 "X" coordinate.  
 W21 "Y" coordinate.  
 H81 "Z" coordinate.  
 H161 Height "Z" coordinate to ground at curb weight.  
 H163 Height "Z" coordinate to ground.  
**Fiducial Mark - Number 2**  
 L55 "X" coordinate.  
 W22 "Y" coordinate.  
 H82 "Z" coordinate.  
 H162 Height "Z" coordinate to ground at curb weight.  
 H164 Height "Z" coordinate to ground.

#### Front Compartment Dimensions

- L11 ACCELERATOR WHEEL POINT TO STEERING WHEEL CENTER. The dimension measured horizontally from the AHP to the intersection of the steering column centerline and a plane tangent to the upper surface of the steering wheel rim.  
 L17 DESIGN-H-POINT-FRONT TRAVEL. The dimension measured horizontally between the design H-point-front in the foremost and rearmost seat track positions. (See SAE J1100)  
 L23 NORMAL DRIVING AND RIDING SEAT TRACK TRAVEL. The dimension measured horizontally between a point on the design H-point travel line from the SgRP to the displaced point on the design H-point travel line with the seat moved to the foremost seat position, but not to include seat track travel used for purposes other than normal driving and riding positions. (See SAE J1100).  
 L31 SgRP-Front. "X" Coordinated.  
 L34 MAXIMUM EFFECTIVE LEG ROOM-ACCELERATOR. The dimension measured along a line from the ankle pivot center to the SgRP-front plus 254 mm (10.0 in.) measured with right foot on the underdepressed accelerator pedal. For vehicles with SgRP to heel (H30) greater than 18 in., the accelerator pedal may be depressed as specified by the manufacturer. If the accelerator is depressed, the manufacturer shall place foot flat on pedal and note the depression of the pedal.  
 L40 BACK ANGLE-FRONT: The angle measured between a vertical line through the SgRP-front and the torso line. If the seatback is adjustable, use the normal driving and riding position specified by the manufacturer.  
 L42 HIP ANGLE-FRONT. The angle measured between torso line and thigh centerline.  
 L44 KNEE ANGLE-FRONT. The angle measured between thigh centerline and lower leg centerline measured on the right leg.  
 L46 FOOT ANGLE-FRONT. The angle measured between the lower leg centerline and a line tangent to the ball and heel of the bare foot flesh line measured on the right leg. Ref SAE J826.  
 L53 SgRP-FRONT TO HEEL. The dimension measured horizontally from the SgRP-front to the accelerator heel point.  
 W3 SHOULDER ROOM-FRONT. The minimum dimension measured laterally between the trimmed surfaces on the "X" plane through the SgRP-front at height between the belt line and 254 mm (10.0 in.) above the SgRP-front, excluding the door assist strap and attaching parts.

- W5 HIP ROOM-FRONT. The minimum dimension measured laterally between the trimmed surfaces on the "X" plane through the SgRP-front within 25 mm (1.0 in.) below and 76 mm (3.0 in.) above the SgRP-front and 76 mm (3.0 in.) fore and aft of the SgRP-front.  
 W9 STEERING WHEEL MAXIMUM OUTSIDE DIAMETER. Define if other than round.  
 H7 ACCELERATOR HEEL POINT TO THE STEERING WHEEL CENTER. The dimension measured vertically from the AHP-front to the intersection of the steering column centerline to a plane tangent to the upper surface of the steering wheel rim.  
 H18 STEERING WHEEL ANGLE. The angle measured from a vertical to the surface plane of the steering wheel.  
 H30 SgRP-FRONT TO HEEL. The dimension measured vertically from the SgRP-front to the accelerator heel point.  
 H50 UPPER BODY OPENING TO GROUND-FRONT. The dimension measured vertically from the trimmed body opening to the ground on the SgRP-front "X" plane.  
 H61 EFFECTIVE HEAD ROOM-FRONT. The dimension measured along a line 8 deg. rear of vertical from the SgRP-front to the headlining plus 102 mm (4.0 in).  
 H67 FLOOR COVERING THICKNESS - UNDEPRESSED - FRONT. The dimension measured vertically from the surface of the undepressed floor covering to the underbody sheet metal at the accelerator heel point.

#### Rear Compartment Dimensions

- L41 BACK ANGLE-SECOND. The angle measured between a vertical line through the SgRP-second and the torso line.  
 L43 HIP ANGLE-SECOND. The angle measured between torso line and thigh centerline.  
 L45 KNEE ANGLE-SECOND. The angle measured between thigh centerline and lower leg centerline.  
 L47 FOOT ANGLE-SECOND. The angle measured between the lower leg centerline and a line tangent to the ball and heel of the three-dimensional devices bare foot flesh line (Reference J826).  
 L48 KNEE CLEARANCE-SECOND. The minimum dimension measured from the knee pivot center to the back of the front seatback minus 51 mm (2.0 in).  
 L50 SgRP COUPLE DISTANCE-SECOND. The dimension measured horizontally from the driver SgRP-front to the SgRP-second.  
 L51 MINIMUM EFFECTIVE LEG ROOM-SECOND. The dimension measured along a line from the ankle pivot center to the SgRP-second plus 254 mm (10.0 in).  
 W4 SHOULDER ROOM-SECOND. The minimum dimension measured laterally between door or quarter trimmed surfaces on the "X" plane through the SgRP-second at height between 254-406 mm (10.0-16.0 in.) above the SgRP-second, excluding the door assist straps and attaching parts.  
 W5 HIP ROOM-SECOND. Measured in the same manner as W5.  
 H31 SgRP-SECOND TO HEEL. The dimension measured vertically from the SgRP-second to the two dimensional device heel point on the depressed floor covering.  
 H51 UPPER BODY OPENING TO GROUND-SECOND. The dimension measured vertically from the trimmed body opening to the ground on the "X" plane 330 mm (13.0 in.) forward of the SgRP-second.  
 H63 EFFECTIVE HEAD ROOM-SECOND. The dimension measured along a line 8 deg. rear of vertical from the SgRP to the headlining, plus 102 mm (4.0 in.).  
 H73 FLOOR COVERING-DEPRESSED-SECOND. The dimension measured vertically from the heel point to the underbody sheet metal.

# Specifications Form

## METRIC (U. S. Customary)

### Interior Vehicle And Body Dimensions - Key Sheet

#### Dimensions Definitions

#### Luggage Compartment Dimensions

V1 **USABLE LUGGAGE CAPACITY**-Total of volumes of individual pieces of standard luggage set plus H-boxes stowed in the luggage compartment in accordance with the procedure described in paragraph 8.2 of SAE-J1100a.

#### Interior Volumes (EPA Classification)

The interior index is listed for each body style except two seaters. The Interior Volume Index estimates the space in a car. It is based on four measurements - head room, shoulder room, hip room, and leg room - for the front and rear seats, plus trunk capacity.

The Trunk/Cargo Index is an estimate of the size of the trunk/cargo space. In station wagons and hatchbacks it is an estimate of the space behind the second seat.

#### Station Wagon/MPV - Third Seat Dimensions

L85 **SgRP COUPLE DISTANCE-THIRD**. The dimension measured horizontally from the SgRP-second to the SgRP-third.

L86 **EFFECTIVE LEG ROOM-THIRD**. The dimension measured along a line from the ankle pivot center to the SgRP-third plus 254 mm (10.0 in.).

L87 **KNEE CLEARANCE-THIRD**. The minimum dimension from the knee pivot center to the back of second seatback minus a constant of 51 mm (2.0in.). With rear-facing third seat, dimension is measured to closure.

L88 **BACK ANGLE-THIRD**. Measured in the same manner as L41.

L89 **HIP ANGLE-THIRD**. Measured in the same manner as L43.

L90 **KNEE ANGLE-THIRD**. Measured in the same manner as L45.

L91 **FOOT ANGLE-THIRD**. Measured in the same manner as L47.

W85 **SHOULDER ROOM-THIRD**. Measured in the same manner as W4.

W86 **HIP ROOM-THIRD**. Measured in the same manner as W5.

H86 **EFFECTIVE HEAD ROOM-THIRD**. The dimension, measured along a line 8 deg. from the SgRP-third to the headlining rear of vertical plus a constant of 102 mm (4.0 in.).

H87 **SgRP-THIRD TO HEEL POINT**

SD1 **SEAT FACING DIRECTION-THIRD**.

#### Station Wagon/MPV - Cargo Space Dimensions

L200 **CARGO LENGTH-OPEN-FRONT**. The minimum dimension measured longitudinally from the back of the front seatback at the height of the undepressed floor covering to the rearmost point on the undepressed floor covering on the open tailgate or cargo surface if the rear closure is a conventional door type tailgate at the zero "Y" plane.

L201 **CARGO LENGTH-OPEN-SECOND**. The dimension measured longitudinally from the back of the second seatback at the height of the undepressed floor covering on the open tailgate or cargo floor surface if the rear closure is a conventional door type tailgate, at the zero "Y" plane.

L202 **CARGO LENGTH-CLOSED-FRONT**. The minimum dimension measured horizontally from the back of the front seat at the height of the undepressed floor covering to the rearmost point on the undepressed floor covering on the closed tailgate or taildoor for station wagons, trucks and mpv's at the zero "Y" plane.

L203 **CARGO LENGTH-CLOSED-SECOND**. The dimension measured horizontally from the back of the second seat at the height of the undepressed floor covering to the rearmost point on the undepressed floor covering on the closed tailgate or taildoor for station wagons, trucks and mpv's at the zero "Y" plane.

L204 **CARGO LENGTH AT BELT-FRONT**. The minimum dimension measured horizontally from the back of the front seatback at the seatback top to the foremost normal surface of the closed tailgate or inside surface of the cab backpanel at the height of the belt, on the zero "Y" plane.

L205 **CARGO LENGTH AT BELT-SECOND**. The minimum dimension measured horizontally from the back of the second seatback top to the foremost normal surface of the closed tailgate at the height of the belt, on the zero "Y" plane.

W201 **CARGO WIDTH-WHEELHOUSE**. The minimum dimension measured laterally between the trimmed wheelhouses at floor level. For any vehicle not trimmed, measure to the sheet metal.

W203 **REAR OPENING WIDTH AT FLOOR**. The minimum dimension measured laterally between the limiting interferences of the rear opening at floor level.

W204 **REAR OPENING WIDTH AT BELT**. The minimum dimension measured laterally between the limiting interferences of the rear opening at belt height or top of pick up box.

W205 **REAR OPENING WIDTH ABOVE BELT**. The minimum dimension measured laterally between the limiting interferences of the rear opening above the belt height.

W500 **CARGO WIDTH AT FLOOR**. The maximum dimension measured laterally between the limiting interferences at the floor level. This dimension shall include ribs and pillars, but will exclude wheelhouses.

H197 **FRONT SEATBACK TO LOAD FLOOR HEIGHT**. The dimension measured vertically from the horizontal tangent to the top of the seatback to the undepressed floor covering.

H201 **CARGO HEIGHT**. The dimension measured vertically from the top of the undepressed floor covering to the headlining at the rear wheel "X" coordinate on the zero "Y" plane.

H202 **REAR OPENING HEIGHT**. The dimension measured vertically from the top of the undepressed floor covering to the upper trimmed opening on the zero "Y" plane with rear door fully open.

H250 **TAILGATE TO GROUND CURB MASS (WT.)** The dimension measured vertically from the top of the undepressed floor covering on the lowered tailgate to ground on the zero "Y" plane.

H505 **MAXIMUM CARGO HEIGHT**. The maximum vertical dimension rear of the front seat from the cargo floor to roof bow or headlining at the zero "Y" plane.

# Specifications Form

## METRIC (U. S. Customary)

### Interior Vehicle And Body Dimensions - Key Sheet

#### Dimensions Definitions

<p>V2 STATION WAGON Measured in inches:</p> $\frac{W4 \times H201 \times L204}{1728} = \text{ft}^3$ <p>Measured in mm:</p> $\frac{W4 \times H201 \times L204}{10^9} = \text{m}^3 (\text{cubicmeter})$	<p>L208 CARGO LENGTH AT FRONT SEATBACK HEIGHT. The minimum horizontal dimension from the "X" plane tangent to the rearmost surface of the driver's seatback to the inside limiting interference of the hatchback door on the vehicle zero "Y" plane.</p> <p>L209 CARGO LENGTH AT FLOOR-FRONT. The minimum horizontal dimension measured at floor level from the rear of the front seatback to the normal limiting interference of the hatchback door on the vehicle zero "Y" plane.</p> <p>L210 CARGO LENGTH AT SECOND SEATBACK HEIGHT. The minimum dimension measured from the "X" plane tangent to the rearmost surface of second seatback or the load floor which is towed at least one half of the H198 dimension height above the rear load floor, to the rearmost inside limiting interference on the zero "X" plane.</p> <p>L211 CARGO LENGTH AT FLOOR-SECOND SEATBACK. The minimum horizontal dimension measured at floor level from the rear of the second seatback or load floor panel to the normal limiting interference of the hatchback door on the vehicle zero "Y" plane.</p>
<p>V4 HIDDEN LUGGAGE CAPACITY-REAR OF FRONT SEAT. The total volumes of individual pieces of one set of standard luggage stowed in any hidden cargo area below the load floor rear of the front seat.</p> <p>V5 TRUCKS AND MPV'S WITH OPEN AREA. Measured in inches:</p> $\frac{L506 \times W505 \times H503}{1728} = \text{ft}^3$ <p>Measured in mm:</p> $\frac{L506 \times W500 \times H503}{10^9} = \text{m}^3 (\text{cubicmeter})$	<p>H197 FRONT SEATBACK TO LOAD HEIGHT. The dimension measured vertically from the horizontal tangent to the top of the seatback to the undepressed floor covering.</p> <p>H198 SECOND SEATBACK TO LOAD FLOOR HEIGHT. The dimension measured vertically from the second seatback to the undepressed floor covering.</p> <p>V3 HATCHBACK. Measured in inches:</p> $\frac{(L208 + L209) \times W4 \times H197}{1728} = \text{ft}^3$ <p>Measured in mm:</p> $\frac{(L208 + L209) \times W4 \times H197}{10^9} = \text{m}^3 (\text{cubicmeter})$
<p>V6 TRUCKS AND MPV'S WITH CLOSED AREA. Measured in inches:</p> $\frac{L204 \times W500 \times H505}{1728} = \text{ft}^3$ <p>Measured in mm:</p> $\frac{L204 \times W500 \times H505}{10^9} = \text{m}^3 (\text{cubicmeter})$	<p>V4 HIDDEN LUGGAGE CAPACITY-REAR OF FRONT SEAT. The total volumes of individual pieces of one set of standard luggage stowed in any hidden cargo area below the load floor rear of the front seat.</p> <p>V11 HATCHBACK CARGO VOLUME INDEX. Usable luggage (one (1) stand and luggage set) below floor: Measured in inches:</p> $\frac{L210 + L211}{1728} \times W4 \times H198 = \text{ft}^3$ <p>Measured in mm:</p> $\frac{L210 + L211}{10^9} \times W4 \times H198 = \text{m}^3 (\text{cubicmeter})$
<p>V8 HIDDEN LUGGAGE CAPACITY-REAR OF SECOND SEAT. The total volumes of individual pieces of one set of standard luggage stowed in any hidden cargo area below the load floor rear of the second seat.</p> <p>V10 STATION WAGON CARGO VOLUME INDEX. Measured in inches:</p> $\frac{H201 \times L205 \times (W4 + W201)}{1728} = \text{ft}^3$ <p>Measured in mm:</p> $\frac{H201 \times L205 \times (W4 + W201)}{10^9} = \text{m}^3 (\text{cubicmeter})$	

#### Hatchback - Cargo Space Dimensions

All Hatchback cargo dimensions are to be taken with the front seat in full down and rear position, and the rear seat folded down. The hatchback door is in the closed position. (For electronically adjusted seats, see the manufacturer's specifications for Design "H" Point).

# Specifications Form

## METRIC (U. S. Customary)

### Index

Subject	Page No.
Alternator	16
Axle, Drive, Front, Rear, All Four	2, 9, 10
Axle Shafts	10
Battery	16
Body and Miscellaneous Information	17
Brakes-Parking Service	12, 13
Camber	15
Camshaft	3
Capacities	
Cooling System	5
Fuel Tank	6
Lubricants	
Engine Crankcase	4
Transmission/Transaxle	8,9
Rear Axle	10
Carburetor	2,6
Caster	15
Climate Control System	19
Clutch-Pedal Operated	8
Coil, Ignition	16
Connecting Rods	4
Convenience Equipment	20-21
Cooling System	5
Crankshaft	4
Cylinders and Cylinder Head	3
Diesel Information	4
Dimension Definitions	
Key Sheet-Exterior	28,31,32
Key Sheet-Interior	29,30,32,33,34
Electrical System	15,16
Emission Controls	7
Engine-General	
Bore, Stroke, Type	3
Compression Ratio	2
Displacement	2,3
Firing Order, Cylinder Numbering	3
General Information, Power & Torque	2
Intake System	4
Power Teams	2
Exhaust System	7
Equipment Availability, Convenience	20
Fan, Cooling	5
Filters - Engine Oil, Fuel System	4
Four Wheel Drive	10
Frame	17
Front Suspension	11
Front Wheel Drive Unit	10
Fuel Economy, EPA	1
Fuel Injection	6
Fuel System	6
Fuel Tank	6
Glass	18
Headlamps	18
Headroom-Body	23,24
Heights	22
Horns	15
Horsepower-Brake	2
Ignition System	16
Inflation-Tires	13
Interior Volumes	23
Instruments	15
Legroom	23,24
Lengths	22
Leveling,Suspension	11
Lifters, Valve	4
Linings-Clutch, Brake	8,12
Lubrication-Engine Transmission/Transaxle	4,8,9
Luggage Compartment	23
Models	1
Motor Starting	16
Muffler	7

Subject	Page No.
Origin	1
Passenger Capacity	1
Passenger Mass Distribution	26
Pistons	3
Power Brakes	12
Power Engine	2
Power Steering	14
Power Teams	2
Propeller Shaft	10
Pumps-Fuel	6
Water	5
Radiator-Cap, Hoses, Core	5
Ratios-Axle, Transaxle	2,9,10
Compression	2
Steering	14
Transmission/Transaxle	2,8,9
Rear Axle	2,10
Regulator-Alternator	16
Restraint System	18
Rims	13
Rods-Connecting	4
Scrub Radius	14
Seats	17
Shock Absorbers, Front & Rear	11
Spark Plugs	16
Speedometer	15
Springs-Front & Rear Suspension	11
Stabilizer (Sway Bar)-Front & Rear	11
Starting System	16
Steering	14
Suppression-Ignition, Radio	16
Suspension-Front & Rear	11
Tail Pipe	7
Theft Protection	21
Thermostat, Cooling	5
Tires	13
Toe-In	15
Torque Converter	9
Torque-Engine	2,8,9
Trailer Towing	21
Transaxle	9
Transmission-Types	2,8,9
Transmission-Automatic	2,9
Transmission-Manual	2,8
Transmission-Ratios	2,8,9
Tread	22
Trunk Cargo Load	1
Trunk Luggage capacity	23
Turning Diameter	14
Utilized Construction	18
Universal Joints, Propeller Shaft	10
Valve System	4
Vehicle Dimensions	
Width	22
Length	22
Height	22
Ground Clearance	22
Front Compartment	23
Rear Compartment	23
Luggage Compartment	23
Station Wagon-Third Seat	24
Station Wagon-Cargo Space	24
Hatchback-Cargo Space	24
Fiducial Marks	25
Voltage Regulator	16
Water Pump	5
Weights	26,27
Wheel Alignment	15
Wheelbase	22
Wheels & Tires	13
Wheel Spindle	14
Widths	22
Windshield	18
Windshield Wiper and Washer	15