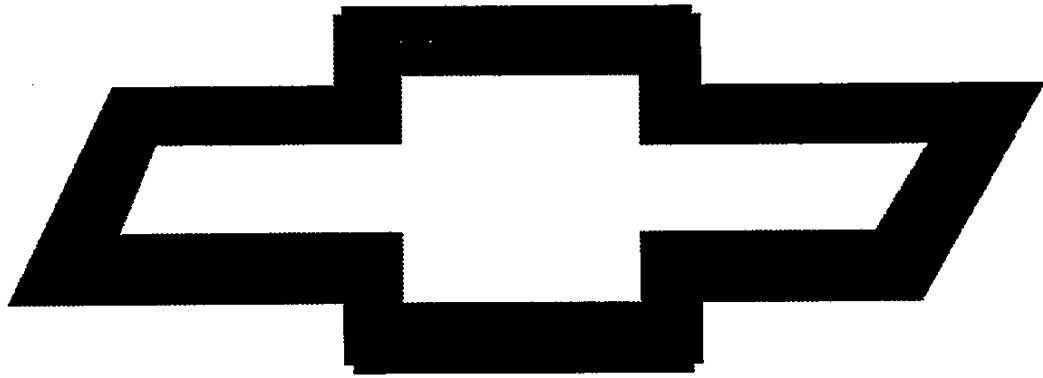


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**RESTORATION  
PACKET**



**1999  
CHEVROLET  
CAVALIER**

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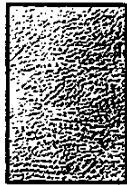
## Trim Colors



Cloth available in Graphite,\* Medium Gray and Neutral.



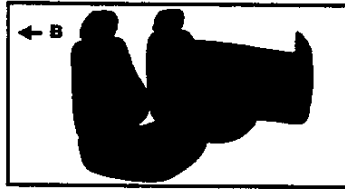
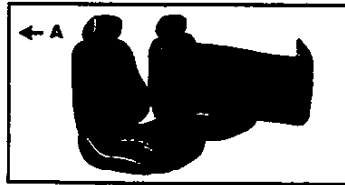
Sport Cloth available in Graphite,\* Medium Gray and Neutral.



Vinyl available in Arctic White.

\*RS only available in Graphite.  
Z24 Graphite Sport Cloth contains Red inserts, LS contains Teal inserts.

## Seat Styles



A. Cloth reclining bucket seats with adjustable vinyl head restraints on Base Sedan and Base Coupe. Rally Sport embroidery on cloth front head restraints for RS models.

B. Sport Cloth reclining bucket seats (LS Sedan, Z24 Coupe and Z24 Convertible).

C. Arctic White vinyl reclining bucket seats with lumbar support (Z24 Convertible only).

## Wheels



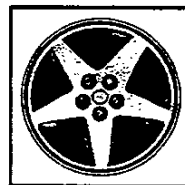
Cavalier standard 14" bolt-on full wheel cover.



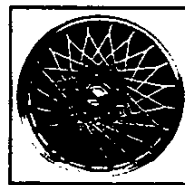
Cavalier RS Coupe and LS Sedan standard 15" bolt-on full wheel cover (included with Exterior Appearance Package).



(RPO PF7) Cavalier RS Coupe and LS Sedan optional 15" aluminum wheel.



Cavalier Z24 Coupe standard 16" aluminum wheel.



Cavalier Z24 Convertible standard 15" cross-lace aluminum wheel.

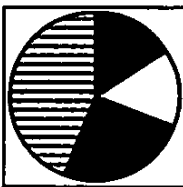
## Most Popular Exterior Colors with Corresponding Interior Color Availability

### Interior Material Colors

	Graphite	Medium Gray	Neutral	Arctic White*
<b>Exterior Colors</b>				
Green Metallic	✓	✓	✓	✓
Bright White	✓	✓	✓	✓
Bright Red	✓	✓	✓	✓
Black	✓	✓	✓	✓

\*Only available on Z24 Convertible. 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 Cavalier 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).

Green Metallic (#37)	16%
Bright White (#16)	15%
Bright Red (#81)	14%
Black (#41)	11%
Other colors	44%

NOTE: For 1999, Medium Green Metallic (#36) and Sandrift Metallic (#49) exterior paint colors replace Bright Aqua (#43) and Deep Purple Metallic (#89).

# Cavalier

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

• **4-WHEEL ANTI-LOCK BRAKE SYSTEM** — helps reduce wheel lockup and helps the driver maintain steering control while braking, even on slippery surfaces. • **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 • **Passlock® THEFT-DETERRENT SYSTEM** — assures that only the owner's specially coded key starts the car. • **SAFETY-CAGE CONSTRUCTION** — surrounds the entire passenger compartment. • **CHILD SECURITY REAR-DOOR LOCKS** — manually lock to prevent a child from opening the rear doors from the inside.



## PERFORMANCE

• **REFINED 2.4 LITER TWIN CAM 4-CYLINDER ENGINE WITH SEQUENTIAL FUEL INJECTION** — standard on Z24 Coupe and Convertible and optional on LS Sedan, it produces 150 horsepower at 5600 rpm, for outstanding performance. • **2200 4-CYLINDER ENGINE WITH SEQUENTIAL FUEL INJECTION** — delivers an impressive 115 horsepower at 5000 rpm and 135 lb.-ft. of torque @ 3600 rpm. • **TRANSMISSION CHOICES** — a 5-speed manual transmission is standard on Base Coupe and Sedan models (excluding LS) and also on RS Coupe, Z24 Coupe and Z24 Convertible models. A 3-speed automatic transmission is optional on Base Coupe and Sedan models and a 4-speed electronically controlled automatic transmission with overdrive and Traction Control is standard with LS Sedan and optional on all models. The 4-speed automatic transmission is standard on LS Sedan. • **STANDARD POWER STEERING** — makes in-city parking and maneuvering easy.



## APPEARANCE

• **TWO NEW EXTERIOR COLORS** — Medium Green Metallic and Sandrift Metallic replace Bright Aqua and Deep Purple Metallic. • **NEW, BODY-COLOR GRILLE ON RS AND LS MODELS** — replace the argent-colored grilles for a sporty appearance. • **OPTIONAL REAR SPOILER ON LS** — adds to its sporty appearance. • **AVAILABLE EXTERIOR APPEARANCE PACKAGE** (Base Coupe and Sedan models<sup>†</sup>) — includes body-color fascias, body-color body-side moldings, 15-inch bolt-on wheel covers and P195/65R-15 tires. • **BASECOAT/CLEARCOAT PAINT** — not only provides a durable, lustrous finish, but helps reduce the severity of water-spotting and etching from acid rain. • **TWO-SIDE GALVANIZED STEEL** — on all body panels, except the roof, helps resist corrosion and maintain Cavalier's appearance. • **BOLT-ON FULL WHEEL COVERS** — reduce chance of loss or theft.



## COMFORT AND CONVENIENCE

• **BATTERY-RUNDOWN PROTECTION** — automatically shuts off interior lights inadvertently left on after the ignition has been off for 20 minutes. • **AVAILABLE REMOTE KEYLESS ENTRY** (standard on Z24 Coupe and Z24 Convertible) — includes power door locks and power trunk release and makes vehicle entry quick and easy. • **AIR CONDITIONING WITH CFC-FREE REFRIGERANT** (standard on LS and Z24 models) — quickly cools the interior for occupant comfort. • **THEATRE LIGHTING** — interior dome light fades slowly when doors are closed. • **FULL-FOLDING REAR SEATBACK** — provides additional cargo-carrying flexibility.



## EASY-TO-OWN

• **STAINLESS-STEEL EXHAUST SYSTEM** — includes all pipes, catalytic converter and muffler to resist corrosion. • **EXTENDED-LIFE ENGINE COOLANT** — has a first scheduled replacement interval of 5 years or 150,000 miles, whichever comes first.\*\* • **PLATINUM-TIP SPARK PLUGS** — can last up to 100,000 miles.\*\* • **LONG-LIFE AUTOMATIC TRANSMISSION FLUID** — can be driven for up to 100,000 miles before its first scheduled change.\*\* • **SCOTCHGARD™ PROTECTOR** — on cloth seats and cloth trim panel inserts, resists stains and makes cleanup easy. • **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,<sup>††</sup> 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. <sup>†</sup>Included in Base Coupe and Sedan PEGs 1SB and 1SC. \*\*Maintenance needs vary with different uses and driving conditions. See owner's manual for more information. <sup>††</sup>Courtesy Transportation available at participating dealerships.

## Competitive Models

- Main competitors for Cavalier Coupe and Sedan include: Ford Escort, Dodge/Plymouth Neon, Honda Civic and Toyota Corolla.
- Chief competitors for Cavalier Z24 Coupe include: Eagle Talon and Ford Escort ZX2 Coupe.

## New for 1999

- The 2.4 Liter Twin Cam 4-cylinder engine has been refined.
- Medium Green Metallic and Sandrift Metallic exterior paint colors replaces Bright Aqua and Deep Purple Metallic.
- The argent-colored grille on previous RS and LS models has been replaced with a sporty solid body-color paint treatment, similar to that of the 1998 models with the (WZ7) Appearance Package.

## Additional Information on Significant Features

- Once again, Cavalier appeals to customers with a strong value story — keeping it high on the lists of cost-conscious, first-time buyers looking for reliability and dependability.
- Every Cavalier features a standard 4-wheel anti-lock brake system (ABS). ABS helps reduce wheel lockup, aiding the driver to maintain steering control during severe braking.
- For added peace of mind, all Cavalier models feature a Passlock® theft-deterrent system that disables the engine for 10 minutes if an attempt is made to start the vehicle without the correct key.

## Feature Availability

	Coupe/ Sedan	RS Coupe	LS Sedan	Z24 Coupe	Z24 Convertible
<b>INTERIOR</b>					
Air Bags - Next Generation Driver and Front-Passenger <sup>1</sup>	S	S	S	S	S
Air Conditioning - with CFC-Free Refrigerant	O	O	S	S	S
Defogger - Rear-Window, Electric	O	O	O	O	S
Door Locks - Power	O	O <sup>2</sup>	O <sup>2</sup>	S	S
Easy-Entry Passenger Seat	O/NA	S	NA	S	NA
Remote Keyless Entry	NA	O	O	S	S
Scotchgard™ Protector	S	S	S	S	S
Seats - Cloth Bucket	S	S	NA	NA	NA
- Sport Cloth Bucket	NA	NA	S	S	S
- Vinyl Bucket	NA	NA	NA	NA	O
- Full-Folding, Rear	S	S	S	S	S
Speed Control - Electronic	O/NA	S	S	S	S
Steering Column - Tilt-Wheel™	O/NA	S	S	S	S
Stereo - AM/FM	S	S	NA	NA	NA
- AM/FM w/Cassette Player	O	O	S	S	S
- AM/FM w/Cassette Player and Premium Coaxial Speakers	O	O	O	O	O
- AM/FM w/CD Player and Premium Coaxial Speakers	O	O	O	O	O
Sunroof - Power	O/NA	O	NA	O	NA
Trunk Release - Mechanical	O	S	S	NA	NA
- Power	NA	O <sup>2</sup>	O <sup>2</sup>	S	S
Tachometer - w/Trip Odometer	NA	S	S	S	S
Windows - Power	NA	O	O	S	S
Wipers - Intermittent Fixed Windshield	S	NA	NA	NA	NA
- Intermittent Variable Windshield	O <sup>3</sup>	S	S	S	S
<b>EXTERIOR</b>					
Daytime Running Lamps	S	S	S	S	S
Foglamps	NA	NA	NA	S	S
Moldings - Body-Side, Body-Color	O <sup>4</sup>	S	S	S	S
Mud Guards - Front	O	S	S	NA	NA
Paint - Basecoat/Clearcoat	S	S	S	S	S
Spoiler - Rear Decklid	NA	S	O	S	S
Tires - P195/70R-14 All-Season	S	NA	NA	NA	NA
- P195/65R-15 All-Season	O <sup>5</sup>	S	S	NA	S
- P205/55R-16 Performance	NA	NA	NA	S	NA
Wheel Covers - 14" Bolt-On, Full	S	NA	NA	NA	NA
- 15" Bolt-On, Full	O <sup>5</sup>	S	S	NA	NA
Wheels - 15" Aluminum	NA	O	O	NA	S <sup>4</sup>
- 16" Aluminum	NA	NA	NA	S	NA
<b>FUNCTIONAL</b>					
Battery-Run-down Protection	S	S	S	S	S
Brake System - 4-Wheel Anti-Lock (ABS)	S	S	S	S	S
Engine - 2200 L4 SFI	S	S	S	NA	NA
- 2.4 Liter L4 Twin Cam SFI	NA	NA	O	S	S
Exhaust System - Stainless-Steel	S	S	S	S	S
Passlock® Theft-Deterrent System	S	S	S	S	S
Steering - Power Rack-and-Pinion	S	S	S	S	S
Transmission - 5-Speed Manual	S	S	NA	S	S
- 3-Speed Automatic	O	NA	NA	NA	NA
- 4-Speed Electronically Controlled Automatic w/Traction Control	O <sup>5</sup>	O	S	O	O

S — Standard. O — Optional. (Some options may be available only as part 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 Included with Remote Keyless Entry. 3 Requires PEG 1SB. 4 Cross-lace design. 5 Requires PEG 1SB on Cavalier Coupe models.

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# 1999 CAVALIER HIGHLIGHTS

## NEW FOR 1999

- 2.4 Liter Engine (LD9) Enhanced To Improve Emissions, Fuel Economy, and Reliability
- Natural Gas Provisions (KL6) On (Model 1JC69)

## EXTERIOR

- New Gold/Silver Badging (RS Model)
- Canceled Argent Grilles On (RS and LS Models) - Now Solid Color Like W27 Appearance Package
- Chevrolet Badge Removed From Rear Deck Lid
- Sunroof No Longer Has "Express Open" Feature
- Removed Under Hood Insulator Due To Engine Noise Reductions

## INTERIOR

- One Color Headliner (Shale) All Models
- Red Accents On Graphite Seats (Z24 Convertible)
- OnStar Capability
- Canceled Passenger Visor Map Strap
- Canceled Glovebox and Ashtray Lamps
- Ashtray and Lighter Now Dealer Installed Accessory
- Improved Playback Mechanism On Uplevel Radios

## COLORS

- Med. Green (Met) Replaces Bright Aqua
  - Sandrift (Met) Replaces Deep Purple
  - Gold (Met) Not Available With Base Model Facias (PEGs 1SA On 1JC37 and 1JC69)
-

CAVALIER

STANDARD EQUIPMENT SUMMARY

		1JC69	1JC37	1JC37	1JF69	1JF37
		SEDAN	COUPE	RS	LS	Z24
<b>CHASSIS</b>						
BATTERY:	RUNDOWN PROTECTION	S	S	S	S	S
BRAKE:	4-WHEEL ANTI-LOCK, FRONT DISC, REAR DRUM	S	S	S	S	S
ENGINE:	2200 SFI L4	S	S	S	S	-
	2.4 LITER TWIN CAM SFI L4	-	-	-	-	S
FUEL CAPACITY:	15 GALLONS	S	S	S	S	S
STEERING:	POWER RACK AND PINION	S	S	S	S	S
TRANSMISSION:	4-SPEED AUTOMATIC W/TRACTION CONTROL	-	-	-	S	-
	5-SPEED MANUAL	S	S	S	-	S
<b>INTERIOR</b>						
AIR CONDITIONING:		-	-	-	S	S
CARGO NET:	LUGGAGE AREA	-	-	S	S	S
CONSOLE:	FLOOR SHIFTER WITH INTEGRAL ARMREST AND STORAGE	S	S	S	S	S
CRUISE CONTROL:	AUTOMATIC, ELECTRIC	-	-	S	S	S
CUPHOLDER:		S	S	S	S	S
DEFOGGERS:	SIDE WINDOWS	S	S	S	S	S
	REAR WINDOW, ELECTRIC	-	-	-	-	-
FABRIC PROTECTOR:	SCOTCHGARD ON SEATS AND DOOR TRIM FABRIC				S	S
FLOOR MATS:	CARPETED	-	-	S	S	S
HEADLINER:	SINGLE COLOR (SHALE)	S	S	S	S	S
GAUGES:	TACHOMETER AND TRIP ODOMETER	-	-	S	S	S
GLASS:	TINTED	S	S	S	S	S
LIGHTING:	COURTESY TRUNK AND DOME (EXCL CONV)	S	S	S	S	S
	DUAL HEADLINER MOUNTED READING LAMPS	-	-	-	S	S
	MIRROR MOUNTED DUAL READING LAMPS	-	-	-	-	-
LOCKS:	REMOTE KEYLESS ENTRY	-	-	-	-	S
	THEFT DETERRENT PASSLOCK SYSTEM	S	S	S	S	S
MIRRORS:	DUAL COVERED VISOR W/DRIVER MAP STRAP	-	-	S	S	S
RADIO:	ELECTRONICALLY TUNED AM/FM STEREO RADIO W/SEEK-SCAN, DIGITAL CLOCK	S	S	S	-	-
	ELECTRONICALLY TUNED AM/FM STEREO RADIO W/SEEK-SCAN, DIGITAL CLOCK AND CASSETTE TAPE	-	-	-	S	S

# CAVALIER

## STANDARD EQUIPMENT SUMMARY

		1JC69	1JC37	1JC37	1JF69	1JF37	1JF67
		SEDAN	COUPE	RS	LS	Z24	CONV
<b><u>INTERIOR CONT'D</u></b>							
RESTRAINT SYSTEM:	NEXT GENERATION DRIVER AND PASSENGER AIR BAGS	S	S	S	S	S	S
SEATS:	CLOTH & VINYL RECLINING FRONT BUCKET SEATS WITH ADJUSTABLE HEAD RESTRAINT	S	S	S	-	-	-
	CLOTH RECLINING FRONT BUCKET SEATS WITH ADJUSTABLE HEAD RESTRAINT	-	-	-	S	S	S
	EASY ENTRY PASSENGER SEAT	-	-	S	-	S	-
	REAR FULL FOLDING	S	S	S	S	S	S
STEERING WHEEL:	TILT	-	-	S	S	S	S
TRUNK RELEASE:	MECHANICAL OPENER	-	-	S	S	-	-
WINDOWS:	POWER	-	-	-	-	S	S
<b><u>EXTERIOR</u></b>							
DECAL:	"RALLY SPORT"	-	-	S	-	-	-
FASCIAS:	GRAPHITE	S	S	-	-	-	-
	SPECIFIC Z24 BODY COLOR	-	-	-	-	S	S
	BODY COLOR	-	-	S	S	-	-
LIGHTS:	DAYTIME, RUNNING	S	S	S	S	S	S
	FOG	-	-	-	-	S	S
MIRRORS:	RH OSRV BREAKAWAY, SPORT LH REMOTE AND RH MANUAL	S	S	S	S	-	-
	POWER	-	-	-	-	S	S
MOLDINGS:	BODY SIDE, COLOR-KEYED	-	-	S	S	S	S
MUD GUARDS:	FRONT	-	-	S	S	-	-
SPOILER:	REAR DECK	-	-	S	-	S	S
TIRES:	P195/70R-14 B/W	S	S	-	-	-	-
	P195/65R-15 B/W	-	-	S	S	-	S
	P205/55R-16 B/L	-	-	-	-	S	-
WHEEL COVERS:	14" BOLT-ON FULL	S	S	-	-	-	-
	15" BOLT-ON FULL	-	-	S	S	-	-
WHEEL:	16" CAST ALUMINUM	-	-	-	-	S	-
	15" CAST ALUMINUM CROSS-LACE DESIGN	-	-	-	-	-	S
WIPERS:	INTERMITTENT, FIXED DELAY 3-SPEED	S	S	-	-	-	-
	INTERMITTENT, VARIABLE	-	-	S	S	S	S



# CAVALIER COUPE

## Model 1JC37 Cavalier Coupe

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

	1SA	1SB	1SC
<b>Base Equipment Group</b> (Refer Standard Equipment Summary)	x	x	x
<b>Preferred Equipment Group 1</b>			
Appearance Package, Exterior (Incls Body Color Fascias and Side Moldings, 15" Bolt-On Wheel Covers, and P195/65R15 BW Tires)		x	x
Convenience Net, Cargo Area		x	x
Floor Covering: Carpeted Mats, Color-Keyed Front and Rear		x	x
Mirrors, Dual Covered Visors with Driver Map Strap		x	x
Mud Guards, Front		x	x
Seat, Easy Entry Passenger		x	x
Trunk Release, Mechanical		x	x
Windshield Wiper System, Intermittent Variable		x	x
<b>Preferred Equipment Group 2</b>			
Mirrors, Power			x
Speed Control: Electronic, with Resume Speed			x
Steering, Tilt Wheel			x

### ADDITIONAL OPTIONS

#### OPTION

##### ACKNOWLEDGMENTS:

- R8S Multiple Order Numbers
- R8T Preliminary Invoice

##### AIR CONDITIONING: (MUST SPECIFY)

- C60 Air Conditioning
- R6G Air Conditioning Not Desired

##### BRACKET: License Plate, Front

##### DEFOGGER: (MUST SPECIFY)

- C49 Rear Window: Electric
- R9W Rear Window Defogger Not Desired

##### DOOR LOCKS: Power

##### EMISSIONS: (MUST SPECIFY) (Refer Emission Requirements Tab Section)

- FE9 Federal Emission Requirements
- NG1 Connecticut, District Of Columbia, Delaware, Massachusetts, Maryland, New Hampshire, New Jersey  
New York, Pennsylvania, Rhode Island or Virginia Emission Requirements
- YF5 California Emission Requirements
- NB8 CA, CT, DC, DE, MA, MD, NH, NJ, NY, PA, RI, or VA Emission Override (Reqs FE9 Emissions)
- NC7 Federal Emission Override (Reqs YF5 or NG1 Emissions)
- K05 HEATER: Engine Block

# CAVALIER COUPE

## ADDITIONAL OPTIONS CONT'D

### OPTION

#### RADIO EQUIPMENT:

- UM6 Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Digital Clock and Stereo Cassette Tape
  - UL0 Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Digital Clock, Automatic Tone Control, Cassette Tape, Theft Lock and Speed Compensated Volume (Incls Premium Front Coaxial Speakers)
  - UN0 Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Digital Clock, Automatic Tone Control, Compact Disc Player, Theft Lock and Speed Compensated Volume (Incls Premium Front Coaxial Speakers)
  - CF5 **SUNROOF: Electric (Incls Mirror Map Light) (N/A 1SA)**
- #### TRANSMISSIONS: (MUST SPECIFY)
- MM5 5-Speed Manual (Incls 3.58 Axle Ratio)
  - MX1 3-Speed Automatic (Incls 3.18 Axle Ratio)
  - MX0 4-Speed Automatic Electronically Controlled (Incls Traction Control) (Incls 3.63 Axle Ratio) (N/A 1SA)

T43 Rear Deck spoiler

# CAVALIER 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 Cloth Bucket		INTERIOR COLORS	
		Graphite	Neutral
Exterior Colors	Color	RECOMMENDED INTERIOR	
Solid Colors	Code	TRIM COLORS	
Black	41U	x	x
Blue, Aquamarine (Met)	22U	x	
Blue, Med Opal (Met)	24U	x	
*Gold, Sunset Med (Met)	60U	x	x
Green (Met)	37U	x	x
Green, Med (Met)	36U	x	x
Red, Bright	81U	x	x
Red, Cayenne (Met)	96U	x	x
Sandrift (Met)	49U	x	x
White, Bright	16U	x	x

\*NA 1SA Peg

# CAVALIER RS COUPE

## Model 1JC37 Cavalier RS Coupe

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

	1SD	1SE
Base Equipment Group (Refer Standard Equipment Summary)	x	x
Preferred Equipment Group 1		
Power Mirrors		x
Power Windows, Driver's Express Down		x
Remote Keyless Entry (Incls Power Door Locks and Trunk Release. Replaces Mechanical Opener)		x

### ADDITIONAL OPTIONS

#### OPTION

- ACKNOWLEDGMENTS:**
- R8S Multiple Order Numbers
  - R8T Preliminary Invoice
- AIR CONDITIONING: (MUST SPECIFY)**
- C60 Air Conditioning
  - R6G Air Conditioning Not Desired
- BRACKET: License Plate, Front**
- DEFOGGER: (MUST SPECIFY)**
- C49 Rear Window: Electric
  - R9W Rear Window Defogger Not Desired
- DOOR LOCKS: Power (Incl w/1SE)**
- EMISSIONS: (MUST SPECIFY) (Refer Emission Requirements Tab Section)**
- FE9 Federal Emission Requirements
  - NG1 Connecticut, District Of Columbia, Delaware, Massachusetts, Maryland, New Hampshire, New Jersey  
New York, Pennsylvania, Rhode Island or Virginia Emission Requirements
  - YF5 California Emission Requirements
  - NB8 CA, CT, DC, DE, MA, MD, NH, NJ, NY, PA, RI, or VA Emission Override (Reqs FE9 Emissions)
  - NC7 Federal Emission Override (Reqs YF5 or NG1 Emissions)
- HEATER: Engine Block**
- RADIO EQUIPMENT:**
- UM6 Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Digital Clock and Stereo  
Cassette Tape
  - UL0 Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Digital Clock, Automatic Tone  
Control, Cassette Tape, Theft Lock and Speed Compensated Volume (Incls Premium  
Front Coaxial Speakers)
  - UN0 Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Digital Clock, Automatic Tone  
Control, Compact Disc Player, Theft Lock and Speed Compensated Volume (Incls  
Premium Front Coaxial Speakers)
- SUNROOF: Electric (Incls Mirror Map Light)**
- TRANSMISSIONS: (MUST SPECIFY)**
- MM5 5-Speed Manual (Incls 3.58 Axle Ratio)
  - MX0 4-Speed Automatic Electronically Controlled (Incls 3.63 Axle Ratio and Traction Control)
- WHEELS: 15" Aluminum**

## CAVALIER RS 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 COLOR
		Graphite
Exterior Colors Solid Paint	Color Code	RECOMMENDED INTERIOR TRIM COLORS
Black	41U	x
Blue, Aquamarine (Met)	22U	x
Gold, Sunset Med (Met)	60U	x
Green (Met)	37U	x
Red, Bright	81U	x
Red, Cayenne (Met)	96U	x
White, Bright	16U	x

# CAVALIER SEDAN

## Model 1JC69 Cavalier Sedan

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

Base Equipment Group (Refer Standard Equipment Summary)	1SA	1SB
Preferred Equipment Group 1	x	x
Appearance Package, Exterior (Incls Body Color Fascias and Side Moldings, 15" Bolt-On Wheel Covers, and P195/65R15 B/W Tires)		x
Convenience Net, Cargo Area		x
Floor Covering: Carpeted Mats, Color-Keyed Front and Rear		x
Mirrors, Dual Covered Visors with Driver Map Strap		x
Mud Guards, Front		x
Trunk Release, Mechanical		x
Windshield Wiper System, Intermittent Variable		x

### ADDITIONAL OPTIONS

#### OPTION

##### ACKNOWLEDGMENTS:

- R8S Multiple Order Numbers
- R8T Preliminary Invoice

##### AIR CONDITIONING: (MUST SPECIFY)

- C60 Air Conditioning
- R6G Air Conditioning Not Desired

- VK3 BRACKET: License Plate, Front

##### DEFOGGER: (MUST SPECIFY)

- C49 Rear Window: Electric
- R9W Rear Window Defogger Not Desired

- AU3 DOOR LOCKS: Power

##### EMISSIONS: (MUST SPECIFY) (Refer Emission Requirements Tab Section)

- FE9 Federal Emission Requirements
- NG1 Connecticut, District Of Columbia, Delaware, Massachusetts, Maryland, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island or Virginia Emission Requirements
- YF5 California Emission Requirements
- NB8 CA, CT, DC, DE, MA, MD, NH, NJ, NY, PA, RI, or VA Emission Override (Reqs FE9 Emissions)
- NC7 Federal Emission Override (Reqs YF5 or NG1 Emissions)

- K05 HEATER: Engine Block

- KL6 NATURAL GAS PROVISIONS: (Incls 15" Wheel and Tire)  
(Reqs MX1 Transmission and C60 Air Conditioning) (Avail w/Blue 24U, Green 37U or White 16U)

**ADDITIONAL OPTIONS CONT'D**

**OPTION**

**RADIO EQUIPMENT:**

- UM6** Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Digital Clock and Cassette Tape
- UL0** Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Digital Clock, Automatic Tone Control, Cassette Tape, Theft Lock and Speed Compensated Volume (Incls Premium Front Coaxial Speakers)
- UN0** Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Digital Clock, Automatic Tone Control, Compact Disc Player, Theft Lock and Speed Compensated Volume (Incls Premium Front Coaxial Speakers)

**TRANSMISSIONS: (MUST SPECIFY)**

- MM5** 5-Speed Manual (Incls 3.58 Axle Ratio)
- MX1** 3-Speed Automatic (Incls 3.18 Axle Ratio)
- MX0** 4-Speed Automatic Electronically Controlled (Incls 3.63 Axle Ratio and Traction Control)

# CAVALIER SEDAN

## 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	
		Graphite	Neutral
Cloth Bucket			
Exterior Colors	Color Code	RECOMMENDED INTERIOR TRIM COLORS	
Solid Paint			
Black	41U	x	x
Blue, Aquamarine (Met)	22U	x	
Blue, Med Opal (Met)	24U	x	
*Gold, Sunset Med (Met)	60U	x	x
Green (Met)	37U	x	x
Green, Med (Met)	36U	x	x
Red, Bright	81U	x	x
Red, Cayenne (Met)	96U	x	x
Sandrift (Met)	49U	x	x
White, Bright	16U	x	x

\*N/A 1SA Peg



Model 1JF69 Cavalier LS Sedan

MUST ORDER ONE GROUP -- NO DELETIONS ALLOWED

Base Equipment Group (Refer Standard Equipment Summary)	1SA	1SB
Preferred Equipment Group 1	x	x
Power Mirrors		x
Power Windows, Driver's Express Down		x
Remote Keyless Entry (Incls Power Door Locks and Trunk Release. Replaces Mechanical Opener)		x

ADDITIONAL OPTIONS

OPTION

ACKNOWLEDGMENTS:

- R8S Multiple Order Numbers
- R8T Preliminary Invoice

VK3 BRACKET: License Plate, Front

DEFOGGER: (MUST SPECIFY)

- C49 Rear Window: Electric
- R9W Rear Window Defogger Not Desired

AU3 DOOR LOCKS: Power (Incl w/1SB)

EMISSIONS: ( MUST SPECIFY) (Refer Emission Requirements Tab Section)

- FE9 Federal Emission Requirements
- NG1 Connecticut, District Of Columbia, Delaware, Massachusetts, Maryland, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island or Virginia Emission Requirements
- YF5 California Emission Requirements
- NB8 CA, CT, DC, DE, MA, MD, NH, NJ, NY, PA, RI, or VA Emission Override (Reqs FE9 Emissions)
- NC7 Federal Emission Override (Reqs YF5 or NG1 Emissions)

ENGINES: (MUST SPECIFY)

- LN2 2200 SFI L4 (Incls 3.63 Axle Ratio)
- LD9 2.4 Liter L4 SFI Twin Cam (Incls 3.91 Axle Ratio)

K05 HEATER: Engine Block

RADIO EQUIPMENT:

- UL0 Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Digital Clock, Automatic Tone Control, Cassette Tape, Theft Lock and Speed Compensated Volume (Incls Premium Front Coaxial Speakers)
- UN0 Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Digital Clock, Automatic Tone Control, Compact Disc Player, Theft Lock and Speed Compensated Volume (Incls Premium Front Coaxial Speakers)

T43 SPOILER

PF7 WHEEL: 15" Aluminum

# CAVALIER LS SEDAN

## 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		
		Graphite	Med Gray	Neutral
Cloth Bucket		12G	92G	52G
Exterior Colors	Color Code	RECOMMENDED INTERIOR TRIM COLORS		
Solid Paint				
Black	41U	x	x	x
Blue, Aquamarine (Met)	22U	x	x	
Blue, Med Opal (Met)	24U	x	x	
Gold, Sunset Med (Met)	60U	x		x
Green (Met)	37U	x	x	x
Green, Med (Met)	36U	x	x	x
Red, Bright	81U		x	x
Red, Cayenne (Met)	96U	x	x	x
Sandrift (Met)	49U	x	x	x
White, Bright	16U	x	x	x

# CAVALIER Z24 COUPE

## Model 1JF37 Z24 COUPE

MUST ORDER 1SA - NO DELETIONS ALLOWED

Base Equipment Group  
(Refer Standard Equipment Summary)

1SA

X

### ADDITIONAL OPTIONS

#### OPTION ACKNOWLEDGMENTS:

R8S Multiple Order Numbers

R8T Preliminary Invoice

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 Connecticut, District Of Columbia, Delaware, Massachusetts, Maryland, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island or Virginia Emission Requirements

YF5 California Emission Requirements

NB8 CA, CT, DC, DE, MA, MD, NH, NJ, NY, PA, RI, or VA Emission Override (Reqs FE9 Emissions)

NC7 Federal Emission Override (Reqs YF5 or NG1 Emissions)

K05 HEATER: Engine Block

#### RADIO EQUIPMENT:

UL0 Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Digital Clock, Automatic Tone Control, Cassette Tape, Theft Lock and Speed Compensated Volume (Incls Premium Front Coaxial Speakers)

UN0 Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Digital Clock, Automatic Tone Control, Compact Disc Player, Theft Lock and Speed Compensated Volume (Incls Premium Front Coaxial Speakers)

CF5 SUN ROOF: Electric ( Incls Mirror Map Light)

#### TRANSMISSIONS: (MUST SPECIFY)

MM5 5-Speed Manual (Incls 3.94 Axle Ratio)

MX0 4-Speed Automatic Electronically Controlled (Incls 3.91 Axle Ratio and Traction Control)

# CAVALIER Z24 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		Graphite	Med Gray	Neutral
Sport Cloth Bucket		12H	92G	52G
Exterior Colors	Color Code	RECOMMENDED INTERIOR TRIM COLORS		
Solid Paint				
Black	41U	x	x	x
Blue, Aquamarine (Met)	22U	x	x	
Blue, Med Opal (Met)	24U	x	x	
Blue, Bright	30U			
Green (Met)	37U	x	x	x
Green, Med (Met)	36U		x	x
Red, Bright	81U	x	x	x
Red, Cayenne (Met)	96U	x	x	x
White, Bright	16U	x	x	x

# CAVALIER Z24 CONVERTIBLE

## Model 1JF67 Z24 CONVERTIBLE

**MUST ORDER 1SA**

Base Equipment Group  
(Refer Standard Equipment Summary)

1SA
x

### ADDITIONAL OPTIONS

#### OPTION ACKNOWLEDGMENTS:

- R8S Multiple Order Numbers
- R8T Preliminary Invoice
- VK3 **BRACKET: License Plate, Front**
- EMISSIONS: (MUST SPECIFY) (Refer Emission Requirements Tab Section)**
- FE9 Federal Emission Requirements
- NG1 Connecticut, District Of Columbia, Delaware, Massachusetts, Maryland, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island or Virginia Emission Requirements
- YF5 California Emission Requirements
- NB8 CA, CT, DC, DE, MA, MD, NH, NJ, NY, PA, RI, or VA Emission Override (Reqs FE9 Emissions)
- NC7 Federal Emission Override (Reqs YF5 or NG1 Emissions)
- K05 **HEATER: Engine Block**

#### RADIO EQUIPMENT:

- UL0 Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Digital Clock, Automatic Tone Control, Cassette Tape, Theft Lock and Speed Compensated Volume (Incls Premium Front Coaxial Speakers)
- UN0 Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Digital Clock, Automatic Tone Control, Compact Disc Player, Theft Lock and Speed Compensated Volume (Incls Premium Front Coaxial Speakers)

#### SEATS: (MUST SPECIFY)

- AR9 Bucket
- AS5 Bucket (w/Adjustable Lumbar Support Driver Side Only)

#### TRANSMISSIONS: (MUST SPECIFY)

- MM5 5-Speed Manual (Incls 3.94 Axle Ratio)
- MX0 4-Speed Automatic Electronically Controlled (Incls 3.91 Axle Ratio and Traction Control)

# CAVALIER Z24 CONVERTIBLE

## 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 Opt	INTERIOR COLORS			
		Arctic White	Graphite	Med Gray	Neutral
Cloth Bucket	AR9	—	12H	92G	52G
(b) Vinyl Bucket	AS5	10N	—	—	—
Exterior Colors Solid Paint	Color Code	RECOMMENDED INTERIOR TRIM COLORS			
Black	41U	16T/41T	16T/41T/52T	16T/41T	16T/41T/52T
Blue, Med Opal (Met)	24U	16T/41T	16T/41T	16T/41T	N/A
Gold, Sunset Met (Met)	60U	16T/41T/52T	41T/52T	N/A	16T/41T/52T
Green (Met)	37U	16T/41T	16T/41T	16T/41T	52T
Red, Bright	81U	16T/41T	16T/41T	16T/41T	16T/41T/52T
White, Bright	16U	16T/41T	16T/41T	16T/41T	16T/41T/52T

(a) Seat Option AR9 or AS5 Must Be Specified

(b) Includes Adjustable Lumbar Support (Driver Side Only)

Top Option Must Be Specified in "Plus" (+) Option Section of Order Worksheet

### CONVERTIBLE TOP COLOR

ARCTIC WHITE.....16T    BLACK.....41T    NEUTRAL.....52T



For Release: August 1, 1998

Contact: Chevrolet Communications  
Chevrolet Media Online: <http://media.gm.com/chevy>  
Phone: 1-800 CHEVY-MI  
Fax: 800-504-5073

## 1999 CAVALIER — A SMART CHOICE FOR BUYERS ON THE GO

**DETROIT** — The 1999 Chevy Cavalier accommodates today's busy lifestyles with high value and low-maintenance features built into every vehicle.

"Cavalier offers busy, young, value-conscious buyers what they're looking for in a car," said Steve Wagg, Cavalier brand manager. "It offers a lot of value for the money, in a compact, stylish package. Overall, it's a very smart choice."

All 1999 Chevrolet Cavaliers offer a full complement of standard safety features, including Next Generation driver and front-passenger air bags, antilock brakes, reinforced safety cage construction and front and rear crush zones.

Cavalier has easy-to-own character, demonstrated by standard features such as platinum-tip spark plugs that last up to 100,000 miles, extended-life coolant may not need to be changed for up to 5 years or 150,000 miles and battery-rundown protection. Other smart Cavalier features include a Passlock® theft-deterrent system, Daytime Running Lamps, theatre lighting and Scotchgard™ protection on seats and door trim for LS and Z24 models.

"Cavalier attracts a high percentage of young, first-time and female buyers in particular," Wagg said. "With its expressive styling and generous standard feature content, Cavalier makes its owners look and feel smart."

A partial list of Cavalier's standard features includes power rack-and-pinion steering, intermittent fixed wipers, full wheel covers, dual breakaway outside rearview mirrors and an electronically-tuned AM/FM stereo.

— MORE —

## **NEW FOR '99**

Changes for 1999 include new badging for Rally Sport models and the addition of two exterior colors (Medium Green Metallic and Sandrift). The argent-color grille on RS and LS models is replaced with a body-color paint treatment.

Also, refinements to the 2.4 liter Twin Cam engine are designed to enhance fuel efficiency and reliability, and decrease overall engine noise.

## **CAVALIER LINEUP MEETS VARIED NEEDS**

The 1999 Cavalier lineup continues to meet the needs of a variety of compact car buyers. Cavalier Coupe and Cavalier Sedan provide the reliable performance of the 2200 L4 engine with Sequential Fuel Injection (SFI) and a five-speed manual transmission.

The distinctive Cavalier Rally Sport Coupe adds features such as Electronic Speed Control, Tilt-Wheel™ steering column, a tachometer, rear decklid spoiler and luggage area cargo net, just to name a few.

Cavalier LS Sedan adds these same features, along with air conditioning, an electronically-tuned AM/FM stereo with cassette player, Electronic Speed Control and Scotchgard™ protection. LS models with an electronically controlled four-speed automatic transmission also have Traction Control — a feature not commonly offered on vehicles as inexpensive as Cavalier.

The sporty Z24 Coupe and Convertible, with specific fascias and rear spoiler, round out the Cavalier lineup. To enhance a jazzy exterior further, Z24 Coupe has 16" aluminum wheels while Z24 Convertible has 15" aluminum wheels with a cross-lace design. Both models feature the performance of the 2.4 liter Twin Cam L4 engine with Sequential Fuel Injection. This engine produces 150 horsepower and 155 lb.-ft. of torque for an outstanding balance of off-the-line performance and passing power. Z24 models offer the added convenience of power windows (with driver's Express-Down), power door locks, dual power exterior rearview mirrors, standard power top for the convertible and standard electric rear-window defogger.

As with every member of the Chevrolet family, Cavalier is covered by a comprehensive owner protection program that includes a no-deductible, 3-year/36,000-mile limited warranty and 24-Hour Roadside Assistance.

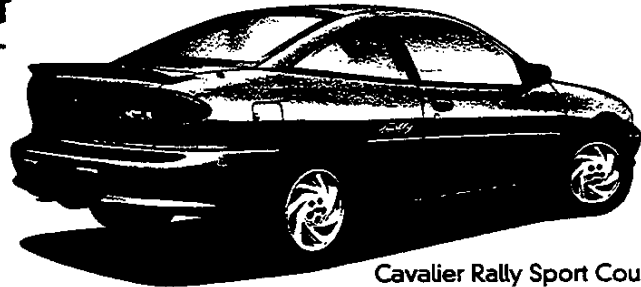
With six models to choose from and many standard features on each one, it's easy for Cavalier shoppers to make a smart buy.



## 1999 CHEVROLET CAVALIER



Cavalier Z24 Convertible



Cavalier Rally Sport Coupe

### CAVALIER AND THE MARKETPLACE

A strong contender of domestic sales in the small car market — 302,161 Cavalier vehicles were sold in 1997 — Cavalier attracts value-conscious consumers shopping for a “smart buy.” Many customers are first-time new vehicle buyers. Whether they choose a coupe, sedan or convertible model, owners will get lots of unexpected standard features. And, to accommodate busy lifestyles, Cavalier has many low-maintenance features built into every vehicle.

#### NEW FOR 1999

##### **MODELS AND TRIM LEVELS**

- A Bi-Fuel Cavalier Sedan has been added to the lineup (pg. 4).

##### **INTERIOR**

- Cloth seats for Coupe, Sedan and Rally Sport Coupe (pg. 7).

##### **EXTERIOR/STRUCTURAL FEATURES**

- The argent-color grille on RS and LS models is replaced with a body-color paint treatment (pg. 8).
- Medium Green Metallic and Sandrift Metallic replace Bright Aqua Metallic and Deep Purple Metallic (pg. 9).

##### **ENGINES**

- 2.4 Liter Twin Cam engine refinements (pg. 10).

##### **COMPETITORS**

- Ford Escort
- Plymouth/Dodge Neon
- Honda Civic

##### **AWARDS**

- AAA — “Top Car” award for passenger cars in the under-\$12,500 price class
- *Kiplinger's Personal Finance Magazine* — Cavalier RS was named “Worth a Look” for cars \$13,000–\$18,000
- *Money* — Best Buy, Cars less than \$15,000 (LS Sedan), March 1998

##### **DEMOGRAPHICS**

###### Coupe

- Median Age: 29 Years
- Median Income: \$40,000
- Female: 66%

###### Sedan

- Median Age: 39 Years
- Median Income: \$40,000+
- Female: 65%

###### Convertible

- Median Age: 42 Years
- Median Income: \$65,000
- Female: 66%



## MODELS AND TRIM LEVELS

### CAVALIER COUPE/SEDAN

Cavalier Coupe and Sedan standard features include:

#### Interior

- Next Generation driver and front-passenger air bags\*
- Rear-seat child comfort guides
- Center console with cup holders, armrest and storage area
- Trip odometer
- Cloth front bucket seats and full-folding rear seat
- Child security rear-door locks (Sedan only)
- Electronically tuned AM/FM stereo
- Intermittent windshield wipers
- Side-window defoggers
- Passlock® theft-deterrent system.

#### Exterior

- Daytime Running Lamps
- Dual breakaway outside rearview mirrors
- Full bolt-on wheel cover.

#### Functional

- 2200 L4 engine with Sequential Fuel Injection (SFI)
- 5-speed manual transmission
- 4-wheel antilock brake system (ABS)
- Power rack-and-pinion steering
- Battery-rundown protection
- Stainless-steel exhaust system
- P195/70R-14 all-season tires.

\*Always use safety belts and proper child restraints even with Next Generation air bags. See the owner's manual for more safety information.

### CAVALIER RALLY SPORT COUPE

Cavalier Rally Sport Coupe offers the same standard features as Cavalier Coupe, plus:

#### Interior

- Embroidered "Rally Sport" front-seat head restraints
- Electronic Speed Control
- Tilt-Wheel™ steering column
- Easy-entry passenger seat
- Dual, covered visor vanity mirrors with map straps
- Tachometer
- Luggage-area cargo net
- Carpeted floor mats
- Remote mechanical trunk release
- Variable-speed intermittent windshield wipers.

#### Exterior

- "Rally Sport" badging on rear-quarter panels
- Rear decklid spoiler
- 15-inch bolt-on full wheel covers
- Body-color front and rear fascias
- Body-color body-side moldings
- Front mud guards.

#### Functional

- P195/65R-15 all-season tires.

## 1999 CHEVROLET CAVALIER



### CAVALIER LS SEDAN

Cavalier LS Sedan offers the same standard features as Cavalier Sedan, plus:

#### Interior

- Air conditioning
- Electronic Speed Control
- Tilt-Wheel™ steering column
- Electronically tuned AM/FM stereo with cassette player
- Dual headliner-mounted reading lamps
- Sport Cloth seating surfaces with Scotchgard™ protection
- Tachometer
- Dual, covered visor vanity mirrors with driver's map strap
- Remote mechanical trunk release
- Variable-speed intermittent windshield wipers.

#### Exterior

- 15-inch bolt-on full wheel covers
- Body-color front and rear fascias
- Body-color body-side moldings
- Front mud guards.

#### Functional

- Variable-speed intermittent windshield wipers
- Electronically controlled 4-speed automatic transmission with Electronic Traction Control
- P195/65R-15 tires

### CAVALIER Z24 COUPE

Cavalier Z24 Coupe offers all the standard features of Cavalier Coupe, plus:

#### Interior

- Air conditioning
- Electronic Speed Control
- AM/FM stereo with cassette player
- Tilt-Wheel™ steering column
- Power windows with Driver's Express Down feature
- Power outside rearview mirrors
- Power door locks
- Sport Cloth seating surfaces with Scotchgard™ protection
- Easy-entry passenger seat
- Tachometer

- Dual, headliner-mounted reading lamps
- Dual, covered visor vanity mirrors with driver's map strap
- Carpeted floor mats
- Luggage-area cargo net
- Remote Keyless Entry System.

#### Exterior

- Z24 body-color front and rear fascias
- Z24 body-color front and rear fascias
- Rear decklid spoiler
- Foglamps
- 16-inch cast-aluminum wheels
- Red bowtie badging on hood and decklid
- P205/55R-16 blackwall all-season touring tires.

#### Functional

- 2.4 Liter Twin Cam I4 engine with Sequential Fuel Injection.

### CAVALIER Z24 CONVERTIBLE

Z24 Convertible offers the same standard features as Z24 Coupe, plus the following:

#### Interior

- Rearview mirror-mounted dual reading lamps
- Electric rear-window defogger.

#### Exterior

- Power convertible top with single-latch "logic stick" lever
- P195/65R-15 all-season touring tires
- 15-inch cross-lace design aluminum wheels.



## BI-FUEL CAVALIER SEDAN

**NEW** Gasoline and compressed natural gas (CNG) power the Bi-Fuel Cavalier Sedan, which was introduced interim 1998. Its fueling system uses the CNG first for an estimated 160 miles and then automatically switches to gasoline, if necessary, for about 400 miles.\* Using a patented Hyperfill® device, CNG is refilled through a fuel door below the left-hand tailpipe into a tank which holds 6.9 gallons gasoline-equivalent @ 3,600 psi.

This system has undergone extensive testing and meets federal safety standards and Transitional Low Emission Vehicle (TLEV) standards in all 50 states.

Available for fleet owners and retail sale, the newest addition to the Cavalier lineup is backed by the GM 3-year/36,000-mile\* "Bumper to Bumper Plus" No-Deductible Limited Warranty and can be serviced at authorized GM dealers and facilities throughout America.

To accommodate the added weight of its fuel system, this Cavalier has an upgraded suspension system. The Bi-Fuel Cavalier has many of the same standard items of other Cavalier models, including:

- 2.2L 4-cylinder engine
- 3-speed automatic transmission
- Dual air bags
- Power steering
- 4-wheel antilock brake system
- Stainless-steel exhaust.

\*Individual mileage may vary. \*Whichever comes first.

## THE CHEVROLET SEDAN FAMILY

Every Chevrolet Sedan is a quality-built car that owners can depend on to be a trusted member of their family — year in, year out.

GM has long been a leader in powertrain performance and Chevy sedans benefit from this technology, along with a comprehensive safety package designed to add peace of mind to every mile consumers drive.

Besides offering outstanding value at an affordable price, Chevrolet Sedans offer low-maintenance features that make them easier to care for.

All Chevrolet Sedans are covered by a comprehensive owner protection program that includes a no-deductible, 3-year/36,000-mile\* limited warranty and 24-Hour Roadside Assistance.

Chevrolet offers five distinctly styled Sedans to meet the needs of any age group, lifestyle and budget.

**LUMINA** — The well-equipped, affordable Chevrolet Sedan for those who want comprehensive standard safety features with 6-passenger roominess, comfort and one less thing to worry about.

**MALIBU** — The 5-passenger centerpiece of the family, designed to appeal to current midsize sedan owners, as well as to those who drive midsize imports.

**PRIZM** — The upscale 5-passenger Sedan for those who want dependability and upscale options, or who are predisposed to import vehicles.

**CAVALIER** — The low-priced, 5-passenger Chevrolet Sedan for young, value-conscious buyers.

**METRO** — The low MSRP, high MPG, 4-passenger economy Sedan for young, first-time buyers seeking low-cost transportation and new-car peace of mind.

This selection of sedans allows Chevrolet to carry buyers through all phases of their lives.

\*Whichever comes first.



## SAFETY AND SECURITY

### CRASH AVOIDANCE FEATURES

#### Standard

- **DAYTIME RUNNING LAMPS (DRL)** turn on automatically when the ignition is on and the parking brake is disengaged, to increase Cavalier visibility to other drivers during daylight hours. The DRL system turns off when the vehicle's headlamps are activated.
- **4-WHEEL ANTILOCK BRAKE SYSTEM (ABS)** automatically adjusts brake pressure to the front and rear wheels during hard-braking situations, to help the driver maintain steering control and reduce wheel lockup. (See page 13 for more information.)
- **CLUTCH/STARTER INTERLOCK SWITCH**, on Cavalier models equipped with manual transmissions, requires drivers to depress the clutch pedal to start the ignition.
- **BRAKE/TRANSMISSION SHIFT INTERLOCK**, standard on Cavalier models equipped with an automatic transmission, requires drivers to depress the brake pedal to shift out of Park.

#### Optional

- **ELECTRONIC TRACTION CONTROL** (included with available 4-speed automatic transmission only) automatically activates if either drive wheel begins to spin on a slick surface. Sensors detect the wheel spin and retard engine spark and control transmission shifting, slowing and stabilizing the vehicle to improve traction. (Standard on LS Sedan.)

### OCCUPANT PROTECTION FEATURES

#### Standard occupant protection features:

- **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.

- **REINFORCED SAFETY-CAGE CONSTRUCTION** surrounds occupants with a cocoon-like system of structural components. This structure consists of reinforced roof rails and door pillars and beams, which are designed to help minimize intrusion into the passenger compartment during a collision.
- **FRONT AND REAR CRUSH ZONES** are designed to deform in a controlled manner in a collision, to absorb impact energy while helping to reduce intrusion into the passenger compartment.
- **CHILD SECURITY REAR-DOOR LOCKS**, when engaged, prohibit the rear doors from being opened from the inside. (Sedan only.)
- **ADJUSTABLE UPPER SAFETY BELT ANCHORS** help the driver and right front-passenger adjust safety belts for individual comfort. (Sedan only.)
- **REAR CHILD COMFORT GUIDES** (outboard shoulder belts only) adjust the angle of safety belt crossover, making wearing safety belts more comfortable for older children and small adults riding in the rear seat.
- **SAFETY BELT CINCH CAPABILITY FOR CHILD SAFETY SEATS** allows the proper use of a child restraint system.
- **POWER WINDOW LOCKOUT** lets the driver disable the rear-passenger power window switches. (Included with power windows.)

#### Optional

- **AUTOMATIC DOOR LOCKS** (also on models equipped with optional Remote Keyless Entry system) give owners added convenience and safety.

\*Always use safety belts and proper child restraints, even with Next Generation air bags. See the owner's manual for more safety information.



## SECURITY FEATURES

### Standard

- **PASSLOCK® THEFT-DETERRENT SYSTEM** disables the ignition system if an attempt is made to start the car without a proper key.
- **LASER-ETCHED VIN PLATE** makes it virtually impossible for thieves to change the numbers without making their efforts known.
- **REMOTE HOOD RELEASE** allows access to engine compartment from inside the vehicle only.

### Optional

- **THEFTLOCK SECURITY FEATURE** for uplevel cassette and compact disc players renders the unit inoperable if stolen.

## INTERIOR FEATURES

### COMFORT AND CONVENIENCE FEATURES

#### Standard

- **MICROPROCESSOR-BASED ELECTROMECHANICAL INSTRUMENT CLUSTER** links communication between the vehicle's electronic modules (powertrain, air bag and ABS) to provide up-to-the minute system information to the driver.
- **TRIP ODOMETER** gives drivers precise mileage readings between any two destinations up to 1,000 miles.
- **TACHOMETER**, standard on RS, LS and Z24 models, gives an indication of rpm.
- **SINGLE KEY** starts the car and operates locking functions on all doors and the trunk.
- **REMOTE MECHANICAL DECKLID RELEASE** allows access to the trunk from inside the vehicle.
- **BATTERY-RUNDOWN PROTECTION** automatically shuts off any interior lamp that is left on for more than 20 minutes (with ignition turned off).
- **THEATRE LIGHTING** gradually dims interior lights when the doors are closed.

- **SCOTCHGARD™ PROTECTION**, on LS and Z24 models, helps protect cloth seating surfaces and door panel trim from stains, and aids in easy cleanups.
- **AIR CONDITIONING** with CFC-free refrigerant is standard on LS and Z24 models and optional on all other models. Also, on vehicles equipped with air conditioning, the compressor is automatically activated to help reduce window "flash-fogging" when the defrost mode is selected.
- **REAR-SEAT HEAT DUCTS** maximize rear-passenger comfort.
- **CENTER CONSOLE** houses a side-mounted parking brake, two cup holders, driver or front-passenger armrest and storage area for cassette tapes, papers, etc.
- **FIXED-INTERVAL INTERMITTENT WINDSHIELD WIPERS**, standard on Cavalier Coupe and Sedan, help clear the windshield of light rain or mist.
- **INTERMITTENT VARIABLE WINDSHIELD WIPERS**, standard on RS, LS and Z24, allow the driver to match the wiper speed to weather conditions.
- **TIPT-WHEEL™ STEERING COLUMN**, standard on Z24, RS and LS models (optional on Cavalier Coupe) tailors the wheel to the most comfortable, individualized steering position.
- **ELECTRONIC SPEED CONTROL**, standard on RS, LS and Z24 models, allows drivers to set and maintain a cruise speed.
- **LIGHT-EMITTING DIODES (LED)** are used instead of lightbulbs for all indicators except turn signals and high beams, and are designed to last the lifetime of the vehicle.
- **LUGGAGE-AREA CARGO NET** helps secure groceries or other cargo from shifting.
- **COVERED VISOR VANITY MIRRORS WITH DRIVER'S MAP STRAP** hold important papers or maps in place and within reach. (Optional on Coupe and Sedan.)
- **JACK STOWAGE TRAY** is lined with foam to help reduce rattles. The tray also doubles as a convenient tool holder.
- **FULL TRUNK CARPETING** is standard on every Cavalier model.

## 1999 CHEVROLET CAVALIER



### Optional

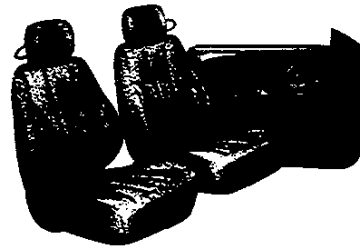
- **REMOTE KEYLESS ENTRY SYSTEM**, optional on Cavalier RS and LS and standard on Z24, allows the driver to lock or unlock doors, turn on interior lights and unlock the trunk from up to 30 feet away.
- **"ZONED" REAR-WINDOW DEFOGGER**, standard on Cavalier Z24 Convertible and optional on all other models, clears the critical center area first.
- **POWER SUNROOF**, optional on Coupe models, opens and closes easily and includes a sunshade to protect the vehicle's interior from sun-fading.
- **POWER DOOR LOCKS** allow every door to be locked or unlocked from the driver seat position.
- **POWER WINDOWS** include a driver's Express-Down feature and are optional on RS and LS models. (Standard on Z24 models.)

### **SOUND SYSTEMS**

- **ELECTRONICALLY TUNED AM/FM STEREO** with seek-scan, digital clock and extended-range front and rear speakers is standard on Coupe/Sedan models.
- **ELECTRONICALLY TUNED AM/FM STEREO WITH CASSETTE PLAYER**, seek-scan, digital clock and extended-range front and rear speakers is standard on LS Sedan and Z24 models and is available on all other models.
- **ELECTRONICALLY TUNED AM/FM STEREO WITH CASSETTE PLAYER, THEFTLOCK SECURITY FEATURE, SPEED-COMPENSATED VOLUME**, automatic tone control, seek-scan and digital clock front speakers and extended-range rear speakers.
- **ELECTRONICALLY TUNED AM/FM STEREO WITH COMPACT DISC PLAYER, THEFTLOCK SECURITY FEATURE, SPEED-COMPENSATED VOLUME**, automatic tone control and digital clock is optional on all models. Includes premium coaxial front speakers and extended-range rear speakers.

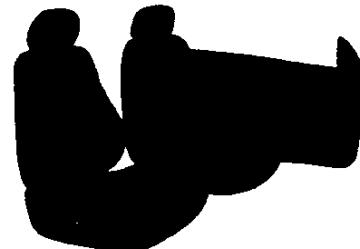
### **SEATS**

- **ADJUSTABLE SAFETY BELT GUIDE LOOPS** (on Sedan models) make safety belts more comfortable for front-seat passengers.
- **FOUR-WAY SEAT ADJUSTERS AND ADJUSTABLE HEAD RESTRAINTS** offer optimum comfort for all Cavalier seats.



Sedan, Coupe, RS Coupe

- NEW** Standard cloth with vinyl reclining front bucket seats and adjustable head restraints. Rally Sport embroidery is standard on cloth front head restraints of RS models.



LS Sedan, Z24 Coupe, Z24 Convertible

- Standard Sport Cloth reclining front bucket seats with adjustable head restraints. Includes Scotchgard™ protection.



Z24 Convertible

- Optional vinyl reclining front bucket seats (Arctic White only) with lumbar adjustment and adjustable head restraints.

Additional Seating Features:

- **STORAGE NET** on passenger seatback in LS and Z24 models provides additional storage for books, magazines, etc.
- **EASY-ENTRY PASSENGER-SEAT** simplifies rear-seat entry and exit. It comes standard on Z24 models and RS Coupe models and is available on Cavalier Coupe models.
- **FOLD-DOWN REAR SEAT WITH TRUNK PASS-THROUGH FEATURE**, standard on all models, gives cargo-carrying flexibility to all Cavalier models. This feature allows long or bulky objects, like skis, to be transported with the decklid closed.

**INTERIOR COLORS**

- Graphite (Includes Red Inserts for Z24 models and Teal Inserts for LS)
- Neutral
- Medium Gray (LS and Z24 models)
- Arctic White\* (Convertible only).

\*Does not include monotone color scheme.

**EXTERIOR /  
STRUCTURAL FEATURES**

**EXTERIOR FEATURES**

Standard

- **REAR DECKLID SPOILER** provides a sportier appearance for Cavalier RS and Z24 models (optional on Cavalier Coupe and LS models).
- **DUAL, BREAKAWAY SPORT MIRRORS** are designed to move back into position when bumped.
- **BODY-COLOR BODY-SIDE MOLDINGS**, standard on RS, LS and Z24 models, help protect against door dings and dents.

**NEW** **BODY-COLOR GRILLE** is standard on RS and LS models.

Optional

- **ELECTRIC SUNROOF** is optional for Cavalier Coupe, Cavalier RS and Z24 Coupe.

**STRUCTURAL FEATURES**

- **STIFF BODY STRUCTURE** allows suspension components to isolate road disturbances.
- **CORROSION PROTECTION** has been incorporated throughout the vehicle. All exterior panels (except Sedan roofs) utilize two-side galvanized steel.



## 1999 CHEVROLET CAVALIER



### CAVALIER Z24 CONVERTIBLE

- **CAVALIER CONVERTIBLE IS DESIGNED, ENGINEERED AND BUILT AS A "TRUE CONVERTIBLE" FROM THE GROUND UP.** Its stiff body structure results in a smooth, solid road feel.
- **SPECIFIC ROCKER PANELS AND FRONT AND REAR REINFORCEMENTS** are welded prior to paint application so all body components receive full corrosion and paint protection.
- **SINGLE CENTER LATCH** simplifies operating the power convertible top with one easy-to-use "logic stick" lever.
- **SNUG-FITTING CONVERTIBLE TOP** has a full headliner for a finished appearance and is designed to help reduce road and wind noise.
- **GLASS REAR WINDOW** with standard electric defogger provides good visibility and will not fade or yellow.
- **THREE-PIECE BOOT COVER** gives Cavalier Convertible a sleek, finished look when the top is lowered.

### EXTERIOR PAINT

Standard basecoat/clearcoat paint on Cavalier resists fading and provides a high gloss shine for long-lasting exterior beauty for all colors, solid and metallic. The anti-corrosion paint process builds up six layers of protection on Cavalier.

- **TOTAL IMMERSION PHOSPHATE ELECTRODEPOSITION (ELPO) PROCESS** applies the first layer of primer/paint. Electric current is applied to the bodies while submerged in the paint bath to facilitate complete coverage, even in hard-to-reach areas.
- **SIX LAYER ANTI-CORROSION PAINT SYSTEM** consists of:
  - electrogalvanized metal
  - phosphate coating
  - ELPO
  - primer surface
  - basecoat (color)
  - clearcoat.

### EXTERIOR COLORS

**NEW** Paint Color For '99:

- Sandrift Metallic<sup>1,2,3</sup>
- Medium Green Metallic.<sup>1,2</sup>

#### Other Colors:

- Bright White
- Aquamarine Blue Metallic<sup>1</sup>
- Medium Opal Blue Metallic<sup>2</sup>
- Green Metallic
- Black
- Sunset Gold Metallic
- Bright Red
- Cayenne Red Metallic.<sup>1</sup>

#### Z24 Convertible Top Colors:

- Arctic White
- Black
- Neutral

<sup>1</sup> Not available on Z24 Convertible. <sup>2</sup> Not available on RS. <sup>3</sup> Not available on Z24.

## DESIGN AND MANUFACTURING

Cavalier models are manufactured at General Motors assembly plants in:

- Lordstown, Ohio
- Lansing, Michigan
- Ramos Arizpe, Mexico.

The General Motors assembly system ensures high quality products for customers. Process controls and monitoring stations are the keys. For example, a "form-and-pierce" technique of installing exterior sheet metal is used for assembly to help provide precise fit and uniform body seams through customized mounting positions. Technique highlights include:

- Holes for some trim items are cut with laser beams on an "online" automotive laser system.
- The laser-cutting is a non-contact system, so metal distortion is virtually eliminated, improving quality in fit and finish.



## ENGINES



### 2200 L4 SFI ENGINE (LN2)

The 2200 L4 engine with Sequential Fuel Injection (SFI) is standard on Cavalier Coupe, Sedan, LS and RS models.

Power ratings for the 2200 engine are:

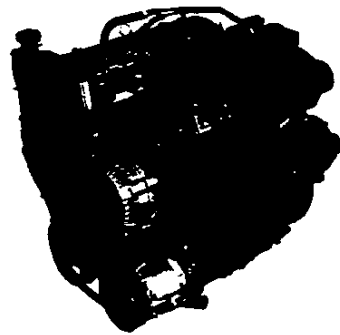
- 115 HORSEPOWER at 5000 rpm.
- 135 LB.-FT. TORQUE at 3600 rpm.

2200 engine technical features:

- **VALVETRAIN ROLLER ROCKER ARMS** act as roller bearings to reduce friction between the pushrods and the contacting surfaces of the rocker arms.
- **HYDRAULIC ROLLER LIFTERS** help reduce valvetrain friction and engine noise.
- **"ASSEMBLED" STEEL CAMSHAFT** is made of individual lobes and journals that are permanently locked onto a tube for outstanding durability.
- **INDUCTION SYSTEM** features two resonators and a large volume air cleaner for quiet operation.
- **SEQUENTIAL FUEL INJECTION** aids combustion efficiency by optimizing fuel distribution.
- **CAST-ALUMINUM CYLINDER HEADS** help maintain even engine temperatures and minimize weight.
- **TORQUE AXIS POWERTRAIN MOUNT SYSTEM** enhances smoothness by controlling vibration at idle. The Cavalier powertrain is mounted according to its most natural axis rather than the most convenient location. As a result, the engine's mounting system doesn't "fight" the body structure.

- **PLATINUM-TIP SPARK PLUGS** (first scheduled maintenance at up to 100,000 miles\*) provide dependable service.
- **EXTENDED-LIFE ENGINE COOLANT** (first scheduled replacement at up to 5 years or 150,000 miles,\* whichever comes first) helps make maintenance easy.

\*Maintenance needs vary with different uses and driving conditions. See owner's manual for more information.



### 2.4 LITER TWIN CAM L4 ENGINE (LD9)

A 2.4 Liter Twin Cam L4 engine with Sequential Fuel Injection is standard on Z24 Coupe and Z24 Convertible and is optional on LS Sedan.

Power ratings for the 2.4 liter engine are:

- 150 HORSEPOWER at 5600 rpm.
- 155 LB.-FT. TORQUE at 4400 rpm.

2.4 engine technical features:

- **CAST-ALUMINUM CYLINDER HEAD** helps maintain even engine temperatures and minimize weight.
- **COMPOSITE INTAKE MANIFOLD** reduces noise and weight. The dual-plane exhaust manifold allows engineers to tune the engine to achieve optimum performance.
- **SEQUENTIAL FUEL INJECTION** aids combustion efficiency by optimizing fuel distribution. SFI uses one injector and nozzle per cylinder for optimum cylinder-to-cylinder fuel distribution. Each injector is fired sequentially and timed to the intake cycle for accuracy and metering control. (With non-SFI engines, fuel is injected once per engine revolution through all injectors at the same time. With SFI, the timing is much more precise, thus performance improves across the board.) Stainless-steel fuel injectors provide improved corrosion resistance

## 1999 CHEVROLET CAVALIER



- **"N-OL-PAN" DESIGN BALANCE SHAFT SYSTEM** helps ensure smooth, quiet performance in the mid- and high-speed driving ranges.
- **TORQUE AXIS POWERTRAIN MOUNT SYSTEM** is designed to reduce vibration at idle.
- **DIRECT-DRIVE POWER STEERING PUMP** eliminates the power steering pump belt and improves reliability.
- **EXTENDED-LIFE ENGINE COOLANT\*** (first scheduled replacement at up to 5 years or 150,000 miles,\* whichever comes first, helps make maintenance easy.

\*Maintenance needs vary with different uses and driving conditions. See owner's manual for more information.

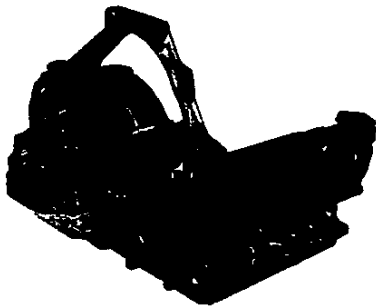
### TRANSMISSIONS

#### 5-SPEED MANUAL TRANSMISSION

A five-speed manual transmission is standard on all Cavalier models except the LS Sedan. The range of gear ratios allows the driver to select the best gear for any driving situation. The fifth gear overdrive reduces engine rpm at cruising speed, thereby reducing wear and engine noise.

The 5-speed manual transmission and clutch are engineered to make shifting smooth and easy:

- **CLUTCH PEDAL** has a short, efficient travel.
- **CONCENTRIC SLAVE CYLINDER** provides a solid pedal feel and smooth clutch operation.

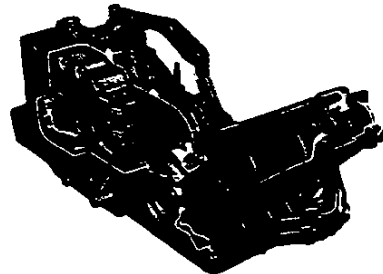


#### 3T40 3-SPEED AUTOMATIC TRANSMISSION

The 3T40 transverse-mounted 3-speed automatic is optional on Cavalier Coupe and Cavalier Sedan. The 3T40 features wide-ratio gearing to maximize vehicle performance and hydraulic controls for smooth, accurate shift points. Other features include:

- **POWERTRAIN CONTROL MODULE (PCM)** collects information about the operating condition of the 3T40 and alerts the driver with a "Service Engine Soon" light if there is a deterioration that could cause the vehicle to exceed acceptable emissions levels.
- **LONG-LIFE AUTOMATIC TRANSMISSION FLUID** will not need to be replaced for up to 100,000 miles, under normal operating conditions.\*
- **PREMIUM INPUT GEAR SET** allows for efficient lubrication flow, resulting in smooth operation and quiet shift characteristics.
- **TORQUE CONVERTER CLUTCH** features quiet, smooth operation.
- **FINAL-DRIVE PINION GEARS** are double-honed, improving surface finish which allows for better interface with the needle bearings, leading to improved durability.

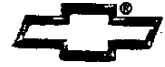
\*Maintenance needs vary with different uses and driving conditions. See owner's manual for more information.



#### 4T40-E 4-SPEED ELECTRONIC AUTOMATIC TRANSMISSION

The 4T40-E is standard on LS Sedan and optional on all other models. This transmission is specifically designed for small front-wheel-drive vehicles. Besides offering impressive off-the-line performance, it helps maximize fuel efficiency.

- **ELECTRONICALLY CONTROLLED SHIFT QUALITY** is achieved by utilizing a fully integrated and synchronized powertrain control module (PCM). The PCM creates a seamless link between engine, transmission and vehicle by monitoring environmental factors such as altitude and temperature as well as the engine and transmission operation. This along with free-wheel clutches, results in shifts that are silky smooth.



- **4T40-E IS LIGHTWEIGHT**, contributing to overall fuel efficiency. A chain transfer two-axis configuration was chosen for its simple, effective design. Thin wall castings, strengthened by strategically placed supporting ribs add strength without adding mass. Lost-foam castings also contribute to the transmission's low weight. (Lost foam is a technique whereby foam is injected into the casting and is melted away under heat, leaving only the cavity remaining.) Special lightweight composite materials are used on a variety of components.
- **LONG-LIFE AUTOMATIC TRANSMISSION FLUID** is one of the many low-maintenance features of Cavalier.\*
- **PCM** continuously monitors operating conditions, such as altitude and temperature, to determine the optimal shift points and to provide a seamless link between the vehicle and engine. The PCM collects information about the operating condition of the 4T40-E and alerts the driver with a "Service Engine Soon" light if there is a deterioration that could cause the vehicle to exceed acceptable emissions levels.

\*Maintenance needs vary with different uses and driving conditions. See owner's manual for more information.

## TRACTION CONTROL

Traction Control is included on all Cavalier models equipped with a 4-speed automatic transmission. Typically, Traction Control is found on luxury cars costing two or even three times more than Cavalier — including Mercedes-Benz C Class, Lexus, Infiniti and BMW.

This system, available when the transmission is in drive, third gear and reverse, helps maintain traction on most slippery surfaces.

Utilizing the ABS speed sensors, the system monitors front drive-wheel speed and rate of acceleration, to determine the proper wheel torque and transmission gear to optimize drive-wheel spin. When drive-wheel spin exceeds a predetermined limit, the traction system is activated. Traction Control minimizes slippage by controlling the transmission upshift and retarding the engine spark timing, thus regulating powertrain torque.

## SUSPENSION

- **MACPHERSON STRUT FRONT SUSPENSION AND TRAILING TWIST-BEAM REAR SUSPENSION** prevent road shocks from being transferred to the opposite wheel.
- **"PROGRESSIVE-RIDE" SYSTEM** allows precise tuning between the chassis and suspension system to improve isolation, impact harshness, motion control, shake and structural feel.
- **DUAL-PATH FRONT STRUTS** provide good road feel, yet maintain isolation from bumps.
- **LEVEL II SPORT SUSPENSION**, on Z24 Coupe models, includes shaped inner-metal bushings on front lower control arms, highrate front and rear springs, specific shocks and struts and a large front stabilizer bar, which result in a firm ride and sporty handling.
- **COIL-OVER-SHOCK REAR SUSPENSION DESIGN** positions the shock and spring "in-line" to distribute road inputs (potholes, etc.) throughout the body structure, helping to dissipate the energy for a less jarring ride.
- **ACCURATE WHEEL ALIGNMENT** is ensured at all four wheels by using precision equipment during the manufacturing process. Throughout the vehicle-build process, measurements are taken to ensure that components affecting final wheel alignment are correct.

## STEERING

Power-assisted rack-and-pinion steering is standard on all Cavalier models.

- **14.7:1 RATIO** is featured on Cavalier models.
- **15.7:1 RATIO** on Z24 Coupe gives quick steering response.
- **STEERING RACK** is mounted on the front suspension cradle to provide a solid feel, while adding more isolation from road disturbances, compared to steering racks mounted directly to the car body.



## BRAKES

All Cavalier models have front disc/rear drum brakes with standard power assist. The ABS VI antilock brake system is also standard equipment on all models.

Some things to keep in mind about antilock brakes:

- ABS helps maintain steering control during severe braking situations by minimizing wheel lockup on most slippery surfaces. All the driver has to do is maintain pressure on the brake pedal and steer the vehicle.
- ABS adjusts brake pressure by modulating the brakes several times per second, a rate even most skilled professional drivers cannot attain physically.
- The system modulates the brake-line pressure at the wheels. Drivers should not "pump" the brakes in emergency braking situations. Rather, they should maintain constant pressure on the brake pedal, allowing the system to work effectively.

## WHEELS AND TIRES



### Cavalier Coupe and Sedan:

- Standard 14" steel wheels
- Standard P195/70R-14 all-season tires
- Optional 15" bolt-on full wheel covers with standard P195/65R15 all-season touring tires.



### Cavalier RS Coupe and LS Sedan:

- Standard 15" steel wheels<sup>1</sup>
- Standard P195/65R-15 all-season touring tires



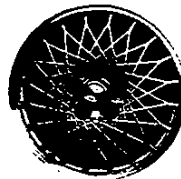
- Optional 15" aluminum wheels<sup>\*</sup>
- Standard P195/65R-15 all-season touring tires.

<sup>\*</sup>Included with Preferred Equipment Group 1SB.



### Cavalier Z24 Coupe:

- Standard 16" aluminum wheels
- Standard P205/55R-16 performance tires.



### Cavalier Z24 Convertible:

- Standard 15" aluminum wheels with cross-lace design
- Standard P195/65R-15 all-season touring tires.



## HISTORY

### (BY MODEL YEAR)

- 1981 — Cavalier was first introduced as a 1982 model.
- 1983 — Cyclonic induction, fuel-injected 2.0 Liter engine; Convertible debuts.
- 1984 — Cavalier is the best selling car in the U.S.
- 1985 — 2.8 Liter V6 engine introduced; major suspension tuning.
- 1987 — Generation II 4- and 6-cylinder engines; Getrag 5-speed; Z24 Convertible for California only.
- 1988 — Aerodynamic facelift for Coupe and Convertible; Z24 Convertible goes national.
- 1991 — All-new interior and minor exterior changes; RS Convertible debuts.
- 1992 — ABS VI brake system is standard; Z24 Convertible returns; Multi-Port Fuel Injection on L4.
- 1994 — 2200 engine improvements; 3.1 Liter V6 engine option available on all Cavalier RS models.
- 1995 — All-new interior and exterior design, new 2.3 Liter Quad 4 engine, 4T40-E transmission and standard dual air bags.
- 1996 — New Daytime Running Lamps, 2.4 Liter Twin Cam engine; OBD II; extended-life engine coolant.
- 1997 — Rally Sport Coupe model added; new easy-open gas cap; enhanced Evaporative Emissions Control system and federal dynamic side-impact standards met.
- 1998 — 2200 engine receives enhancements; Z24 Convertible replaces LS Convertible; electric odometer/trip odometer added.

## CHEVROLET INTERNATIONAL

The Cavalier is sold in other countries besides the U.S. In many cases, changes are made in the vehicle's specifications to meet the unique demands of those markets and/or comply with local regulations. Additionally, these products sometimes fill a very different role in non-U.S. markets. If you need to know what the differences are, in specifications or marketing strategies, in any given country, please look in the Chevrolet International section of this publication to identify the right GM person to contact for that kind of information. Chevrolet Communications (U.S.) does not have those details.



## AFFINITY RELATIONSHIPS

Because Chevrolet offers the most comprehensive lineup of cars and trucks of any automotive manufacturer, it goes without saying that there is a product for virtually everyone, whatever their needs. From the bass fisherman who needs a reliable truck to tow his fishing boat, to the soccer mom who needs a dependable van to get the team to the fields, Chevrolet can offer a vehicle to fit anyone's lifestyle.

With this in mind, Chevrolet created what has come to be known as "Affinity Marketing." Through it, Chevrolet has developed relationships with over eighty lifestyle organizations, sporting groups and spokespeople that represent the image of Chevrolet cars, trucks and the people who drive them. These relationships help Chevrolet market its products and services while offering marketing support to groups like the United States Figure Skating Association and Ducks Unlimited. Affinity Marketing also builds relationships with individuals. These people reflect the Chevrolet vision of excellence, like 1998 Olympic Gold Medalist Tara Lipinski and country music star George Strait.

Cavalier has affinity relationships with:

- United States Figure Skating Association and the U.S. Figure Skating Team
- US Soccer
- HORDE Tour
- Campus Fest

For more information, call 1-800-CHEVY-MI.

## GENUINE CUSTOMER CARE

Chevrolet owners are covered by Genuine Customer Care, a comprehensive owner protection plan that includes the following:

### **NEW VEHICLE LIMITED WARRANTY**

This warranty is for GM vehicles in the United States. Owners should see their Chevrolet dealer for complete terms and conditions of this New Vehicle Limited Warranty. Items covered for 3 years or 36,000 miles\* include:

- The complete vehicle
- Tires
- Towing to the nearest Chevrolet dealership
- Sheet-metal coverage
  - Corrosion coverage
  - Rust-through coverage<sup>1</sup>
- Repairs made to correct any manufacturer vehicle defect
- No charge for most warranty repairs.

\*Whichever comes first. <sup>1</sup>Six years or 100,000 miles, whichever comes first.

### **COURTESY TRANSPORTATION**

Retail customers who purchase or lease a 1999 Chevrolet Corvette are eligible for Courtesy Transportation when their vehicles are left at a participating dealership for repairs covered under the 3-year/36,000-mile Bumper to Bumper Limited Warranty. Courtesy Transportation, at participating dealerships only, may include shuttle service, expense reimbursement, or, if the repairs require leaving the vehicle overnight, a vehicle rental. Owners should see their dealer for details.

\*Whichever comes first.



## ROADSIDE ASSISTANCE\*

Roadside Assistance service is provided through a toll-free 800 number, 24 hours a day, 365 days a year. Roadside Assistance advisors can assist with minor mechanical problems over the phone or coordinate a variety of services through professional service providers.

### Basic Care provides:

- Toll-free access — 1-800-CHEV-USA
- Free towing to closest dealer for warranty repairs
- Basic over-the-phone technical advice
- Dealer services at reasonable costs (i.e., wrecker services, locksmith/key service, glass repair, etc.).

Courtesy Care, which applies for 3 years/36,000 miles, provides:

- Basic Care services
- Free locksmith/key service (when keys are lost on the road or locked inside)
- Free flat tire change service
- Free fuel delivery
- Free non-warranty towing
- Free jump start.

\*Roadside Assistance membership is free. Some services may incur costs. Courtesy Care is available to retail, retail lease and corporate lease customers operating 1994 and newer Chevrolet vehicles for a period of 3 years/36,000 miles, whichever comes first. All Courtesy Care services and associated costs must be prearranged by Chevrolet Roadside Assistance or dealer service management and must be driver-initiated. Basic Care and Courtesy Care are not part of or included in the coverage provided by the New Vehicle Limited Warranty. Chevrolet reserves the right to modify or discontinue Basic Care and Courtesy Care at any time. Owners should see their dealer for complete details of the Chevrolet Roadside Assistance Program.

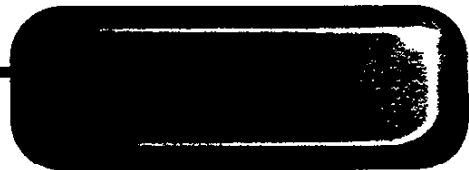
Important — a word about this document: We have tried to make this document as comprehensive and factually accurate as possible. We reserve the right, however, to make changes at any time, without notice, in the information contained in this document. Some information may have been updated since the time of printing in June, 1998.

A note about Next Generation air bags: Always use safety belts and proper child restraints, even with Next Generation air bags. See the owner's manual for more safety information.

Some artwork contained within this text is for representation purposes only.



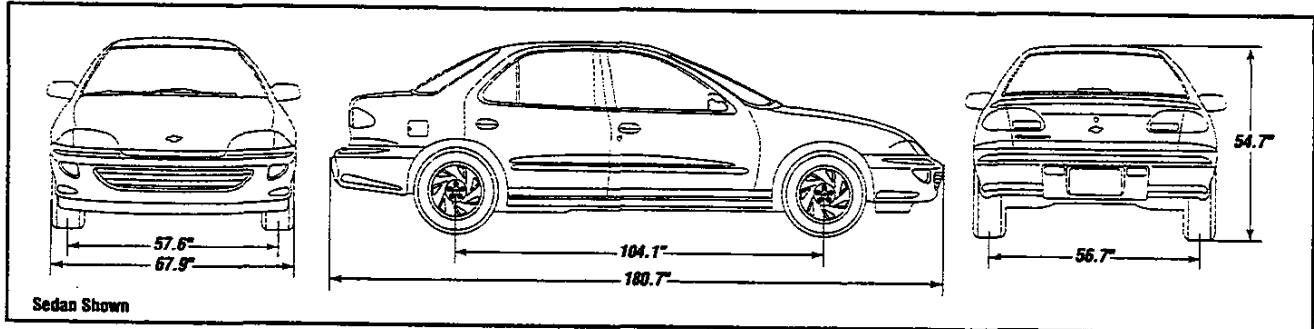
# 1999 CAVALIER FEATURE AVAILABILITY



	Coupe/Sedan	RS Coupe	LS Sedan	Z24 Coupe	Z24 Convertible
<b>INTERIOR</b>					
Air Bags - Driver and Front-Passenger <sup>1</sup>	S	S	S	S	S
Air Conditioning - with CFC-Free Refrigerant	O	O	S	S	S
Defogger - Rear-Window, Electric	O	O	O	O	S
Door Locks - Power	O	O <sup>2</sup>	O <sup>2</sup>	S	S
Easy Entry Passenger Seat	O/NA	S	NA	S	NA
Remote Keyless Entry System	NA	O	O	S	S
Scotchgard™ Protection	NA	NA	S	S	S
Seat - Front Bucket and Full-Folding Rear	S	S	S	S	S
Speed Control - Electronic	O/NA	S	S	S	S
Steering Column - Tilt-Wheel™ Adjustable	O/NA	S	S	S	S
Stereo - AM/FM	S	S	NA	NA	NA
- AM/FM w/Cassette Player	O	O	S	S	S
- AM/FM w/Cassette Player and Premium Front Coaxial Speakers	O	O	O	O	O
- AM/FM w/CD Player and Premium Front Coaxial Speakers	O	O	O	O	O
Sunroof - Power	O/NA	O	NA	O	NA
Trunk Release - Mechanical/Power	O/NA	S/O <sup>2</sup>	S/O <sup>2</sup>	NA/S	NA/S
Tachometer/Trip Odometer	NA/S	S/S	S/S	S/S	S/S
Windows - Power	NA	O	O	S	S
Wipers - Intermittent Fixed	S	NA	NA	NA	NA
- Intermittent Variable	O <sup>2</sup>	S	S	S	S
<b>EXTERIOR</b>					
Daytime Running Lamps	S	S	S	S	S
Foglamps	NA	NA	NA	S	S
Moldings - Body-Side, Body-Color	O <sup>2</sup>	S	S	S	S
Mud Guards - Front	O	S	S	NA	NA
Paint - Basecoat/Clearcoat	S	S	S	S	S
Spoiler - Rear Decklid	NA	S	O	S	S
Tires - P195/70R-14 All-Season	S	NA	NA	NA	NA
- P195/65R-15 All-Season	O <sup>2</sup>	S	S	NA	S
- P205/55R-16 All-Season Performance	NA	NA	NA	S	NA
Wheel Covers- 14" Bolt-On, Full	S	NA	NA	NA	NA
- 15" Bolt-On, Full	O <sup>2</sup>	S	S	NA	NA
Wheels - 15" Aluminum	NA	O	O	NA	S <sup>4</sup>
- 16" Aluminum	NA	NA	NA	S	NA
<b>FUNCTIONAL</b>					
Battery-Run-down Protection	S	S	S	S	S
Brake System - 4-Wheel Antilock (ABS)	S	S	S	S	S
Engine - 2200 L4 SFI	S	S	S	NA	NA
- 2.4 Liter Twin Cam L4 SFI	NA	NA	O	S	S
Exhaust System - Stainless-Steel	S	S	S	S	S
Passlock® Theft-Deterrent System	S	S	S	S	S
Steering - Power Rack-and-Pinion	S	S	S	S	S
Transmission - 5-Speed Manual	S	S	NA	S	S
- 3-Speed Automatic	O	NA	NA	NA	NA
- 4-Speed Electronically Controlled Automatic with Traction Control	O <sup>5</sup>	O	S	O	O

S — Standard. O — Optional (some options may be available only as part of a Preferred Equipment Group). NA — Not available. 1 Always use safety belts and proper child restraints, even with Next Generation air bags. See owner's manual for more safety information. 2 Included with the optional Remote Keyless Entry System. 3 Requires PEG 1SB. 4 Cross-lace design. 5 Requires PEG 1SB on Coupe models.

# 1999 CAVALIER SPECIFICATIONS



## MODEL AVAILABILITY

Cavalier Coupe/Sedan, RS Coupe, LS Sedan, Z24 Coupe/Convertible

EPA vehicle class

Subcompact

Assembly

Lansing, Mich.

Lordstown, Ohio

Ramos Arizpe, Mexico

## DIMENSIONS & CAPACITIES (inches/millimeters, unless otherwise noted)

Exterior Dimensions	Coupe	Sedan	Convertible
Wheelbase	104.1/2644.1	104.1/2644.1	104.1/2644.1
Length (overall)	180.7/4589.8	180.7/4589.8	180.7/4589.8
Width (overall)	68.7/1745.0	67.9/1724.7	68.7/1745.0
Height (overall)	53.0/1346.2	54.7/1389.4	54.1/1374.1
Tread — front	57.6/1463.0	57.6/1463.0	57.6/1463.0
Tread — rear	56.4/1432.6	56.7/1440.2	56.6/1437.6
<b>Interior Front Dimensions</b>			
Headroom	37.6/955.0	38.9/988.1	38.1/967.7
Legroom	41.9/1064.3	41.9/1064.3	42.1/1069.3
Shoulder room	53.9/1369.1	54.6/1386.8	53.9/1369.1
Hip room	50.0/1270.0	50.8/1290.3	50.0/1270.0
<b>Interior Rear Dimensions</b>			
Headroom	36.6/929.6	37.2/944.9	37.6/955.0
Legroom	32.7/830.6	34.4/873.8	32.6/828.0
Shoulder room	54.9/1394.5	53.9/1369.1	47.1/1196.3
Hip room	49.5/1257.3	50.6/1285.2	47.8/1214.1
<b>Capacities</b>			
Passenger capacity	5	5	5
Passenger index (cu. ft./liters)	87.1/2473.3	91.5/2597.9	82.8/2350.9
Cargo index (cu. ft./liters)	13.2/374.8	13.6/386.1	10.5/298.1
Fuel tank capacity (gal./liters approx.)	15/56.8	15/56.8	15/56.8
EPA interior index (cu. ft./liters)	100.3/2847.8	105.1/2984.1	93.3/2369.8
Curb weight (lbs./kg, est.)	2617/1188	2676/1214	2838/1288 kg
Engine oil (quarts/liters)	4.0/3.8 (2200 L4)	4.0/3.8 (2.4 Liter Twin Cam)	
Engine coolant (quarts/liters)	9.6/9.1 (2200 L4)	9.4/8.9 (2.4 Liter Twin Cam)	

## STEERING

Type	Power Rack-and-Pinion
Ratio (overall)	14.7:1 (base), 15.7:1 (Z24 Coupe)
Turns stop-to-stop	2.6 (base), 2.8 (Z24 Coupe)
Turning diameter curb-to-curb (ft./m)	35.6/10.9

# 1999 CAVALIER SPECIFICATIONS



## BRAKES

Type	Power, front vented disc/rear drum with 4-wheel ABS	
	U. S. STANDARD	METRIC
Gross lining, front/rear	31.7/50.2 sq. in.	204.5/323.9 sq. cm
Effective area, front/rear	31.7/50.2 sq. in.	204.5/323.9 sq. cm
Front rotor outer working diam. x thickness	10.2 x .79 in.	259.5 x 20.0mm
Rear drum diameter x width	7.87 x 1.77 in.	200 x 45.0mm
Total swept area, front/rear	182.2/86.2 sq. in.	1175.6/556.2 sq. cm

## ENGINES

Model	Std. Coupe, Sedan RS, Coupe	Std. Z24 Coupe, Z24 Convertible ; opt. LS Sedan
Type	2200 L4 SFI	2.4 Liter Twin Cam L4
Block	Cast iron	Cast iron
Cylinder head	Cast aluminum	Cast aluminum
Valve configuration	Overhead valves (OHV)	Dual Overhead Camshafts (DOHC)
Hydraulic lifters	Yes/roller	Yes
Bore & Stroke (in.)	3.50 x 3.46	3.54 x 3.70
(mm)	89.0 x 88.0	90.0 x 94.0
Cam drive	Chain	Chain
Redline (maximum rpm)	6000	6500
Displacement (liters/cu. in.)	2.2/134	2.4/146
Compression ratio	9.0:1	9.5:1
Fuel induction	Sequential Fuel Injection (SFI)	Sequential Fuel Injection (SFI)
Horsepower/km @ engine rpm	115 @ 5000/85 kw @ 5000	150 @ 5600 /111 kw @ 5600
Torque/nm (lb.-ft.)	135 @ 360 /100 nm @ 3600	155 @ 4400 /115 nm @ 4400
Exhaust system	One-piece welded stainless steel	One-piece welded stainless steel
Tailpipe(s)	Single outlet	Single outlet (dual on Z24)
Ignition system	Electronic direct ignition	Electronic direct ignition
Delcotron alternator rating (amps)	105	105
Battery (SAE capacity rating), cca	525	600
Recommend fuel (unleaded)	87 octane	87 octane

## TRANSMISSIONS

Model	Std. Coupe, Sedan, RS Coupe, Z24 Coupe and Convertible	Opt. Coupe, Sedan	Std. LS Sedan, Opt. Coupe, Sedan, RS Coupe, Z24 Coupe and Convertible
Type	5-speed manual	3-speed automatic	4-speed elec. automatic with OD and Traction Control
Layout	FWD transverse	FWD transverse	FWD transverse
Gear ratios:			
1st	3.91 (3.73 — Z24)	2.84	2.96
2nd	2.18	1.60	1.63
3rd	1.45 (1.33 — Z24)	1.00	1.00
4th	1.03 (0.92 — Z24)	-	0.68
5th	0.74	-	-
Reverse	3.58	2.07	2.13
Final drive ratios	3.58 (3.94 — Z24)	3.18	3.63 (3.91 with 2.4L engine)

# 1999 CAVALIER SPECIFICATIONS



## CHASSIS

### Chassis

Structure/frame	Unitized body construction
Body material	Steel
Suspension — front	
Type	Independent MacPherson strut w/coil spring
Stabilizer bar design/diameter (mm)	Link/19 (w/ 2.4L engine); 22 (Z24 Coupe only)
Suspension — rear	
Type	Trailing tubular control arms with twist beam axle
Stabilizer bar design/diameter (mm)	Solid/14 (Z24 Coupe only)

## MILEAGE/PERFORMANCE\*

Powertrain Mileage:	2200 L4 w/5-Speed Manual		2200 L4 w/3-Speed Automatic		2200 L4 w/4-Speed Automatic		2.4L w/5-Speed Manual		2.4L w/4-Speed Automatic	
	MPG	litres/100km	MPG	litres/100km	MPG	litres/100km	MPG	litres/100km	MPG	litres/100km
City	24	9.8	23	10.2	23	10.2	23	10.2	22	10.7
Highway	34	6.9	29	8.1	31	7.6	33	7.2	32	7.4
Combined	28	8.4	26	9.0	26	9.0	26	9	26	9
Est. cruising range:	mi.	km	mi.	km	mi.	km	mi.	km	mi.	km
City	360	579	315	507	315	507	345	555	330	531
Highway	510	821	435	700	465	748	495	796	480	772
Combined	420	676	390	627	390	627	390	627	390	627

\*Based on 1998 EPA figures. 1999 estimates not available at time of publication.

## TRAILERING INFORMATION\*

Model	LS Sedan, Z24 Models
Trailer classification	Light
Gross trailer weight (lbs./kg, up to)	1000/454
Max tongue load (lbs./kg)	100/46

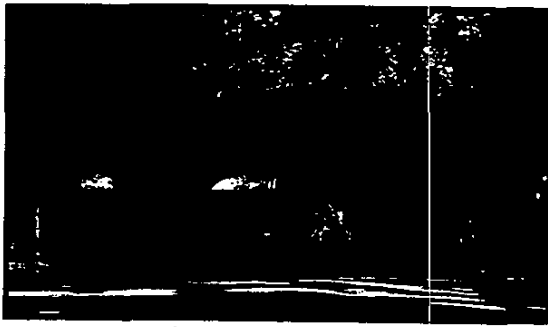
\*Requires 2.4 Liter Twin Cam engine and 4-speed automatic transmission.

## WHEELS & TIRES

	Coupe/Sedan	RS Coupe, LS Sedan	Z24 Coupe	Z24 Convertible
Wheel type/size	Steel/14" x 6"	Steel/15" x 6"	Cast-aluminum/16" x 6"	Cast-aluminum/15" x 6"
Wheel trim	14" bolt-on full covers	15" bolt-on full covers	NA	NA
Tire type	All-season Steel-belted radial	All-Season Steel-belted radial Touring	All-season Steel-belted radial Performance	All-season Steel-belted radial Touring
Tire size	P195/70R-14	P195/65R-15	P205/55R-16	P195/65R-15
Spare size	T115/70D-14	T115/70D-14	T115/70D-14	T115/70D-14

All specifications are preliminary and subject to change.

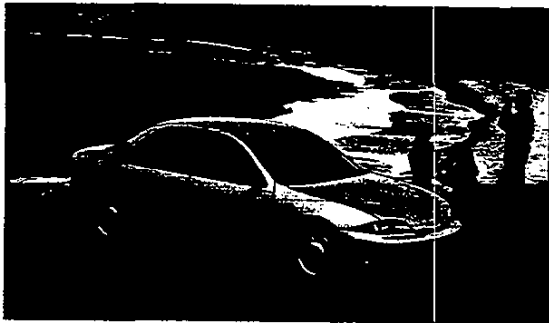
# 1999 CHEVROLET CAVALIER PHOTO ORDERING



99-01CAV Cavalier Coupe with Exterior Appearance Package



99-02CAV Cavalier Sedan



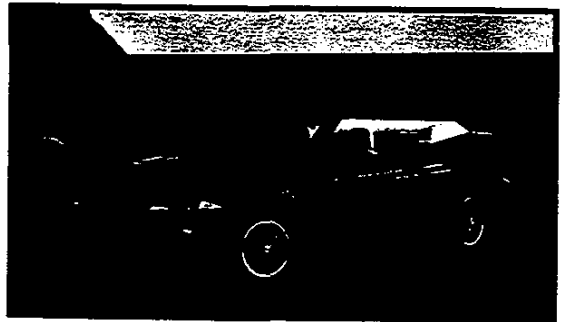
99-03CAV Cavalier LS Sedan



99-04CAV Cavalier RS Coupe



99-05CAV Cavalier Z24 Coupe



99-06CAV Cavalier Z24 Convertible shown with optional equipment

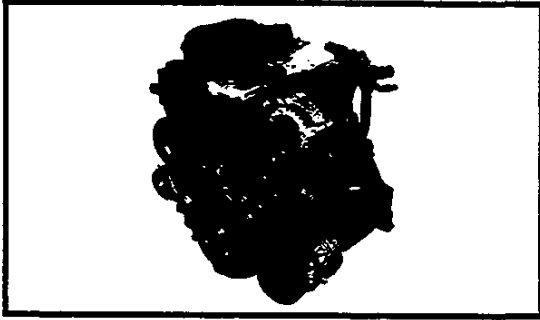


99-07CAV Tara Lipinski in her Cavalier Z24 Convertible

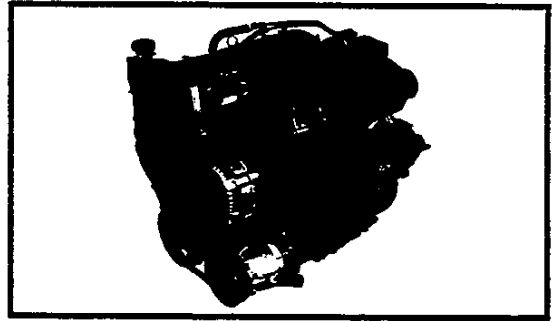


99-08CAV Cavalier Interior

## 1999 CHEVROLET CAVALIER PHOTO ORDERING



99-01ENG 2200 L4 SFI (LN2)



99-02ENG 2.4 Liter Engine SFI Twin Cam (LD9)

# MOTOR VEHICLE MANUFACTURERS SPECIFICATIONS

METRIC (U.S. CUSTOMARY)

## 1999

<b>Manufacturer</b> CHEVROLET MOTOR DIVISION GENERAL MOTORS CORPORATION	<b>Vehicle Line</b>  CAVALIER	
<b>Mailing Address</b>  30007 VAN DYKE WARREN, MICHIGAN	<b>Issued</b>  SEPTEMBER, 1998	<b>Revised</b>

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 suggested specification form was developed by the vehicle manufacturing companies under the auspices of the American Automobile Manufacturers Association.

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

# AAMA

**American Automobile Manufacturers Association**  
Forms Provided by Engineering Affairs Division

**Specifications**

METRIC (U.S. Customary)

Vehicle Line CAVALIER  
 Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

**Vehicle Origin**

Design & development (company)	General Motors Corporation, L.A.D. Lansing
Where built (country)	U.S.A
Authorized U.S. sales marketing representative	Chevrolet Motor Divisions

**Vehicle Models**

Model Description & Drive (FWD / RWD / AWD / 4WD) *	Introduction Date	Make, Vehicle Models, Series, Body Type (Mfr's Model Code)	No. of Designated Seating Positions (Front / Rear)	Max. Trunk/Cargo Load-Kilograms (Pounds)	EPA Fuel Economy (City/Hwy)
<b>CAVALIER</b>					
2-Door Notchback Coupe (FWD)	9-98	1JC37	2/3	60(132)	23/34
4-Door Notchback Sedan (FWD)	9-98	1JC69	2/3	60(132)	23/34
<b>CAVALIER "LS"</b>					
2-Door Convertible (FWD)	9-98	1JF67	2/3	60(132)	25/34
4-Door Sedan (FWD)	9-98	1JF69	2/3	60(132)	25/34
<b>CAVALIER "Z24"</b>					
2-Door Notchback Coupe	9-98	1JF37	2/3	60(132)	23/33

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



Specifications

METRIC (U.S. Customary)

Vehicle Line CAVALIER  
 Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

Power Teams

SAE J1349 Net bhp (brake horsepower) and Net Torque corrected to 77°F/25°C and 29.61 in. Hg/100 kPa atmospheric pressure.

		A	B	C	D	E	
E N G I N E	Engine Code	LN2	LN2	LN2	LD9	LD9	
	Displacement Liters (in³)	2.2L (133) 4L	2.2L (133) 4L	2.2L (133) 4L	2.4L (146) 4L	2.4L (146) 4L	
	Induction system (FI, Carb, etc.)	Sequential Fuel Injection	Sequential Fuel Injection	Sequential Fuel Injection	Sequential Fuel Injection	Sequential Fuel Injection	
	Compression ratio	9.0:1	9.0:1	9.0:1	9.7:1	9.7:1	
	SAE Net at RPM	Power kW (bhp)	86 (115) @ 5000	86 (115) @ 5000	86 (115) @ 5000	112 (150) @ 5600	112 (150) @ 5600
		Torque N • m (lb. ft.)	183 (135) @ 3600	183 (135) @ 3600	183 (135) @ 3600	210 (155) @ 4400	210 (155) @ 4400
Exhaust single, dual		Single	Single	Single	Single	Single	
T R A N S	Transmission/ Transaxle	MK7	MN4	MD9	MJ1	MN4	
	Effective Final Drive / Axle Ratio (std. first)	3.58	3.63	3.18	3.94	3.91	

Model	Series Availability Code	Power Teams (A - B - C - D)	
		Standard	Optional
<b>CAVALIER</b>			
2-Door Notchback Coupe	1JC37	A	B,C
4-Door Notchback Sedan	1JC69	A	B,C
<b>CAVALIER "LS"</b>			
2-Door Convertible	1JF67	D	B,E
4-Door Notchback Sedan	1JF69	B	E
<b>CAVALIER "Z24"</b>			
2-Door Notchback Coupe	1JF37	D	E

Specifications

Vehicle Line CAVALIER  
 Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

Engine Description  
 Engine Code

2.2 LITER L4  
 LN2

Engine - General

Type & description (inline, V, angle, flat, location, front, mid, rear, transverse, longitudinal, sohc, dohc, ohv, hemi, wedge, pre-chamber, etc.)	Inline, Front, Transverse, OHV		
Manufacturer	General Motors Powertrain		
No. of cylinders	Four		
Bore	89.0 mm		
Stroke	88.0 mm		
Bore Spacing (C / L to C / L)	99.0 mm		
Cylinder block material & mass kg. (lbs.) (machined)	Cast Iron 44.5 (98.1)		
Cylinder block deck height	216.65 mm		
Cylinder block length	443 mm		
Deck clearance (minimum) (above or below block)	.6 mm (Below)		
Cylinder head material & mass kg. (lbs.)	Aluminum 9.7 kg (21.4 lbs)		
Cylinder head volume cm <sup>3</sup> (inches <sup>3</sup> )	52.4 (3.2)		
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> )	67.9 (4.1)		
Cyl. no. system (front to rear)*	L. Bank	1-2-3-4	
	R. Bank	Not Applicable	
Firing order	1-3-4-2		
Intake manifold material & mass kg. (lbs.)**	Composite, 2.0 (4.4)		
Exhaust manifold material & mass kg. (lbs)**	High Silicon Moly Cast Iron 3.7 kg (8.2 lbs)		
Knock sensor (number & location)	One, Right Side Of Block		
Fuel required unleaded, diesel, etc.	Unleaded		
Fuel antiknock index (R + M) + 2	87		
Engine Mounts	Quantity	3-Automatic, 4-Manual	
	Material and type (elastomeric, hydroelastic, hydraulic damper, etc.)	(1) Elastomeric (1) Hydraulic - Automatic	(1) Torque Strut
		(2) Elastomeric (1) Hydraulic - Manual	(1) Torque Strut
Added isolation (sub-frame, crossmember, etc.)	No		
Total dressed engine mass (wt) dry***	Manual: 158.7 kg (With Oil), Automatic: 147.7 kg (With Oil)		

Engine - Pistons

Material & mass, g (weight, oz.) - piston only	Aluminum, 329 (11.6)
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Engine - Camshaft

Location	In Block, Right Side	
Material & mass kg (weight, lbs.)	Assembled Steel 2.1 (4.6)	
Drive type	Chain / belt	Chain
	Width / pitch	19.3 / 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: A/C Compressor Brackets & Bolts Radiator Pipe, Air Cleaner ASM., Ducts & Bolts Generator Brackets, Bolts & ACC Belt Starter Motor & Bolts Transaxle Brace, Flywheel Cover & Bolts, Exhaust Down pipe w/ Converter & bolts EVAP EMIS Canister w/ Hoses, Module Powertrain Control

**Specifications**

Vehicle Line CAVALIER  
 Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

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

Engine Description  
 Engine Code

2.4 LITER L4  
 LD9

**Engine - General**

Type & description (inline, V, angle, flat, location, front, mid, rear, transverse, longitudinal, sohc, dohc, ohv, hemi, wedge, pre-chamber, etc.)	Inline, Front Transverse, DOHC		
Manufacturer	General Motors Powertrain		
No. of cylinders	Four		
Bore	90 mm		
Stroke	94 mm		
Bore Spacing (C / L to C / L)	100 mm		
Cylinder block material & mass kg. (lbs.) (machined)	Cast Iron 52.2 (115.7)		
Cylinder block deck height	221.9 mm		
Cylinder block length	499.5 mm		
Deck clearance (minimum) (above or below block)	0		
Cylinder head material & mass kg. (lbs.)	Aluminum 9.0 kg (19.8 lbs)		
Cylinder head volume cm <sup>3</sup> (inches <sup>3</sup> )	59.5 (3.63)		
Cylinder liner material	Not Applicable		
Head gasket thickness (compressed)	1.2 mm		
Minimum combustion chamber total volume cm <sup>3</sup> (inches <sup>3</sup> )	130.09 (7.94)		
Cyl. no. system (front to rear)*	L. Bank	1-2-3-4	
	R. Bank	Not Applicable	
Firing order	1-3-4-2		
Intake manifold material & mass kg. (lbs.)**	Composite, 1.4 (3.1)		
Exhaust manifold material & mass kg. (lbs.)**	High Silicon Moly Cast Iron 6.4 kg (14.1 lbs)		
Knock sensor (number & location)	One, Rear of Block		
Fuel required unleaded, diesel, etc.	Unleaded		
Fuel antiknock index (R + M) + 2	87		
Engine Mounts	Quantity	3-Automatic	4- Manual
	Material and type (elastomeric, hydroelastic, hydraulic damper, etc.)	(1) Elastomeric (2) Elastomeric	(1) Hydraulic - Automatic (1) Hydraulic -Manual (1) Torque Strut (1) Torque Strut
	Added isolation (sub-frame, crossmember, etc.)	No	
Total dressed engine mass (wt) dry***		Manual: 202 kg (With Oil), Automatic: 190 (With Oil)	

**Engine - Pistons**

Material & mass, g (weight, oz.) - piston only	Aluminum 344 (12)
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**Engine - Camshaft**

Location	Dual Overhead Camshafts	
Material & mass kg (weight, lbs.)	Cast Iron, Intake: 2.85 (6.28), Exhaust: 2.84 (6.26)	
Drive type	Chain / belt	Chain
	Width / pitch	13.31 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: A/C Compressor Brackets & Bolts Radiator Pipe, Air Cleaner ASM., Ducts & Bolts Generator Brackets, Bolts & ACC Belts Starter Motor & Bolts, Transaxle Brace, Flywheel Cover & Bolts, , Exhaust Downpipe w/ Converter & Bolts , EVAP EMIS Canister w/ Hoses, And Module Powertrain Control

**Specifications**

Vehicle Line CAVALIER  
 Model Year 1999 Issued 9-98 Revised (#) \_\_\_\_\_

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

**Engine Description**  
**Engine Code**

2.2 LITER L4  
 LN2

**Engine - Valve System**

Hydraulic lifters (std., opt., n.a.)		Standard
Valves	Number intake / exhaust	Four/Four
	Head O.D. intake / exhaust	44.0 mm /37.0 mm

**Engine - Connecting Rods**

Material & mass kg., (weight, lbs.)*	Forged Steel, 0.55 (1.2)
Length (axes C/L to C/L)	141.95 mm

**Engine - Crankshaft**

Material & mass kg., (weight, lbs.)*	Cast Iron, 14.4 (31.7)	
End thrust taken by bearing (no.)	Four	
Length & number of main bearings	20.76 mm , Five	
Seal (material, one, two piece design, etc.)	Front	One Piece, Fluroelastomer
	Rear	One Piece, Fluroelastomer

**Engine - Lubrication System**

Normal oil pressure kPa (psi) at engine rpm	82.7 - 137.9 (12-20) @ 3000
Type oil intake (floating, stationary)	Stationary
Oil filter system (full flow, part, other)	Full Flow
Capacity of c/case, less filter-refill-L (qt.)	3.8 (4.0 qt.)

**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

**Specifications**

Vehicle Line CAVALIER  
 Model Year 1999 Issued 9-98 Revised \_\_\_\_\_

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

Engine Description	2.4 LITER L4
Engine Code	LD9

**Engine - Valve System**

Hydraulic lifters (std., opt., n.a.)	Standard	
Valves	Number intake / exhaust	Eight/Eight
	Head O.D. intake / exhaust	35.5 mm/29.0 mm

**Engine - Connecting Rods**

Material & mass kg., (weight, lbs.)*	Steel 0.66 (1.5)
Length (axes C/L to C/L)	145 mm

**Engine - Crankshaft**

Material & mass kg., (weight, lbs.)*	Cast Iron , 21.4 kg (47.2 lbs)	
End thrust taken by bearing (no.)	Three	
Length & number of main bearings	28.6 mm (1,2,4,5), 27.3 mm (3)	
Seal (material, one, two piece design, etc.)	Front	One Piece, Viton
	Rear	One Piece, Viton

**Engine - Lubrication System**

Normal oil pressure kPa (psi) at engine rpm	207 (30) @ 2000
Type oil intake (floating, stationary)	Stationary
Oil filter system (full flow, part, other)	Full Flow
Capacity of c/case, less filter-refill-L (qt.)	3.75 (4)

**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

Specifications

Vehicle Line CAVALIER  
 Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

Engine Description  
 Engine Code

2.2 LITER L4  
 LN2

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 (15)		
Circulation thermostat	Type (choke, bypass)	Bypass	
	Starts to open at °C (°F)	82 (180)	
Water pump	Type (centrifugal, other)	Centrifugal	
	GMP 1000 pump rpm	9	
	Number of pumps	One	
	Drive (V-belt, other)	Poly-V Belt	
	Bearing type	Double Row (Ball/Roller)	
	Impeller material	Sheet Metal	
	Housing material	Aluminum	
By-pass recirculation type (inter., ext.)	External		
Cooling System capacity	With heater - L (qt.)	9.1 L (9.6 qt.)	
	With air conditioner - L (qt.)	9.1 L (9.6 qt.)	
	Opt. equipment specify - L (qt.)	Not Applicable	
Water jackets full length of cyl. (yes, no)	Yes		
Water all around cylinder (yes, no)	Yes		
Water jackets open at head face (yes, no)	Yes		
Radiator core	Std., A/C, HD	Standard or A/C + Manual    Standard or A/C + Automatic	
	Type (cross-flow, etc.)	Cross-Flow	
	Construction (fin & tube mechanical, braze, etc.)	Tube & Fin/Brazed Aluminum	
	Material, mass kg (wgt., lbs.)	2.38 kg (5.2lbs) Manual    3.23 kg (7.1lbs) Automatic	
	Width	660 mm (25.9 in)	
	Height	383 mm (15.1 in)	
	Thickness	16 mm (.63 in)	
	Fins per inch	20                                  20	
Radiator end tank material	Plastic		
Fan	Std., elec., opt.	Electric                                  Electric, A/C	
	Number of blades & type (flex, solid, material)	6 Solid Plastic                                  7, Solid Plastic	
	Number & location (front, rear of radiator)	1 Rear    1 Rear	
	Diameter & projected width	316 (12.4)    371 (14.6)	
	Ratio (fan to crankshaft rev.)	Not Applicable	
	Fan cutout type	ECM Controlled	
	Drive type (direct, remote)	Direct-Electric Motor	
	RPM at idle (elec.)	1800	
	Motor rating (wattage/elec.)	100 Watts    150 Watts	
	Motor switch (type & location/elec.)	Engine Block	
	Switch point (temp./pressure/elec.)	On At 106° Deg C, Off At 103° C	
		Fan shroud (material)	Plastic    Plastic

**Specifications**Vehicle Line CAVALIERModel Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

**Engine Description**

Engine Code

2.4 LITER L4  
LD9**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 (15)		
Circulation thermostat	Type (choke, bypass)	Bypass	
	Starts to open at °C (°F)	82 (180)	
Water pump	Type (centrifugal, other)	Centrifugal	
	GMP 1000 pump rpm	9	
	Number of pumps	One	
	Drive (V-belt, other)	Chain	
	Bearing type	Double Row (Ball)	
	Impeller material	Sheet Metal	
	Housing material	Aluminum	
By-pass recirculation type (inter., ext.)	External		
Cooling System capacity	With heater - L (qt.)	9.4 L (10.0 qt.)	
	With air conditioner - L (qt.)	9.4 L (10.0 qt.)	
	Opt. equipment specify - L (qt.)	Not Applicable	
Water jackets full length of cyl. (yes, no)	Yes		
Water all around cylinder (yes, no)	Yes		
Water jackets open at head face (yes, no)	Yes		
Radiator core	Std., A/C, HD	Standard or A/C + Manual    Standard or A/C + Automatic	
	Type (cross-flow, etc.)	Cross-Flow	
	Construction (fin & tube mechanical, braze, etc.)	Tube & Fin/Brazed Aluminum	
	Material, mass kg (wgt., lbs.)	2.38 kg (5.2 lbs) Manual    3.23 kg (7.1 lbs) Automatic	
	Width	660 mm (25.9 in)	
	Height	383 mm (15.1 in)	
	Thickness	16 mm (.63 in)	
	Fins per inch	20    20	
Radiator end tank material	Plastic		
Fan	Std., elec., opt.	Electric    Electric/C	
	Number of blades & type (flex, solid, material)	6 Solid Plastic    7, Solid Plastic	
	Number & location (front, rear of radiator)	1 Rear    1 Rear	
	Diameter & projected width	316 (12.4)    371(14.6)	
	Ratio (fan to crankshaft rev.)	Not Applicable	
	Fan cutout type	ECM Controlled	
	Drive type (direct, remote)	Direct-Electric Motor	
	RPM at idle (elec.)	1800	
	Motor rating (wattage/elec.)	100 Watts    150 Watts	
	Motor switch (type & location/elec.)	Engine Block	
	Switch point (temp.,/pressure/elec.)	On At 106° Deg C, Off At 103° C	
	Fan shroud (material)	Plastic    Plastic	

**Specifications**

Vehicle Line CAVALIER  
 Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

Engine Description	2.2 LITER L4 LN2
Engine Code	

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 (Four)
	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	PCM Controlled
	Automatic	PCM Controlled
Intake manifold heat control (exhaust or water thermostatic or fixed)		None
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)		56.8 L (15.0 gal.)
Location (describe)		Tank: Rear Center Underside, Fill Pipe: R. H. Rear Quarter Panel
Attachment		Underbody Strap
Material & Mass kg. (weight lbs.)		Steel / 9.7 kg (Integrated Tank Asm)
Filler pipe	Location & material	Right Rear Quarter Panel - Steel
	Connection to tank	Single Hose
Fuel line (material)		Steel / Multi-Layer Nylon 12
Fuel hose (material)		Rubber
Return line (material)		Steel / Multi-Layer Nylon 12
Vapor line (material)		Steel / Nylon 12
Extended range tank	Opt., n.a.	Not Applicable
	Capacity L (gallons)	
	Location & material	
	Attachment	
Auxiliary tank	Opt., n.a.	Not Applicable
	Capacity L (gallons)	
	Location & material	
	Attachment	
	Selector switch or valve	
Separate fill		



Specifications

Vehicle Line CAVALIER  
 Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

Engine Description 2.4 LITER L4  
 Engine Code LD9

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 (Four)
	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	PCM Controlled
	Automatic	PCM Controlled
Intake manifold heat control (exhaust or water thermostatic or fixed)		Not Applicable
Air cleaner type		Replacement 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)	0-380 (0-55.1)
	Flow rate at regulated pressure L (gal)/hr @ kPa (psi)	65 @ 380 (17.2 @ 55.1)

Fuel Tank

Capacity refill L (gallons)		56.7 L (15.0 gal)
Location (describe)		Tank: Rear Center Underside, Fill Pipe: R.H. Rear Quarter Panel
Attachment		Underbody Strap
Material & Mass kg. (weight lbs.)		Steel / 9.7 kg (Integrated Tank Asm)
Filler pipe	Location & material	Right Rear Quarter Panel - Steel
	Connection to tank	Single Hose
Fuel line (material)		Steel/ Multi-Layer Nylon 12
Fuel hose (material)		Rubber
Return line (material)		Steel/ Multi-Layer Nylon 12
Vapor line (material)		Steel/ Nylon 12
Extended range tank	Opt., n.a.	Not Applicable
	Capacity L (gallons)	
	Location & material	
	Attachment	
Auxiliary tank	Opt., n.a.	Not Applicable
	Capacity L (gallons)	
	Location & material	
	Attachment	
	Selector switch or valve	
Separate fill		

Specifications

Vehicle Line CAVALIER  
 Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

Engine Description  
 Engine Code

2.2 LITER L4  
 LN2

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)	Not Applicable
		Exhaust source	Not Applicable
		Point of exhaust injection (spacer, carburetor, manifold, other)	Not Applicable
	Catalytic Converter	Type	Three Way Monolith
		Number of	One
		Locations(s)	Under Floor
Volume L (in <sup>3</sup> )		1.8 (110)	
Substrate type		Ceramic	
Noble metal type		Platinum, Palladium, Rhodium	
Crankcase Emission Control	Type (ventilates to atmosphere, induction system, other)		Positive Vent System w/ Orifice Metering to Intake
	Energy source (manifold vacuum, carburetor, other)		Manifold Vacuum
	Discharges to (intake manifold, other)		Intake Manifold
	Air inlet (breather cap, other)		Not Applicable
Evaporative Emission Control	Vapor vented to (crankcase, canister, other)	Fuel Tank	Canister
		Carburetor	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
∅	Muffler no. & type (reverse flow, straight thru, separate resonator), Muffler volume (liters), Material & Mass kg. (weight lbs.)	409 Aluminized Stainless Steel Muffler ASM = 9.7 kg (21.3 lbs) 1, Reverse Flow
∅	Resonator no., type, & volume (liters)	1 Bottle 3.5" Diam. x 10" Long
Exhaust pipe	Branch o.d., wall thickness	None
	Main o.d., wall thickness	41.3, 1.42 mm (1.6, .056 in)
	Material & Mass kg. (weight lbs.)	Stainless Steel 3.64 kg (8.02 lbs)
Intermediate pipe	o.d. & wall thickness	50.8 x 1.37 mm (2.0 x .054 in.)
	Material & Mass kg. (weight lbs.)	Stainless Steel 409 (MASS See Muffler ASM)
Tail pipe	o.d. & wall thickness	44.5 x 1.1 mm (1.75 x .043 in)
	Material & Mass kg. (weight lbs.)	Stainless Steel 409 Aluminized (MASS See Muffler ASM)

Specifications

Vehicle Line CAVALIER  
 Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

Engine Description 2.4 LITER L4  
 Engine Code LD9

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)	Not Applicable
		Exhaust source	Not Applicable
		Point of exhaust injection (spacer, carburetor, manifold, other)	Not Applicable
	Catalytic Converter	Type	Three Way Monolith
		Number of	One
		Locations(s)	Under floor
Volume L (in <sup>3</sup> )		2.67 (163)	
Substrate type		Ceramic	
		Noble metal type	Platinum, Rhodium
Crankcase Emission Control	Type (ventilates to atmosphere, induction system, other)		Positive Vent System w/ Orifice Metering to Intake
	Energy source (manifold vacuum, carburetor, other)		Manifold Vacuum
	Discharges to (intake manifold, other)		Intake Manifold
	Air inlet (breather cap, other)		Not Applicable
Evaporative Emission Control	Vapor vented to (crankcase, canister, other)	Fuel Tank	Canister
		Carburetor	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/ Dual Exhaust Pipes	
∅ Muffler no. & type (reverse flow, straight thru, separate resonator), Muffler volume (liters), Material & Mass kg. (weight lbs.)	409 Aluminized Stainless Steel Muffler ASM = 10.9 kg (24.0 lbs) 1, Reverse Flow	
∅ Resonator no., type, & volume (liters)	1, Bottle w/Baffle	
Exhaust pipe	Branch o.d., wall thickness	None
	Main o.d., wall thickness	44.45, 1.90 mm (1.75, .075 in)
	Material & Mass kg. (weight lbs.)	Stainless Steel
Intermediate pipe	o.d. & wall thickness	50.8 x 1.37 mm (2.0 x .054 in)
	Material & Mass kg. (weight lbs.)	Stainless Steel - 409 (MASS see Muffler ASM)
Tail pipe	o.d. & wall thickness	50.8 x 1.1 mm (2.0 x .043 in)
	Material & Mass kg. (weight lbs.)	Stainless Steel - 409 Aluminized (MASS See Muffler ASM)

**Specifications**

Vehicle Line CAVALIER  
 Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

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

Engine Description	2.2 LITER L4
Engine Code	LN2

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

Manual 4-speed (manufacturer/country)	Not Applicable
Manual 5-speed (manufacturer/country)	Isuzu/Japan (MK7) Std.
Manual 6-speed (manufacturer/country)	Not Applicable
Automatic (manufacturer/country)	GM Powertrain/USA (MD9) Opt
Automatic overdrive (manufacturer/country)	GM Powertrain/Canada (MN4) Opt

**Manual Transmission/Transaxle**

Number of forward speeds	5	
Gear ratios	1st	3.91
	2nd	2.18
	3rd	1.45
	4th	1.03
	5th	0.74
	6th	Not Applicable
Reverse	3.58	
Synchronous meshing (specify gears)	1-5	
Shift lever location	Floor	
Trans. case material & mass kg. (lbs.)*	Aluminum 36.5 (80.5)	
Lubricant	Capacity L (pt.)	1.9 (4.0)
	Type recommended	Synchromesh Transmission Fluid

**Clutch (Manual Transmission)**

Clutch manufacturer	Daikin	
Clutch type (dry, wet; single, multiple disc)	Dry Disc, Single	
Linkage (hydraulic, cable, rod, lever, other)	Hydraulic	
Max. pedal effort (nom. spring load) N (lbs.)	Depressed	133.4 (30.0)
	Released	115.6 (26.0)
Assist (spring, power/percent, nominal)	Over Center Spring	
Type pressure plate springs	Diaphragm	
Total spring load (nominal) N (lbs.)	5688 (1279)	
Clutch facing	Facing mfg. & material coding	Valeo F202
	Facing material & construction	F202
	Rivets per facing	16
	Outside x inside dia. (nominal)	215.0 x 150.0 (8.46 x 5.91)
	Total eff. area cm <sup>2</sup> (in. <sup>2</sup> )	186.3 (28.8)
	Thickness (pressure plate side/fly wheel side)	3.5 (.14) Pressure Plate Side, 3.2 (.13) Flywheel Side
	Rivet depth (pressure plate side/fly wheel side)	1.3 (0.05)/ 1.2 (0.05)
Engagement cushion method	Driven Plate Wave Spoke Springs	
Release bearing type & method lub.	Self Centering, Angular Contact Ball Bearing - Prepacked & Sealed	
Torsional damping method, springs, hysteresis	Coil Springs With Non - Metal Friction Control	

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

**Specifications**

Vehicle Line CAVALIER  
 Model Year 1999 issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

Engine Description	2.4 LITER L4
Engine Code	LD9

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

Manual 4-speed (manufacturer/country)	Not Applicable
Manual 5-speed (manufacturer/country)	Isuzu/ Japan (MJ1) Std.
Manual 6-speed (manufacturer/country)	Not Applicable
Automatic (manufacturer/country)	Not Applicable
Automatic overdrive (manufacturer/country)	GM Powertrain/Canada (MN4) Opt

**Manual Transmission/Transaxle**

Number of forward speeds		5
Gear ratios	1st	3.73
	2nd	2.18
	3rd	1.33
	4th	.92
	5th	.74
	6th	Not Applicable
	Reverse	3.58
Synchronous meshing (specify gears)		1-5
Shift lever location		Floor
Trans. case material & mass kg. (lbs.)*		Aluminum 36.5 (80.5)
Lubricant	Capacity L (pt.)	1.9 (4.0)
	Type recommended	Synchromesh Transmission Fluid

**Clutch (Manual Transmission)**

Clutch manufacturer		Daikin
Clutch type (dry, wet; single, multiple disc)		Dry Disc Single
Linkage (hydraulic, cable, rod, lever, other)		Hydraulic
Max. pedal effort (nom. spring load) N (lbs.)	Depressed	133.4 (30.0)
	Released	115.6 (26.0)
Assist (spring, power/percent, nominal)		Over Center Spring
Type pressure plate springs		Diaphragm
Total spring load (nominal) N (lbs.)		5888 1279
Clutch facing	Facing mfr. & material coding	Valoe F202
	Facing material & construction	F202
	Rivets per facing	16
	Outside x inside dia. (nominal)	225.0 x 150.0
	Total eff. area cm <sup>2</sup> (in. <sup>2</sup> )	221
	Thickness (pressure plate side/fly wheel side)	3.5 (.14) Pressure Plate Side, 3.2 (.13) Flywheel Side
	Rivet depth (pressure plate side/fly wheel side)	1.3 (.05)/ 1.2 (.05)
Engagement cushion method		Driven Plate Wave Spoke Springs
Release bearing type & method lub.		Self Centering Angular Contact Ball Prepacked & Sealed
Torsional damping method, springs, hysteresis		Coil Springs with Non-Metal Friction Control

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

**Specifications**

Vehicle Line CAVALIER  
 Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

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

Engine Description 2.2 LITER L4  
 Engine Code LN2

**Automatic Transmission/Transaxle**

Trade Name		4T40
Type and special features (describe)		4 Speed, Front Wheel Drive, Electronically Controlled Automatic Transaxle with Viscous Torque Converter Clutch
Shift mechanics		Hydraulic Clutches / Electronic Controls
Gear selector	Location (column, floor, other)	Floor
	Ltr./No. designation (e.g. PRND21)	P-R-N-D-2-1
	Shift interlock (yes, no, describe)	Yes, Brake Interlock
Gear ratios	1st	2.96
	2nd	1.63
	3rd	1.00
	4th	0.68
	5th	Not Applicable
	6th	Not Applicable
	Reverse	2.13
Final drive ratio		3.05, Effective Final Drive Ratio: 3.63
Max. upshift vehicle speed - drive range km/h (mph)		1-2: 60(38), 2-3: 110(69), 3-4: 145(90)
Max. upshift engine speed RPM		1-2: 5900, 2-3: 5900
Max. kickdown speed - drive range km/h (mph)		2-1: 47(29), 3-2: 105(66), 4-3: 137(85)
Min. overdrive speed km/h (mph)		63 (39)
Torque converter	Type	Electronically Controlled Converter Clutch
	Torus design	Yes
	Number of elements	Three
	Max. ratio at stall	2.48
	Type of cooling (air, liquid)	Liquid
	Nominal diameter	245 mm
Capacity factor "K"		203
Pump type		Variable Displacement Vane
Lubricant	Capacity refill L (pt.)	Bottom Pan Removal: 7 (14.8), Complete Overhaul: 10 (21.1)
	Type recommended	Dexron III
Oil cooler (std., opt., N.A., internal, external, air, liquid)		Standard, Integral Part w/ Radiator, Liquid
Transmission mass kg (lbs.) & case material**		74.7 (164.7), 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.

Specifications

Vehicle Line CAVALIER  
 Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

Engine Description  
 Engine Code

2.4 LITER L4  
 LD9

Automatic Transmission/Transaxle

Trade Name		3T40E
Type and special features (describe)		Three Speed, Front Wheel Drive, Automatic Transaxle with Torque Converter Clutch
Shift mechanics		Hydraulic
Gear selector	Location (column, floor, other)	Floor
	Ltr./No. designation (e.g. PRND21)	P-R-N-D-2-1
	Shift interlock (yes, no, describe)	Yes
Gear ratios	1st	2.84
	2nd	1.60
	3rd	1.00 (Converter Clutch Engagement)
	4th	Not Applicable
	5th	Not Applicable
	6th	Not Applicable
	Reverse	2.07
Final drive ratio		2.84, Effective Final Drive: 3.18
Max. upshift vehicle speed - drive range km/h (mph)		1-2: 56(35), 2-3: 104(65), 3-4: 161(100)
Max. upshift engine speed RPM		1-2: 6350, 2-3: 6350, 3-4 5400
Max. kickdown speed - drive range km/h (mph)		2-1: 47(29), 3-2: 101(63), 4-3: 153(95)
Min. overdrive speed km/h (mph)		3-4: 51(32)
Torque converter	Type	Lock-Up
	Torus design	Yes
	Number of elements	Three
	Max. ratio at stall	2.48
	Type of cooling (air, liquid)	Liquid
	Nominal diameter	245 mm
Capacity factor "K"*		203
Pump type		Variable Displacement Vane
Lubricant	Capacity refill L (pt.)	8.5 (17.85) Dry Transmission
	Type recommended	Dexron III
Oil cooler (std., opt., N.A., internal, external, air, liquid)		Standard, Integral Part of Radiator, Liquid
Transmission mass kg (lbs.) & case material**		65.7 (144.8), 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  $\propto \sqrt{\text{torque}}$

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

**Specifications**

Vehicle Line CAVALIER  
 Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

Engine Description	2.4 LITER L4 LD9
Engine Code	

**Automatic Transmission/Transaxle**

Trade Name		4T40E
Type and special features (describe)		Four Speed, Front Wheel Drive, Electronically Controlled, Automatic Overdrive Transaxle with Torque Converter Clutch
Shift mechanics		Hydraulic Clutches/ Electronic Controls
Gear selector	Location (column, floor, other)	Floor
	Ltr./No. designation (e.g. PRND21)	P-R-N-D-2-1
	Shift interlock (yes, no, describe)	Yes
Gear ratios	1st	2.96
	2nd	1.63
	3rd	1.0
	4th	.68
	5th	Not Applicable
	6th	Not Applicable
	Reverse	2.13
	Final drive ratio	3.29, Effective Final Drive: 3.91
Max. upshift vehicle speed - drive range km/h (mph)		1-2: 56(35), 2-3: 104(65), 3-4: 161(100)
Max. upshift engine speed RPM		1-2: 6350, 2-3: 6350, 3-4 5400
Max. kickdown speed - drive range km/h (mph)		2-1: 47(29), 3-2: 101(63), 4-3: 153(95)
Min. overdrive speed km/h (mph)		3-4: 51(32)
Torque converter	Type	Electronically Controlled Converter Clutch
	Torus design	Yes
	Number of elements	Three
	Max. ratio at stall	2.48
	Type of cooling (air, liquid)	Liquid
	Nominal diameter	245 mm
	Capacity factor "K"*	203
Pump type		Variable Displacement Vane
Lubricant	Capacity refill L (pt.)	Bottom Pan Service: 7 (14.8), Complete Overhaul: 10 (21.1)
	Type recommended	Dexron III
Oil cooler (std., opt., N.A., internal, external, air, liquid)		Standard, Integral w/ Radiator, Liquid
Transmission mass kg (lbs) & case material		74.7 (164.7), 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  $\propto \sqrt{\text{torque}}$
- \*\* Dry weight including torque converter. If other, specify.



Specifications

Vehicle Line CAVALIER  
 Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

Engine Description	2.4 LITER L4
Engine Code	LD9

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

Effective final drive ratio (or overall top gear ratio)	MJ1 3.94 (5 Speed Manual)	MN4 3.91 (4 Speed Automatic)	
Transfer ratio and method (chain, gear, etc.)	Chain		
Front drive unit	Ring gear o.d.	Not Applicable	
	No. of teeth	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.)	See Automatic Transmission Spec.
	Type recommended	See Automatic Transmission Spec.

Axle Shafts - Front Wheel Drive

Manufacturer and number used		Delphi Saginaw Automotive Engineering		
Type (straight, solid bar, tubular, etc.)	Left	Straight - Solid		
	Right	Straight - Solid		
Outer diam. x length* x wall thickness	Manual Transaxle	Left	27.1 x 330.0 mm	
		Right	27.1 x 694.6 mm	
	Automatic transaxle	Left	27.1 x 313.0 mm.	
		Right	27.1 x 313.0 mm.	
	Optional transaxle	Left		
		Right		
Slip yoke	Type			
	Number of teeth			
	Spline o.d.			
Universal joints	Make and mfg. no.	Inner	Delphi Saginaw	
		Outer	Delphi Saginaw	
	Number used	Inboard and Outboard on Each Halfshaft Assembly		
	Type, size, plunge	Inner	Free Motion - 61.0 Stroke	
		Outer	Rzeppa - Fixed Center	
	Attach (u-bolt, clamp, etc.)	Inboard Joint - Retaining Ring/ Outboard Joint - Washer and Nut		
Bearing	Type (plain, anti-friction)	Inner - Ball and Roller Outer - Ball		
	Lubrication (fitting, prepack)	Prepacked		
Drive taken through (torque tube, arms or springs)		Wishbone Lower Control Arm - Upper Mac Pherson		
Torque taken through (torque tube, arms or springs)		Engine Mounting System		

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

Specifications

Vehicle Line CAVALIER

Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

Engine Description  
Engine Code

2.2 LITER L4  
LN2

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

Effective final drive ratio (or overall top gear ratio)		MK7 3.58 (5 Speed Manual) MN4 3.63 (4 Speed Manual) MD9 3.18 (3 Speed Automatic)	
Transfer ratio and method (chain, gear, etc.)		Chain	
Front drive unit	Ring gear o.d.	Not Applicable	
	No. of teeth	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.)	See Transmission Spec.
	Type recommended	See Transmission Spec

Axle Shafts - Front Wheel Drive

Manufacturer and number used		Delphi Saginaw Automotive Engineering		
Type (straight, solid bar, tubular, etc.)	Left	Straight - Solid		
	Right	Straight - Solid		
Outer diam. x length* x wall thickness	Manual Transaxle	Left	23.9 x 339.2 mm	
		Right	23.9 x 694.6 mm	
	Automatic transaxle	Left	MN4: 23.9 x 319.2 mm	MD9: 23.9 x 319.2 mm
		Right	23.9 x 319.2 mm	23.9 x 389.2 mm
	Optional transaxle	Left		
		Right		
Slip yoke	Type			
	Number of teeth			
	Spline o.d.			
Universal joints	Make and mfg. no.	Inner	Delphi Saginaw	
		Outer	Delphi Saginaw	
	Number used		Inboard & Outboard On Each Half Shaft Assembly	
	Type, size, plunge	Inner	Tripot - 61.0mm Stroke	Tripot - 61.0 mm Stroke
		Outer	Rzeppa - Fixed Center	
	Attach (u-bolt, clamp, etc.)		Inboard Joint - Retaining Ring / Outboard Joint - Washer & Nut	
	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 Mac Pherson		
Torque taken through (torque tube, arms or springs)		Engine Mounting System		

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

Specifications

Vehicle Line CAVALIER  
 Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)  
 Model Code/Description And/Or  
 Engine Code/Description

ALL

Suspension - General Including Electronic Controls

Car leveling	Standard/optional/not available	FEØ Suspension Standard on Base and LS models		
	Manual/automatic control	N/A		
	Type (air/hydraulic)	N/A		
	Primary/assist spring	N/A		
	Rear only/4 wheel leveling	N/A		
	Single/dual rate spring	N/A		
	Single/dual ride heights	N/A		
Provision for jacking	Body Jack & Pads On Rockers			
Shock absorber damping controls	Standard/option/not available	N/A		
	Manual/automatic control	N/A		
	Number of damping rates	N/A		
	Type of actuation (manual/electric motor/air, etc.)	N/A		
	Sensors	Lateral acceleration	N/A	
		Deceleration	N/A	
		Acceleration	N/A	
Road surface		N/A		
Shock absorber (front & rear)	Type	Front - MacPherson Strut; Rear - Double Acting Hydraulic		
	Make	Delphi Chassis Systems		
	Piston diameter	Front: 32 (1.26) Rear: 25 (.98)		
	Rod diameter	Front 22 (.87) Rear: 13 (51)		

Suspension - Front

Type and description		MacPherson Strut With Coil Spring			
Travel	Full jounce (define load condition)	85 (3.2) (Max Effective From Curb)			
	Full rebound	83 (3.1) (Max Effective From Curb)			
Spring	Type (coil, leaf, other & material)	Coil, Steel			
	Insulators (type & material)	Top & Bottom - Rubber			
	Size (Leaf: length & width; Coil: design height & I.d.; Bar: length & diameter)	Spring Computer Selected - Varies With Option Content Design Hgt      Body I.D.      Bar dia Range      Bar Length Range 191.6 mm (7.5)    88-123.5 mm (4.8)    13.5 0 14.2 mm (.55)    2510-2630 mm (103.5)			
	Spring rate N/mm (lb./in.)	27 mm (1.06) & 29 mm (1.14) Base		31 mm (1.22) Uplevel	
	Rate at wheel N/mm (lb./in.)	31 (1.2) N/mm			
Stabilizer	Type (link, linkless, frameless)	Link			
	Material & O.D. bar/tube, wall thickness	Steel: 18.0 mm (0.74) Base		22.0 mm (0.79) Uplevel	

Suspension - Rear

Type and description		Trailing Tubular Control Arms With Twist Beam			
Travel	Full jounce (define load condition)	110 mm (4.3) From Curb			
	Full rebound	78 mm (3.1) From Curb			
Spring	Type (coil, leaf, other & material)	Coil, Steel			
	Size (Leaf: length & width; Coil: design height & i.d.; Bar: length & diameter)	Spring Computer Selected - Varies With Option Content Design Hgt      Body I.D.      Bar dia Range      Bar Length Range 191.8 mm (7.5)    105 mm (4.1)    11.4-12.6 mm (.49)    2500-2700 mm (106.2)			
	Spring rate N/mm (lb./in.)	19 (.74) N/mm & 21 (.82) N/mm (Base)			
	Rate at wheel N/mm (lb./in.)	22 (.86) N/mm (Base)			
	Insulators (type & material)	Top - Rubber			
	If leaf	No. of leaves	--		
	Shackle (comp. or tens.)	--			
Stabilizer	Type (link, linkless, frameless)	Linkless			
	Material & O.D. bar/tube, wall thickness	None (Base)		18MM Solid (Uplevel)	
Track bar (type)		--			

Specifications

Vehicle Line CAVALIER

METRIC (U.S. Customary)

Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

Model Code/Description And/Or  
Engine Code/Description

ALL

Brakes - Service

Description		Power Assisted Hydraulic Brakes (JM4)			
Manufacturer and brake type (std., opt., n.a.)	Front (disc or drum)	Standard - Disc			
	Rear (disc or drum)	Standard - Drum			
Valving type (proportion, delay, metering, other)		Proportioning, Diagonal Split Circuit			
Power brake (std., opt., n.a.)		Standard			
Booster type (remote, integral, vac., hyd., etc.)		Tandem Vacuum			
Vacuum	Source (inline, pump, etc.)	Inline			
	Reservoir (volume in. <sup>3</sup> )	None			
	Pump-type(elec., gear or belt driven)	Not Applicable			
Traction assist	Operational speed range	All Speed Ranges			
	Type (engine or brake intervention)	Powertrain Management			
Antilock device	Front/rear (std., opt., n.a.)	Standard			
	Manufacturer	Delphi Chassis Division - ABS VI			
	Type (electronic, mech.)	Electronic			
	Number sensors or circuits	4			
	Number antilock hydraulic circuits	3			
	Integral or add-on system	Add On			
	Yaw control (yes, no)	Yes			
Hyd. power source (elec., vac., mtr., pwr., strg.)		Electric Motor For Each Circuit			
Effective area cm <sup>2</sup> (in. <sup>2</sup> ) *		Front - 204 (31.7)	Rear - 324.1 (50.2)		
Gross Lining area cm <sup>2</sup> (in. <sup>2</sup> ) ** (F/R)		Front - 204 (31.7)	Rear - 324.1 (50.2)		
Swept area cm <sup>2</sup> (in. <sup>2</sup> ) *** (F/R)		Front - 1175 (182.2)	Rear - 556 (86.2)		
Rotor	Outer working diameter	F/R	Front - 259.5 (10.2)		
	Inner working diameter	F/R	Front - 149.6 (5.9)		
	Thickness	F/R	Front - 20 (.79)		
	Material & type (vented/solid)	F/R	Front Vented Cast Iron		
Drum	Diameter & width	F/R	Rear - 200 x 45 mm (7.87 x 1.77 in.)		
	Type and material	F/R	Cast Iron		
Wheel cylinder bore		Front - 57 mm (2.24 in.)	Rear - 17.5 (.69 in.)		
Master cylinder	Bore/stroke	F/R	Bore - 22.2 mm (.874 in.) Stroke - 35.7 mm (1.41 in.)		
Pedal arc ratio		3.00:1			
Line press. at 445 N (100 lb.) pedal load [kPa (psi)]		1600 PSI Max			
Lining clearance		F/R	Both - Self Adjusting		
Brake lining	Front wheel	Bonded or riveted (rivets/seg.)		Integrally Molded - Inboard And Outboard	
		Rivet Size		Not Applicable	
		Manufacturer		Delphi Chassis Division	
		Lining code *****		DM8100	
		Material		Semi-Metallic	
		**	Primary or out-board	124 x 46 x 8.68mm (4.88 x 1.81 x 0.34 in)	
		••	Secondary or in-board	124 x 46x 9.68mm (4.88 x 1.81 x 0.38 in)	
	Shoe thickness (no lining)		4.85mm (0.19 in)		
	Rear wheel	Bonded or riveted (rvts/seg.)		Riveted	
		Manufacturer		Delphi Chassis Division	
		Lining code *****		DC4050	
		Material		Asbestos	
		**	Primary or out-board	167.9 x 44.2 x 6.6 mm (6.602 x 1.728 x .236 in.)	
		••	Secondary or in-board	198.8 x 44.2 x 7.2 mm (7.638 x 1.728 .28 in.)	
Shoe thickness (no lining)		2.75 mm (.11 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.

Specifications

Vehicle Line CAVALIER  
 Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

Model Code/Description And/Or  
 Engine Code/Description

ALL

Tires And Wheels (Standard)

Tires	Size (service description)		P195/70R14
	Type (bias, radial, steel, nylon, etc.)		Radial
	Inflation pressure (cold) for recommended max. vehicle load	Front kPa (psi)	210 kPa (30 psi)
		Rear kPa (psi)	210 kPa (30 psi)
Rev./mile at 70 km/h (45 mph)		842	
Wheels	Type & material		Stamped/Steel
	Rim (size & flange type)		14 x 6J
	Wheel offset		47
	Attachment	Type (bolt or stud & nut)	Stud
		Circle diameter	100 mm
Number & size		5-12 mm	
Spare	Tire and wheel		T115/70D14 Wheel Diameter 14 x 4, Inflation 420 kPa (60 psi)
	Storage position & location (describe)		Under Deck Of Luggage Compartment

Tires And Wheels (Optional)

Tire size (service description)		P195/65R15
Type (bias, radial, steel, nylon, etc.)		Radial
Wheel (type & material)		Aluminum
Rim (size, flange type and offset)		15 x 6J x 47
Tire size (service description)		P205/55R16 (1JF37 only)
Type (bias, radial, steel, nylon, etc.)		Radial
Wheel (type & material)		Aluminum
Rim (size, flange type and offset)		16 x 6J x 47
Tire size (service description)		P195/65R15
Type (bias, radial, steel, nylon, etc.)		Radial
Wheel (type & material)		Stamped/Steel
Rim (size, flange type and offset)		15 x 6J x 47
Tire size (service description)		
Type (bias, radial, steel, nylon, etc.)		
Wheel (type & material)		
Rim (size, flange type and 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		Hand Lever Asm - Self Adjust
Location of control		Between Front Seats
Operates on		Rear Service Brakes
If separate from service brakes	Type (internal or external)	Not Applicable
	Drum diameter	--
	Lining size (length x width x thickness)	--

Specifications

Vehicle Line CAVALIER

Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

Model Code/Description And/Or  
Engine Code/Description

ALL

Steering

Manual (std., opt., n.a.)		Not Applicable		
Power (std., opt., n.a.)		Standard		
Speed-sensitive (std., opt., n.a.)				
4-wheel steering (std., opt., n.a.)				
Adjustable steering wheel/column (tilt, telescope, other)	Type	N33 Tilt - Optional (Standard on 1JF37)		
	Manufacturer	Delphi Saginaw Steering System		
	(std., opt., n.a.)	Optional		
Wheel diameter** (W9) SAE J1100	Manual	None		
	Power	N/A		
Turning diameter m (ft.)	Outside front	Wall to wall (l. & r.)	N/A	
		Curb to curb (l. & r.)	10.85 (35.6)	
	Inside rear	Wall to wall (l. & r.)	N/A	
		Curb to curb (l. & r.)	N/A	
Scrub Radius*		-4.23 (14" Tires)		
Manual	Gear	Type	Not Applicable	
		Manufacturer	N/A	
		Ratios	Gear	N/A
			Overall	N/A
	No. wheel turns (stop to stop)	N/A		
Power	Type (coaxial, elec. hyd., etc.)		Hydraulic	
	Manufacturer		Delphi Saginaw Steering Systems	
	Gear	Type	Rack & Pinion	
		Ratios	Gear	--
				14.7:1 (Base) 15.7:1 (Uplevel)
	Pump (drive)		Belt Off Crankshaft Pulley (LN2)	Direct Drive Off Crankshaft (LD9)
No. wheel turns (stop to stop)		2.6 Base	2.8 (Uplevel)	
Linkage	Type		End Take - Off Tie Rods, Rack & pinion	
	Location (front or rear of wheels, other)		Rear	
	Tie rods (one or two)		2	
Steering axis	Kingpin Inclination (deg.)		12.0°	
	Bearings (type)	Upper	Ball Bearings	
		Lower	Ball Joint	
		Thrust	Incorporated In Upper Bearing	
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.

AAMA Specifications

Vehicle Line CAVALIER

Model Year 1999 Issued 9-98 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.)	Not Adjustable
		Camber (deg.)	-.2° (+/-) .7 Cross Car Must Be Within 1.0
		Toe-in outside track mm (in.)	.10° (+/-) .20° Sum (0 mm (+/-) 1.5 mm) 0° +/- .2 (LD2/FE2 & Convertible)
	Service reset *	Caster (deg.)	Not Adjustable
		Camber (deg.)	-.2° (+/-) .7 Cross Car Must Be Within 1.0
		Toe-in mm (in.)	.10° (+/-) .20° Sum (0 mm (+/-) 1.5 mm) 0° +/- .2 (LD2/FE2 & Convertible)
Periodic M.V. in- spection	Caster (deg.)	Not Adjustable	
	Camber (deg.)	Not Adjustable	
	Toe-in mm (in.)	Not Adjustable	
Rear wheel at curb mass (wt.)	Service checking	Camber (deg.)	-.25° +/- .25°
		Toe-in outside track mm (in.)	.20° +/- .35°
	Service reset *	Camber (deg.)	Not Adjustable
		Toe-in mm (in.)	Not Adjustable
	Periodic M.V. insp.	Camber (deg.)	Not Adjustable
		Toe-in mm (in.)	Not Adjustable

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

Electrical - Instruments and Equipment Gage

Speed-ometer	Type (analog, digital, std., opt.)	Analog Electric (Standard)
	Trip odometer (std., opt., n.a.)	Optional (included w/ UH8)
Head-up display	Standard, optional, not available	Not Available
	Type	Secondary, opto-electronic
	Speedometer	Digital
	Status/warning indicators	Turn signals, high beam, low fuel, check gauges
	Brightness control	Day / night mode, adjustable
EGR maintenance indicator		Not Available
Charge indicator	Type	Tell - Tale Warning Lamp
	Warning device (light, audible)	Lamp
Temperature indicator	Type	Gauge
	Warning device (light, audible)	Ck Gauge Light
Oil pressure indicator	Type	Tell - Tale Warning Lamp
	Warning device (light, audible)	Lamp
Fuel indicator	Type	Gauge
	Warning device (light, audible)	Ck Gauge Tell - Tale
Windshield wiper	Type (standard)	Electric 2-Speed w/ Fixed Delay Pulse
	Type (optional)	Pulse Wiper Variable Delay (CD4)
	Blade length	6890.0 (1068.0) CPE
	Swept area cm <sup>2</sup> (in. <sup>2</sup> )	6856.9 (1062.8) SDN
Windshield washer	Type (standard)	Electric Pump MTD. On Reservoir Bottle, Wet Arm
	Type (optional)	None
	Fluid level indicator (light, audible)	None
Rear window wiper, wiper/washer (std., opt., n.a.)		Not Available
Horn	Type	Electro-Mechanical (Air Column)
	Number used	1 (F Note)
Other		(UH7) Base Cluster Standard (UH8) Uplevel Gage Cluster Includes Tachometer, PRNDL, Tell Tale Includes Brake, Fasten Belt, Upshift, Check Engine, Low Coolant, High Beam, Left And Right Turn, ABS, Airbag, DRL, and Theft System, Check Gages, ETS Off, Low Trac, Oil Pressure, Volts

Specifications

Vehicle Line CAVALIER

METRIC (U.S. Customary)

Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

Engine Code/Description

2.2 LITER L4  
LN2

Electrical - Supply System

Battery	Manufacturer	Delphi - E	
	Model, std., (opt.)	Standard - 19000670	Optional - 19000672
	Voltage	12	
	Amps at 0° F. cold crank	525	600
	Minutes-reserve capacity	90	
	Amps/hrs.-20 hr. rate	54	
	Location	Under Hood Front	
Alternator	Manufacturer	Delphi	
	Rating (idle/max. rpm)	42/105	
	Ratio (alt. crank/rev.)	2.64:1	
	Output at idle (rpm, park)	38 Amps @ 93°C	
	Optional (type & rating)	Not Applicable	
Regulator	Type	Integral with Alternator	

Electrical - Starting System

Motor	Manufacturer	Delco Remy America	
	Current drain _____ °C(°F)	325 Amps	
	Power rating kw (hp)	1.3 (1.74)	
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	Delco Remy America		
	Model	110400		
	Current	Engine stopped - A	Less Than 500 ma	
		Engine idling - A	Less Than One Ampre	
Spark plug	Manufacturer	Champion		
	Model	41-942		
	Thread (mm)	14 mm		
	Tightening torque N-m (lb. ft.)	18 (13)		
	Gap	1.5		
	Number per cylinder	One		
Distributor	Manufacturer	Not Applicable		
	Model	Not Applicable		

Electrical - Suppression

Locations & type	Not Available
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Specifications

Vehicle Line CAVALIER  
 Model Year 1999 issued 9-98 Revised (#) \_\_\_\_\_

METRIC (U.S. Customary)

Engine Code/Description

2.4 LITER L4  
LD9

Electrical - Supply System

Battery	Manufacturer	Delphi - E
	Model, std., (opt.)	Standard - 19000672
	Voltage	12
	Amps at 0° F. cold crank	600
	Minutes-reserve capacity	90
	Amps/hrs.-20 hr. rate	54
	Location	Underhood - Front
Alternator	Manufacturer	Delphi
	Rating (idle/max. rpm)	42/105
	Ratio (alt. crank/rev.)	2.77
	Output at idle (rpm, park)	40 Amps @ 93°C
	Optional (type & rating)	Not Applicable
Regulator	Type	Integral with Alternator

Electrical - Starting System

Motor	Manufacturer	Deico Remy America
	Current drain _____ °C(°F)	325 Amps
	Power rating kw (hp)	1.6 (2.1)
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	1104014	
	Current	Engine stopped - A	Less Than 500 mA
		Engine idling - A	Less Than One Ampre
Spark plug	Manufacturer	Delphi	
	Model	41-942	
	Thread (mm)	14 mm	
	Tightening torque N-m (lb. ft.)	18.0 (13)	
	Gap	1.5	
	Number per cylinder	One	
Distributor	Manufacturer	Not Applicable	
	Model	Not Applicable	

Electrical - Suppression

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

**Specifications**

Vehicle Line CAVALIER

Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)  
Model Code/Description

Body	ALL
Structure	Unitized Body Construction Including Front End Structure With Bolted - On Fenders And Hood
Bumper system front - rear	Bumper Fascias Are Attached To Steel Impact Bar And Guideflex Or EPP Foam Asborbers For Collision Energy Absorption. Meets 5 MPH Corporate Bumper Labeling Requirements
Anti-corrosion treatment	Metal Body Uses Double Side Galvanized Metal On All Exposed Metal Surfaces. The Paint Shop Process Includes Phosphate, ELPO, Sealers, Primers And Topcoat.

**Body - Miscellaneous Information**

Type of finish (lacquer, enamel, other)		High Solids Base Coat/Clear Coat Paint System
Hood	Material & mass	Steel Z24/SMC
	Hinge location (front, rear)	Rear
	Type (counterbalance, prop)	Prop Rod - Single Pivot Hinge
	Release control (internal, external)	Internal
Trunk lid	Material & mass	Steel/Sedan 10.5 (.41) Coupe 10.5 (.41)
	Type (counterbalance, other)	Torque Rods On Rods On Coupe And Sedan
	Internal release control (elec., mech., n.a.)	Mechanical (Optional) (A59)
Hatchback lid	Material & mass	N/A
	Type (counterbalance, other)	N/A
	Internal release control (elec., mech., n.a.)	N/A
Tailgate	Material & mass	N/A
	Type (drop, lift, door)	N/A
	Internal release control (elec., mech., n.a.)	N/A
Vent window control (crank, friction, pivot, power)	Front	Not Applicable
	Rear	"
Window regulator type (cable, tape, flex drive, etc.)	Front	Cross Arm
	Rear	Single Arm
Seat cushion type (e.g., 60/40 bucket, bench, wire, foam, etc.)	Front	Bucket/Foam
	Rear	Bench/Foam & Wire
	3rd seat	Not Applicable
Seat back type (e.g., 60/40 bucket, bench, wire, foam, etc.)	Front	Bucket/Foam
	Rear	Folding Bench/Foam & Wire
	3rd seat	Not Applicable

**Frame**

Type and description (separate frame, unitized frame, partially-unitized frame)	Unitized Frame
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Specifications

Vehicle Line CAVALIER

Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

Model Code/Description

ALL
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Restraint System

Seating Position			Left	Center	Right
Active	Type & description (lap & shoulder belt, lap belt, etc.)		Lap/Shoulder Belt Combination	N/A	Lap/Shoulder Belt Combination
	Standard / Optional	Second seat	Lap/Shoulder Belt Combination	Lap Belt	Lap/Shoulder Belt Combination
		Third seat			
Passive	Type & description (air bag, motorized-2- point belt, fixed belt, knee bolster, manual-lap belt)	First seat	Air Bag/Knee Bolster		Air Bag/Knee Bolster
	Standard / Optional	Second seat			
		Third seat			
<b>Glass</b>		<b>SAE Ref.No.</b>	<b>37</b>	<b>67</b>	<b>69</b>
Windshield glass exposed surface area cm <sup>2</sup> (in. <sup>2</sup> )		S1	10,940 cm <sup>2</sup>	10,940 cm <sup>2</sup>	11,400 cm <sup>2</sup>
Side glass exposed surface area cm <sup>2</sup> (in. <sup>2</sup> ) - total 2 sides		S2	11,144 cm <sup>2</sup>	10,262 cm <sup>2</sup>	11,684 cm <sup>2</sup>
Backlight glass exposed surface area cm <sup>2</sup> (in. <sup>2</sup> )		S3	10,650 cm <sup>2</sup>	2887 cm <sup>2</sup>	8,873 cm <sup>2</sup>
Total glass exposed surface area cm <sup>2</sup> (in. <sup>2</sup> )		S4	32,734 cm <sup>2</sup>	24,089 cm <sup>2</sup>	31,957 cm <sup>2</sup>
Windshield glass (type/thickness)			Curved-Laminated Float 5.4 mm	Curved-Laminated Float 5.4 mm	Curved-Laminated Float 5.4 mm
Side glass (type/thickness)			Curved-Tempered Float QTR WDO 3.5 mm Door Glass 4.0 mm	Curved-Tempered Float QTR WDO 5 mm Door Glass 5 mm	Curved-Laminated Float Door Glass 4.0 mm
Backlight glass (type/thickness)			Curved-Tempered Float 3.5 mm	Curved-Tempered Float 3.5 mm	Curved-Tempered Float 3.5 mm
Tinted (yes/no, location)			All Glass Tinted	All Glass Tinted	All Glass Tinted
Solar control (yes/no, coated/batched, location)					

Headlamps

Description (sealed beam, halogen, replaceable bulb, etc.)	Replaceable Bulb - 2 Lamps - 2 Bulbs Each
Shape	Rectangular
Lo-beam type (2A1, 2B1, 2C1, etc.)	HB <sub>4</sub>
Quantity	2 (2 Bulbs per Car)
Hi-beam type (1A1, 2A1, 1C1, 2C1, etc.)	HB <sub>3</sub>
Quantity	2 (2 Bulbs per Car)

Specifications

Vehicle Line  
Model Year

CAVALIER

1999

Issued

9-98

Revised (●)

METRIC (U.S. Customary)

Engine Code/Description

ALL

Climate Control System

Air conditioning (std., opt., man., auto.)		Optional (Std on 1JF37)
Condenser	Type	Header Tube And Center
	Eff. face area (sq. mm.)	258,163.2
	Fins per inch	2.5 K
Evaporator	Type	3-5-5 Parallel Rib S Flow
	Eff. face area (sq. mm.)	45,050
	Fins per inch	14
Heater core	Material	Aluminum
	Eff. face area (sq. mm.)	29,210
	Fins per inch	38
Compressor	Type	Five Cylinder - Variable Displacement
	Displacement (cc.)	9.2 cu. in. = 151 cc.
	Manufacturer	Delphi Harrison Thermal Systems
	A/C pulley ratio	LD9 1.29:1                      LN2 1.24:1
Accumulator	Type	Tapered Full - Size Single "O" Ring R-134a
	Height (mm.)	8" = 206
	Diameter (mm.)	93.5 (Top Shell) 88.8 (Bottom Shell)
Receiver	Type	None
	Height (mm.)	None
	Diameter (mm.)	None
Refrigerant control (CCOT, TVS, etc.)		VDOT
Heater water valve (yes / no)		No
Refrigerant (R - 12, R - 134a, etc.)		R134a
Charge level (lbs. - oz.)		1.50
Cold engine lockout switch (yes / no)		No
Wide open throttle cutout switch (yes / no)		No

Specifications

Vehicle Line CAVALIER

Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

Model Code/Description

ALL

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

	Clock (digital, analog)	Part Of Radio Package
	Compass / thermometer	N/A
	Console (floor, overhead)	Standard
	Defroster, electric windshield	N/A
	Defroster, electric backlight	(C49) Optional (Std on 1JF67)
Electronic	Diagnostic monitor (integrated, individual)	N/A
	Instrument cluster (list instruments)	(UH7) Standard, Speed, Fuel, Temp, Season Odo. (UH8) Optional, Speed, Tach, Fuel, Temp, Season And Trip Odo.
	Keyless entry	(AU0) Optional
	Tripminder (avg. spd., fuel)	N/A
	Voice alert (list items)	N/A
	Other	Key Left In/Head Lights On/Warning - Standard
	Fuel door lock (remote, key, electric)	Manual Fuel Door
Integrated Child Seating	Std./opt. & location in vehicle	N/A
	Number of occupants	N/A
	Occupant weight/height (min. & max.)	N/A
	Restraint system description (3 or 5-point belts/booster seat capability)	N/A
Lamps	Auto head on/off delay, dimming	N/A
	Cornering	N/A
	Courtesy (map, reading)	Center Dome Standard; Center Dome/Reading (OPT C95)
	Door lock, ignition	N/A
	Engine compartment	N/A
	Fog	(N/A - Base) STD On JF37
	Glove compartment	Standard
	Trunk	Standard
	Illuminated entry system (list lamps, activation)	Courtesy, Front Door Activated, Theater Dimming - Standard
Other	N/A	
Mirrors	Day / night (auto., man.)	Option (DC4) Is Standard w/CF5
	L.H. (remote, power, heated)	Standard (D35), Optional (DG7), N/A
	R.H. (convex, remote, power, heated)	Standard (D35), Rh Manual, Optional (DG7), N/A
	Visor vanity (RH / LH)	Standard No Mirror; No Lamps Standard with Mirror; (Opt. DD2) Standard (DD2) (JF Styles) L & R Side Mirror Covered No Lamps
	Navigation system (describe)	N/A
	Parking brake-auto release (warning light)	Standard - Manual Release

**Specifications**

Vehicle Line CAVALIER

Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

Model Code/Description

ALL

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

Power equipment	Deck lid (release, pull down)		(A59) Optional Manual Release (Standard On Uplevel)
	Door locks (manual, automatic, describe system)		Standard Manual Door Lock/Unlock (AU3) Optional Electric
	Seats	2 - 4 - 6 way, etc.	N/A
		Reclining (R.H., L.H.)	N/A
		Memory (R.H.,L.H., preset recline)	N/A
		Support (lumbar, hip, thigh, etc.)	N/A
		Heated (R.H., L.H., other)	N/A
	Side windows		(A31) Optional
	Vent windows		N/A
	Rear windows		N/A
Radio systems	Antenna (location, whip, w/shield, power)		(US6) Standard Fixed RH Rear Fender (U74) Antenna Delete Std. on JC
	Standard	AM, FM, stereo, tape, compact disc, graphic equalizer, theft deterrent, radio prep package, headphone jacks, etc.	(UL5) Radio Delete Std. On Base Coupe/Sedan Only (UM7) AM/FM Stereo, Seek/Scan, Clock & Compact Disc (Std on 1JF67, 69)
	Optional		(UL0) AM/FM Stereo, Seek/Scan, Auto Rev, Music Search Cass., Auto tone, Clock ETR (UM6) AM/FM Stereo, Seek/Scan, Clock, ETR & Cassette (Std on 1JF37) (UN0) AM/FM Stereo, Seek/Scan, CD, Auto Tone, Clock, ETR
	Speaker (number, location)		(U79) Optional 4 Speaker - 2 RR shelf, Coax/door (UQ9) Speaker Delete (Std. On JC) (UX7) Standard 4, Dual Front Door Mtd. Dual Rear Shelf (Std. JF)
Roof: open air or fixed (flip-up, sliding, "T")			(CF5) Optional Power Sunroof; Spoiler type w/ express open (1JC69, 1JF69 only)
Speed control device			(K34) Optional (Std on 1JF37)
Speed warning device (light, buzzer, etc.)			N/A
Tachometer (rpm)			(UH8) Standard JF
Telephone system (describe)			N/A
Theft deterrent system			Standard on all models - Pass Lock

**Trailer Towing**

Towing capable	Yes / No	Yes (1JF37, 67, 69 only)
Engine / transmission / axle	Std. / Opt.	LD9 Option w/ MN4 4 Speed Automatic
Tow class (I, II, III) *	Std. / Opt.	
Max. gross trailer wgt. (lbs.)	Std / Opt.	1000 lbs
Max. trailer tongue load (lbs.)	Std. / Opt.	100 lbs
Towing package available	Yes / No	No

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

**Specifications**

Vehicle Line **CAVALIER**

Model Year **1999** Issued **9-98** 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.	COUPE	SEDAN	CONVERTIBLE
<b>Width</b>				
Tread (front)	W101	1462 (57.6)	1462 (57.6)	1462 (57.6)
Tread (rear)	W102	1432 (56.4)	1439 (26.7)	1438 (56.6)
Vehicle width	W103	1744 (68.7)	1725 (67.9)	1744 (68.7)
Body width at SgRP (front)	W117	1712 (67.4)	1710 (67.3)	1712 (67.4)
Vehicle width (front doors open)	W120	3844 (151.3)	3247 (127.8)	3844 (151.3)
Vehicle width (rear doors open)	W121	N/A	3520 (138.6)	N/A
Tumble-home (degrees)	W122	26.5°	29.0°	27.0°
Outside mirror width	W410	1916 (75.4)	1916 (75.4)	1922 (75.7)

**Length**

Wheelbase	L101	2644 (104.1)	2644 (104.1)	2644 (104.1)
Vehicle length	L103	4590 (180.7)	4590 (180.7)	4590 (180.7)
Overhang (front)	L104	982 (38.7)	982 (38.7)	982 (38.7)
Overhang (rear)	L105	965 (38.7)	965 (38.0)	965 (38.0)
Upper structure length	L123	2869 (113.0)	2869 (113.0)	2869 (113.0)
Rear Wheel C/L "X" coordinate	L127	4410	4410	4410

**Height \*\***

Passenger distribution (front/rear)	PD1			2/3* ●
	.2,3			
Trunk/cargo load				● ●
Vehicle height	H101	1347 (53.0)	1389 (54.7)	1374 (54.1)
Cowl point to ground	H114	914 (36.0)	919 (36.2)	926 (36.4)
Deck point to ground	H138	1027 (40.4)	1013 (40.0)	1018 (40.1)
Rocker panel-front to ground	H112	216 (8.5)	216 (8.5)	224 (8.8)
Rocker panel-rear to ground	H111	218 (8.6)	218 (8.6)	228 (9.0)
Windshield slope angle (degrees)	H122	63.0°	61.5°	63.0°
Backlight slope angle (degrees)	H121	71.0°	63.0°	67.0°

**Ground Clearance \*\***

Front bumper to ground	H102	245.4 (9.7)	265.1 (10.4)	244.5 (9.6)
Rear bumper to ground	H104	322.7 (12.7)	314.0 (12.4)	322.6 (12.7)
Bumper to ground front at curb mass (wt.)	H103	256.6 (10.1)	256.6 (10.1)	256.6 (10.1)
Bumper to ground rear at curb mass (wt.)	H105	341.8 (13.5)	341.8 (13.5)	341.8 (13.5)
Angle of approach (degrees)	H106	13.5°	13.5°	13.5°
Angle of departure (degrees)	H107	15.5°	15.5°	15.5°
Ramp breakover angle (degrees)	H147	13°	13°	13°
Axle differential to ground (front/rear)	H153	N/A		
Min. running ground clearance	H156	107.4 (4.2)	107.4 (4.2)	107.4 (4.2)
Location of min. running ground clear.		Exhaust System		

\*\* 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 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 occupant

Specifications

Vehicle Line CAVALIER

Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

Vehicle Dimensions See Key Sheets for definitions

Model Code/Description

COUPE

SEDAN

CONVERTIBLE

Front Compartment

SAE  
Ref.  
No.

SgRP front, "X" coordinate	L31	3150 (124.0)	3150 (124.0)	3150 (12.4)
Effective head room	H61	956 (37.6)	989 (38.9)	968 (38.1)
Max. effective leg room (accelerator)	L34	1066 (41.9)	1066 (41.9)	1070 (42.1)
SgRP to heel point	H30	247 (9.7)	247 (9.7)	242 (9.5)
SgRP to heel point	L53	861 (33.9)	861 (33.9)	868 (34.2)
Back angle (degrees)	L40	25.5°	25.5°	25.5°
Hip angle (degrees)	L42	97.0°	97.0°	97.0°
Knee angle (degrees)	L44	125.5°	125.5°	126.0°
Foot angle (degrees)	L46	87.0°	87.0°	87.0°
Design H-point front travel	L17	208 (8.2)	208 (8.2)	208 (8.2)
Normal driving & riding seat track trvl.	L23	188 (7.4)	188 (7.4)	188 (7.4)
Shoulder room	W3	1368 (53.9)	1387 (54.6)	1368 (53.9)
Hip room	W5	1270 (50)	1290 (50.8)	1270 (50)
Upper body opening to ground	H50	1233 (48.5)	1268 (50.0)	1248 (49.1)
Steering wheel maximum diameter*	W9	375 (14.8)	375 (14.8)	375 (14.8)
Steering wheel angle (degrees)	H18	20.7°	20.7°	20.7°
Accel. heel pt. to steer. whl. cntr.	L11	478.1 (18.8)	478.1 (18.8)	488.7 (19.2)
Accel. heel pt. to steer. whl. cntr.	H17	634.3 (24.9)	634.3 (24.9)	627.2 (24.7)
Undepressed floor covering thickness	H67	13 (.51)	15 (.59)	21 (.83)

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

Rear Compartment

SgRP point couple distance	L50	731 (28.8)	767 (30.2)	731 (28.8)
Effective head room	H63	929 (36.6)	946 (37.2)	955 (37.6)
Min. effective leg room	L51	831 (32.7)	873 (34.4)	829 (32.6)
SgRP (second to heel)	H31	253 (9.9)	268 (10.6)	242 (9.5)
Knee clearance	L48	1 (.04)	22 (.87)	2 (.08)
Shoulder room	W4	1394 (54.9)	1370 (53.9)	1196 (47.1)
Hip room	W6	1258 (49.5)	1285 (50.6)	1214 (47.8)
Upper body opening to ground	H51	N/A	1289 (50.8)	N/A
Back angle (degrees)	L41	28.0°	28.0°	28.0°
Hip angle (degrees)	L43	81.0°	85.0°	80.5°
Knee angle (degrees)	L45	78.0°	85.0°	78.0°
Foot angle (degrees)	L47	118.5°	121.5°	120.0°
Depressed floor covering thickness	H73	21 (.83)	22 (.87)	26 (1.02)

Luggage Compartment

Usable luggage capacity L (cu. ft.)	V1	373 (13.17 cu. ft.)	385 (13.6 cu. ft.)	297 (10.5 cu. ft.)
Liftover height	H195	664 (26.1)	665 (26.2)	709 (28.0)

Interior Volumes (EPA Classification)

Vehicle class	Compact	Compact	Subcompact
Interior volume index including trunk/cargo (cu. ft.)**	100.34	105.1	93.3
Trunk/cargo index (cu. ft.)	13.20 cu.ft.	13.6 cu. ft.	10.5 cu. ft.

\* See page 14.

\*\* See definition page 33.

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

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



Specifications

Vehicle Line CAVALIER

Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

Vehicle Dimensions See Key Sheets for definitions

Model Code/Description

2 DOOR NOTCHBACK

Station Wagon/MPV\*

SAE Ref.

-Third Seat

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

Specifications

Vehicle Line CAVALIER

Model Year 1999 Issued 9-98 Revised (●) \_\_\_\_\_

METRIC (U.S. Customary)

Model Code/  
Description

COUPE                      SEDAN                      CONVERTIBLE

Vehicle Fiducial Marks

Fiducial Mark Number*	Define Coordinate Location			
Front	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.			
	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.			
	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.			
Rear	X - Fiducial mark to vertical zero grid line - rear, measured horizontally from the zero grid line to rear fiducial mark located on the rail (compartment pan - longitudinal.)			
	Y - Fiducial mark to centerline of car - rear, width measurement made from centerline of car to fiducial mark located on the rail (compartment pan - longitudinal.)			
	Z - Fiducial mark to horizontal zero grid line - rear, measured vertically from the zero grid line to rear fiducial mark located on the rail (compartment pan - longitudinal.)			
NOTE: Provide 3 of 4 Fiducial Mark Locations				
Front	W21**	505 (19.9)	505 (19.9)	505 (19.9)
	L54**	2761 (108.7)	2761 (108.7)	2761 (108.7)
	H81**	251 (9.9)	251 (9.9)	251 (9.9)
	H161**	293.5 (11.6)	253.5 (10.0)	293.5 (11.6)
	H163**	237.3 (9.3)	237.3 (9.3)	275.6 (10.6)
Rear	W22**	440 (17.3)	440 (17.3)	440 (17.3)
	L55**	4953 (195)	4953 (195)	4953 (195)
	H82**	363 (14.3)	363 (14.3)	364 (14.3)
	H162**	417.6 (16.4)	416.6 (16.4)	417.6 (16.4)
	H164**	391.5 (15.4)	393.2 (15.5)	391.5 (15.4)

\* 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.

Specifications  
METRIC (U.S. Customary)

Vehicle Line CAVALIER  
Model Year 1999 Issued 9-98 Revised (●)

Code Model		VEHICLE MASS (WEIGHT)				% PASS MASS DISTRIBUTION				
		CURB MASS, kg. (lb.)*			Shipping Mass	ETWC •• Code	Pass in Front		Pass in Rear	
		Front	Rear	Total	kg (lb)***		Front	Rear	Front	Rear
CAVALIER										
1JC37	2-Door Notchback Coupe	749 (1651)	423 (933)	1172 (2584)	1139 (2511)	Q	48.2% 32.8 kg	51.8% 35.2 kg	20% 13.6 kg	80% 54.4 kg
1JC69	4-Door Notchback Sedan	756 (1667)	438 (966)	1194 (2632)	1160 (2557)	Q	48.2% 32.8 kg	51.8% 35.2 kg	18.8% 12.8 kg	81.2% 55.2 kg
1JF67	2-Door Convertible	866 (1909)	481 (1060)	1350 (2976)	1314 (2897)	S	48.2% 32.8 kg	51.8% 35.2 kg	20% 13.6 kg	80% 54.4 kg
1JF37	2-Door Notchback Coupe	829 (1825)	435 (959)	1264 (2787)	1230 (2712)	R	48.2% 32.8 kg	51.8% 35.2 kg	20% 13.6 kg	80% 54.4 kg
1JF69	4-Door Notchback Sedan	789 (1739)	446 (983)	1235 (2723)	1202 (2650)	R	48.2% 32.8 kg	51.8% 35.2 kg	18.8% 12.8 kg	81.2% 55.2 kg

\* Reference - SAE J1100 Motor vehicle dimensions, curb weight definition.  
 \*\* ETWC - Equivalent Test Weight Class - basis for U.S. Environmental Protection Agency emission certifications.  
 Refer to ETWC code legend below for test weight class.

ETWC LEGEND

A = 1000	I = 2000	Q = 3000	Y = 4000
B = 1125	J = 2125	R = 3125	Z = 4250
C = 1250	K = 2250	S = 3250	AA = 4500
D = 1375	L = 2375	T = 3375	BB = 4750
E = 1500	M = 2500	U = 3500	CC = 5000
F = 1625	N = 2625	V = 3625	DD = 5250
G = 1750	O = 2750	W = 3750	EE = 5500
H = 1875	P = 2875	X = 3875	FF = 5750

\*\*\*Shipping Mass (Weight) = Curb Weight Less:  
 33.8 kgs. (7.7 Frt. 26.6 Rr)

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Code	Equipment	Optional Equipment Differential Mass (weight)*			Remarks Restrictions, Requirements
		MASS, kg. (lb.)			
		Front	Rear	Total	
A31	Power Windows	0.9 (2.0)	0.6 (1.3)	1.5 (3.3)	Coupe
A31	Power Windows	2.5 (5.5)	1.5 (3.3)	4.0 (8.8)	Sedan
A59	Remote Trunk Lock	0.1 (.2)	0.2 (.4)	0.3 (.6)	1JC00 Only
AF5	Seat Adjuster	0.8 (1.8)	0.8 (1.8)	1.6 (3.5)	1JC37 Only
AP9	Convenience Net	0.0 (0.0)	0.2 (0.4)	0.2 (0.4)	1JC00 Only
AS5	Deluxe Bucket Seat	3.6 (7.9)	0.0 (0.0)	3.6 (7.9)	1JF67 Only
AU0	Remote Entry Lock Control	0.8 (1.8)	0.0 (0.0)	0.8 (1.8)	
AU3	Power Locks	0.8 (1.8)	0.2 (0.4)	1.0 (2.2)	Coupe
AU3	Power Locks	0.8 (1.8)	0.0 (0.0)	0.8 (1.8)	Sedan
B37	Mats, Front & Rear	1.6 (3.5)	1.2 (2.6)	2.8 (6.2)	1JC00 Only
B88	Body Side Molding - Custom	1.0 (2.2)	1.2 (2.7)	2.2 (4.9)	1JC37 Only
BW2	Body Side Ornamentation	0.5 (1.1)	0.5 (1.1)	1.0 (2.2)	1JC00 Only
C49	Defogger (Rear)	0.0 (0.0)	0.1 (0.2)	0.1 (0.2)	
C60	Air Conditioning	15.0 (33.0)	0.0 (0.0)	15.0 (33.0)	1JC00, 1JF69 Only Std On Remaining
CD4	Pulse Wiper	0.2 (0.4)	0.0 (0.0)	0.2 (0.4)	
CF5	Electric Sunroof	6.6 (14.5)	6.6 (14.5)	13.2 (29.0)	Coupe Only

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

Specifications  
METRIC (U.S. Customary)

Vehicle Line CAVALIER  
Model Year 1999 Issued 9-98 Revised (#) \_\_\_\_\_

Code	Equipment	Optional Equipment Differential Mass (weight)*			Remarks Restrictions, Requirements
		MASS, kg. (lb.)			
		Front	Rear	Total	
DC4	Inside R/V Mirror w/ Lamp	0.2 (0.4)	0.0 (0.0)	0.2 (0.4)	Coupes
DD2	Covered Sunshade	0.2 (0.4)	0.0 (0.0)	0.2 (0.4)	1JC00 Only
DG7	Mirror	0.8 (1.8)	0.0 (0.0)	0.8 (1.8)	
FE1	Soft Suspension System	2.7 (6.0)	0.0 (0.0)	2.7 (6.0)	
K05	Engine Block Heater	0.4 (0.9)	0.0 (0.0)	0.4 (0.9)	
K34	Cruise Control	1.5 (3.3)	0.0 (0.0)	1.5 (3.3)	
LD9	2.4 Liter Engine	-12.6 (-27.8)	0.6 (1.3)	-12.0 (-26.5)	1JF37-67 & MN4
LD9	2.4 Liter Engine	48.0 (105.8)	-2.0 (-4.4)	46.0 (101.4)	1JF69 & MN4
LD9	2.4 Liter Engine	59.0 (130.1)	-2.5 (-5.5)	56.5 (124.6)	1JF69 & MJ1
LN2	2.2 Liter Engine	-11.6 (-25.6)	1.6 (3.5)	-10.0 (22.0)	1JC00 & MD9/MN4
LN2	2.2 Liter Engine	10.0 (22.0)	0.0 (0.0)	10.0 (22.0)	1JF69 & MK7
LN2	2.2 Liter Engine	-48.0 (-105.8)	2.0 (4.4)	-46.0 (-101.4)	1JF67 & MN4 & W28
MD9	3 Speed Automatic Transmission	33.0 (72.8)	-1.5 (-3.3)	31.5 (69.4)	1JC00 Only
MJ1	Manual Transmission	-36.9 (-81.3)	2.0 (4.4)	-34.9 (-76.9)	1JF69 Only
MN4	4 Speed Automatic Transmission	41.4 (91.3)	-2.0 (-4.4)	39.4 (86.9)	1JC00
MN4	4 Speed Automatic Transmission	37.1 (81.8)	-1.7 (-3.7)	35.4 (78.0)	1JF37/67
N33	Tilt Steering Wheel	1.2 (2.6)	0.7 (1.5)	1.9 (4.1)	

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

Specifications  
METRIC (U.S. Customary)

Vehicle Line CAVALIER  
Model Year 1999 Issued 9-98 Revised (●)

Code	Equipment	Optional Equipment Differential Mass (weight)*			Remarks Restrictions, Requirements
		MASS, kg. (lb.)			
		Front	Rear	Total	
PF7	15" Wheel Alum	-1.2	-1.2	-2.4	1JC00
		(-2.6)	(-2.6)	(-5.7)	
PF7	15" Wheel Alum	-2.8	-2.8	-5.6	1JF69 Only
		(-6.2)	(-6.2)	(-12.4)	
PG1	15" Wheel Steel	1.7	1.7	3.4	1JC00
		(3.7)	(3.7)	(7.4)	
PG1	15" Wheel Steel	2.8	2.8	5.6	1JF67 Only
		(6.2)	(6.2)	(12.4)	
QPD	15" Tire	2.4	2.4	4.8	1JC37 - 69
		(5.7)	(5.7)	(11.4)	
QPD	15" Tire	-1.6	-1.6	-3.2	1JF37
		(-3.5)	(-3.5)	(-7.1)	
T43	RR Spoiler	0.0	2.8	2.8	
		(0.0)	(6.2)	(6.2)	
U79	Speakers	0.1	0.0	0.1	1JF00 Only
		(0.2)	(0.0)	(0.2)	
U79	Speakers	0.8	0.8	1.6	1JC00 Only
		(1.8)	(1.8)	(3.5)	
ULO	Radio - Auto Rev. Cassette	1.6	0.2	1.8	1JC00 Only
		(3.5)	(0.4)	(3.9)	
ULO	Radio - Auto Rev. Cassette	1.0	0.2	1.2	1JF67-69 Only
		(2.2)	(0.4)	(2.6)	
UM6	Radio - Cassette	1.8	0.2	2.0	1JC00 Only
		(4.0)	(0.4)	(4.4)	
UM6	Radio - Cassette	0.6	0.2	0.8	1JF69 Only
		(1.3)	(0.4)	(1.7)	
UM7	Radio	1.2	0.0	1.2	1JC00
		(2.6)	(0.0)	(2.6)	
UNO	Radio - Seek/Scan CD	0.6	0.2	0.8	1JF67-69 Only
		(4.4)	(0.4)	(1.8)	
UNO	Radio - Seek/Scan CD	0.2	0.0	0.2	1JF37 Only
		(0.4)	(0.0)	(0.4)	
UNO	Radio - Seek/Scan CD	2.0	0.2	2.2	1JC00
		(.4)	(0.4)	(4.8)	
US6	STD Mast Ant	0.2	0.0	0.2	1JC00 Only
		(0.4)	(0.0)	(0.4)	

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

