

1999 CHEVROLET MALIBU



1999 PRODUCT INFORMATION GUIDE





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1999 MALIBU — AN APPEALING EXPRESSION **OF AMERICAN EXCELLENCE**

DETROIT — Designed with high standards for quality, reliability and value in mind for families, Chevrolet Malibu has become a symbol of American Excellence. As such, it has become a cornerstone in Chevrolet's Sedan family, and one of the division's leading conquest vehicles.

"Malibu has proven successful at luring new customers to Chevrolet," said Lew Elbert, Malibu brand manager. "Nearly half of Malibu buyers surveyed traded in an import or domestic competitive vehicle. Malibu is winning them over with great styling and an impressive list of standard features."

Malibu continues to be a favorite of automotive critics as well, garnering several awards in 1998. Anita and Paul Lienert named Malibu to their list of "Top Ten Vehicles for 1998." Malibu also received a "Recommended Buy" from *Consumer Guide Automobile Book, '98 Edition*, and was named "Best in Class" by *Kiplinger's Personal Finance Magazine* (12/97).

Recently, Malibu earned top honors in Strategic Vision's survey of new car owners, which measures the complete ownership experience — buying, owning and driving. Malibu outscored all entries in both the midsize and compact segments. "The Strategic Vision award confirms that Malibu is the kind of car Chevrolet set out to build," said Elbert, "because it score consistently well across all categories."

Much of Malibu's appeal comes from its impressive list of standard features. Items that are extra-cost options on many competitors — air conditioning, battery-rundown protection, four-wheel antilock brakes, a four-speed automatic transmission, Tilt-Wheel™ steering column, power trunk opener, rear child security locks, tachometer, rear-seat heat ducts, Passlock®, rear-seat safety belt child comfort guides — are all standard on Malibu.

— MORE —

Malibu LS adds even more features, with standard power windows with driver's Express Down feature, power door locks, Remote Keyless Entry System, electronic speed control, an AM/FM stereo cassette sound system, split-folding rear seat and a powerful 3100 V6 engine — just to name a few. In fact, the Malibu LS is so well-equipped that the only options available are leather seats, CD player or CD player with remote cassette player, electric sliding sunroof and mud guards.

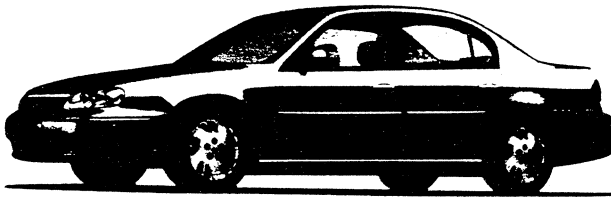
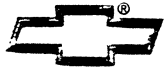
Malibu's rigid body has been designed in the spirit of "American Excellence," with precision panel fit and finish. This rigid body structure enables precise tuning of Malibu's suspension and an effective balance of confident handling and smooth ride.

Much of Malibu's value is attributable to the durability of its components. Its spark plugs are designed to last up to 100,000 miles before they need changing, and the engine coolant will last as long as 5 years or 150,000 miles before needing replacement.

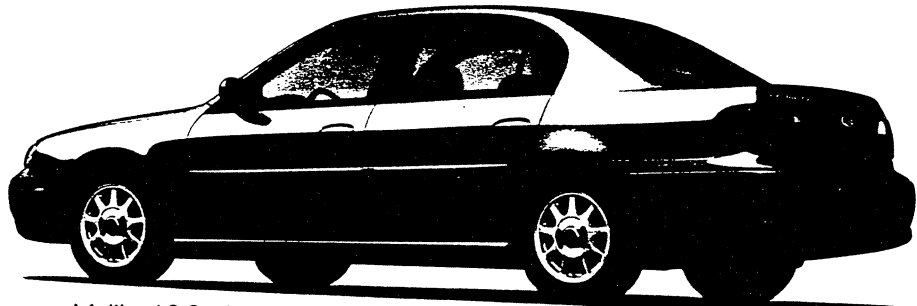
Under normal usage, the transmission fluid doesn't need to be serviced. And, every exterior body panel (except the roof) is made of two-side galvanized steel to fight corrosion, giving Malibu excellent exterior corrosion protection.

For 1999, Malibu's windshield is thicker to help decrease road noise. Additionally, Medium Bronzemist Metallic is added as a new exterior paint color option.

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Malibu Sedan



Malibu LS Sedan

MALIBU AND THE MARKETPLACE

Carefully crafted and with a growing reputation for "American excellence," Malibu is finding appeal with young, successful parents who value quality, reliability and durability in their cars. Attention to quality is what helps Malibu continue to gain momentum in the highly competitive midsize sedan market. Malibu fits nicely into Chevrolet's comprehensive line of sedans between Cavalier and the larger Lumina.

COMPETITORS

- Honda Accord
- Ford Contour
- Mercury Mystique
- Ford Taurus
- Dodge Stratus
- Chrysler Cirrus
- Plymouth Breeze
- Nissan Altima
- Toyota Camry

1998 AWARDS

- Anita and Paul Lienert — Top 10 Vehicles for 1998
- *Kiplinger's Personal Finance Magazine* (December, 1997)
— Best in Class — Cars \$13,000–\$18,000

DEMOGRAPHICS

- Median Age: 35–44 Years
- Median Income: \$55,000–\$70,000
- Female: 50%–60%
- College Graduate: 45%–55%
- Children in Household: 40%–45%
- Managerial/Professional: 40%–50%

NEW FOR 1999

EXTERIOR/STRUCTURAL FEATURES

- Medium Bronzemist Metallic is added as a new exterior paint color option (Page 8).



MODELS AND TRIM LEVELS

MALIBU SEDAN

Malibu provides these standard features:

Interior

- Next Generation driver and front-passenger air bags*
- Rear-seat safety belt child comfort guides
- Child security rear-door locks
- Center console with storage armrest
- Scotchgard™ protection
- Tilt-Wheel™ steering column
- Air conditioning with CFC free refrigerant
- Electronically-tuned AM/FM stereo
- Power trunk release
- Variable intermittent windshield wipers
- Passlock® theft-deterrent system.

Exterior

- Daytime Running Lamps with Automatic Exterior Lamp Control
- Dual breakaway outside mirrors, left hand remote
- 15-inch steel wheels with full wheel covers.

Functional

- 2.4 Liter Twin Cam 4-cylinder Engine with 150 horsepower
- 4-speed automatic overdrive transmission with second-gear start
- 4-wheel antilock braking system (ABS)
- Power rack-and-pinion steering
- Battery-rundown protection
- Stainless-steel exhaust system
- P215/60R-15 touring tires.

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

MALIBU LS SEDAN

Malibu LS 4-Door Sedan adds:

Interior

- Split-folding rear seat with pass-through
- Three passenger assist handles
- Zoned electric rear-window defogger
- Power door locks

- Electronically-tuned AM/FM stereo with cassette player
- Six-way power driver seat
- LS Custom Cloth seats
- Electronic speed control
- Low oil-level warning light
- Power windows with driver's Express-Down and lockout features
- Luggage-area cargo net
- Carpeted front and rear floor mats.

Exterior

- Dual electric remote outside mirrors
- Foglamps
- 15-inch aluminum wheels.

Functional

- 3100 V6 engine with 150 horsepower
- Remote Keyless Entry system
- 15-inch aluminum wheels.

THE CHEVROLET SEDAN FAMILY

Every Chevrolet Sedan is a quality-built car that owners depend on like a trusted member of the family — day in, day out and year in, year out.

GM has long been a leader in powertrain performance, and Chevy Sedans inherit 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 unique low-maintenance features that make them easier to care for than some other cars.

And, of course, all Chevrolet Sedans are covered by a comprehensive owner protection program that includes a no-deductible, 3-year/36,000-mile* limited Bumper to Bumper warranty, Courtesy Transportation¹ and 24-Hour Roadside Assistance.

*Whichever comes first. ¹At participating dealerships.

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 safety features and six-passenger roominess, comfort and one less thing to worry about.

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

CAVALIER — The low-priced, five-passenger Chevy Sedan for young, value-conscious buyers.

PRIZM — The affordable, import alternative five-passenger Sedan for those who want solid dependability and segment leading safety options.

METRO — The low MSRP, high MPG, four-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 appeal to buyers through all phases of their lives.

SAFETY AND SECURITY

With a long history of setting automotive safety milestones, GM is a world leader in automotive safety features research, development and testing.

Malibu provides a systematic approach to safety features that emphasizes crash avoidance.

CRASH AVOIDANCE FEATURES

- **DAYTIME RUNNING LAMPS (DRL)** turn on automatically when the ignition is on and the parking brake is disengaged, to help increase Malibu visibility to other drivers. The DRL system runs the headlamps at a reduced intensity compared to regular headlamp operation.
- **AUTOMATIC EXTERIOR LAMP CONTROL** works with Daytime Running Lamps and automatically activates the headlamps and all other exterior lamps to full intensity when light-sensitive sensors detect darkness for more than 20 seconds. The exterior lamps will shut off when the ignition is turned off.
- **4-WHEEL ANTILOCK BRAKE SYSTEM (ABS)**, standard on every Malibu, automatically modulates brake pressure to the front and rear wheels during

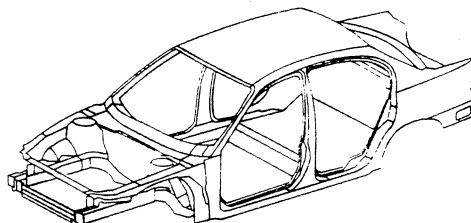
emergency braking situations, reducing wheel lockup and helping the driver maintain steering control on most surfaces (see page 10-11 for operating information).

- **BRAKE/TRANSMISSION SHIFT INTERLOCK** requires drivers to depress the brake pedal to shift the transmission out of Park, preventing unintended acceleration.
- **4-WAY, HAZARD-WARNING FLASHERS** allow hazard lamps to flash even with the brakes applied.

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. However, even with Next Generation air bags, never place a rear-facing infant restraint in the front seat of any vehicle with active air bags.
- **THREE-POINT SAFETY BELT SYSTEM** helps restrain outboard passengers by distributing forces to help reduce injury.
- **ADJUSTABLE, FRONT-SEAT SHOULDER SAFETY BELT GUIDE LOOPS** offer several positions for optimum comfort.
- **REAR-SEAT SAFETY BELT CHILD COMFORT GUIDES** permit older children and smaller adults to comfortably and properly wear the rear-seat shoulder safety belt by gently adjusting the belt away from the face and neck.
- **CHILD SECURITY REAR-DOOR LOCKS**, when engaged, prohibit the rear doors from being opened from the inside.



- **REINFORCED STEEL SAFETY-CAGE CONSTRUCTION** surrounds the passenger compartment with a reinforced system of structural steel components designed to help preserve the integrity of the occupant compartment during a crash. Pillars, side door beams, roof structure and front chassis are included. High strength steel reinforcements provide rigidity and allow a narrow pillar design for good



visibility. Much of the energy in a front- or rear-end collision is absorbed by the car's crush zones, which consist of the upper and lower metal rails that surround the engine and trunk compartments.

- **ENERGY-ABSORBING STEERING COLUMN AND INSTRUMENT PANEL** help reduce the risk of injury during a collision.

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

SECURITY FEATURES

- **PASSLOCK® THEFT-DETERRENT SYSTEM**, standard on Malibu, disables the fuel system, making it impossible to start, unless the proper ignition key is used.
- **REMOTE HOOD RELEASE** is standard on Malibu and helps prevent unauthorized access to the engine compartment.
- **LASER-ETCHED VEHICLE IDENTIFICATION NUMBER (VIN)** plate makes forgery more difficult than with stamped VIN plates.
- **REMOTE KEYLESS ENTRY SYSTEM** (standard on Malibu LS, optional on Malibu Sedan) activates automatic locking and unlocking functions of the doors and trunk from the key fob. This system also uses "rolling codes" to help keep a potential thief from monitoring and recording the signal from the transmitter and replaying it back to the vehicle to gain access. The system will work from up to 30 feet away from the vehicle.

INTERIOR FEATURES

COMFORT/CONVENIENCE FEATURES

The instrument panel is ergonomically designed to provide the driver with the easiest, fastest access to necessary controls and features. Quality and convenience are key concepts behind the instrument panel design, which is based on feedback garnered from sedan customer clinics.

Malibu interior features:

- **THEATRE LIGHTING** gradually dims interior lights when doors are closed instead of turning them off abruptly.
- **TILT WHEEL™ STEERING COLUMN**, standard on both models, adjusts to a comfortable position for a wide range of drivers.
- **AIR CONDITIONING** with CFC-free refrigerant is standard on both models for comfort during warm, humid conditions.
- **REAR-SEAT VENTILATION DUCTS** route heat to rear-seat passengers for added comfort.
- **"A-PILLAR"-MOUNTED HVAC VENTS** circulate heat and air conditioning quickly throughout the passenger compartment.
- **SCOTCHGARD™ PROTECTION** is applied to cloth seats, door panels and floor covering to resist stains and make cleanups easier.
- **VARIABLE INTERMITTENT WINDSHIELD WIPERS** allow the driver to adjust wiper speed to weather conditions.
- **POWER WINDOWS** include driver's Express-Down and lockout features (standard on Malibu LS, optional on Malibu Sedan). The driver's Express-Down feature lowers the window with one touch of the button — it's not necessary to continue holding the button down. The lockout feature prevents passenger windows from being operated by children.
- **LUGGAGE-AREA CARGO NET** is standard on Malibu LS (included on Malibu Sedan with optional Custom Cloth seats) and helps prevent rear cargo from shifting during driving.
- **DUAL POWER REMOTE BODY-COLOR BREAKAWAY OUTSIDE REARVIEW MIRRORS** (standard on Malibu LS, optional on Malibu Sedan) add the convenience of power operation. Malibu Sedan features manually adjustable dual remote body-color outside mirrors which fold inward if struck, preventing damage.
- **AUXILIARY POWER OUTLET** provides power for items such as a cellular phone and features a cover for safety, and is located in the center of the instrument panel.
- **POWER TRUNK RELEASE** conveniently opens the trunk from inside the vehicle, and is located on the lower left side of the instrument panel.
- **DUAL MIRROR-MOUNTED READING LAMPS** (standard on Malibu LS, optional on Malibu Sedan) provide interior illumination for reading, map referral, etc.
- **FRONT-DOOR MAP POCKETS** provide additional storage space.
- **PASSENGER-SIDE SUNVISOR** on Malibu LS features a lighted vanity mirror.
- **MICROPROCESSOR-BASED ELECTRO-MECHANICAL**



INSTRUMENT CLUSTER DESIGN links communication between the vehicle's electronic modules (powertrain, air bag and ABS) to provide up-to-the-minute system information to the driver.

- **INSTRUMENT PANEL** features radio and HVAC controls that are located high in the center for easy driver access. The instrument panel also contains the ignition switch for convenience, instead of having it located on the steering column.
- **GLOVE BOX** features a left side handle close to the driver, making it easier to access.
- **ZONED ELECTRIC REAR DEFOGGER** (standard on Malibu LS, optional on Malibu Sedan) is designed to clear the center of the rear window first, where visibility is needed most.
- **STEERING COLUMN STALK CONTROLS** are simplified so each stalk controls only one function, eliminating the potential confusion caused by multi-function stalks.
- **ELECTRONIC SPEED CONTROL** (standard on Malibu LS, optional on Malibu Sedan) features steering wheel-mounted controls for easy use. The On/Off switch is located on the left side of the steering wheel, while the Resume, Set, Acceleration and Deceleration functions are located on the right.
- **CENTER CONSOLE** features an armrest with storage which folds back to reveal a bin with slots for CD and cassette storage. An additional storage bin is located in the front of the console, along with a coin holder. The console features a cup holder which accommodates a variety of cups, cans or bottles.
- **DUAL PULL-OUT CUP HOLDERS** are located in the rear of the console and can hold two cups or juice boxes for rear-seat occupants.
- **AUXILIARY CUP HOLDER** is located on the left side of the instrument panel for easy driver access.
- **SOUND-DEADENING AND VIBRATION-REDUCING MEASURES** have been designed into the Malibu body and chassis. For example, the solid body structure has been tested to ensure reduce vibration and intrusion of road noise.

Additional sound-deadening and vibration-reducing features:

- **HEAT-EXPANDABLE SEALS** in the framework of the body act as "baffles" to reduce noise from the engine and road.

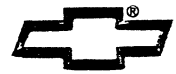
- **"ROOF SOUND-DEADENERS,"** baked onto the roof panels, help dampen low road vibration and noise.
- **THICK, HIGH FREQUENCY MAT,** used on the engine side of the bulkhead, helps insulate the interior from engine noise.
- **ADDITIONAL FLOOR SOUND-DEADENERS AND ACOUSTICAL MATERIALS** are engineered into the floor, and contribute to interior noise reduction.
- **ONE-PIECE CARPET SYSTEM** provides an excellent fit and an additional layer of sound absorption.
- **DOUBLE-WALL STEERING BOOT** is used as a seal to help reduce noise transmitted via the steering column.
- **TORQUE AXIS FLUID-FILLED ENGINE MOUNTS** to help absorb powertrain vibrations for a pleasing ride.

• **BACKLIT CONTROLS** are used on many switches to make them easy to find in the dark. The locations featuring this lighting are:

- Driver and front-passenger power door-lock switches
- Power mirror switch (if equipped)
- Driver master power window switches and front-passenger power window switch
- Sunroof switch (with optional sunroof)
- Hazard warning switch
- Console PRNDL
- Foglamp switch (LS only)
- Heating, ventilation and air conditioning controls
- Instrument cluster
- Door ajar
- Sound system.

• **CONVENIENCE CHIMES** remind the driver of oversights (such as headlamps left on) and call attention to warning telltales. The convenience chimes will sound for the following:

- Key left in ignition
 - Headlamps on
 - Unfastened safety belt
 - Turn signal on for more than 3/4 of a mile
 - Parking brake on
 - Check gauges warning
- (11 total separate conditions).



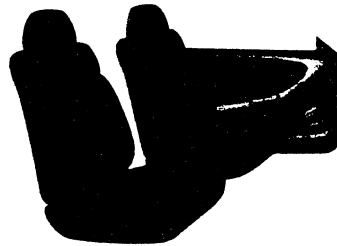
SOUND SYSTEMS

- **ELECTRONICALLY-TUNED AM/FM STEREO** with seek-scan, digital clock and dual front coaxial and dual rear extended-range speakers is standard on Malibu Sedan.
- **ELECTRONICALLY-TUNED AM/FM STEREO WITH CASSETTE PLAYER**, automatic tone control, TheftLock security feature, seek-scan, digital clock, dual front coaxial and dual rear extended-range speakers is standard on Malibu LS (optional on base-level Malibu Sedan). Automatic tone control sets equalizer levels with one touch for rock, country, pop, jazz, classical and news programs. This system also includes speed-compensated volume, which automatically adjusts volume as speed increases.
- **ELECTRONICALLY-TUNED AM/FM STEREO WITH COMPACT DISC PLAYER**, automatic tone control, speed-compensated volume, TheftLock and front and rear speakers is optional on both models.
- **ELECTRONICALLY-TUNED AM/FM STEREO WITH COMPACT DISC PLAYER AND REMOTE CASSETTE PLAYER**, automatic tone control, speed-compensated volume, TheftLock and front and rear speakers is optional on both models. The dual playback remote cassette player is located just below the climate controls.

Uplevel cassette and compact disc player systems feature:

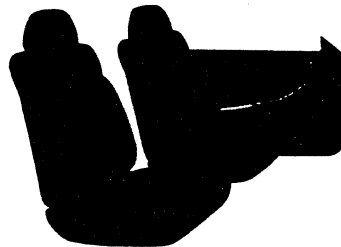
- **SPEED-COMPENSATED VOLUME** automatically regulates the volume of the audio to help overcome road noise, so the volume level adjusts to the vehicle's speed.
- **AUTOMATIC TONE CONTROL** allows the listener to choose preset bass and treble settings designed for classical, news, rock, pop, country/western and jazz stations.

SEATS



Malibu Sedan

- Cloth front bucket seats (standard on Malibu Sedan).



Malibu Sedan

- Custom Cloth front bucket seats (optional on Malibu Sedan) include a split-folding rear seat and optional luggage area cargo net.



Malibu LS

- LS Custom Cloth front bucket seats (standard on Malibu LS, include a split-folding rear seat and standard luggage area cargo net).



Malibu LS

- Leather seating surfaces are available on LS model (available in Light Gray and Light Neutral only).



Other Seating Features:

All Malibu models feature standard front bucket seats. Specific seating features include:

- **MANUAL FRONT SEAT-ADJUSTERS** (standard on Malibu Sedan).
- **SIX-WAY POWER SEAT-ADJUSTER** (standard on the driver side of Malibu LS Sedan and is available on Malibu Sedan) for added driver convenience.
- **SPLIT-FOLDING REAR SEAT WITH PASS-THROUGH FEATURE** (standard on Malibu LS and included on Malibu Sedan with optional Custom Cloth seats) for added cargo-carrying versatility.

INTERIOR COLORS

- Medium Neutral
- Medium Gray
- Light Gray
- Medium Oak
- Light Neutral — leather only.

EXTERIOR / STRUCTURAL FEATURES

EXTERIOR FEATURES

Malibu has aerodynamic, contemporary exterior styling. Aerodynamics are enhanced through the use of flush-mounted door handles, hidden windshield wipers, a "U-lip" windshield seal, a frame-under-glass door design and a wind-noise-reducing "spiral ground" antenna.

Other Malibu exterior features:

- **POWER SUNROOF**, optional on Malibu for open-air driving at the touch of a button. The sunroof also features one-touch opening for the fully open sunroof position and the vent position.
- **STAINLESS-STEEL EXHAUST SYSTEM**, is designed to provide long lasting durability.
- **FOGLAMPS**, standard on Malibu LS, provide improved visibility in foggy conditions.

- **REFLECTOR-OPTICS HEADLAMPS**, designed for optimal illumination, and include a "flash-to-pass" feature.
- **EASY-OPEN GAS CAP**, spring-loaded for quick opening and closing.
- **5-MPH BUMPERS**, standard on both Malibu models. These bumpers exceed the United States federal requirement of 2.5 mph bumpers, helping reduce the risk of damage to the car in low speed parking lot impacts.

STRUCTURAL FEATURES

Malibu was designed with a "clean sheet" approach to deliver an excellent body structure. The goal was to provide safety and occupant protection features, comfortable and responsive ride and handling and a smooth and vibration-free idle, all in an environment that is surprisingly quiet and free from road disturbances. Some features of the Malibu body structure are:

- **STIFF BODY**, which results in a tight feel. This makes the car feel solid and provides an excellent platform from which to tune the suspension.
- **"B-PILLAR" REINFORCEMENTS**, part of the safety-cage construction, is designed to help protect the occupant compartment integrity in the event of a side impact.
- **FULL ROOF MOLDING** provides an integral rain gutter to channel water to the front and rear of the vehicle, instead of pouring inside when the door is opened.
- **FULL-FRAME FRONT CHASSIS** acts as a structural backbone for the front of the car. This chassis cradle increases the vehicle's structural rigidity, allowing a strong foundation from which to tune its crisp handling suspension. This design also protects the engine oil pan and helps enhance accurate wheel alignment due to the dimensional accuracy of the manufacturing process.
- **EASY-TO-FIND JACKING POINTS** make changing a flat tire a little easier.



EXTERIOR PAINT

Standard basecoat/clearcoat paint on Malibu resists fading and provides a high gloss shine for long-lasting exterior beauty. The clearcoat system is formulated to reduce the effects of acid rain and other environmental damage, protecting all colors — solids and metallics. The paint process builds up six layers of protection on every new Malibu.

- **ZINC-PHOSPHATE COATING** is applied to the bare metal.
- **TOTAL IMMERSION PHOSPHATE ELECTRODEPOSITION PRIMER (ELPO)** process is applied to the first layer of primer/paint. Electric current is applied to the body structure and panels while they are submerged in the paint bath to ensure complete coverage, even in hard-to-reach areas.
- **SPRAYED-ON PRIMER SURFACE** increases corrosion resistance.
- **ANTI-CHIP PRIMER** is applied to lower body panel areas to help protect against paint-chipping.
- **BASECOAT IN BODY COLOR** provides a deep, rich, uniform color.
- **CLEARCOAT** provides a high luster and high level of protection.

PAINT COLORS

NEW Paint Colors For '99:

- Medium Bronzemist Metallic.

Other Colors:

- Black
- Medium Opal Blue Metallic
- Dark Cherry Metallic
- Dark Jade Green Metallic
- Sandrift Metallic
- Medium Malachite Metallic
- Silvermist Metallic
- Bright White.

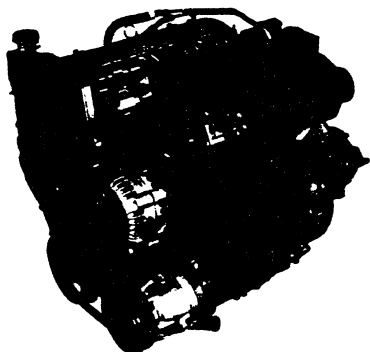
DESIGN AND MANUFACTURING

Chevrolet Malibu is manufactured at the General Motors assembly plants in Oklahoma City, Oklahoma and in Wilmington, Delaware. At these plants, the latest technology is utilized throughout the assembly process for quality fit and finish. Some of these processes include:

- **DOORS-OFF PROCESSING**, a method that allows technicians to check quality throughout the build process. The vehicle progresses through the build process without the doors attached to the body. The doors are built simultaneously on a separate sub-assembly line. Quality checks have been built into this process. Window regulators, locks and other electrical components are inspected as the doors are built to help ensure a quality product will reach the body later in the vehicle-build process. This entire process allows for greater use of robotic applications in the door sub-assembly process, further enhancing quality and consistency.
- **NET GAUGE HOLE BODY-SIDE BUILD PROCESS**, enhancing dimensional accuracy. Four gauge holes are precisely located in the body-side and rear quarter-panel areas. Once these gauge (alignment) holes are established, they are used throughout the vehicle build process for aligning the doors and the rear-quarter panels. In fact, more than 27 build operations depend on these gauge holes. By using a consistent gauge hole throughout the build process, dimensional accuracy can be achieved to a degree that is not possible with traditional processes, resulting in tight body panel fits.



ENGINES



2.4-LITER L4 TWIN CAM SFI (LD9)

The 2.4-Liter Twin Cam engine is standard on Malibu Sedan. The Twin Cam's 16-valve design provides outstanding balance throughout the operating range. Noise and vibration have been reduced by mounting the air conditioner and alternator directly to the block. Also contributing to smoothness and idle stability are the use of a balance shaft, hydraulic engine mounts, Sequential Fuel Injection and electronic spark control.

Power ratings for the 2.4L L4 engine are:

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

Twin Cam Engine Technical Features:

- **COMPOSITE INTAKE MANIFOLD** reduces noise and weight. The induction system includes two resonators, a large volume air cleaner and a pre-engine expansion chamber to reduce noise.
- **FAST-BURN COMBUSTION CHAMBER DESIGN** allows the Twin Cam engine to operate without exhibiting engine-damaging detonation. This is due to the central spark plug location which shortens the distance the flame front must travel to reach the far corners of the combustion chamber. As a result, all of the air/fuel mixture burns before auto-ignition can occur.
- **CAST-ALUMINUM CYLINDER HEADS** help maintain even engine temperatures and reduce weight.

- **DUAL-PLANE EXHAUST MANIFOLD** allows engineers to tune the engine to achieve optimum performance.
- **UNIQUE "IN-OIL-PAN," BALANCE SHAFT DESIGN** helps ensure smooth, quiet performance in the mid and high speed driving ranges.
- **HYDRAULIC ENGINE MOUNTS** help dampen engine movement and vibration for a smooth ride.
- **SEQUENTIAL FUEL INJECTION (SFI)** optimizes combustion by precisely matching fuel delivery to each cylinder's intake stroke. SFI results in impressive dynamic operating range and precise fuel control. SFI also works with On-Board Diagnostics Second Generation (OBD II) for misfire detection, providing the ability to determine if a cylinder is misfiring due to improper fuel control. For the driver, SFI means smooth engine idle, as well as smooth performance throughout the driving range.
- **STAINLESS-STEEL FUEL INJECTORS** provide the fuel system added corrosion resistance.
- **DIRECT-DRIVE POWER STEERING PUMP** eliminates the power steering pump belt and improves reliability by driving the pump directly off the camshaft.
- **PLATINUM-TIP SPARK PLUGS** (first scheduled maintenance at up to 100,000 miles*) provide dependable service.
- **EXTENDED-LIFE ENGINE COOLANT*** helps make maintenance easy.

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



3100 V6 SFI (L82)

The 3100 V6 SFI engine is standard on Malibu LS Sedan and optional on Malibu Sedan. This advanced V6 engine is powerful, affordable and fuel-efficient.

Power Ratings for the 3100 V6 Engine are:

- **150 HORSEPOWER** at 4800 rpm
- **180 LB.-FT. OF TORQUE** at 3200 rpm.

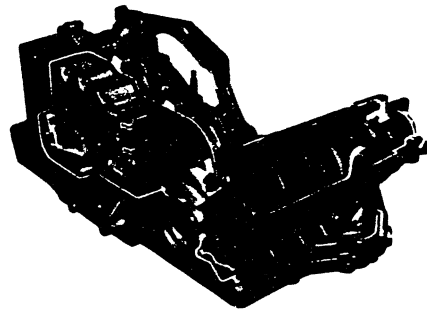
3100 V6 SFI Engine Technical Features:

- **SOLID CAST-IRON BLOCK DESIGN** features a stiffened skirt that deadens vibration and yields a smooth, quiet ride. The cylinder head is made of lightweight, but strong, cast aluminum.
- **INTAKE MANIFOLD DESIGN** permits good airflow while limiting intake noise.
- **ASSEMBLED CAMSHAFT DESIGN** provides durability and efficient idle stability.
- **CONNECTING RODS** are made of lightweight forged steel alloy for solid durability.
- **SEQUENTIAL FUEL INJECTION** optimizes combustion by precisely matching fuel delivery to each cylinder's intake stroke. This system results in an impressive dynamic operating range and precise fuel control. SFI also works with On-Board Diagnostics Second Generation (OBD II) for misfire detection. This provides the diagnostic ability to determine if a cylinder is misfiring due to improper fuel control. For the driver, SFI means smooth engine idle, as well as smooth performance throughout the driving range.
- **SINGLE COOLANT TEMPERATURE SENSOR** sends signals to the Powertrain Control Module and the instrument panel indicator.

- **24X IGNITION** sends 24 reference signals to the PCM for each crankshaft revolution, providing precise monitoring of crankshaft position. This aids accurate spark delivery, which in turn allows impressive exhaust emissions control at low rpm levels.
- **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 the owner's manual for more information.

TRANSMISSIONS

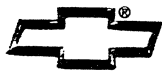


4T40-E 4-SPEED ELECTRONIC AUTOMATIC TRANSMISSION

The 4T40-E 4-speed electronically controlled automatic transmission helps provide a smooth driving experience. The 4T40-E is standard on both Malibu models.

4T40-E Features:

- **ELECTRONICALLY CONTROLLED CAPACITY CLUTCH**, designed to enhance fuel economy while maintaining pleasant driveability.
- **OPTIMUM FUEL EFFICIENCY**, due to the 4T40-E's design. The transmission is engineered to optimize the efficient transfer of power from the engine to the drive wheels, which also results in impressive off-line performance.
- **LIGHTWEIGHT DESIGN**, contributing to fuel efficiency. Thin-wall castings, strengthened by strategically placed supporting ribs, permit strong parts at lower weight, as does the lost-foam castings technique.



(Lost foam is a technique whereby foam in the shape of the casting is surrounded by sand. When molten aluminum is poured in, the foam core is vaporized, leaving an intricate casting with a high degree of accuracy.) Special lightweight composite materials are used on a variety of components.

- **LONG-LIFE AUTOMATIC TRANSMISSION FLUID** which does not need to be replaced* under normal operating conditions.
- **CONTINUOUS MONITORING** by the Powertrain Control Module (PCM) of operating conditions, such as altitude and temperature, determines the optimal shift points and provides a seamless link between vehicle and engine. The PCM collects information about the operating condition of the 4T40-E and alerts the driver with a "check engine" light if there is a deterioration that could cause the vehicle to exceed acceptable emissions levels.
- **SECOND-GEAR START CAPABILITY** allows the driver to manually shift into second gear when starting from a standstill. This reduces the chance of wheel-spinning on most slippery surfaces for improved traction.

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

SUSPENSION

Malibu features a standard four-wheel independent suspension for impressive handling characteristics. The suspension is tuned to take advantage of the tight, solid body structure.

- **STRUT-TYPE FRONT SUSPENSION** is tuned for crisp handling.
- **"TRI-LINK" INDEPENDENT REAR SUSPENSION** provides a comfortable ride and responsive handling. This sophisticated design also helps reduce noise, vibration and harshness, as well as the feeling of "rear-end slide" in harsh cornering.
- **ACCURATE WHEEL ALIGNMENT** is enhanced on all four wheels by using precision equipment during the manufacturing process. Throughout the vehicle build process, measurements are taken to enhance that components affecting final wheel alignment are correct. This manufacturing process is so accurate that it is not necessary to set wheel camber or caster.

STEERING

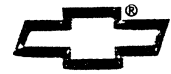
Power-assisted rack-and-pinion steering is standard on all Malibu models for precise control under demanding driving conditions. This system provides:

- **14.7:1 RATIO** for quick steering response.
- **DIRECT-DRIVE POWER STEERING PUMP** installed on the 2.4L Twin Cam engine is mounted directly on the engine's cam cover. The direct-drive design saves weight, reduces the number of parts and is more reliable than traditional accessory-drive power-steering units.

BRAKES

All Malibu models have standard power front disc/rear drum brakes that include the following features:

- **ALUMINUM BRAKE CALIPERS** are used on the front brakes for reduced weight.
- **BRAKE ROTORS** are made of gray iron, which stands up to heat very well. This reduces the chance of the rotors warping, minimizing brake pedal "pulsation."
- **REAR DRUM BRAKE INSPECTION HOLE** allows technicians to check the level of remaining lining without removing the drum.
- **4-WHEEL ANTILOCK BRAKE SYSTEM** is standard. Some things to keep in mind about antilock brakes:
 - ABS helps maintain steering control during severe braking situations by reducing 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.

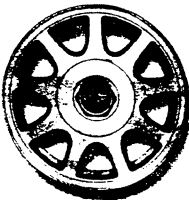


WHEELS AND TIRES



Malibu Sedan:

- Standard 15" bolt-on full wheel covers with P215/60R-15 touring tires.
- Optional 15" machined-face aluminum wheels with silver bowtie center cap.



Malibu LS Sedan:

- Standard 15" machined-surface aluminum wheels with center cap and P215/60R-15 touring tires.

HISTORY

(BY MODEL YEAR)

The first Malibu was a version of the popular midsize Chevelle.

- 1964** — The Malibu name debuts as the designation for top series models in the new Chevelle line.
- 1966** — New exterior styling graces, 115 inch wheelbase, little changed chassis.
- 1968** — First all-new body since '64 introduction; 2-Door and 4-Door models now have different wheelbase lengths.
- 1973** — Longer, wider Chevelle Malibu models are introduced, including new 2-Door Coupe models with "Colonnade" pillared roof design.

1975 — Improved 250 cid 6-cylinder engine is featured in Chevelle Malibu; catalytic converter added to all models.

1978 — New Malibu line debuts as Chevelle nameplate is dropped.

1982 — As Chevrolet prepares to introduce a new front-wheel-drive midsize Celebrity model line mid-year, only two Malibu Classic models are offered — a 4-Door Sedan and a Wagon.

1983 — Final year for rear-wheel-drive Malibu (although the El Camino, a Malibu variant, continues to 1987).

1997 — All-new, contemporary midsize front-wheel-drive Malibu debuts in Malibu and Malibu LS trim levels.

1998 — Leather seating surfaces become available on LS model, 6-way power seat option becomes available on base-level model and machined-face aluminum wheel and revised center cap become standard on LS.

CHEVROLET INTERNATIONAL

Malibu 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.

Malibu has affinity relationships with:

- United States Figure Skating Association and the U.S. Figure Skating Team
- US Youth Soccer.

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 manufacturer defects 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†
- Repairs made to correct any vehicle defect
- No charge for most warranty repairs.

*Whichever comes first.

†6 years or 100,000 miles, whichever comes first.

COURTESY TRANSPORTATION

Retail customers who purchase or lease a 1999 Chevrolet car or truck are eligible for Courtesy Transportation when their vehicles are left at a participating dealership for repairs covered under the 3-year/36,000-mile* New Vehicle 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. Actual services may vary at the election of the participating dealer. Owners should see their dealer for details.



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 concerns 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 applies for 3 years/36,000 miles¹ and 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. 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 factual as possible. We reserve the right, however, to make changes at any time, without notice, in colors, materials, equipment, specifications, models and availability. 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 owner's manual for more safety information.

¹Whichever comes first.

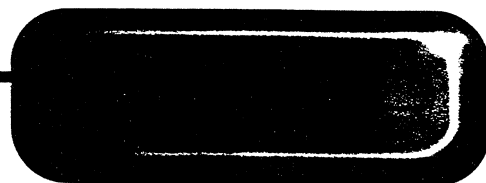
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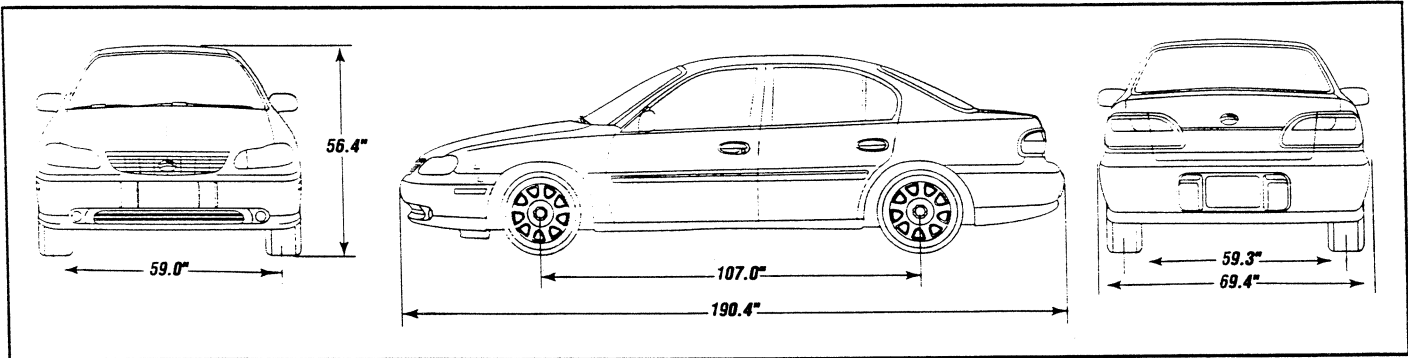
1999 MALIBU FEATURE AVAILABILITY



	Malibu Sedan	Malibu LS Sedan
INTERIOR		
Air Bags – Next Generation Driver and Front-Passenger ¹	S	S
Air Conditioning – with CFC-Free Refrigerant	S	S
Console – Center, with Covered Storage Armrest and Cupholder	S	S
Cargo Net – Luggage-Area	O ²	S
Defogger – Rear-Window, Electric	O	S
Door Locks – Power	O ³	S
– Child Security, Rear	S	S
Floor Mats – Front and Rear	O	S
Gauges – Tachometer, Trip Odometer, Engine Coolant Temperature	S	S
Heat Ducts – Rear-Seat	S	S
Mirror – Inside Rearview with Dual Reading Lamps	O ⁴	S
Remote Keyless Entry System	O ⁵	S
Scotchgard™ Protection	S	S
Seat(s) – Cloth Bucket, Front	S	NA
– Custom Cloth Bucket, Front	O	NA
– LS Custom Cloth Bucket, Front	NA	S
– LS Leather Seating Surfaces	NA	O
– Driver, 6-Way Power	O ⁶	S
– Split-Folding, Rear	O ²	S
Speed Control – Electronic	O	S
Steering Column – Tilt-Wheel™	S	S
Stereo – AM/FM	S	NA
– AM/FM with Cassette Player	O	S
– AM/FM with CD Player	O	O
– AM/FM with CD Player and Remote Cassette Player	O	O
Sunroof – Electric, Sliding, with Deep-Tinted Glass	O ⁶	O ⁴
Passlock® Theft-Deterrent System	S	S
Windows – Power with Driver's Express-Down and Lock out Feature	O ³	S
Trunk Release – Remote Electric	S	S
EXTERIOR		
Daytime Running Lamps – w/Automatic Exterior Lamp Control	S	S
Foglamps	NA	S
Mirrors – Outside, Driver Remote, Body-Color	S	NA
– Outside, Dual Remote Electric, Body-Color	O ⁶	S
Mud Guards – Front and Rear	O	O
Tires – P215/60R-15 Touring	S	S
Wheel Covers – 15" Full, Bolt-On	S	NA
Wheels – 15" Aluminum, Machined-Face	O ⁶	S
FUNCTIONAL		
Battery-Run-down Protection	S	S
Brakes – 4-Wheel Anti-Lock (ABS)	S	S
– Power, Front Disc and Rear Drum	S	S
Brake/Transmission Shift Interlock	S	S
Engine – 2.4 Liter Twin Cam I4 SFI	S	NA
– 3100 V6 SFI	O	S
Low Oil Level Warning Light	O ⁶	S
Suspension – 4-Wheel Independent	S	S
Transmission – 4-Speed Electronically Controlled Automatic with Second Gear Start	S	S

S — Standard. O — Optional. (Some options may be available only as a 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 the owner's manual for more safety information. 2 Included only with optional Custom Cloth seats. 3 Requires PEG 1SB 4 Dual Reading Lamps included with PEG 1sc only. 5 Requires PEG 1SC. 6 Requires 3100 V6 engine.

1999 MALIBU SPECIFICATIONS



MODEL AVAILABILITY

Malibu, Malibu LS

EPA vehicle class

Midsize

Assembly

Oklahoma City, Okla. and Wilmington, Del.

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

Exterior Dimensions

Wheelbase	107.0/2717.8
Length (overall)	190.4/4836.2
Width (overall)	69.4/1762.8
Height (overall)	56.4/1432.6
Tread — front	59.0/1498.6
Tread — rear	59.3/1506.2

Interior Front Dimensions

Headroom	39.4/1000.8
Legroom	42.2/1071.9
Shoulder room	55.5/1409.7
Hip room	52.4/1331.0

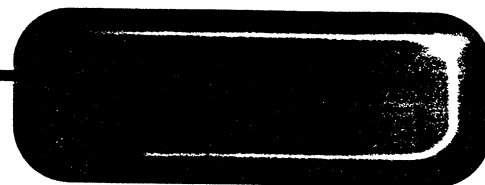
Interior Rear Dimensions

Headroom	37.6/955.0
Legroom	38.0/965.2
Shoulder room	55.0/1397.0
Hip room	52.4/1331.0

Capacities

Passenger capacity	5	
Passenger index (cu. ft./liters)	98.6 /2799.53	
Cargo index (cu. ft./liters)	16.4 /465.6	
Fuel tank capacity (gal./liters-approx.)	15.0 /57	
EPA interior index (cu. ft./liters)	116 /3293.6	
Curb weight (lbs./kg)	3051/1384 (Sedan)	3077/1396 (LS Sedan)
Engine oil (quarts/liters)	4.0 /3.8 (2.4 Liter L4)	4.0/3.8 (3100 V6)
Engine coolant (quarts/liters)	10.6/10 (2.4 Liter L4)	13.2/12.5 liters (3100 V6)

1999 MALIBU SPECIFICATIONS



STEERING

Type	Power rack-and-pinion
Ratio (overall)	14.7:1
Turns stop-to-stop	2.9
Turning diameter, curb-to-curb (ft./m)	36.3/11.1

BRAKES

Type	4-Wheel ABS	
Effective area, front	U. S. STANDARD	METRIC
Gross lining, front	25.5/52.1 sq. in.	164.5/336.1 sq. cm.
Disc rotor outer working diameter x thickness	26.4/55.5 sq. in.	170.3/358.1 sq. cm
Rear drum diam. x width	10.8 x 1.0 in.	274.3 x 25.4mm
Total swept area, front/rear	8.8 x 1.8 in.	223.5 x 45.7mm
	208.3/97.9 sq. in.	1344/631.7 sq. cm

ENGINES

Model	Std. Malibu	Std. Malibu LS (optional on Malibu)
Type	2.4 Liter Twin Cam	3100 V6
Block	Cast iron	Cast iron
Cylinder head	Cast aluminum	Cast aluminum
Hydraulic lifters	Yes/roller	Yes/roller
Bore & Stroke (in.)	3.54 x 3.70	3.51 x 3.31
(mm)	90.0 x 94.0	89.0 x 84.0
Cam drive	Chain	Chain
Redline (rpm)	6500	6000
Displacement (liters/CID)	2.4/146	3.1/191
Compression ratio	9.5:1	9.6:1
Fuel induction	SFI	SFI
Horsepower/Kw @ engine rpm	150 @ 6000/112 Kw @ 6000	150 @ 4800/112 Kw @ 6000
Torque/N-m (lb.-ft.)	155 @ 4400/210 N-m @ 4400	180 @ 3200/244 N-m @ 3200
Exhaust system	Stainless steel	Stainless steel
Tailpipe(s)	Single	Single
Ignition system	Electronic direct	Electronic direct
Delcotron alternator rating (amps)	105	105
Battery (SAE capacity rating, cca)	600	600
Recommend fuel (unleaded)	87 octane	87 octane

TRANSMISSION

Model	Malibu Sedan	Malibu Sedan (opt.) and Malibu LS
Type	4-speed automatic with overdrive	4-speed automatic with overdrive
Engine	2.4 Liter Twin Cam L4	3100 V6
Layout	FWD transverse	FWD transverse
Gear ratios:		
1st	2.96	2.96
2nd	1.63	1.63
3rd	1.00	1.00
4th	0.68	0.68
Reverse	2.13	2.13
Final drive ratios	3.42	3.05

1999 MALIBU SPECIFICATIONS



CHASSIS

Chassis

Structure/frame	Unit body
Body material	Steel, galvanized
Suspension — front	
Type	Independent MacPherson coil-over strut with stabilizer bar
Stabilizer bar design/diameter (mm)	Link/24
Suspension — rear	
Type	Independent tri-link with coil-over strut with stabilizer bar
Stabilizer bar design/diameter (mm)	Link/15

MILEAGE/PERFORMANCE

Powertrain	2.4 Liter Twin Cam L4*		3100 V6†	
Mileage:	MPG	liters/100 km	MPG	liters/100 km
City	23	10.2	20	11.8
Highway	32	7.4	29	8.1
Est. cruising range:	mi.	km	mi.	km
City	345	555	300	482
Highway	480	772	435	700

*Based on 1998 EPA estimates. †Based on 1999 GM Engineering estimates. 1999 EPA estimates not available at time of publication.

TRAILERING INFORMATION*

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

WHEELS & TIRES

Wheel type/size	Steel/15" x 6.0"
Tire type	All-season steel-belted radial-ply
Tire size	P215/60R-15
Spare size	Compact

*V6 engine only.

All specifications are preliminary and subject to change. General Motors Corporation, June 1998.

1999 MALIBU HIGHLIGHTS

NEW FOR 1999

- 3100 SFI Engine (LG8) (Non- Federal Emissions)
- Solar-Ray tinted windshield glass

EXTERIOR

- Carryover

INTERIOR

- Carryover

COLORS

- Bronzemist, Medium (Met) (76U)

STANDARD EQUIPMENT SUMMARY

		<u>1ND69</u>	<u>1NE69</u>
<u>CHASSIS</u>			
AXLE:	3.42 W/2.4 SFI L4 TWIN CAM ENGINE	S	--
	3.05 W/3100 SFI V6 ENGINE	--	S
BATTERY:	RUNDOWN PROTECTION	S	S
BRAKES:	4-WHEEL ANTI-LOCK	S	S
	FRONT DISC AND REAR DRUM	S	S
ENGINE:	2.4 LITER SFI TWIN CAM L4	S	--
	3100 SFI V6	--	S
FUEL TANK:	15 GALLON	S	S
STEERING:	POWER	S	S
TRANSMISSION:	4-SPEED AUTOMATIC	S	S
 <u>INTERIOR</u>			
AIR CONDITIONING:		S	S
CARGO NET:	LUGGAGE AREA	--	S
CONSOLE:	CENTER SHIFT WITH INTEGRAL ARMREST	S	S
DEFOGGER:	ZONED REAR WINDOW	--	S
FABRIC PROTECTOR:	SCOTCHGARD: INCLUDES SEATS, DOOR TRIM AND FLOOR COVERING	S	S
FLOOR MATS:	FRONT AND REAR	--	S
GAGE PACKAGE:	ANALOG INCLS TACHOMETER, COOLANT TEMP, TRIP ODOMETER, FUEL AND SPEEDOMETER	S	S --
GLASS:	TINTED (WINDSHIELD SOLAR)	S	S
HEAT DUCTS:	REAR SEAT	S	S
LIGHTING:	DOMED, UNDER DASH, GLOVE BOX AND TRUNK DELAYED ENTRY AND EXIT WITH THEATRE DIMMING	S	S
LOCKS:	DOOR, CHILD SECURITY (REAR) POWER DOOR	S	S
		--	S
MAP POCKETS:	FRONT DOORS	S	S
PASSLOCK:	THEFT DETERRENT	S	S
POWER OUTLET:	AUXILIARY	S	S
RADIO:	ELECTRONICALLY TUNED AM/FM STEREO RADIO W/SEEK-SCAN, DIGITAL CLOCK AND DUAL FRONT COAXIAL & DUAL EXTENDED RANGE REAR SPEAKERS	S	--
	ELECTRONICALLY TUNED AM/FM STEREO RADIO W/SEEK-SCAN, DIGITAL CLOCK, AUTOMATIC TONE CONTROL, CASSETTE TAPE, THEFT LOCK AND SPEED COMPENSATED VOLUME WITH DUAL FRONT COAXIAL AND DUAL EXTENDED RANGE REAR SPEAKERS	--	S
READING LAMPS:	DUAL, MIRROR MOUNTED	--	S
RESTRAINT SYSTEM:	NEXT GENERATION DRIVER & FRONT PASSENGER AIR BAGS	S	S

STANDARD EQUIPMENT SUMMARY

		<u>1ND69</u>	<u>1NE69</u>
<u>INTERIOR continued</u>			
SEATS:	CLOTH RECLINING FRONT BUCKET W/ADJUSTABLE HEAD RESTRAINT	S	S
	DRIVER POWER FRONT SEAT ADJUSTER	--	S
	SPLIT FOLDING REAR SEAT	--	S
SPEED CONTROL:	ELECTRONIC WITH RESUME SPEED	--	S
STEERING:	TILT-WHEEL	S	S
STORAGE BIN:	LIGHTER, CUPHOLDER AND ASHTRAY	S	S
TRUNK RELEASE:	ELECTRIC	S	S
VISORS:	LH AND RH, AND VANITY MIRRORS	S	S
	PASSENGER SIDE ILLUMINATED VANITY MIRROR	--	S
WARNING LIGHTS:	LOW COOLANT, LOW FUEL, LOW WASHER FLUID AND DOOR AJAR	S	S
	LOW OIL LEVEL	--	S
WINDOWS:	POWER	--	S
 <u>EXTERIOR</u>			
DOOR HANDLES:	BODY COLOR	S	S
FASCIAS:	FRONT AND REAR BODY COLOR	S	S
FOGLAMPS:		--	S
GRILLE:	ARGENT COLOR	S	S
LIGHTS:	REFLECTOR OPTICS	S	S
	AUTOMATIC DAYTIME, W/AUTO LIGHT CONTROL	S	S
INSULATOR:	BLANKET, UNDER HOOD	S	S
KEYLESS ENTRY:	REMOTE	--	S
LICENSE PLATE:	FRONT MOUNTING PROVISION	S	S
MIRRORS:	DUAL, DRIVER REMOTE, PASSENGER MANUAL, OUTSIDE BODY		
	COLORED	S	--
	DUAL POWER OUTSIDE REARVIEW, BODY COLORED	--	S
MOLDINGS:	BODY COLOR	S	S
PAINT:	BASE COAT/CLEAR COAT	S	S
TIRES:	P215/60R15 B/W	S	S
WHEELS:	15" STEEL WITH FULL BOLT-ON WHEEL COVERS	S	--
	15" ALUMINUM	--	S
WIPERS:	VARIABLE INTERMITTENT (PULSE)	S	S

MALIBU SEDAN

Model 1ND69 Malibu Sedan

MUST ORDER ONE GROUP -- NO DELETIONS ALLOWED

	1SA	1SB	1SC
Base Preferred Equipment Group (Refer Standard Equipment Summary Page)	x	x	x
Preferred Equipment Group 1			
Power Door Locks		x	x
Power Windows		x	x
Mirrors: Power Outside Rearview		x	x
Preferred Equipment Group 2			
Mirrors: Inside Rearview with Dual Reading Lamps			x
Remote Keyless Entry			x
Speed Control, Electronic with Resume Speed			x

ADDITIONAL OPTIONS

ACKNOWLEDGMENTS:

- R8S Multiple Order Numbers
- R8T Preliminary Invoice (Refer Vehicle Price Schedule)

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 State Emission Override (Reqs FE9 Emissions)
- NC7 Federal Emission Override (Reqs YF5 or NG1 Emissions)

ENGINE: (MUST SPECIFY)

- LD9 2.4 Liter SFI L4 Twin Cam (Base)
- L82 3100 SFI V6 (N/A w/YF5 or NG1)
- LG8 3100 SFI V6 (Reqs YF5 or NG1)
- B37 **FLOOR MATS:** Carpeted Front and Rear, Color-Keyed
- K05 **HEATER:** Engine Block
- AU0 **KEYLESS ENTRY, REMOTE:** (N/A w/1SA) (Incl w/1SC)
- AU3 **LOCKS, POWER DOOR** (Incl w/1SB & 1SC)
- VH4 **MUD GUARDS:** Front and Rear (N/A w/1SA)

MALIBU SEDAN

ADDITIONAL OPTIONS

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
- UN0 Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Digital Clock, Automatic Tone Control, Compact Disc Player, Theft Lock and Speed Compensated Volume
- UN8 Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Digital Clock, Automatic Tone Control, Compact Disc Player, Dual Playback Remote Cassette, Theft Lock and Speed Compensated Volume
- AG1 **SEATS, ADDITIONAL:** Power Front Seat Adjuster, Driver Side (N/A w/1SA)
- K34 **SPEED CONTROL:** Electronic, w/Resume Speed (Incl w/1SC)

SUNROOF:

- CF5 Electronic, Sliding (Reqs 1SC Peg) (Incls Dual Reading Lamps & Lighted Passenger Visor Mirror)
- PF7 **WHEELS:** 15" Aluminum (N/A w/1SA)

INTERIOR AND EXTERIOR COLOR AVAILABILITY CHART

PLEASE NOTE: The Exterior Paint & Interior Trim Combinations Shown Below are the Only Combinations Available

TRIM LEVEL		Med Oak	Lt Gray	Med Gray	Md Neutral
Cloth Bucket		67B	92B	92E	52B
(a)(b)Custom Cloth Bucket		67C	92C	92G	52C
Exterior Colors	Color	RECOMMENDED INTERIOR TRIM COLORS			
Solid Paint	Code				
Black	41U	X	X	X	X
Blue, Medium Opal (Met)	24U		X	X	X
Bronzemist, Medium (Met)	76U		X	X	X
Cherry, Dk (Met)	77U	X	X	X	X
Green, Dk Jade (Met)	56U	X	X	X	X
Sandrift (Met)	49U	X	X	X	X
Malachite Med (Met)	42U	X	X	X	X
Silvermist (Met)	17U		X	X	X
White, Bright	16U	X	X	X	X

(a) Includes Split Folding Rear Seat and Luggage Area Cargo Net

(b) N/A w/1SA

MALIBU LS SEDAN

Model 1NE69 Malibu LS Sedan

MUST ORDER 1SA-- NO DELETIONS ALLOWED

1SA

Base Preferred Equipment Group (Refer Standard Summary Page)

X

ADDITIONAL OPTIONS

ACKNOWLEDGMENTS:

- R8S Multiple Order Numbers
R8T Preliminary Invoice (Refer Vehicle Price Schedule)

EMISSIONS: (MUST SPECIFY)

- 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 State Emission Override (Reqs FE9 Emissions)
NC7 Federal Emission Override (Reqs YF5 or NG1 Emissions)

ENGINE: (MUST SPECIFY)

- L82 3100 SFI V6 (N/A W/YF5 or NG1)
LG8 3100 SFI V6 (Reqs YF5 or NG1)

K05 **HEATER:** Engine Block

VH4 **MUD GUARDS:** Front and Rear

RADIO EQUIPMENT:

- UN0 Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Digital Clock, Automatic Tone Control, Compact Disc Player, Theft Lock & Speed Compensated Volume
UN8 Electronically Tuned AM/FM Stereo Radio with Seek-Scan, Digital Clock, Automatic Tone Control, Compact Disc Player, Dual Playback Remote Cassette, Theft Lock and Speed Compensated Volume

CF5 **SUNROOF:** Electric, Sliding

INTERIOR AND EXTERIOR COLOR AVAILABILITY CHART

PLEASE NOTE: The Exterior Paint & Interior Trim Combinations Shown Below are the Only Combinations Available

TRIM LEVEL		Med Oak	Lt Gray	Med Gray	Md Neutral	Lt Neutral
(a)LS Custom Cloth Bucket		67D	92D	92H	52D	
(a)LS Special Leather Bucket			922			522
Exterior Colors	Color	RECOMMENDED INTERIOR				
Solid Paint	Code	TRIM COLORS				
Black	41U	x	x	x	x	x
Blue, Medium Opal (Met)	24U		x	x	x	x
Bronzemist, Medium (Met)	76U		x	x	x	x
Cherry, Dk (Met)	77U	x	x	x	x	x
Green, Dk Jade (Met)	56U	x	x	x	x	x
Sandrift (Met)	49U	x	x	x	x	x
Malachite Med (Met)	42U	x	x	x	x	x
Silvermist (Met)	17U		x	x	x	x
White, Bright	16U	x	x	x	x	x

(a) Includes Split Folding Rear Seat and Luggage Area Cargo Net

NOTES

If you ever have a problem on the road and don't have a spare fuse, you can borrow one that has the same amperage. Just pick a feature of your vehicle that you can get along without -- like the radio or cigarette lighter -- and use its fuse, if it is the correct amperage. Replace it as soon as you can. Also, there are spare fuses in the left side instrument panel door.

There are three fuse blocks in your vehicle: two instrument panel fuse blocks and the engine compartment fuse block.

Instrument Panel Fuse Block

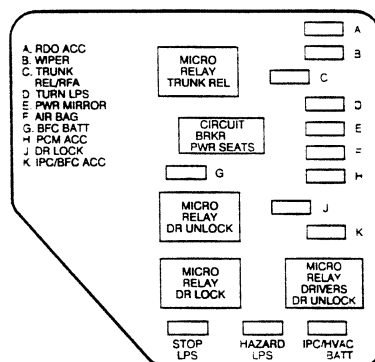


The instrument panel fuse blocks are located at each end of the instrument panel. To access the fuses, open the fuse panel door by pulling out.

To replace the door, insert the hooks at the front end first, then push the door into the instrument panel to secure it.

Instrument Panel Fuse Block-Left

In the left instrument panel fuse block, there are spare fuses and a fuse puller.

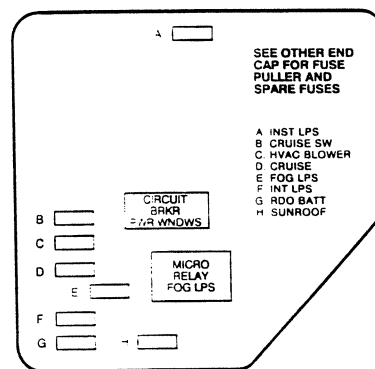


Fuse	Usage
A	Radio
B	Wipers
C	Trunk Release and Remote Lock Control
D	Turn Signals
E	Power Mirrors
F	Air Bag

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Fuse	Usage
G	Body Function Control Module
H	Powertrain Control Module
J	Door Locks
K	Body Function Control Module, Cluster
STOP LPS	Stoplamps
HAZARD LPS	Hazard Lamps
IPC/HVAC BATT	Cluster, Climate Control
MICRO RELAY	
TRUNK REL	Remote Trunk Release
CIRCUIT BRKR PWR SEATS	Power Seats
MICRO RELAY DR UNLOCK	Door Locks
MICRO RELAY DR LOCK	Door Locks
MICRO RELAY DRIVERS DR UNLOCK	Not Used

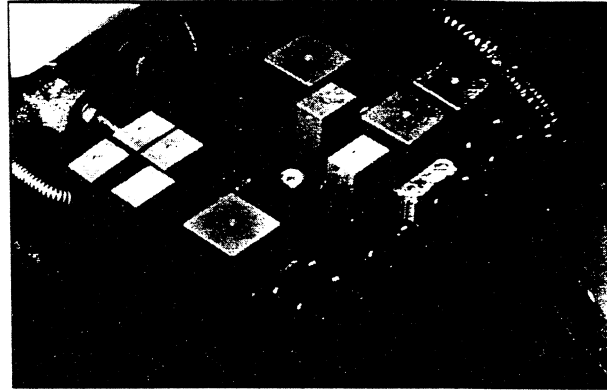
Instrument Panel Fuse Block-Right



Fuse	Usage
A	Instrument Panel Lights, Dimmer
B	Cruise Control
C	Climate Control System
D	Cruise Control
E	Fog Lamps

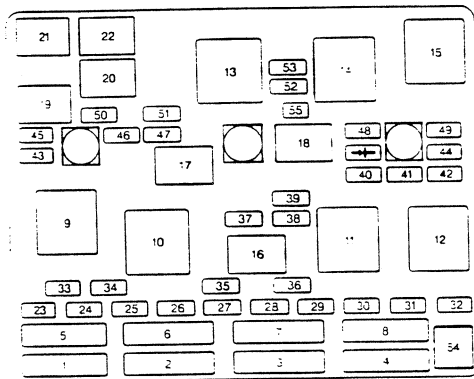
Fuse**Usage**

F . . . Interior Lamps, Body Function Control Module
 G Radio
 H Sunroof
 CIRCUIT BRKR PWR WNDWS . . . Power Windows
 MICRO RELAY FOG LPS Fog Lamps

Engine Compartment Fuse Block

The engine compartment fuse block is located on the driver's side of the engine compartment, near the air cleaner filter.

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**Fuse****Usage****Maxi-Fuses**

1 Ignition Switch
 2 Left-Hand Electrical Center-Power Seats,
 Power Mirrors, Door Locks, Trunk Release and
 Remote Lock Control
 3 Left-Hand Electrical Center-Stoplamps,
 Hazard Lamps, Body Function Control Module,
 Cluster, Climate Control System

Fuse**Usage****Maxi-Fuses**

4 Right-Hand Electrical Center-Fog Lamps,
 Radio, Body Function Control Module,
 Interior Lamps
 5 Ignition Switch
 6 Not Used
 7 Anti-Lock Brakes
 8 Cooling Fans

Mini-Relays

9 Rear Defog
 10 Not Used
 11 Anti-Lock Brakes
 12 Cooling Fan
 13 HVAC Blower (Climate Control)
 14 Cooling Fans
 15 Cooling Fans

Micro-Relays

16 Air Conditioning Compressor
 17 Not Used
 18 Fuel Pump
 19 Automatic Light Control
 20 Automatic Light Control

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Fuse	Usage
21	Horn
22	Daytime Running Lamps
Mini-Fuses	
23 - 32	Spare Fuse Holder
33	Rear Defog
34	Accessory Power Outlets, Cigar Lighter
35	Anti-Lock Brakes
36	Anti-Lock Brakes
37	Air Conditioning Compressor, Body Function Control Module
38	Automatic Transaxle
39	Powertrain Control Module, Ignition
40	Anti-Lock Brakes
41	Ignition System
42	Back-Up Lamps, Brake Transaxle Shift Interlock
43	Horn
44	Powertrain Control Module
45	Parking Lamps
46	Rear Defog, Daytime Running Lamps, Climate Control System
47	Canister Purge Valve, Powertrain Control Module, Exhaust Gas Recirculation, Heated O ₂ Sensor

Fuse	Usage
Mini-Fuses	
48	Fuel Pump, Injectors
49	Generator
50	Right-Hand Headlamp
51	Left-Hand Headlamp
52	Cooling Fan
53	HVAC Blower (Climate Control)
54	Fuse Puller for Mini-Fuses
55	Tach Test Point for Diagnostic Testing

Replacement Bulbs

Exterior Lamps	Bulb
High-Beam Headlamp	9005
Low-Beam Headlamp	9006
Front Park/Turn	3157 NA
Front Sidemarkers	924
Back-Up/Rear Turn	3156
Center- Mounted High Level Stoplamp	912
Tail/Stoplamp	3057
Interior Lamps	Bulb
Dome	561

Capacities and Specifications

2.4L L4 Engine Specifications

VIN Engine Code	T
Type	L4
Displacement	2.4 Liters
Firing Order	1-3-4-2
Horsepower	155
Thermostat Temperature	180°F (82°C)

3100 V6 Engine Specifications

VIN Engine Code	J
Type	V6
Displacement	3.1 Liters
Firing Order	1-2-3-4-5-6
Horsepower	170
Thermostat Temperature	195°F (91°C)

3100 V6 Engine Specifications

VIN Engine Code	M
Type	V6
Displacement	3.1 Liters
Firing Order	1-2-3-4-5-6

Horsepower	150
Thermostat Temperature	195°F (91°C)

Wheel Nut Torque	100 lb-ft (140 N·m)
------------------------	---------------------

Cooling System

2.4L Engine	11.3 quarts (10.7 L)
3100 V6 Engine	13.6 quarts (12.9 L)

Engine Crankcase

2.4L L4 Engine	4.0 quarts (3.8 L)
3100 V6 Engine	4.5 quarts (4.3 L)

Fuel Tank	15.0 gallons (56.8 L)
-----------------	-----------------------

Refrigerant, Air Conditioning

See refrigerant charge label under the hood.

Tire Pressures, Sizes

See Tire-Loading Information label on the rear driver's side passenger door.

NOTE: All capacities are approximate. When adding, be sure to fill to the appropriate level or as recommended in this manual.

See "Recommended Fluids and Lubricants" in the Index.

Air Conditioning Refrigerants

Not all air conditioning refrigerants are the same. If the air conditioning system in your vehicle needs refrigerant, be sure the proper refrigerant is used. If you're not sure, ask your dealer.

Normal Maintenance Replacement Parts

Air Cleaner Element

2.4L L4 Engine AC Type A-1279C

3100 V6 Engine AC Type A-1279C

Engine Oil Filter

2.4L L4 Engine AC Type PF-44

3100 V6 Engine AC Type PF-47

Spark Plugs

2.4L L4 Engine AC Type •41-942

(Platinum Plug) Gap: 0.050 inch (1.27 mm)

3100 V6 Engine AC Type •41-940

(Platinum Plug) Gap: 0.060 inch (1.52 mm)

Windshield Wiper Blades

Passenger's Side 19.0 inches (48.0 cm)

Driver's Side 22.0 inches (56.0 cm)

Vehicle Dimensions

Length 190.4 inches (483.7 cm)

Width 69.4 inches (176.3 cm)

Height 56.4 inches (143.2 cm)

Wheelbase 107.0 inches (271.9 cm)

Front Tread 59.0 inches (149.9 cm)

Rear Tread 59.3 inches (150.5 cm)

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Scheduled Maintenance

Short Trip/City Definition

Follow the Short Trip/City Scheduled Maintenance if any one of these conditions is true for your vehicle:

- Most trips are less than 5 to 10 miles (8 to 16 km). This is particularly important when outside temperatures are below freezing.
- Most trips include extensive idling (such as frequent driving in stop-and-go traffic).
- Most trips are through dusty areas.
- You frequently tow a trailer or use a carrier on top of your vehicle. (With some models, you should never tow a trailer. See "Towing a Trailer" in the Index.)
- If the vehicle is used for delivery service, police, taxi or other commercial application.

One of the reasons you should follow this schedule if you operate your vehicle under any of these conditions is that these conditions cause engine oil to break down sooner.

Short Trip/City Intervals

Every 3,000 Miles (5 000 km): Engine Oil and Filter Change (or 3 months, whichever occurs first).

Every 6,000 Miles (10 000 km): Tire Rotation.

Every 15,000 Miles (25 000 km): Air Cleaner Filter Inspection, if driving in dusty conditions.

Every 30,000 Miles (50 000 km): Air Cleaner Filter Replacement. Fuel Tank, Cap and Lines Inspection.

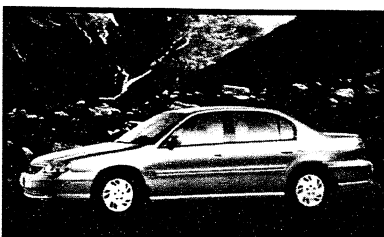
Every 50,000 Miles (83 000 km): Automatic Transaxle Service (severe conditions only).

Every 60,000 Miles (100 000 km): Engine Accessory Drive Belt Inspection.

Every 100,000 Miles (166 000 km): Spark Plug Wire Inspection. Spark Plug Replacement.

Every 150,000 Miles (240 000 km): Cooling System Service (or every 60 months, whichever occurs first).

These intervals only summarize maintenance services. Be sure to follow the complete scheduled maintenance on the following pages.



1999 Chevrolet Malibu

VEHICLE SPECIFICATIONS

Body style	Sedan
Trim levels	Base, LS
Seating capacity	5
Wheelbase	107"
Overall length	190.4"
Overall width	69.4"
Overall height	56.4"

KEY INFORMATION

- The current Malibu was introduced in November, 1996. New for the 1999 model year is a V6 engine with air injection reaction (AIR) pump for LEV states, one new exterior color (Dark Bronze), a gold appearance package, and an enhanced acoustic package.
- Malibu's total registration for 1997 CY was 155,664 vehicles, while 1998 CY through June alone was 133,199 vehicles. This makes Malibu the 8th best selling passenger car so far this year, compared to 21st in 1997. As well, Malibu's total retail registration for 1998 CY through June represents 79% share in the mid-size sedan segment (up 4 points from last year).
- Chevrolet Malibus are currently built in Oklahoma City and Wilmington, Delaware. Oklahoma City builds both Malibu and Oldsmobile Cutlass models. During 1999, Wilmington will build out Malibus and convert to Saturn LS production.

SELECT STANDARD FEATURES

Mechanical/Performance

2.4L DOHC I4:
150 hp @ 5600 rpm
155 lb-ft @ 4400 rpm
3.1L OHV V6 (LS):
150 hp @ 4800 rpm
180 lb-ft @ 3200 rpm
Transmission: A4
Front-wheel drive
Front suspension:
Independent MacPherson coil-over strut w/stabilizer bar

Rear suspension:
Independent tri-link w/coil-over strut, stabilizer bar
Steering:
Power rack-and-pinion
Brakes:
Power disc/drum

Exterior

Mirrors:
LH remote
Dual power (LS)
Tires:
215/60R15
Wheels:
Steel w/bolt-on covers
Machined-face aluminum (LS)

Interior

Seating:
Cloth
6-way power driver (LS)
Climate control:
Air conditioning
Windows:
Power w/driver's express-down and lockout (LS)
Door locks:
Power (LS)

SELECT OPTIONS/UPGRADES

Mechanical/Performance

3.1L OHV V6 (Base):
150 hp @ 4800 rpm
180 lb-ft @ 3200 rpm
Transmission: None as specified
Suspension: None as specified
Steering: None as specified
Brakes: None as specified

Exterior

Mirrors: Dual power (Base)
Tires: None as specified
Wheels: Machined-face aluminum (Base)

Interior

Seating:
Leather (LS)
6-way power driver's (Base)
Climate control: None as specified
Windows: Power (Base)
Door locks: None as specified

SAFETY SYSTEMS

	Standard	Avail. Opt.	N/A
Anti-lock brakes (ABS)	■		
Traction control			■
Stability system			■
Side-impact air bags			■
Integrated child safety seat			■
Daytime running lamps	■		
Theft deterrent	■		

AUDIO SYSTEM

	Standard	Avail. Opt.	N/A
Cassette	LS	Base	
Compact disc		■	
Premium system			■
Antenna: No data			■
Rear seat audio control ²			■
RDS			■
Multimedia link			■

MOTOR VEHICLE MANUFACTURERS SPECIFICATIONS

METRIC (U.S. CUSTOMARY)

1999

Manufacturer CHEVROLET MOTOR DIVISION GENERAL MOTORS CORPORATION	Vehicle Line MALIBU	
Mailing Address 30007 VAN DYKE WARREN, MICHIGAN	Issued	Revised

Direct questions concerning these specifications to the manufacturer listed above.

The information contained herein is prepared, distributed by, and is solely the responsibility of the vehicle manufacturing company to whose products it relates. This 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

AAMA Specifications

METRIC (U.S. Customary)

Vehicle Line MALIBU

Model Year 1999

Issued 9-98

Revised (●)

Vehicle Origin

Design & development (company)	General Motors Corporation, L.A.D. Lansing, Michigan
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)
MALIBU 4-Door Notchback (FWD)	9-98	1ND69	2/3	60(132)	23/32
MALIBU "LS" 4-Door Notchback (FWD)	9-98	1NE69	2/3	60(132)	20/29

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

METRIC (U.S. Customary)

Model Year	1999	Issued	9-98	Revised (●)
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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		D
ENGINE	Engine Code		LD9	L82		
	Displacement Liters (in³)		2.4 (146)	3.1 (191)		
	Induction system (FI, Carb, etc.)		Sequential Fuel Injection	Sequential Fuel Injection		
	Compression ratio		9.7:1	9.6:1		
	SAE Net at RPM	Power kW (bhp)	112 (150) @ 5600	112 (150) @ 4800		
		Torque N • m (lb.ft.)	210 (155) @ 4400	244 (180) @ 3200		
	Exhaust single, dual		Single	Single		
TRANS	Transmission/ Transaxle		MN4	MN4		
	Effective Final Drive / Axle Ratio (std. first)		3.42	3.05		

[illegible]

Specifications

 Vehicle Line MALIBU

 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 52.5 (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 (19.8)	
Cylinder head volume cm ³ (inches ³)	59.5 (3.03)	
Cylinder liner material	Not Applicable	
Head gasket thickness (compressed)	1.2 mm	
Minimum combustion chamber total volume cm ³ (inches ³)	130.09 (7.9)	
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 (14.1)	
Knock sensor (number & location)	One, Rear of Block	
Fuel required unleaded, diesel, etc.	Unleaded	
Fuel antiknock index (R + M) ÷ 2	87	
Engine Mounts	Quantity	4
	Material and type (elastomeric, hydroelastic, hydraulic damper, etc.)	(2) Hydraulic, (2) Elastomeric - Torque Reaction
	Added isolation (sub-frame, crossmember, etc.)	No
Total dressed engine mass (wt) dry ***		Automatic: 189.8 kg (With Oil), Manual: 201.2 kg (With Oil)

Engine - Pistons

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

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, Generators Brackets, Bolts & ACC. Belt, Starter Motor & Bolts, Transaxle Brace, Flywheel Cover & Bolts, Exhaust Downpipe w/ Converter Bolts Evap EMIS Canister w/ Hoses, and Module Powertrain Control

Specifications
METRIC (U.S. Customary)

 Vehicle Line MALIBU

 Model Year 1999

 Issued 9-98

Revised (●) _____

Engine Description
Engine Code

3.1 LITER V6

L82

Engine - General

Type & description (inline, V, angle, flat, location, front, mid, rear, transverse, longitudinal, sohc, dohc, ohv, hemi, wedge, pre-chamber, etc.)	60 Degree V, Front, Transverse, OHV	
Manufacturer	General Motors Powertrain	
No. of cylinders	Six	
Bore	89.00	
Stroke	84.00	
Bore Spacing (C / L to C / L)	111.76	
Cylinder block material & mass kg. (lbs.) (machined)	Cast Iron, 55.6 (122.6)	
Cylinder block deck height	224.0 mm	
Cylinder block length	435.5 mm	
Deck clearance (minimum) (above or below block)	.58 mm (Above)	
Cylinder head material & mass kg. (lbs.)	Cast Aluminum	
Cylinder head volume cm ³ (inches ³)	28.0 (1.71)	
Cylinder liner material	Not Applicable	
Head gasket thickness (compressed)	1.62 mm	
Minimum combustion chamber total volume cm ³ (inches ³)	27.0 (1.65)	
Cyl. no. system (front to rear) *	L. Bank	2-4-6
	R. Bank	1-3-5
Firing order	1-2-3-4-5-6	
Intake manifold material & mass kg. (lbs.) **	Cast Aluminum, Upper: 3.0 (6.6), Lower: 5.6 (12.4)	
Exhaust manifold material & mass kg. (lbs) **	High Silicon Moly Cast Iron, Right: 4.3 (9.5) Left 2.3 (5.0)	
Knock sensor (number & location)	One, Left Center of Block	
Fuel required unleaded, diesel, etc.	Unleaded	
Fuel antiknock index (R + M) ÷ 2	87	
Engine Mounts	Quantity	4
	Material and type (elastomeric, hydroelastic, hydraulic damper, etc.)	(2) Hydraulic, (2) Elastomeric - Torque Reaction
	Added isolation (sub-frame, crossmember, etc.)	No
Total dressed engine mass (wt) dry ***	184 kg	

Engine - Pistons

Material & mass, g (weight, oz.) - piston only	Aluminum, 374 (13.2)
--	----------------------

Engine - Camshaft

Location	Above Crankshaft at Center of V	
Material & mass kg (weight, lbs.)	Assembled Steel, 2.3 (4.9)	
Drive type	Chain / belt	Chain
	Width / pitch	15.88mm x 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 Downpipe w/ Converter & EVAP EMIS Canister w/ Hoses, and Module Powertrain Control

Specifications

Vehicle Line MALIBUModel Year 1999Issued 9-98

Revised (●) _____

METRIC (U.S. Customary)

Engine Description

Engine Code

2.4 LITER L4

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 (1.46)
Length (axes C/L to C/L)	145 mm

Engine - Crankshaft

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

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 MALIBU

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METRIC (U.S. Customary)
Engine Description

Engine Code

3.1 LITER V6

L82

Engine - Valve System

Hydraulic lifters (std., opt., n.a.)		Standard
Valves	Number intake / exhaust	Six/Six
	Head O.D. intake / exhaust	43.9 mm / 36.2 mm

Engine - Connecting Rods

Material & mass kg., (weight, lbs.) *	Forged Steel .59 (1.3)
Length (axes C/L to C/L)	144.7 mm

Engine - Crankshaft

Material & mass kg., (weight, lbs.) *		Cast Iron 17.2 (37.9)
End thrust taken by bearing (no.)		Three
Length & number of main bearings		29.5 mm (1,4), 24.0 mm (2,3)
Seal (material, one, two piece design, etc.)	Front	Viton/Steel, One Piece
	Rear	Viton/Steel, One Piece

Engine - Lubrication System

Normal oil pressure kPa (psi) at engine rpm	280-360 (40-52) @ 2400
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)

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
METRIC (U.S. Customary)

 Vehicle Line MALIBU

 Model Year 1999

 Issued 9-98

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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
	GPM 1000 pump rpm	9
	Number of pumps	One
	Drive (V-belt, other)	Chain
	Bearing type	Double Row (Ball)
	Impeller material	Sheet Metal
	Housing material	Cast Aluminum
By-pass recirculation type (inter., ext.)		External
Cooling System capacity	With heater - L (qt.)	9.8 (10.4)
	With air conditioner - L (qt.)	9.8 (10.4)
	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	A/C
	Type (cross-flow, etc.)	Cross Flow
	Construction (fin & tube mechanical, braze, etc.)	Header Tube & Center - Brazed
	Material, mass kg (wgt., lbs.)	Aluminum, 1.53 kg. (3.4 lbs.)
	Width	660 mm. (26.0 in.)
	Height	360 mm. (14.2 in.)
	Thickness	16 mm. (0.63 in.)
	Fins per inch	16.9 fpi (3.0 K)
Radiator end tank material		Glass filled Nylon (33%)
Fan	Std., elec., opt.	Electric
	Number of blades & type (flex, solid, material)	7 Blade Solid Nylon 66
	Number & location (front, rear of radiator)	2 - Rear of Radiator
	Diameter & projected width	320 mm. (12.6 in.), Shroud width = 649 mm. (25.6 in.)
	Ratio (fan to crankshaft rev.)	N/A
	Fan cutout type	N/A
	Drive type (direct, remote)	Remote
	RPM at idle (elec.)	High speed: 2100 RPM - Left, 1700 RPM - Right
	Motor rating (wattage/elec.)	200 W total
	Motor switch (type & location/elec.)	Relay
	Switch point (temp./pressure/elec.)	Low = 106C, High = 111C Coolant; Low = 153 PSI, High 224 PSI A/C Head
	Fan shroud (material)	Nylon 66

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Vehicle Line MALIBU

METRIC (U.S. Customary)

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Engine Description

3.1 LITER V6

Engine Code

L82

Engine - Cooling System

Coolant recovery system (std., opt., n.a.)		Standard
Coolant fill location (rad., bottle)		Bottle
Radiator cap relief valve pressure kPa (psi)		103 (15)
Circulation thermostat	Type (choke, bypass)	Bypass
	Starts to open at °C (°F)	91 (195)
Water pump	Type (centrifugal, other)	Centrifugal
	GPM 1000 pump rpm	12
	Number of pumps	One
	Drive (V-belt, other)	Poly V-Belt
	Bearing type	Double Row (Ball/Roller)
	Impeller material	Cast Iron
	Housing material	Aluminum
By-pass recirculation type (inter., ext.)		External
Cooling System capacity	With heater - L (qt.)	12.5 (13.2)
	With air conditioner - L (qt.)	12.5 (13.2)
	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	A/C
	Type (cross-flow, etc.)	Cross-Flow
	Construction (fin & tube mechanical, braze, etc.)	Header Tube and Center Brazed
	Material, mass kg (wgt., lbs.)	1.53 kg (3.4 lbs)
	Width	660 mm (26 in)
	Height	360 mm (14.2 in)
	Thickness	16 mm (0.63 in)
	Fins per inch	16.9 fpi (3.0 K)
Radiator end tank material		Glass filled Nylon (33%)
Fan	Std., elec., opt.	Electric
	Number of blades & type (flex, solid, material)	7 Blade Solid Nylon 66
	Number & location (front, rear of radiator)	2 - Rear of Radiator
	Diameter & projected width	320 mm (12.6 in) Shroud width = 649 mm (26.6 in)
	Ratio (fan to crankshaft rev.)	N/A
	Fan cutout type	N/A
	Drive type (direct, remote)	Remote
	RPM at idle (elec.)	High Speed; 2100 RPM - Left, 1700 RPM Right
	Motor rating (wattage/elec.)	200 W total
	Motor switch (type & location/elec.)	Relay
	Switch point (temp./pressure/elec.)	low = 108C, High 111C Coolant; Low = 153 psi, High = 224 psi A/C Head
	Fan shroud (material)	Nylon 66

Specifications

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

METRIC (U.S. Customary)
**Engine Description
 Engine Code**

2.4 LITER L4
 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 (44)
Idle speed-rpm (spec. neutral or drive and propane if used)	Manual	Not Applicable
	Automatic	600 RPM
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)		56.8 L. (15.0 gal.)
Location (describe)		Under Rear Seat, Forward of Rear Axle
Attachment		Underbody Straps (2)
Material & Mass kg. (weight lbs.)		Steel; 9.78 kg. (21.56 lbs.)
Filler pipe	Location & material	Right Rear Quarter Panel - Steel
	Connection to tank	Hose and Clamps
Fuel line (material)		Steel/Nylon
Fuel hose (material)		Rubber
Return line (material)		Steel/Nylon
Vapor line (material)		Steel/Nylon
Extended range tank	Opt., n.a.	Not Applicable
	Capacity L (gallons)	Not Applicable
	Location & material	Not Applicable
	Attachment	Not Applicable
Auxiliary tank	Opt., n.a.	Not Applicable
	Capacity L (gallons)	Not Applicable
	Location & material	Not Applicable
	Attachment	Not Applicable
	Selector switch or valve	Not Applicable
	Separate fill	Not Applicable

Specifications

Vehicle Line MALIBU
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METRIC (U.S. Customary)
Engine Description
Engine Code

3.1 LITER V6
 L82

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

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

Fuel Tank

Capacity refill L (gallons)		56.8 L. (15.0 gal.)
Location (describe)		Under Rear Seat, Forward of Rear Axle
Attachment		Underbody Straps (2)
Material & Mass kg. (weight lbs.)		Steel; 9.78 kg. (21.56 lbs.)
Filler pipe	Location & material	Right Rear Quarter Panel - Steel
	Connection to tank	Hose and Clamps
Fuel line (material)		Steel/Nylon
Fuel hose (material)		Rubber
Return line (material)		Steel/Nylon
Vapor line (material)		Steel/Nylon
Extended range tank	Opt., n.a.	Not Applicable
	Capacity L (gallons)	Not Applicable
	Location & material	Not Applicable
	Attachment	Not Applicable
Auxiliary tank	Opt., n.a.	Not Applicable
	Capacity L (gallons)	Not Applicable
	Location & material	Not Applicable
	Attachment	Not Applicable
	Selector switch or valve	Not Applicable
	Separate fill	Not Applicable

Specifications

 Vehicle Line MALIBU

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METRIC (U.S. Customary)
Engine Description
Engine Code

2.4 LITER L4

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	Type (controlled flow, open orifice, other)	Controlled Flow
		Exhaust source	Exhaust Manifold
	Recirculation	Point of exhaust injection (spacer, carburetor, manifold, other)	Intake Manifold
	Catalytic Converter	Type	Three - Way Monolith
		Number of	One
		Locations(s)	Underfloor
		Volume L (in³)	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)	From Fuel Tank To	Canister
		From Carburetor To	Not Applicable
	Vapor storage provision		Canister
Electronic system	Closed loop (yes/no)		Yes
	Open loop (yes/no)		No

Engine - Exhaust System

Type (single, single with cross-over, dual, other)		Single
Muffler no. & type (reverse flow, straight thru, separate resonator) , Muffler volume (liters), Material & Mass kg. (weight lbs.)		409 Aluminum Stainless Steel Muffler 8.9 kg. (19.6 lbs.) 1, Reverse Flow
Resonator no., type, & volume (liters)		One (2.0 L.)
Exhaust pipe	Branch o.d., wall thickness	Not Applicable
	Main o.d., wall thickness	43.8, 1.9 mm. (1.75, .076 in.)
	Material & Mass kg. (weight lbs.)	409 Stainless Steel 7.2 kg. (15.9 lbs.)
Intermediate pipe	o.d. & wall thickness	50.0, 1.35 mm. (2.0, .054 in.)
	Material & Mass kg. (weight lbs.)	409 SAE Stainless Steel 5.9 kg. (13.0 lbs.)
Tail pipe	o.d. & wall thickness	50.0, 1.08 mm. (2.0, .043 in.)
	Material & Mass kg. (weight lbs.)	409 Aluminum Stainless Steel

Specifications

Vehicle Line MALIBU
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METRIC (U.S. Customary)

Engine Description
Engine Code

2.4 LITER L4
 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)	Controlled Flow
		Exhaust source	Exhaust Manifold
		Point of exhaust injection (spacer, carburetor, manifold, other)	Inlet Manifold
	Catalytic Converter	Type	Single Bed Monolith
		Number of	One
		Locations(s)	Underfloor
		Volume L (in³)	1.8 (110)
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)		N/A
Evaporative Emission Control	Vapor vented to (crankcase, canister, other)	From Fuel Tank To	Canister
		From Carburetor To	Not Applicable
	Vapor storage provision		Canister
Electronic system	Closed loop (yes/no)		Yes
	Open loop (yes/no)		No

Engine - Exhaust System

Type (single, single with cross-over, dual, other)		Single
○	Muffler no. & type (reverse flow, straight thru, separate resonator) , Muffler volume (liters), Material & Mass kg. (weight lbs.)	409 Aluminum Stainless Steel Muffler 8.9 kg. (19.6 lbs.) 1, Reverse Flow
○	Resonator no., type, & volume (liters)	One (2.0 L.)
Exhaust pipe	Branch o.d., wall thickness	Not Applicable
	Main o.d., wall thickness	43.8, 1.9 mm. (1.75, .076 in.)
	Material & Mass kg. (weight lbs.)	409 Stainless Steel 7.2 kg. (15.9 lbs.)
Intermediate pipe	o.d. & wall thickness	50.0, 1.35 mm. (2.0, .054 in.)
	Material & Mass kg. (weight lbs.)	409 SAE Stainless Steel 5.9 kg. (13.0 lbs.)
Tail pipe	o.d. & wall thickness	50.0, 1.08 mm. (2.0, .043 in.)
	Material & Mass kg. (weight lbs.)	409 Aluminum Stainless Steel

Specifications

Vehicle Line
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METRIC (U.S. Customary)

Engine Description

Engine Code

2.4 LITER L4

LD9

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

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

Manual Transmission/Transaxle

(NOT APPLICABLE)

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

Clutch (Manual Transmission)

(NOT APPLICABLE)

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

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

Specifications

 Vehicle Line MALIBU

 Model Year 1999 Issued 9-98 Revised (●) _____

METRIC (U.S. Customary)
Engine Description
Engine Code

 3.1 LITER V6
L82

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

Manual 4-speed (manufacturer/country)	Not Applicable
Manual 5-speed (manufacturer/country)	Not Applicable
Manual 6-speed (manufacturer/country)	Not Applicable
Automatic (manufacturer/country)	Not Applicable
Automatic overdrive (manufacturer/country)	GM Powertrain Group/Canada (MN4) Std

Manual Transmission/Transaxle (NOT APPLICABLE)

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

Clutch (Manual Transmission) (NOT APPLICABLE)

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

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

Specifications

Vehicle Line MALIBU
 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		4T40-E
Type and special features (describe)		Four Speed, Front Wheel Drive, Electronically Controlled, Automatic Overdrive Transaxle w/ 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- <u>ⓓ</u> -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: 3.42
Max. upshift vehicle speed - drive range km/h (mph)		1-2: 63(39), 2-3: 123(79), 3-4: 169(105)
Max. upshift engine speed RPM		1-2: 6400, 2-3: 6400
Max. kickdown speed - drive range km/h (mph)		2-1: 55(34), 3-2: 120(74), 4-3: 100(99)
Min. overdrive speed km/h (mph)		60 (37)
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 (21.2)
	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), Cast Aluminum

All Wheel / 4 Wheel Drive

(NOT APPLICABLE)

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

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

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

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Vehicle Line MALIBUModel Year 1999 Issued 9-98 Revised (●) _____

METRIC (U.S. Customary)

Engine Description

Engine Code

3.1 LITER V6

L82

Automatic Transmission/Transaxle

Trade Name		4T40-E
Type and special features (describe)		Four Speed, Front Wheel Drive, Electronically Controlled Automatic Overdrive 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)-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 = 3.05
Max. upshift vehicle speed - drive range km/h (mph)		1-2: 70(43), 2-3: 129(73), 3-4: 164(100)
Max. upshift engine speed RPM		1-2: 6600, 2-3: 5550
Max. kickdown speed - drive range km/h (mph)		4-3: 164(100), 3-2: 115(70), 2-1: 57(55)
Min. overdrive speed km/h (mph)		3-4: 72 (44)
Torque converter	Type	Electronically Controlled Converter Clutch
	Torus design	Yes
	Number of elements	Three
	Max. ratio at stall	2.0
	Type of cooling (air, liquid)	Liquid
	Nominal diameter	245 mm
Capacity factor "K" **		140
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 with 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 $\div \sqrt{\text{torque}}$

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

Specifications

 Vehicle Line MALIBU

 Model Year 1999 Issued 9-98 Revised (●) _____

METRIC (U.S. Customary)
Engine Description
Engine Code

 2.4 LITER L4
LD9

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

Effective final drive ratio (or overall top gear ratio)		MN4	3.42 Ratio
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.)		Integral to Transmission
Limited slip differential (type)		Not Applicable
Drive pinion	Type	Not Applicable
	Offset	Not Applicable
No. of differential pinions		2
Pinion / differential	Adjustment (shim, etc.)	Not Applicable
	Bearing adjustment	Not Applicable
Driving wheel bearing (type)		Integral Double Row Ball
Lubricant	Capacity L (pt.)	See Trans Spec
	Type recommended	See Trans Spec

Axle Shafts - Front Wheel Drive

Manufacturer and number used			Delphi Saginaw Steering Systems		
Type (straight, solid bar, tubular, etc.)		Left	Straight	Solid	
		Right	Straight	Solid	
Outer diam. x length* x wall thickness	Manual Transaxle	Left			
		Right			
	Automatic transaxle	Left	27.1 x 330.1 mm.		
		Right	27.1 x 330.1 mm.		
	Optional transaxle	Left			
		Right			
Slip yoke	Type				
	Number of teeth				
	Spline o.d.				
Universal joints	Make and mfg. no.		Inner	Delphi Saginaw Steering	
			Outer	Delphi Saginaw Steering	
	Number used		2	Inboard and Outboard on Each Axle Shaft	
	Type, size, plunge		Inner	Free Motion Tripot 61.8 Stroke	
			Outer	Rzeppa Fixed Center	
	Attach (u-bolt, clamp, etc.)		Retaining Ring Inner	Washer and Nut Outer	
	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 MacPherson		
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 MALIBUModel Year 1999 Issued 9-98 Revised (●) _____

METRIC (U.S. Customary)

Engine Description

Engine Code

3.1 LITER L4 (191 CID)
L82

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

Effective final drive ratio (or overall top gear ratio)			MN4 3.05 Ratio
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.)		Integral to Transmission
Limited slip differential (type)		Not Applicable
Drive pinion	Type	Not Applicable
	Offset	Not Applicable
No. of differential pinions		2
Pinion / differential	Adjustment (shim, etc.)	Not Applicable
	Bearing adjustment	Not Applicable
Driving wheel bearing (type)		Not Applicable
Lubricant	Capacity L (pt.)	See Trans Spec
	Type recommended	See Trans Spec

Axle Shafts - Front Wheel Drive

Manufacturer and number used			Delphi Saginaw Steering		
Type (straight, solid bar, tubular, etc.)		Left	Straight	Solid	
		Right	Straight	Solid	
Outer diam. x length* x wall thickness	Manual Transaxle	Left			
		Right			
	Automatic transaxle	Left	27.1 x 330.1 mm.		
		Right	27.1 x 330.1 mm.		
	Optional transaxle	Left			
		Right			
Slip yoke	Type				
	Number of teeth				
	Spline o.d.				
Universal joints	Make and mfg. no.		Inner	Delphi Saginaw Steering	
			Outer	Delphi Saginaw Steering	
	Number used		2	(Inboard and Outboard on each axle shaft)	
	Type, size, plunge		Inner	Free Motion Tripot 61.8 stroke	
			Outer	Rzeppa	Fixed Center
	Attach (u-bolt, clamp, etc)		Retaining Ring Inner	Washer and Nut Outer	
	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 MacPherson		
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 MALIBU

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METRIC (U.S. Customary)

 Model Code/Description And/Or
 Engine Code/Description

ALL

Suspension - General Including Electronic Controls

Car leveling	Standard/optional/not available		N/A
	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		N/A
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		Twin Tube - MacPherson Struts
	Make		Delphi Chassis Systems
	Piston diameter		32 mm
	Rod diameter		22 mm

Suspension - Front

Suspension - Front		
Type and description		MacPherson Strut
Travel	Full jounce (define load condition)	93.0 mm Max. Eff. from Design
	Full rebound	89.0 mm Max. Eff. from Design
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)	Design Height: 195.2 mm ID: 146 mm
	Spring rate N/mm (lb./in.)	31.5 N/mm
	Rate at wheel N/mm (lb./in.)	34.2 N/mm from Design
Stabilizer	Type (link, linkless, frameless)	Natural Rubber Multi-Piece Link
	Material & O.D. bar/tube, wall thickness	Tubular Steel 24 mm / 15% wall

Suspension - Rear

Type and description			Tri-Link	
Travel	Full jounce (define load condition)		118.0 mm	Max. Eff. from Design
	Full rebound		101.0 mm	Max. Eff. from Design
Spring	Type (coil, leaf, other & material)		Coil - Steel	
	Size (Leaf: length & width; Coil: design height & i.d.; Bar: length & diameter)		Design Height: 262.7 mm ID: 105 mm	
	Spring rate N/mm (lb./in.)		17.5 N/mm	
	Rate at wheel N/mm (lb./in.)		20.18 N/mm at Design	
	Insulators (type & material)		Top - Rubber	
	If leaf	No. of leaves		
		Shackle (comp. or tens.)		
Stabilizer	Type (link, linkless, frameless)		Link	
	Material & O.D. bar/tube, wall thickness		Solid Steel 15.3 mm OD	
Track bar (type)				

Specifications

Vehicle Line MALIBU

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METRIC (U.S. Customary)

Model Code/Description And/Or
Engine Code/Description

ALL

Brakes - Service

Description			Power Assisted Hydraulic Brakes			
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. ³)		None			
	Pump-type(elec., gear or belt driven)		N/A			
Traction assist	Operational speed range		N/A			
	Type (engine or brake intervention)		N/A			
Antilock device	Front/rear (std., opt., n.a.)		Standard			
	Manufacturer		Delphi Chassis Division - ABS 6			
	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 cm² (in.²) *			164.8 (25.5)	336.4 (52.1)		
Gross Lining area cm² (in.²) ** (F/R)			170.4 (26.4)	358.2 (55.5)		
Swept area cm² (in.²) *** (F/R)			1344.0 (208.3)	631.8 (97.9)		
Rotor	Outer working diameter	F/R	273.9 mm(10.8 in)	N/A		
	Inner working diameter	F/R	172.0 mm(6.8 in)	N/A		
	Thickness	F/R	26.0 mm (1.0 in)	N/A		
	Material & type (vented/solid)	F/R	Vented Cast Iron	N/A		
Drum	Diameter & width	F/R	N/A	225x45 mm (8.8x1.8 in)		
	Type and material	F/R	N/A	Cast Iron		
Wheel cylinder bore			60 mm (2.4 in)	22.2 mm (0.8 in)		
Master cylinder	Bore/stroke	F/R	Bore - 25.4 mm (1.0 in)	Stroke - 34.6 mm (1.4 in)		
Pedal arc ratio			3.50:1			
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.)		Molded		
		Rivet Size		N/A		
		Manufacturer		Bendix Mintex		
		Lining code *****		BM962-GF		
		Material		Non-Asbestos Organic		
		****	Primary or outboard	99.0 mm X 40.4 mm x 11.6 mm		
		Size	Secondary or inboard	99.0 mm x 40.4 mm x 10.6 mm		
		Shoe thickness (no lining)			Outboard - 5 mm	Inboard - 6 mm
	Rear wheel	Bonded or riveted (rvts/seg.)		Riveted 10 rvts/seg		
		Manufacturer		Delphi Chassis Systems		
		Lining code *****		DC 245FF		
		Material		DC 9103		
		****	Primary or out-board	227.1 mm x 44.2 mm x 5.7 mm		
		Size	Secondary or in-board	227.1 mm x 44.2 mm x 5.7 mm		
		Shoe thickness (no lining)			1.98 mm Nominal	

*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.

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METRIC (U.S. Customary)
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Engine Code/Description**

ALL

Tires And Wheels (Standard)

Tires	Size (service description)		P215/60R15
	Type (bias, radial, steel, nylon, etc.)		Radial
	Inflation pressure (cold) for recommended max. vehicle load	Front kPa (psi)	(29)
		Rear kPa (psi)	(26)
	Rev./mile at 70 km/h (45 mph)		858
Wheels	Type & material		Stamped Steel
	Rim (size & flange type)		15 x 6
	Wheel offset		42 mm.
	Attachment	Type (bolt or stud & nut)	Stud
		Circle diameter	115 mm.
		Number & size	5 - 12 mm.
Spare	Tire and wheel		T125/70 D15, 15 x 4, Inflation 420 kPa (60 psi)
	Storage position & location (describe)		Under deck of luggage compartment

Tires And Wheels (Optional)

Tire size (service description)	
Type (bias, radial, steel, nylon, etc.)	
Wheel (type & material)	
Rim (size, flange type and offset)	
Tire size (service description)	
Type (bias, radial, steel, nylon, etc.)	
Wheel (type & material)	
Rim (size, flange type and offset)	
Tire size (service description)	
Type (bias, radial, steel, nylon, etc.)	
Wheel (type & material)	
Rim (size, flange type and offset)	
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		Foot park brake lever - Self adjusting mechanism
Location of control		Hinge pillar - Under I.P.
Operates on		Rear brakes
If separate from service brakes	Type (internal or external)	N/A
	Drum diameter	N/A
	Lining size (length x width x thickness)	N/A

Specifications

Vehicle Line MALIBU

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METRIC (U.S. Customary)

Model Code/Description And/Or
Engine Code/Description

ALL

Steering

Manual (std., opt., n.a.)				N/A		
Power (std., opt., n.a.)				Standard		
Speed-sensitive (std., opt., n.a.)				Not Applicable		
4-wheel steering (std., opt., n.a.)				"		
Adjustable steering wheel/column (tilt, telescope, other)			Type		Tilt (N33) Std	
			Manufacturer		Delphi Saginaw Steering System	
			(std., opt., n.a.)		Standard	
Wheel diameter** (W9) SAE J1100			Manual		None	
			Power		Not Applicable	
Turning diameter m (ft.)	Outside front	Wall to wall (l. & r.)		"		
		Curb to curb (l. & r.)		11.0 (36.3)		
	Inside rear	Wall to wall (l. & r.)		"		
		Curb to curb (l. & r.)		"		
Scrub Radius*				-2.4		
Manual	Gear	Type		Not Applicable		
		Manufacturer		"		
		Ratios	Gear	"		
			Overall	"		
	No. wheel turns (stop to stop)		"			
Power	Type (coaxial, elec. hyd., etc.)		Hydraulic Pump			
	Manufacturer		Delphi Saginaw Steering Systems			
	Gear	Type		Rack and Pinion		
		Ratios	Gear	49.9 mm/rev		
			Overall	13.96:1		
	Pump (drive)		4 Cyl - Direct drive off cam shaft; 6 Cyl - Belt drive off crankshaft			
No. wheel turns (stop to stop)		2.9				
Linkage	Type		End take off tie rods, rack and pinion			
	Location (front or rear of wheels, other)		Rear of Wheels			
	Tie rods (one or two)		Two			
Steering axis	Kingpin Inclination (deg.)		13.11			
	Bearings (type)	Upper	Ball Bearing			
		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.

Specifications

 Vehicle Line MALIBU

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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.)	4.3° ± 70°
		Camber (deg.)	-.30° ± .70°
		Toe-in outside track mm (in.)	+ .10° ± 1/4°
	Service reset*	Caster (deg.)	N/A
		Camber (deg.)	-.30°
		Toe-in mm (in.)	+ .10°
	Periodic M.V. in- spection	Caster (deg.)	Not Adjustable
		Camber (deg.)	-1.0° to +.40°
		Toe-in mm (in.)	-.15° to +.35°
Rear wheel at curb mass (wt.)	Service checking	Camber (deg.)	-.40° ± .70°
		Toe-in outside track mm (in.)	0° ± 1/4°
	Service reset*	Camber (deg.)	-.40° (Not Adjustable)
		Toe-in mm (in.)	0°
	Periodic M.V. insp.	Camber (deg.)	-.40° (Not Adjustable)
		Toe-in mm (in.)	0

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

Electrical - Instruments and Equipment Gage

Speed-ometer	Type (analog, digital, std., opt.)		Analog Electric
	Trip odometer (std., opt., n.a.)		Standard
Head-up display	Standard, optional, not available		Not Applicable
	Type	Secondary, opto-electronic	Not Applicable
	Speedometer	Digital	Not Applicable
	Status/warning indicators	Turn signals, high beam, low fuel, check gauges	Not Applicable
	Brightness control	Day / night mode, adjustable	Not Applicable
EGR maintenance indicator			Not Applicable
Charge indicator	Type		Tell Tale
	Warning device (light, audible)		LED
Temperature indicator	Type		Gage
	Warning device (light, audible)		LED Tell Tale
Oil pressure indicator	Type		Tell Tale
	Warning device (light, audible)		Tell Tale Standard
Fuel indicator	Type		Gage
	Warning device (light, audible)		LED Tell Tale
Windshield wiper	Type (standard)		Variable Intermittent
	Type (optional)		N/A
	Blade length		Driver side: 22" Passenger side: 19"
	Swept area cm ² (in. ²)		7610.9 cm ²
Windshield washer	Type (standard)		Wet Arm Nozzle
	Type (optional)		N/A
	Fluid level indicator (light, audible)		Tell Tale
Rear window wiper, wiper/washer (std., opt., n.a.)			N/A
Horn	Type		
	Number used		
Other			Cluster includes: A Tachometer, PRNDL Tell Tale includes: Check Oil, Theft System, Low Wash, Service Vehicle Soon, ABS, Brake, Seat Belt, High Beam, Right and Left Turn, Cruise, Low Coolant, Door Ajar, Air Bag, Check Engine.

Specifications

Vehicle Line MALIBUModel 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	Engine Compartment - Front
Alternator	Manufacturer	Delphi
	Rating (idle/max. rpm)	48/102
	Ratio (alt. crank/rev.)	2.77:1
	Output at idle (rpm, park)	53 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)	1.6 (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		1104001
	Current	Engine stopped - A	Less than 500 mA
		Engine idling - A	Less than 1.0 Amper
Spark plug	Manufacturer		Delphi
	Model		41-192
	Thread (mm)		14 mm
	Tightening torque N-m (lb. ft.)		18.0 (13)
	Gap		1.5 mm
	Number per cylinder		One
Distributor	Manufacturer		Not Applicable
	Model		Not Applicable

Electrical - Suppression

Locations & type	
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SpecificationsVehicle Line MALIBUModel Year 1999 Issued 9-98 Revised (●) _____

METRIC (U.S. Customary)

Engine Code/Description3.1 LITER V6
L82**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	Engine Compartment - Front
Alternator	Manufacturer	Delphi
	Rating (idle/max. rpm)	48/102
	Ratio (alt. crank/rev.)	2.75
	Output at idle (rpm, park)	55A @ 675 RPM
	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	Delphi
	Model	Direct Ignition
	Current	Engine stopped - A Less Than 100 mA
		Engine idling - A Less Than 1.5 Ampres
Spark plug	Manufacturer	Delphi
	Model	41-940
	Thread (mm)	14
	Tightening torque N-m (lb. ft.)	10 - 20 (7 - 15)
	Gap	1.5 mm
	Number per cylinder	One
Distributor	Manufacturer	Not Applicable
	Model	Not Applicable

Electrical - Suppression

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

Specifications

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

METRIC (U.S. Customary)

Model Code/Description

ALL

Body

Structure	Unitized Body Construction including Front End Structure with Bolted - on Fenders and Hood
Bumper system front - rear	The front bumper fascia is attached to a plastic bumper beam which functions as the energy absorber as well as the beam. The rear fascia is attached to a steel impact bar and utilizes a foam energy absorber. Both bumpers meet the 5 mph corporate bumper labeling requirement.
Anti-corrosion treatment	Metal Body Uses Double Sided Galvanized Metal On All Exposed Metal Surfaces. The Paint Shop Process Includes Phosphate, ELPO, Sealers, Anti-Chip, Primers and TopCoat.

Body - Miscellaneous Information

Type of finish (lacquer, enamel, other)		High Solids Base Coat/Clear Coat Paint System
Hood	Material & mass	Outer GM 6093 m Grade 210 Type B, Inner Type A Mass ASM 15.52 kg
	Hinge location (front, rear)	Rear
	Type (counterbalance, prop)	Prop Rod
	Release control (internal, external)	Internal
Trunk lid	Material & mass	Inner GM 6185 m Outer GM 6093 m Grade 180 Type A Mass ASM 11.53 kg
	Type (counterbalance, other)	Goose Neck Torque Rod
	Internal release control (elec., mech., n.a.)	Electric
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	Not Applicable
Window regulator type (cable, tape, flex drive, etc.)	Front	Cross Arm
	Rear	Cable
Seat cushion type (e.g., standard bucket w/ console, bench, wire, foam, etc.)	Front	Bucket
	Rear	Standard Bench / Optional 70/30 split folding (70/30 split folding STD in Level II)
	3rd seat	N/A

Frame

Type and description (separate frame, unitized frame, partially-unitized frame)	
---	--

Specifications

Vehicle Line MALIBU

Model Year 1999 Issued 9-98 Revised (●) _____

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

ALL

Restraint System

Seating Position			Left	Center	Right
Active	Type & description (lap & shoulder belt, lap belt, etc.)		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			
Glass		SAE Ref.No.	69		
Windshield glass exposed surface area cm ² (in. ²)		S1	12306 cm ² (1912 in. ²)		
Side glass exposed surface area cm ² (in. ²) - total 2 sides		S2	11,001.5 cm ² (1760.2 in. ²)		
Backlight glass exposed surface area cm ² (in. ²)		S3	9650 cm ² (1736 in. ²)		
Total glass exposed surface area cm ² (in. ²)		S4	32,957.5 cm ² (5273.2in. ²)		
Windshield glass (type/thickness)			Laminated 4.8 mm		
Side glass (type/thickness)			Curved Tempered (Front) 4.0 mm (Rear) 3.5 mm		
Backlight glass (type/thickness)			Tempered 3.6 mm		
Tinted (yes/no, location)			Solex - All		
Solar control (yes/no, coated/batched, location)			Batched		

Headlamps

Description (sealed beam, halogen, replaceable bulb, etc.)	Replaceable - 3 Bulbs Per Headlamp
Shape	Oval
Lo-beam type (2A1, 2B1, 2C1, etc.)	HB4 - 9006
Quantity	2
Hi-beam type (1A1, 2A1, 1C1, 2C1, etc.)	HB3 - 9005
Quantity	2
Park Signal	3157 N/A (2)

AAMA Specifications

Vehicle Line

MALIBU

Model Year

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METRIC (U.S. Customary)

Engine Code/Description

ALL

Climate Control System

Air conditioning (std., opt., man., auto.)		Standard
Condenser	Type	HTC
	Eff. face area (sq. mm.)	368.9 H x 606 W
	Fins per inch	2.5 K
Evaporator	Type	Plate - Round Tank
	Eff. face area (sq. mm.)	450.3
	Fins per inch	14
Heater core	Material	Aluminum
	Eff. face area (sq. mm.)	340.8
	Fins per inch	38
Compressor	Type	V5
	Displacement (cc.)	9.5 cu. in. = 156 cc.
	Manufacturer	Delphi Harrison Thermal Systems
	A/C pulley ratio	LD9 = 1.29:1 LG8 = 1.35:1
Accumulator	Type	Cylindrical Bottle
	Height (mm.)	205.8
	Diameter (mm.)	92.8
Receiver	Type	N/A
	Height (mm.)	N/A
	Diameter (mm.)	N/A
Refrigerant control (CCOT, TVS, etc.)		VDOT
Heater water valve (yes / no)		No
Refrigerant (R - 12, R - 134a, etc.)		R134a
Charge level (lbs. - oz.)		1.35 lbs
Cold engine lockout switch (yes / no)		Yes (based on compressor out pressure of 33psi or lower)
Wide open throttle cutout switch (yes / no)		No

Specifications

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ALL

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

	Clock (digital, analog)	Digital - Part of Radio Package
	Compass / thermometer	Not Available
	Console (floor, overhead)	Standard Full Floor
	Defroster, electric windshield	Not Available
	Defroster, electric backlight	Optional (C49) Standard on LS
Electronic	Diagnostic monitor (integrated, individual)	Not Available
	Instrument cluster (list instruments)	Standard (UH8): Tach, Fuel, Coolant Temp, Speedo, Trip Odometer
	Keyless entry	Optional (AU0) Standard on LS
	Tripminder (avg. spd., fuel)	Not Available
	Voice alert (list items)	Not Available
	Other	Standard Chime: Key Left In / Hdlp On / Turn Signal On / Seatbelt / Park Brake / Check Gages
	Fuel door lock (remote, key, electric)	Not Available
Integrated Child Seating	Std./opt. & location in vehicle	Not Applicable
	Number of occupants	Not Applicable
	Occupant weight/height (min. & max.)	Not Applicable
	Restraint system description (3 or 5-point belts/booster seat capability)	Not Applicable
Lamps	Auto head on/off delay, dimming	Standard Daytime Running Lamps (T61) with Automatic Light Control
	Cornering	Not Available
	Courtesy (map, reading)	Standard: Dome, Footwell Optional: Pass Visor Mirror, Dual reading Lights (DC4)
	Door lock, ignition	Not Available
	Engine compartment	Not Available
	Fog	Standard on LS
	Glove compartment	Standard
	Trunk	Standard
	Illuminated entry system (list lamps, activation)	Standard: Dome, Footwell Delayed Entry (door open/close) / Illuminated Exit (ign key removal)
	Other	Standard Ashtray Lamp, Battery Rundown protection from interior lamps left on
Mirrors	Day / night (auto., man.)	Optional (DC4) with dual reading lamps - Standard on LS
	L.H. (remote, power, heated)	Standard (D37) Remote/Optional (DD9) power
	R.H. (convex, remote, power, heated)	Standard (D37) Manual/Optional (DD9) power DD9 Standard on Level II
	Visor vanity (RH / LH, illuminated)	Standard: LH/RH covered mirror Optional RH Illuminated
	Navigation system (describe)	Not Available
	Parking brake-auto release (warning light)	Standard (foot operation) Warning Lights and Chime

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ALL

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

Power equipment	Deck lid (release, pull down)		Standard: Electric release with valet switch
	Door locks (manual, automatic, describe system)		Optional (AU3) Power Door Lock Standard on LS
	Seats	2 - 4 - 6 way, etc.	2 Way Standard on Base Optional (AG1) 6 way Power Seat Standard on LS
		Reclining (R.H., L.H.)	Not Available
		Memory (R.H.,L.H., preset recline)	Not Available
		Support (lumbar, hip, thigh, etc.)	Not Available
		Heated (R.H., L.H., other)	Not Available
	Side windows		Optional (A31) Power Windows with Driver Auto Down and Passenger Switch Lockout Standard on LS
	Vent windows		Not Available
Rear windows		Not Available	
Radio systems	Antenna (location, whip, w/shield, power)		Standard: Fixed RH Rear Quarter (US6)
	Standard	AM, FM, stereo, tape, compact disc, graphic equalizer, theft deterrent, radio prep package, headphone jacks, etc.	(UM7): AM/FM Stereo Seek/Scan & Clock (UL0): AM/FM Stereo Cassette with Auto Tone Control and Speed Comp Volume (Standard on 1NE69 only)
	Optional		(UL0): AM/FM Stereo Cassette with Auto Tone Control and Speed Comp Volume (UN0): AM/FM Stereo CD with ATC/SCV and Theft Lock (UN8): AM/FM Stereo CD with ATC/SCV and Theft Lock with Remote Cassette Standard (U79): Dual 4x6 Coax Front Door / Dual 6x9 Extended Range Rear Shelf
	Speaker (number, location)		
	Roof: open air or fixed (flip-up, sliding, "T") N/A on Base		Optional (CF5): Power Sunroof - spoiler design with express open;
Speed control device		Optional (K34) Standard on LS	
Speed warning device (light, buzzer, etc.)		Optional (UD4) 120 Km/Hr Warning Chime - Export Only	
Tachometer (rpm)		Standard	
Telephone system (describe)		Power Outlet for accessories	
Theft deterrent system		Standard: Passlock vehicle theft deterrent system	

Trailer Towing

Towing capable	Yes / No	Yes
Engine / transmission / axle	Std. / Opt.	Optional (L82/MN4/F83): 3.1 V6 / 4 Speed Auto / 3.05 axle
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.

AAMA Specifications

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METRIC (U.S. Customary)
Vehicle Dimensions See Key Sheets for definitions

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

Model Code/Description
**SAE
Ref.
No.**

ALL

Width

Tread (front)	W101	1499 (59.0)
Tread (rear)	W102	1505 (59.3)
Vehicle width	W103	1763 (69.4)
Body width at SgRP (front)	W117	1762 (69.4)
Vehicle width (front doors open)	W120	3398 (133.8)
Vehicle width (rear doors open)	W121	3383 (133.2)
Tumble-home (degrees)	W122	25.1°
Outside mirror width	W410	1956 (77.0)

Length

Wheelbase	L101	2719
Vehicle length	L103	4837 (190.4)
Overhang (front)	L104	1006
Overhang (rear)	L105	1111
Upper structure length	L123	2935 (115.6)
Rear Wheel C/L "X" coordinate	L127	4485 (176.6)

Height **

Passenger distribution (front/rear)	PD1 ,2,3	2/3
Trunk/cargo load		
Vehicle height	H101	1432 (56.4)
Cowl point to ground	H114	948 (37.3)
Deck point to ground	H138	1063 (41.9)
Rocker panel-front to ground	H112	222 (8.7)
Rocker panel-rear to ground	H111	228 (9.0)
Windshield slope angle (degrees)	H122	59°
Backlight slope angle (degrees)	H121	65.2°

Ground Clearance **

Front bumper to ground	H102	211.7 (8.3)
Rear bumper to ground	H104	226.2 (9.0)
Bumper to ground front at curb mass (wt.)	H103	211.7 (8.3)
Bumper to ground rear at curb mass (wt.)	H105	226.2 (8.9)
Angle of approach (degrees)	H106	N/A
Angle of departure (degrees)	H107	N/A
Ramp breakover angle (degrees)	H147	13°
Axle differential to ground (front/rear)	H153	N/A
Min. running ground clearance	H156	111.7 (4.4)
Location of min. running ground clear.		Front Suspension

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

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Vehicle Line MALIBUModel Year 1999 Issued 9-98 Revised (●) _____

METRIC (U.S. Customary)

Vehicle Dimensions See Key Sheets for definitions

ALL

Model Code/Description

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Front Compartment

SgRP front, "X" coordinate	L31	3147 (123.9)
Effective head room	H61	1000 (39.4)
Max. effective leg room (accelerator)	L34	1063 (41.9)
SgRP to heel point	H30	268 (10.6)
SgRP to heel point	L53	852 (33.5)
Back angle (degrees)	L40	24°
Hip angle (degrees)	L42	96.3°
Knee angle (degrees)	L44	124.3°
Foot angle (degrees)	L46	87°
Design H-point front travel	L17	238 (9.4)
Normal driving & riding seat track trvl.	L23	198 (7.8)
Shoulder room	W3	1409 (55.5)
Hip room	W5	1322 (52.0)
*** Upper body opening to ground	H50	1280 (50.4)
Steering wheel maximum diameter*	W9	386 (15.2)
Steering wheel angle (degrees)	H18	17.1°
Accel. heel pt. to steer. whl. cntr.	L11	465.2 (18.3)
Accel. heel pt. to steer. whl. cntr.	H17	625.1 (24.6)
Undepressed floor covering thickness	H67	11 (.4)

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	845 (33.3)
Effective head room	H63	955 (37.6)
Min. effective leg room	L51	965 (38.0)
SgRP (second to heel)	H31	300 (11.8)
Knee clearance	L48	70 (2.80)
Shoulder room	W4	1404 (55.3)
Hip room	W6	1322 (52.0)
*** Upper body opening to ground	H51	1300 (51.2)
Back angle (degrees)	L41	27°
Hip angle (degrees)	L43	92.7°
Knee angle (degrees)	L45	102°
Foot angle (degrees)	L47	125.4°
Depressed floor covering thickness	H73	15 (.6)

Luggage Compartment

Usable luggage capacity L (cu. ft.)	V1	484 (17.1)
*** Liftover height	H195	723 (28.5)

Interior Volumes (EPA Classification)

Vehicle class	Midsize
Interior volume index including trunk/cargo (cu. ft.)**	115.3
Trunk/cargo index (cu. ft.)	17.1

* See page 14.

** See definition page 33.

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

*** EPA Loaded Vehicle Weight, Loading Conditions

Specifications

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METRIC (U.S. Customary)
Vehicle Dimensions

See Key Sheets for definitions

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ALL

Station Wagon/MPV*
-Third Seat

(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 ³ (ft. ³)	V2	
Hidden cargo volume index m ³ (ft. ³)	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 ³ (ft. ³)	V3	
Hidden cargo volume index m ³ (ft. ³)	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 MALIBU

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METRIC (U.S. Customary)

Model Code/
Description

ALL

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**	435 (17.1)
	L54**	2325 (91.5)
	H81**	131 (5.2)
	H161**	174.6 (6.9)
	H163**	160.2 (6.3)
Rear	W22**	563 (22.2)
	L55**	3975 (456.5)
	H82**	227.3 (8.9)
	H162**	280.5 (11.0)
	H164**	260.6 (10.3)

* Reference - SAE Recommended Practice, J182a, Motor Vehicle Fiducial Marks.

** Reference - SAE Recommended Practice J1100 - Motor Vehicle Dimensions.

*** EPA Loaded Vehicle Weight, Loading Conditions

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

Vehicle Line	MALIBU		
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<p>* Reference - SAE J1100 Motor vehicle dimensions, curb weight definition.</p> <p>** ETWC - Equivalent Test Weight Class - basis for U.S. Environmental Protection Agency emission certifications.</p> <p>Refer to ETWC code legend below for test weight class.</p>									
<p>ETWC LEGEND</p>									
<p>Shipping Mass (weight) = Curb Weight Less:</p>									
A = 1000	I = 2000	Q = 3000	Y = 4000	33.8kgs (7.2 Frt 26.6 Rr)					
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						

Specifications
METRIC (U.S. Customary)

Vehicle Line MALIBU

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		Optional Equipment Differential Mass (weight)*			
Code	Equipment	MASS, kg. (lb.)			Remarks Restrictions, Requirements
		Front	Rear	Total	
A31	Power Windows	2.5 (5.5)	1.5 (3.3)	4.0 (8.8)	1ND69 Only Std on 1NE69
AG1	Seat Adjuster 6 Way Pwr	1.4 (3.1)	0.9 (2.0)	2.3 (5.1)	1ND69 Only Std on 1NE69
AM9	Split Second Seat Back	1.0 (2.2)	4.0 (8.8)	5.0 (11.0)	1ND69 Only Std on 1NE69
AP9	Convenience Net	.0 (.0)	.2 (.4)	.2 (.4)	1ND69 Only Std on 1NE69
AU0	Lock Control - Remote Entry	.2 (.4)	0 (0)	.2 (.4)	1ND69 Only Std on 1NE69
AU3	Electric Door Side Lock	0.8 (1.7)	0.4 (0.9)	1.2 (2.6)	1ND69 Only Std on 1NE69
B37	Floor Mats - Front & Rear	1.6 (3.5)	1.2 (2.6)	2.8 (6.1)	1ND69 Only Std on 1NE69
BF9	Delete Floor Mats	-1.6 (-3.6)	-1.2 (-2.6)	-2.8 (-6.2)	
C49	Rr Window Defogger Electric	0.0 (0.0)	0.2 (0.4)	0.2 (0.4)	1ND69 Only Std on 1NE69
CF5	Electric Sun Roof	6.0 (13.2)	6.0 (13.2)	12.0 (26.4)	
DC4	Mirror Inside Rear View	0.2 (0.4)	0.0 (0.0)	0.2 (0.4)	1ND69 Only Std on 1NE69
DD9	Mirror Chrome Electric	0.2 (0.4)	0.0 (0.0)	0.2 (0.4)	1ND69 Only Std on 1NE69
KO5	Engine Block Heater	.2 (.4)	0 (0)	.2 (.4)	
K34	Cruise Control	1.5 (3.3)	0.0 (0)	1.5 (3.3)	1ND69 Only Std on 1NE69
L82	3.1 L V6	0 (0)	0 (0)	0 (0)	
NP5	Leather Wrapped Steering Wheel	0.1 (0.2)	0.0 (0.0)	0.1 (0.2)	1NE69 Only
PF7	15" Aluminum Cast Wheel	-5.4 (-11.9)	-5.4 (-11.9)	-10.8 (-23.8)	1ND69 Only Std on 1NE69
QLM	15" Tire	4.8 (10.6)	4.8 (10.6)	9.6 (21.2)	

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

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