CAVALIER



1984 Chevrolet Owner's Manual

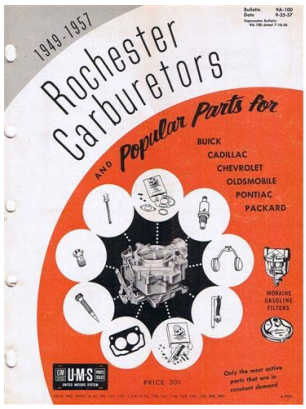
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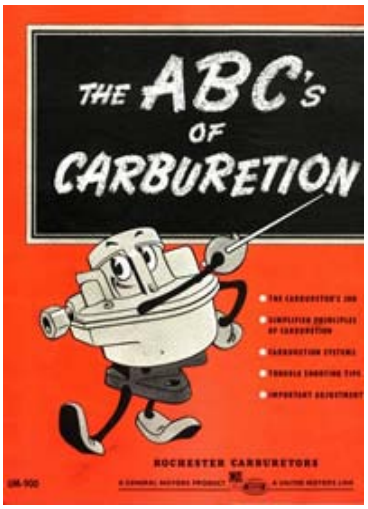
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INTRODUCTION

This manual has been prepared to acquaint you with the operation and maintenance of your 1984 Cavalier, and to provide important safety information. It is supplemented by a Maintenance Schedule Folder and a Warranty and Owner Assistance Information booklet. We urge you to read all three publications carefully. Following the recommendations will help assure the most enjoyable, safe and troublefree operation of your vehicle.

When it comes to service, remember that your Chevrolet dealer knows your vehicle best and is interested in your complete satisfaction. Your dealer invites you to return for all of your service needs both during and after the warranty period.

To help dealers handle your needs, Chevrolet has a number of Zone Offices throughout the country. If you have a problem that has not been handled to your satisfaction, follow the steps in the separate "Warranty and Owner Assistance Information" booklet.

We thank you for choosing a Chevrolet product, and want to assure you of our continuing interest in your motoring pleasure and satisfaction.

SPECIAL NOTE TO CANADIAN OWNERS

Some vehicles sold in Canada have the Computer Command Control system, while others do not. If a "CHECK ENGINE" light comes on during engine starting, your vehicle **does have** this system. **For those vehicles sold in Canada which do not have the Computer Command Control system, please refer to the Canadian Owner's Manual Supplement** supplied with your vehicle for information on engine starting, specifications, etc. The "CHECK ENGINE" light is covered in "Instrument Panel," Section 2 of this manual.

FRENCH OWNER'S MANUAL

If preferred, a French Owner's Manual can be obtained either from your dealer or by writing to General Motors of Canada Limited, Technical Publications Department, Oshawa, Ontario L1J 5Z6.

Aux proprietaires canadiens: Vous pouvez vous procurer un exemplaire de ce guide en français chez votre concessionnaire ou au Service des publications techniques. General Motors du Canada Limitée, Oshawa, Ontario L1J 5Z6.

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1984 CAVALIER
OWNER'S MANUAL

This manual should be considered a permanent part of this vehicle. It should stay with the vehicle when sold, to provide the next owner with important operating, safety, and maintenance information.

All information, illustrations and specifications in this manual are based on the latest product information available at the time of printing. We reserve the right to make changes at any time without notice. For vehicles sold in Canada, substitute the name "General Motors of Canada Limited" wherever the name Chevrolet Motor Division appears in this manual.

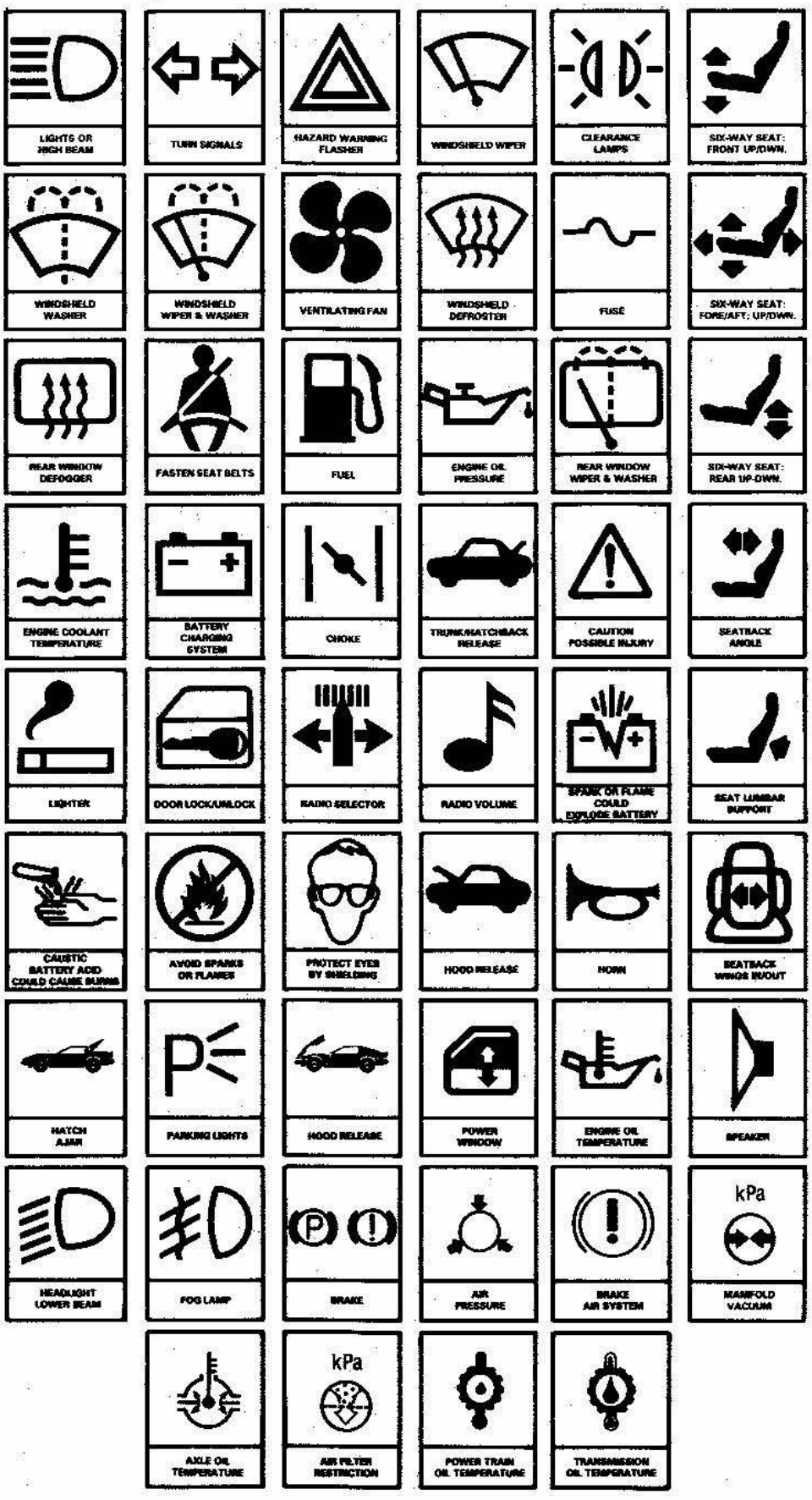
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GRAPHIC SYMBOL CHART

Some of the following symbols are used to identify controls and displays on your vehicle.



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SECTION 1

BEFORE DRIVING YOUR CAVALIER

TRANSAXLE

While reading this manual, you will note many references to the "transaxle." The transaxle is a transmission and differential (axle) combined in a single unit. To avoid confusion, the word "transaxle" will be used throughout this manual to refer to both the transmission and differential functions.

DRIVER DAILY CHECKLIST

Be sure you know how to use your vehicle and its equipment before operating it.

Before Entering the Vehicle

1. See that windows, mirrors and lights are clean and unobstructed.
2. If any tire does not look normal, check it with a pressure gage.
3. Look for fluid leaks.
4. Be sure everything is properly stowed.
5. Check the area behind the vehicle if you are about to back up.

Before Driving Off

1. Lock all doors.
2. Adjust the seat and any movable head restraint.
3. Adjust inside and outside mirrors.
4. **DO NOT allow anyone to ride where there is no seat belt, and ALWAYS properly fasten the seat belt.**
5. Check that all the warning lights work as the key is turned to "Run" or "Start."
6. Check all gages (including the fuel gage).
7. Release the parking brake (and make sure the "BRAKE" light turns off).

See related topics in this manual or the Maintenance Schedule folder if problems are found.

STOWING THINGS IN (OR ON) THE VEHICLE

CAUTION: Put luggage or cargo in the trunk or rear area if possible. Cargo weight, whether in the trunk or rear area, should be located as far forward as possible. Cargo weight on the roof should be positioned as evenly as possible. Secure all items in place to help keep them from being thrown about and injuring people during a collision or sudden maneuver. Do not pile luggage or cargo higher than the seatbacks. Do not place anything on the filler panel, or any cargo cover between the rear seatback and window.

GUARD AGAINST THEFT

Your new Cavalier has many features to help prevent theft of the vehicle, its equipment, and contents. But these anti-theft features **depend upon you** to work.

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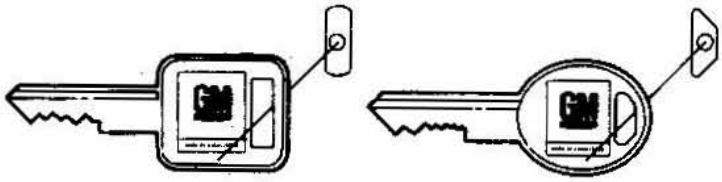
The time to be most on guard is when leaving the vehicle:

1. **Park in a lighted spot when you can, and fully close all windows and any roof panels.**
2. **Lock the steering column and take the keys:**
   - Turn the key to "Lock" while depressing the key release lever (if so equipped) and remove the key. This locks the ignition and **both** steering and shift controls, unless your manual transaxle vehicle has a key release lever. In that case, the shift control is not locked. The key can be removed only when the ignition is locked.
   - If you must leave a key with the vehicle, leave the square-head key only. Take the oval-head key with you. This will help prevent unwanted entry into your vehicle or any locked compartment at a later date. Be sure to lock the glove box since the remote release button allows the hatchback, tailgate, or trunk to be opened even though the ignition key has been removed.
3. **Keep items that may appear to be of value out of sight and locked up when possible.**
4. **Lock all doors.**

KEYS

Two different keys are provided for the locks on your vehicle. The key code is stamped on the "knock-out" plug in each key head.

- **Key with square head** — for ignition lock only.
- **Key with oval head** — for all other locks.



IDENTIFYING

IGNITION LOCK **DOOR LOCKS & ALL OTHER LOCKS**

For vehicle security:

- Record the key code numbers, then knock the plugs out of the keys.
- Keep the key codes in a safe place (such as your wallet), NOT IN THE VEHICLE.

If the original keys are lost, duplicates can be made using the key codes. Stamped on the key is a letter indicating the proper key blank needed if duplicates are required. Contact any GM dealer or a locksmith.

If you park in an attended lot, leave only your square-head ignition key. Lock your glove box and take the oval-head key with you. This will help prevent illegal entry into your vehicle or any locked compartment.

It's a good idea to carry an extra key to the door in your wallet or purse, should you accidentally lock your regular keys in the vehicle. To help protect your vehicle and its contents against theft, General Motors has designed in anti-theft features which would also make it inconvenient and possibly expensive to enter the vehicle if you are locked out.

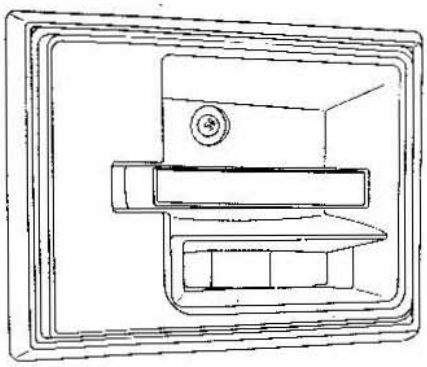
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DOOR LOCKS

The doors can be locked from the inside by sliding rearward the passenger guard door lock lever located just below the inside door handle. If the red tab on the door lock lever is visible the door is unlocked. The doors can be locked from the outside by sliding the door lock lever rearward and closing the door.

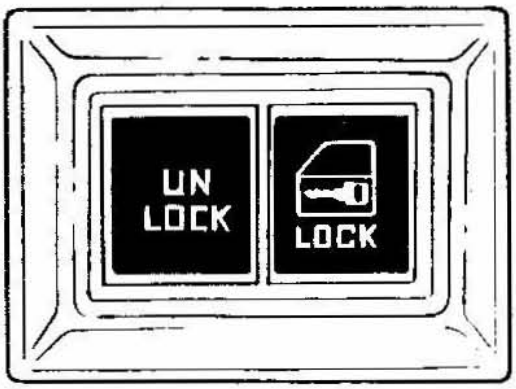
The front doors can also be locked by using the oval-head key.

All models have as a standard safety feature overriding door locks. When the doors are locked, the door latch mechanism is inoperative, preventing inadvertent opening of the door by movement of the inside handle.



Power Door Locks

The optionally available power door locks allow you to lock or unlock your doors by operating the switch located on either front door. The automatic locking mechanism does not interfere with manual operation of any door lock lever. The doors will not unlock or open with the inside door handle when the lock lever is in the lock position, but can be unlocked individually by sliding the lock lever forward.



CAUTION: To help reduce the risk of personal injury in an accident, always lock the doors (and any liftgate or tailgate) when driving. Along with using the seat belts properly, locking the doors (etc.) helps prevent people from being thrown from the vehicle. It also helps prevent unintended opening of the doors and helps keep out intruders.

WINDOWS

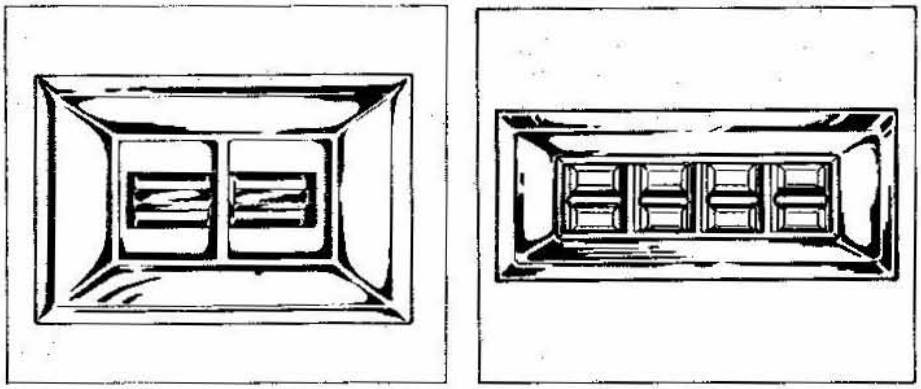
Manual Window Control

Door windows can be raised or lowered by rotating the hand crank located in the door panel.

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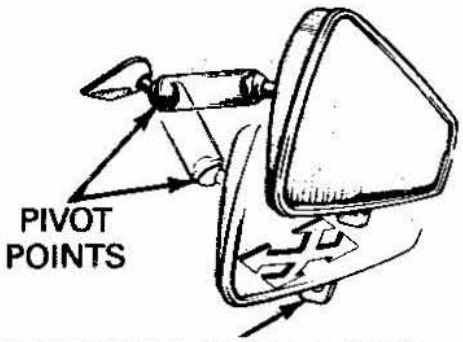
Power Windows (Optional)

Power windows have an ignition interlock so the windows cannot be operated unless the ignition switch is in the "RUN" position. A master control for all windows is provided on the driver's door. Individual switches are provided under each window for passenger use.



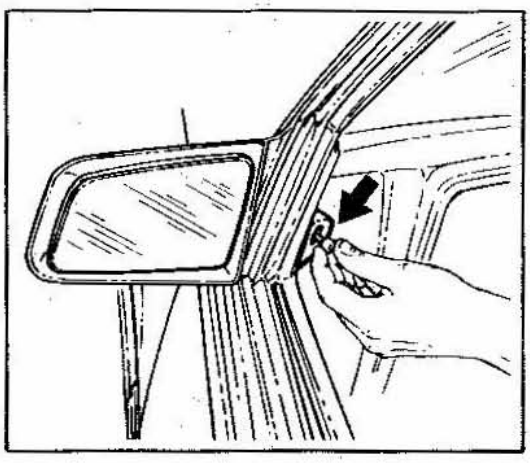
MIRRORS

Inside Rearview Mirror



Outside Rearview Mirror

Adjust the outside mirror so you can just see the side of your vehicle. This helps you determine the location of objects seen in the mirror.



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Convex Rearview Mirror

Your vehicle may have an optional convex outside right-hand mirror. (A convex mirror has a curved surface.)

- Use care when judging the size or distance of a vehicle or object seen in this convex mirror - **such objects will LOOK smaller and appear farther away than when seen in a flat mirror.**
- Use your inside mirror (or glance rearward) to determine the size and distance of objects seen in the convex mirror.
- Adjust the mirror so you can just see the side of your vehicle.

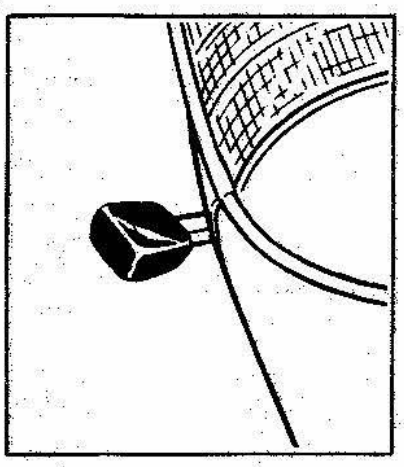
SEAT CONTROLS

Bucket Seats

The front seats may be adjusted forward or rearward by moving the control lever at the front of the seat. Move the control lever to the left to release the locking mechanism; then exert slight body pressure to move seat to desired position. Release lever to lock seat into position.

CAUTION: Do not adjust a manually operated driver's seat while the vehicle is moving. The seat could move suddenly and cause the driver to lose control of the vehicle.

After adjusting a manually operated seat, push it back and forth to be sure it will not move. Take the vehicle to your dealer for service if either seat adjuster does not latch.

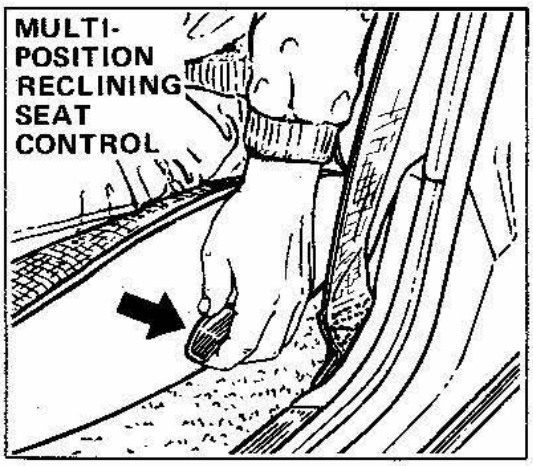


Multi-Position Reclining Seat

The reclining seatback can be tilted forward or rearward of the normal position by first pushing on the seatback, then lifting the control lever on the outer side of the seat. Release the lever to lock the seatback in place.

To return the seatback to an upright position, push rearward slightly on the seatback, then move the control lever. Release the seatback to allow it to move forward. If you do not first push on the seatback before moving the lever, the seatback may jam. To release it, you must push firmly rearward on the seatback before moving the lever, then move the control lever.

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CAUTION: **To reduce the risk of sliding under the lap belt during a collision, an occupied reclining seat should not be reclined any more than needed for comfort. The seatback and seat belts provide best restraint ONLY when the rider is sitting well back and straight up in the seat. (The lap belt is designed to spread the force of a collision over the hip-bone. If you are reclined, the lap belt may slide past your hips and apply restraint forces directly to the abdomen. Therefore, in the event of a frontal collision, the risk of personal injury may increase with increasing recline of the seatback.)**

Do not adjust the reclining seatback on the driver's seat while the vehicle is moving. The seatback could move suddenly and cause the driver to lose control of the vehicle.

Easy Entry Seat (Two-Door Models Only)

The right front seat of your vehicle has an Easy Entry feature.

1. To make it easy to enter the rear seat area, the seat slides forward when you tilt its seatback fully forward.
2. After entry into the rear seat, tip the folding back to its original position and move the seat rearward until it latches.

CAUTION: **ALWAYS press rearward on the seat to be sure the seat adjuster has latched to help avoid personal injury in the event of a collision.**

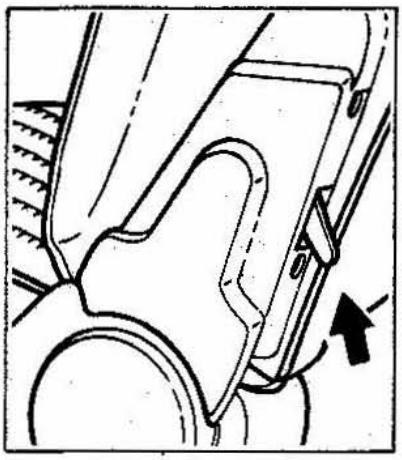
Front Seatback Latches

The seatback latches on folding front seats are designed to limit forward movement of the seatback **only** during a sudden slowing of the vehicle. The seatback can be tilted forward without unlatching **unless** the vehicle is parked "nose down." In that case, pull rearward slightly on the seatback while pulling up on the seatback latch release lever at the bottom outboard side of the seatback.

The latch release lever must be in the "down" position for the latch to work properly. Check now and then to see that each lever moves up and down freely **when the seatback is pushed forward slightly.** If it does not move, or if you suspect the latch may not be working, have it serviced by your dealer.

Keep seat belt webbing and hardware clear of seat hinging, latching and reclining mechanisms when you tilt a folding seat. This helps prevent damage to these belt systems.

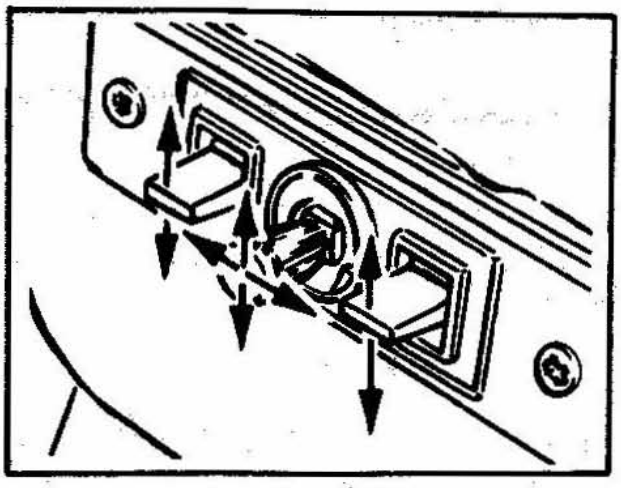
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Power Operated Front Seats (Optional)

The six-way power seat control switch is located at the front outboard side of the driver's seat shell.

The seat can be operated as follows:



1. The front control provides up and down movement of the front of the seat.
2. The center control provides forward and backward movement and up and down movement of the entire front seat.
3. The rear control provides up and down movement of the rear of the seat.

Head Restraints

Head restraints are designed to help reduce the risk of neck injuries. Choose the position which places the top of the head restraint closest to the top of your ears. To raise or lower, just slide the head restraint up or down.

SEAT BELT SYSTEMS

CAUTION: To help reduce the risk of personal injury in collisions or sudden maneuvers use the seat belts following the instructions in this section on their proper use, maintenance, and application with child restraint systems. This includes pregnant women; pregnant women should select a seat with a lap-shoulder belt whenever possible.

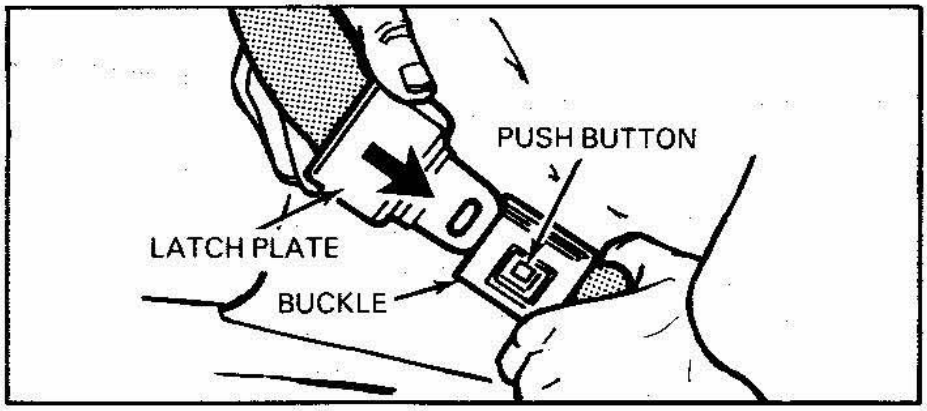
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NEVER:

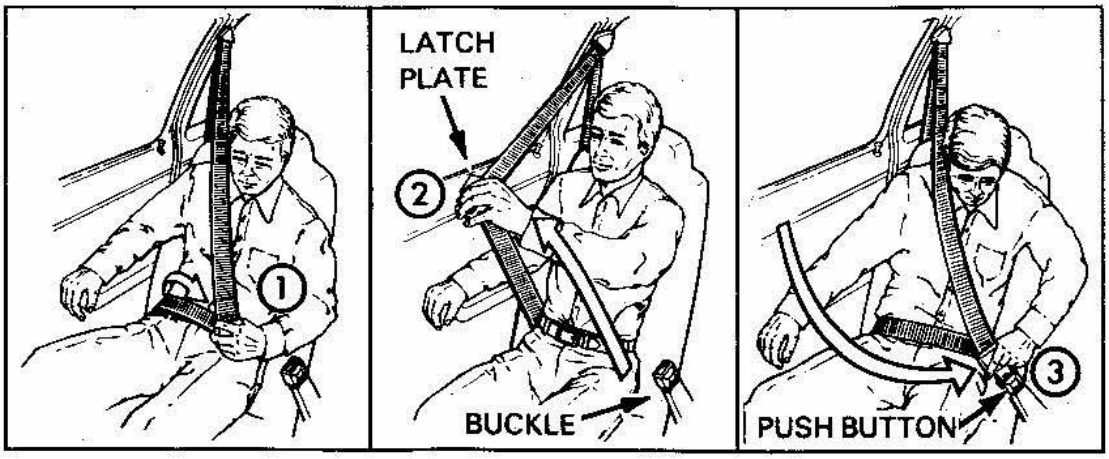
- Wear a shoulder belt under your arm nearest the door.
- Use a belt for more than one person at a time.
- Wear the belts twisted.
- Let the belt system become damaged by a door or seat.
- Put anything into the opening where the seat belt passes through the trim panel. (This may jam the retractor or damage the belt.)

Front Seat Lap-Shoulder Belt

1. Adjust the seat as needed and sit well back and straight up. Grasp the latch plate and:
   - Pull the belt as far as it will reach across your lap.
   - Hold the latch plate at a right angle to the webbing and slide it further (toward the front of the vehicle).
   - Then pull it across your lap and push it into the buckle until it clicks.



2. To reduce the risk of sliding under the belt during a collision, **position the belt across your lap as LOW ON YOUR HIPS as possible and adjust it to a SNUG FIT by pulling the "shoulder" portion upward through the latch plate.**

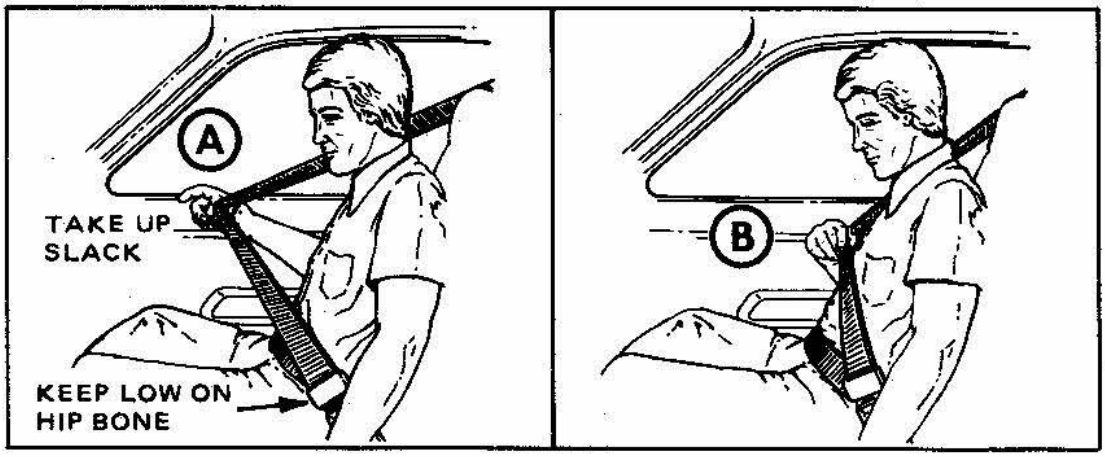


The shoulder portion of the belt is designed to lock **only** during a sudden stop or impact. At other times it should move freely.

3. If the shoulder belt is too snug:
   A. Pull the shoulder belt out at least 130 millimeters (five inches) so that when you let go, it returns to your chest.

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B. Then pull down on the shoulder belt the **least** amount needed to ease pressure but no more than 25mm or one inch and let go.



4. To get rid of the slack in the belt, pull the belt out as you did in Step 3A above.

Keep any shoulder belt slack to a minimum. Too much belt slack could reduce the amount of protection in an accident because the belt is too loose to restrain you properly.

5. To unfasten the belt, push in the button in the center of the buckle. To stow the belt, pull it out about 180 millimeters (seven inches) and hold it while it retracts. On four-door models, the belt should retract when the buckle is unlatched and the door is opened. If the belt does not retract fully, slide the latch plate down the webbing. To help prevent damage to the seat belt and interior trim, before closing the door be sure the belt is fully retracted and the latch plate is out of the way.

Rear Seat Lap Belts

To enter the rear seat in 2-door cars:

- Push the front seat belt "sleeve" rearward out of the door opening and enter the vehicle.
- After entering, push the sleeve forward so it will be easy for the person in the front seat to reach the belt.

Rear seat lap belts next to side windows have retractors which are designed to take up extra webbing.

1. In a single motion pull the rear seat outboard lap belt across your lap enough to push the latch plate into the buckle, until it clicks. If the webbing locks before the latch plate reaches the buckle, let it rewind fully into its retractor to unlock it so the belt can be pulled out to the proper length.
2. These belts should be positioned, worn, and released as described under "Front Seat Lap-Shoulder Belt." Adjust the belt to a SNUG FIT by pulling it firmly across your lap toward the retractor, so it can take up slack.
3. The lap belt at the center seat also should be positioned, worn, and released as described above; however, it does not have a retractor. Adjust it to a SNUG FIT by pulling on the end of the belt coming from the latch plate.

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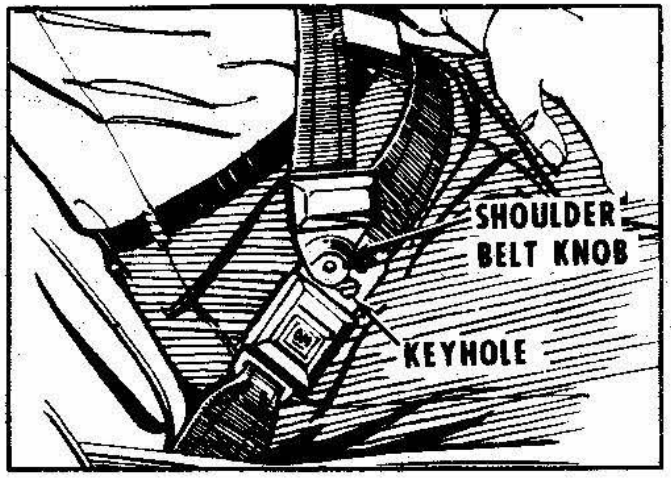
4. To lengthen the center seat lap belt, place the latch plate at a right angle to the belt webbing and pull on the latch plate; the belt should then slide easily.

Rear Seat Shoulder Belts (Dealer-Installed Accessory)

Except Convertible

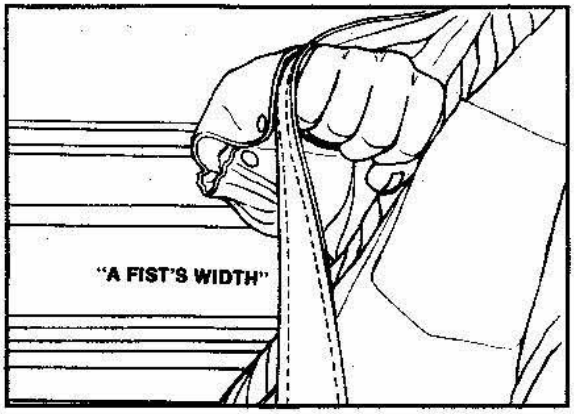
When properly worn with a lap belt, a shoulder belt (available for rear outboard seats) can give riders added protection. It can prevent or reduce impact with the inside of the vehicle by restraining the upper body in a collision, especially in a frontal impact.

1. To use the detachable shoulder belt, **before** fastening the lap belt, place the knob on the shoulder belt end in the "keyhole" on the lap belt latch plate. Tilt the knob as needed to pass it through the slot. Pull the knob firmly upward to seat it at the narrow end of the keyhole, then fasten the lap belt. (Do this in reverse when taking off the shoulder belt and putting it away.)



If your vehicle is a hatchback style with the optional roll-up cargo cover, be sure to route the shoulder belts ABOVE the cargo cover roller when the belts are used. Hold the shoulder belts out to the side if it is necessary to extend or retract the cargo cover while the shoulder belts are in use. **If a shoulder belt is routed under the roller, it could dislodge the roller during an accident increasing the risk of personal injury.**

2. A detachable shoulder belt can be made shorter and longer in the same way as a center seat lap belt.
3. Place a clenched fist between the belt and your chest, as shown. The **detachable** shoulder belt should have enough slack to put a fist's width between your chest and the belt.



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Keep any shoulder belt slack to a minimum. Too much belt slack could reduce the amount of protection in an accident because the belt is too loose to restrain you properly.

Seat Belt Inspection

Now and then check that belts, buckles, latch plates, retractors, reminder systems and guide loops work properly; look for loose parts or damage that could keep the restraint system from doing its job. Replace a belt if the webbing has been cut or otherwise damaged. Replace belts in use during all but a minor collision; if there is **any** question, replace the belt.

SEAT BELT LIGHT/BUZZER REMINDER

When the key is turned to "Run" or "Start," a light will come on for four to eight seconds to remind people to fasten their seat belts. Unless the driver's seat belt is buckled, a buzzer will sound at the same time.

If the seat belt or reminder system does not work as described, see your dealer for service.

CHILD RESTRAINT

All vehicle occupants and **especially children should be restrained** whenever riding in vehicles. Holding a child in your arms is NOT a substitute for a child restraint system. In an accident, a child held in a person's arms can be struck or crushed by any unrestrained rider. An unrestrained child could also be injured by striking the interior, or by being ejected from the vehicle during a sudden maneuver or impact. **A child restraint system can help protect a child in a vehicle.**

In convertibles, a top-strap-equipped child restraint can only be used in the front seat because there is no appropriate place to attach a top strap anchor bracket behind the rear seat in this vehicle. Installing a top strap anchor bracket behind the rear seat may expose the child to hazards if the top is raised or lowered with the child restraint occupied, and, the bracket itself may damage the convertible top.

In using any child restraint system, be sure to read and follow all instructions on installation and use that come with the system.

Riding Without A Child Restraint

For the best protection in an accident or sudden maneuver, children small enough for child restraint systems should be restrained that way. However, the following **may** provide **some** degree of protection for such children if a child restraint is not used.

- Place an infant who cannot sit up in a baby carrier, preferably covered and padded. Put it crossways on the vehicle seat and securely restrain it with the vehicle's seat belts. Or, if that is not possible, place it crossways on the floor behind the driver's seat.

- Children who can sit up by themselves should be restrained with a lap belt when riding in a rear seat. In the front seat a child should wear both lap and shoulder belt. If the shoulder belt irritates the neck or face move the child closer to the center of the vehicle or to the rear seat. Never let a child stand or kneel on any seat. If unusual conditions prevent the use of restraints, the child should stand on the floor behind the **driver's** seat.

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SECTION 2

STARTING AND OPERATING

ENGINE EXHAUST GAS CAUTION

(CARBON MONOXIDE)

CAUTION:— Do not breathe exhaust gas because it contains carbon monoxide, which by itself has no color or odor. Carbon monoxide is a dangerous gas. It can cause unconsciousness and can be lethal.

If at any time you think exhaust fumes are entering the vehicle, have the cause determined and corrected as soon as possible. If you must drive under these conditions, drive only with ALL windows fully OPEN.

Protect against carbon monoxide entry into the vehicle body. The best way is to keep the engine exhaust system, vehicle body and body ventilation system properly maintained. We recommend that the exhaust system and body be inspected by a competent technician:

- each time the vehicle is raised for an oil change;
- whenever a change is noticed in the sound of the exhaust system;
- whenever the exhaust system, underbody or rear of the vehicle is damaged or becomes corroded.

See your Maintenance Schedule folder for parts requiring inspection.

To allow proper operation of your vehicle's ventilation system, keep the air inlet grille in front of the windshield clear of snow, leaves or other obstructions at all times.

DO NOT PARK WITH THE ENGINE RUNNING OR IDLE THIS VEHICLE FOR MORE THAN 10 MINUTES WITH THE VENTILATION SYSTEM CONTROL SWITCH IN THE "OFF" POSITION. EVEN WITH THE VENTILATION SYSTEM ON, RUNNING THE ENGINE WHILE PARKED OR STOPPED FOR LONGER PERIODS OF TIME IS NOT RECOMMENDED. ENTRY OF CARBON MONOXIDE INTO THE CAR BODY IS POSSIBLE WITH A POORLY REPAIRED, DAMAGED, OR CORRODED EXHAUST SYSTEM OR BODY.

Do not run the engine in CONFINED areas (such as garages or next to a building) any more than needed to move the vehicle. When the vehicle has to be stopped in an UNCONFINED area with the engine running for any more than a few minutes, take the following steps:

A. Adjust the heating or cooling system to force outside air into the vehicle as follows:
   1. On vehicles not equipped with air conditioning, set the fan to intermediate or high speed and the upper control lever to any position.
   2. On vehicles equipped with air conditioning, set the fan to an intermediate or high speed and the upper control lever to any position except "OFF" or "MAX."

B. Keep the exhaust tailpipe area clear of snow and other material to help reduce the buildup of exhaust gases under the vehicle. This is particularly important when parked in blizzard conditions.

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Driving with the trunk lid, hatchback or liftgate on station wagon models open is not recommended. Under some conditions, exhaust gases may be drawn into the vehicle. If the trunk lid, hatchback or liftback must remain open for some reason while moving, or if electrical wiring or other cable connections to a trailer must pass through the seal between the trunk lid, hatchback or liftback and the body, follow these precautions:

- Close all windows.
- Adjust the heating or cooling system to force outside air into the vehicle as described above, but set the fan to high speed.
- On vehicles with outside air vents in or under the instrument panel, open the vents fully.

NEW VEHICLE "BREAK-IN" PERIOD

You can drive your new vehicle from its very first mile/kilometer without following a formal "break-in" schedule. However, there are things you can do during the first few hundred miles/kilometers of driving that will add to the future performance and economy of your vehicle.

We recommend you limit your speed during the first 500 miles (800 kilometers) to a maximum of 55 mph (90 km/h); but do not drive for long periods at any one constant speed, either fast or slow. During this time, avoid full throttle starts and, if possible, avoid hard stops especially during the first 200 miles (320 kilometers) of driving.

Always drive at moderate speed until the engine has completely warmed up.

If you plan to use your new vehicle for trailer towing, see the following.

TRAILER TOWING

This car is designed and intended to be used mainly to carry people. Towing a trailer will affect handling, durability and economy. Your safety and satisfaction depend upon proper use of correct equipment. Also, you should avoid overloads and other abusive use.

The maximum loaded trailer weight you can pull with your vehicle depends on your intended use and what special equipment has been installed on it.

Information on trailer towing ability, special equipment required, and optional equipment available should be obtained from your dealer. Ask for the trailering brochure. Or, write: Consumer Relations Department, Chevrolet Motor Division, Warren, Michigan 48090. (In Canada, write to General Motors of Canada Limited, Customer Services Department, Oshawa, Ontario L1J 5Z6.)

Tires

When towing trailers, be sure your tires are properly inflated to the inflation pressure shown on the Tire Placard on the driver's door.

The allowable passenger and cargo load for this vehicle, also shown on the Tire Placard, is reduced by the trailer tongue weight whenever the trailer is attached to the vehicle. See "Service and Maintenance," Section 5 for more tire information.

Maintenance

More frequent service is required when using your vehicle to pull a trailer. See the Maintenance Schedule folder for Automatic Transaxle Fluid and Engine Oil change requirements for trailering.

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Now and then, check that all trailer hitch bolts and nuts are tight. Also see the Maintenance Schedule folder, and the Index in this manual, for important facts on belts, cooling system care and brake adjustment.

Break-In Schedule

See the new vehicle break-in information in this manual. Also, we recommend you drive your new vehicle for 500 miles (800 kilometers) before trailer towing. At the end of this 500 mile (800 kilometer) break-in period, avoid speeds over 50 mph (80 km/h) and full throttle starts during the first 500 miles (800 kilometers) of trailer towing.

CAUTION:

BRAKES- To help avoid personal injury due to poor braking action:

- Trailer brakes of adequate size are required on trailers more than 450 kilograms (1,000 pounds) loaded weight.
- If you use trailer brakes with this vehicle, follow the installation and balance instructions of the trailer brake manufacturer.
- Do not tap into the vehicle's brake system if the trailer brake system uses more than 0.3 cubic centimeter (0.02 cubic inches) of fluid from the vehicle's master cylinder. In this case, the vehicle's brake fluid capacity will not be enough to operate both the vehicle and trailer brakes under all kinds of use.
- All brake fluid parts must be able to stand 20 650 kPa (3,000 psi). The brake fluid tap must be made at the upper rear master cylinder port. Copper tubing is subject to fatigue failure and must not be used.

HITCHES- To help avoid personal injury due to sway caused by such things as crosswinds, large trucks passing or road roughness, or due to separation of the trailer:

- A properly installed and adjusted (1) frame mounted, weight-distributing hitch and (2) sway control with enough capacity are required for trailers more than 900 kilograms (2,000 pounds) loaded weight.
- Keep the trailer tongue load at 10 percent of the loaded trailer weight for dead-weight hitches and 12 percent for weight-distributing hitches. Tongue loads can be adjusted by proper distribution of the load in the trailer. This can be checked by weighing separately the loaded trailer and then the tongue.
- Do not use axle-mounted hitches. They can damage the axle housing, wheel bearings, wheels or tires.
- Do not allow steel hitch parts to be in direct contact with aluminum bumper parts, if so equipped. When steel and aluminum are in contact, a galvanic reaction (a form of corrosion) can occur which will progressively lessen the strength of the contacting metals to the point of failure. An organic compound or paint should be used as a barrier on the contacting surfaces and on the attaching fasteners.
- When you remove a trailer hitch, be sure to seal any mounting holes in the body. This will help prevent entry of exhaust fumes, dirt or water. (See "Engine Exhaust Gas Caution (Carbon Monoxide)" at the beginning of "Starting and Operating," Section 2 of this manual.)

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NOTICE: Use only trailer hitches which permit normal operation of the Energy Absorbing Bumper system, if so equipped. For example, a rigid fore and aft connection between the bumper and any other part of the vehicle may increase damage in the event of a collision.

TRAILER TOWING TIPS

Getting Started

Before entering traffic with a trailer that has electric brakes, start the vehicle and trailer moving and apply the trailer brakes by hand to be sure the trailer brakes are working and the trailer electrical system is connected.

Engine Cooling

If your engine overheats, follow the steps under "Engine Cooling System Overheating" in "In Case of Emergency," Section 3 of this manual.

Long Uphill Grades

When going up long grades, you can reduce the chance of engine overheating by turning off the air conditioner, if so equipped.

Down Steep Or Long Grades

Before going down a steep or long grade, reduce speed and shift the transaxle into a lower gear to help control your vehicle's speed. Try not to hold the brake pedal down too long or too often. This could cause the brakes to overheat and reduce brake effectiveness.

Transaxle

See the method for checking the transaxle fluid level in "Service and Maintenance," Section 5 of this manual.

Parking

You should not park vehicles with trailers on a grade (hill). However, if you must park on a grade, these steps must be followed:

1. Apply the regular brakes.
2. Have someone place wheel chocks under the trailer wheels.
3. When the wheel chocks are in place, release the regular brakes until the chocks absorb the load.
4. Apply the parking brake.
5. Shift the transaxle to "P"(Park).

If the vehicle is parked on a grade, don't shift the transaxle to "P"(Park) until the trailer wheels are chocked and the parking brake is set. If you do, the weight of the vehicle and trailer may put so much force on the parking pawl in the transaxle that it may be hard to shift out of "P"(Park).

When starting, after being parked on a grade:

1. Apply the regular brakes and hold.
2. Start the engine in "P"(Park).
3. Shift into gear and release the parking brake.
4. Release the regular brakes and drive until the chocks are free.
5. Apply the regular brakes and have someone remove the chocks.

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FUEL REQUIREMENTS

Your engine is designed to use **only unleaded** gasoline. Unleaded gasoline must be used for the emission control system to operate properly. Its use will also reduce spark plug fouling, exhaust system corrosion and engine oil deterioration.

Using leaded gasoline can damage the emission control system and could result in loss of emission warranty coverage. The effectiveness of the catalyst in the catalytic converter decreases after use of as little as one tank of leaded gasoline. Also, your vehicle may have the "Computer Command Control" system, which includes an oxygen sensor. Leaded gasoline will damage the sensor, and deteriorate emission control. (For more information, see "Computer Command Control System" in "Service and Maintenance," Section 5 of this manual).

Federal regulations require that pumps delivering unleaded gasoline be labeled with the word UNLEADED. Only these pumps have nozzles which fit the filler neck of your vehicle's gasoline tank.

In the United States, Federal law also requires that gasoline octane ratings be posted on the pumps. The octane rating shown is an average of Research (R) octane number and Motor (M) octane number. In most parts of the United States, you should use unleaded gasoline with an octane rating of at least 87. However, you may use unleaded gasoline with an octane rating as low as 85 in these high-altitude areas: Colorado, Montana, New Mexico, Utah, Wyoming, northeastern Nevada, southern Idaho, western South Dakota, and that part of Texas which is directly south of New Mexico.

Using unleaded gasoline with an octane rating lower than stated above can cause persistent, heavy "spark knock." ("Spark knock" is a metallic rapping noise.) If severe, this can lead to engine damage. If you detect heavy spark knock even when using gasoline of the recommended octane rating, or if you hear steady spark knock while holding a steady speed on level roads, have your dealer correct the problem. Failure to take steps to stop such knocking is misuse of the vehicle, for which Chevrolet is not responsible.

However, now and then you may notice light spark knock for a short time while accelerating or driving up hills. This is no cause for concern, because you get the greatest fuel economy benefit from the gasoline's octane rating when there is occasional light spark knock. Using gasoline with a higher octane rating than that which allows occasional spark knock is an unnecessary expense.

Gasoline/Ethanol Blends

Blends of unleaded gasoline and ethanol (grain alcohol) sometimes known as gasohol are available in some areas. You may use these blends in your vehicle, if they are no more than 10 percent ethanol, without jeopardizing the New Vehicle and Emission Warranties. Be sure the gasoline-ethanol blend has octane ratings no lower than those recommended for unleaded gasoline. Most drivers will not notice operating differences with blends of up to 10 percent ethanol, but some may. In that case, your authorized dealer can make certain adjustments, provided they do not violate the Federal Emission Standards. If you are still not satisfied with ethanol-gasoline blend performance, you may prefer to use unleaded gasoline.

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Other Gasoline/Alcohol Blends

Some fuel suppliers sell gasoline containing alcohol without advertising the presence of alcohol or giving it a special name such as gasohol. If you are not sure whether there is alcohol in the gasoline you buy, check with the service station operator.

DO NOT USE gasolines containing methanol (methyl or wood alcohol) that do not also contain cosolvents and corrosion inhibitors for methanol. Also, DO NOT USE gasolines that contain more than 5 percent methanol even if they contain cosolvents and corrosion inhibitors. Fuel system damage or vehicle performance problems resulting from the use of such fuels is not the responsibility of Chevrolet and may not be covered under the new vehicle warranties.

Although gasolines containing 5 percent or less methanol and appropriate cosolvents and inhibitors for methanol may be suitable for use in your vehicle, evidence of their suitability is as yet incomplete; therefore, Chevrolet cannot, at this time, endorse their use.

NOTICE: Take care to not spill gasoline during refueling. Gasolines containing alcohol can cause paint damage, which may not be covered under the New Vehicle Warranty.

OPERATION IN FOREIGN COUNTRIES

All models are specifically built to comply with United States Federal Regulations regarding environmental quality. To comply, unleaded fuel of sufficient octane rating must be used. These fuels may not be available in other countries. If you intend to take your vehicle outside the U.S. or Canada, contact the GM Overseas Service Section at the following address, to find out what you must do in order to operate your vehicles in other countries, or for additional information and a copy of the applicable maintenance schedule. General Motors Corporation, Overseas Service Section, 2-128 General Motors Building, Detroit, Michigan 48202, (313) 556-4862.

When writing, please include:

- the Vehicle Identification Number and
- the countries in which you plan to travel.

Before taking your vehicle to a foreign country, check to see if the proper fuel is available. Most major oil companies or domestic auto clubs should have this information. Foreign offices of major oil companies or auto clubs may also be of help.

Be aware that, use of leaded gasoline or use of fuel that has a lower octane rating than is required by your vehicle, will cause the emission control system to lose its effectiveness and can cause engine knock or serious engine damage. Neither GM Overseas nor Chevrolet will be responsible for damage to your vehicle as a result of not using the proper fuel.

IMPORTANT FACTS YOU SHOULD KNOW ABOUT FUEL ECONOMY AND HOW TO IMPROVE IT

How you drive, where you drive, and when you drive all affect how many miles/kilometers you can get from a gallon/liter of fuel. You can save fuel if you avoid "Jackrabbit" starts, maintain as constant a throttle position as traffic conditions allow once you have reached cruising speed, and avoid sudden stops which waste energy in the form of heat generated in braking.

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Frequent short trips, excessive idling and use of the air conditioner in cool weather (when "vent" would provide adequate comfort), all can contribute to decreased fuel economy.

The careful attention you give your vehicle as far as maintenance and repairs are concerned will also help fuel economy. Proper engine and air cleaner maintenance, lubrication intervals, wheel alignment and tire inflation pressures, when closely adhered to, will pay dividends in improved fuel economy as well as longer vehicle life.

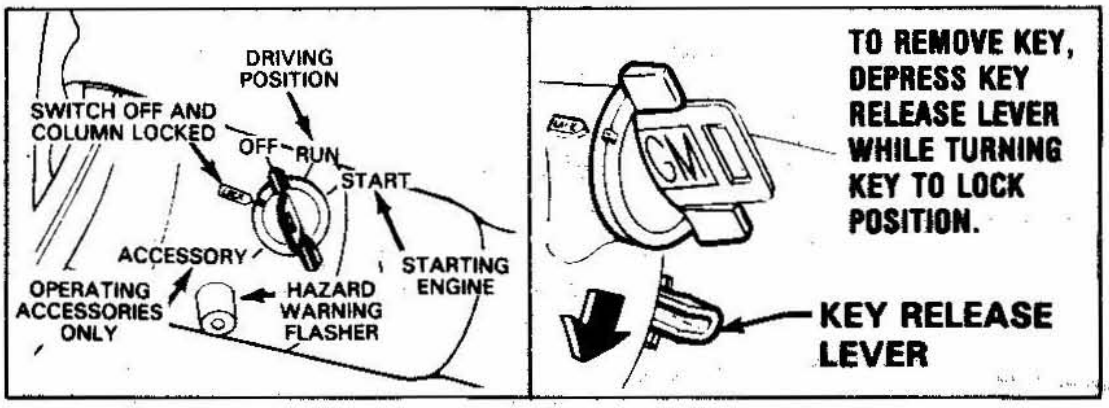
Fuel Selection

Use **only unleaded** gasoline meeting the octane ratings given under "Fuel Requirements" in this section of the manual. Unleaded gasoline must be used for the emission control system to operate properly. Leaded gasoline will damage the Computer Command Control system oxygen sensor (if so equipped) and affect emission control. Using leaded gasoline can also damage other parts of the emission control system and could result in loss of emission warranty coverage.

STEERING COLUMN CONTROLS

ANTI-THEFT STEERING COLUMN LOCK

The anti-theft lock (ignition) on the right side of the steering column has five positions:



- **Accessory**-You can use some electrical accessories when the engine is not running. To engage this position, push in the square-head key and turn the top of the key toward you.
- **Lock**-Normal parking position. It locks the ignition and prevents normal use of the steering wheel and shift controls. The ignition key cannot be turned to "Lock" and removed until the shift lever is moved to "P" (Park) on automatic transaxle models (shift to "Reverse" on manual transaxle models). If you have a manual transaxle, "Lock" prevents normal use of the steering wheel. The ignition key cannot be turned to "Lock" without pressing down the key release lever.
- **Off**-You can turn off the engine without locking the steering wheel and shift controls.
- **Run**-Normal operating position.
- **Start**-Cranks the engine.

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CAUTION: **If you need to turn off the engine while the vehicle is moving, turn the key only to "Off." DO NOT depress the key release lever while turning the ignition off. This will lock the steering column and result in loss of ability to steer the vehicle.**

If you have trouble turning the key to unlock the ignition, first be sure the key is pushed in all the way. Then, try to turn the steering wheel as hard as you can in the direction the wheels are turned. At the same time, turn the ignition key with as much effort as you can apply with your hand. Do not try to use a tool of any kind to apply more force on the lock knob, as this could break the knob.

NOTICE: **Do not park, idle, or operate your vehicle over combustible materials, such as grass or leaves. They could touch the hot exhaust system and ignite.**

Parking

CAUTION: **Before the driver leaves this vehicle, to reduce the risk of personal injury as a result of vehicle movement:**

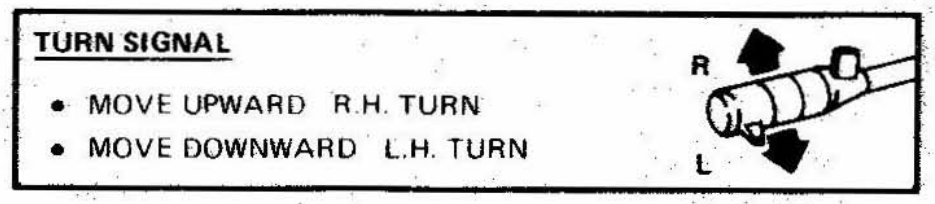
1. **Firmly apply the parking brake.**
2. **Shift the automatic transaxle to Park or the manual transaxle to "Reverse."**
3. **Turn the key to "Lock." On vehicles with manual transaxles, depress the key release lever and turn the key to "Lock."**
4. **Remove the key (the chime is designed to remind you).**

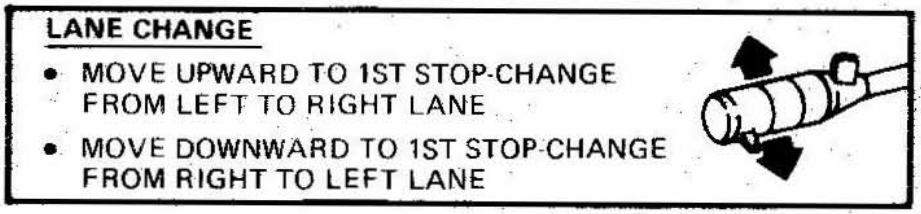
To reduce the chance of personal injury and/or vehicle damage due to engine overheating, never leave the engine idling without an alert driver present. If the engine should overheat, as indicated by the Engine Coolant Temperature light or gage, immediate action is required to correct the condition. Continued operation of the engine even FOR A SHORT TIME may result in a fire.

TURN SIGNAL AND MULTI-FUNCTION LEVER

The turn signal lever on the left side of the steering column also controls headlight low-beam and high-beam, the windshield wiper/washer, and the optional Cruise Control. (See Cruise Control operation in this section.)

- **Turn Signal** - Move the lever up to the second stop to signal a right turn. Move it down to the second stop to signal a left turn. When the turn is completed, the signal will cancel and the lever will return to horizontal.





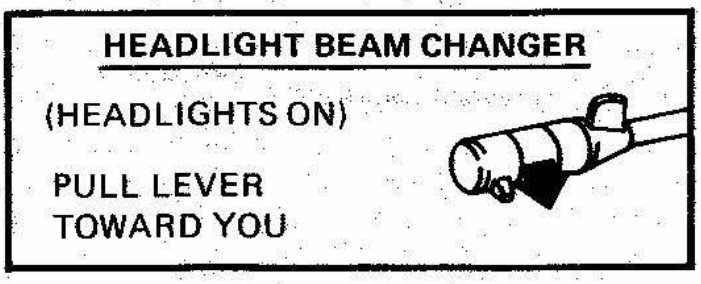
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- **Lane Change Signal** - In some turns, such as changing lanes, the steering wheel is not turned far enough to cancel the turn signal. For convenience, you can flash the turn signal by moving the lever part way (to the first stop) and holding it there. The lever will return to horizontal when you release it.

A green light on the instrument panel is designed to flash to tell you that the front and rear turn signal lights are working. If the light stays on, but does not flash, check for burned-out turn signal bulbs. If the green light does not come on when you move the lever, check the fuse and indicator bulb.

However, if you ordered a trailer towing option in which extra wiring was added to attach the trailer lighting, a different type of flasher was installed. In this case, the green light will continue to flash even if a turn signal bulb burns out. Therefore, you must regularly look at the front and rear turn signal lights to be sure they are working.

- **Headlight Beam Changer** - With the headlights on, pull the lever toward you until you hear a click, then release it. The lights will change from low-beam to high-beam or from high-beam to low-beam. When the high-beams are on, a light will appear on the instrument panel.

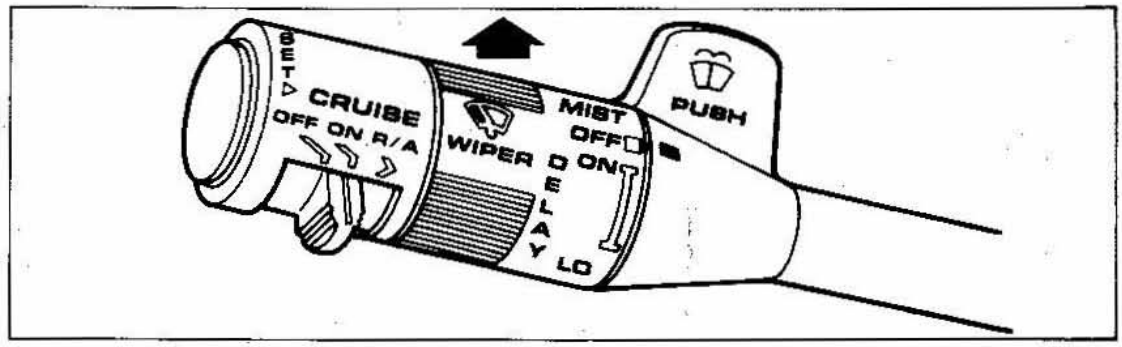


- **Standard Windshield Wiper** - The standard windshield wiper system controls are on the band marked "WIPER" on the turn signal lever.
  - For a single wiping cycle, turn the band toward you. Hold it there until the wipers begin wiping, then release it. The wipers will stop after one cycle. For several cycles, hold the band in place as long as needed.
  - For steady wiping at low speed, turn the band away from you to the first stop. For high-speed wiping, turn the band to the next stop. Turn the band back to "OFF" to turn off the wipers.
- **Delay Windshield Wiper** - The optional delay windshield wiper system lets you vary the wiper speed from a 16-second delay between sweeps up to the normal low and high speeds of the standard wiper.
- The Delay wipers work the same as the standard wipers, except for the delay feature. To use the wipers with a delay between sweeps, turn the band on the turn signal lever to "ON."
- Turn the "Delay" band away from you to control the amount of delay. The wipers will move more often the closer the band is to "LO." Turn it fully to the first stop for steady wiping at low speed.
- **Windshield Washer** - To spray washer fluid on the windshield, push the "paddle" on top of the turn signal lever. (This will also turn on the low-speed wipers.) The spray will continue as long as you hold in the paddle.

After using the windshield washer on the standard wiper system, turn the band back to "OFF" to turn off the wipers.

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With the Delay wiper system, the wipers will stop (or return to the action for which they were set) after completing the wash cycle.



Operating Tips

- Clear ice or packed snow from the wiper blades before using the wipers. Carefully loosen or thaw wipers that are frozen to the windshield.
- Check the washer fluid level regularly. Do it often when the weather is bad.
- Use a fluid such as GM Optikleen to help prevent freezing damage, and for better cleaning. Be sure to put the fluid in the proper reservoir.
- Do not use radiator antifreeze in the windshield washer; it could cause paint damage.
- **In cold weather, warm the windshield with the defroster before using the washer--to help prevent icing that may block the driver's vision.**

STARTING THE ENGINE

1. **Apply the parking brake.**
2. **Automatic Transaxle — Shift the transaxle to "P" (Park) or "N"(Neutral) ("P" preferred).** A starter safety device is designed to keep the starter from operating if the shift lever is in any drive position. (If you need to re-start the engine while the vehicle is moving, move the shift lever to "N.")

   Manual Transaxle — Press the clutch pedal to the floor and shift the transaxle to Neutral. Hold the clutch pedal to the floor while you are starting the engine. A starter safety device is designed to keep the starter from operating if the clutch pedal is not pushed down all the way.
3. Start the engine as outlined below for different conditions.

NOTICE: Do not crank the engine for more than about 15 seconds at a time. Wait 10 to 15 seconds before trying again. This will help prevent damage to the starter.

COLD OR WARM ENGINE:

- **Do not push down the accelerator pedal.** With your foot off the pedal, crank the engine by turning the ignition key to "Start". Release the key when engine starts.
- If engine does not start after 3 seconds of cranking, push down the accelerator pedal to 1/3 of its travel while cranking. Release the key (and accelerator pedal) when the engine starts.

After starting, the idle speed will automatically be reduced as the engine warms up.

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4. Apply the regular brakes and shift into the proper gear. Release the parking brake and drive off.

IF ENGINE FAILS TO START AFTER NORMAL STARTING PROCEDURE

1. If you tried the Cold or Warm Engine starting procedure and the engine still does not start, push down the accelerator pedal to the floor and hold it there while cranking the engine. This should clear the engine if it is flooded.
2. If the engine has been flooded with too much fuel, it may start to run but not have enough power to keep running. In that case, continue cranking with the accelerator pedal all the way to the floor until the engine clears itself of excess gasoline and runs smoothly. (But, do not crank more than 15 seconds at a time or you could damage the starter.)

Gasoline Engine Block Heater

The optional gasoline engine block heater is designed to warm the block area for improved cold weather starting. It can also help reduce fuel consumption when a cold engine is warming up.

To use the block heater:

1. Open the hood.
2. Unwrap the electrical cord which is stowed in the engine compartment. (After using the block heater, be sure to properly restow the cord, to help keep it away from moving engine parts.)
3. Plug the cord into any three-prong, 110-volt outlet (normal household current).

NOTICE: If the cord is too short, use a heavy-duty, three-prong extension cord. Do not use an extension cord such as you would use for a lamp because the cord may overheat.

Outside temperature, oil viscosity, etc. will affect how long the block heater should remain plugged in. Contact your authorized dealer for advice for the conditions in your area.

TRANSAXLE

DESCENDING A GRADE

CAUTION: To reduce the risk of personal injury, before going down a steep or long grade reduce speed and shift the transaxle into second or low gear to help control your speed. (Do this with EITHER an automatic or manual transaxle.) Do not hold the brake pedal down too long or too often while going down a steep or long grade. This could cause the brakes to get hot and not work as well. As a result, the vehicle will not slow down at the usual rate. Failure to take these steps could result in loss of vehicle control.

DRIVING ON SLIPPERY SURFACES

While driving on a slippery surface avoid sudden acceleration, or engine braking actions (due to shifting to a lower gear), which could cause the wheels to skid. Skid correction is called for at these times.

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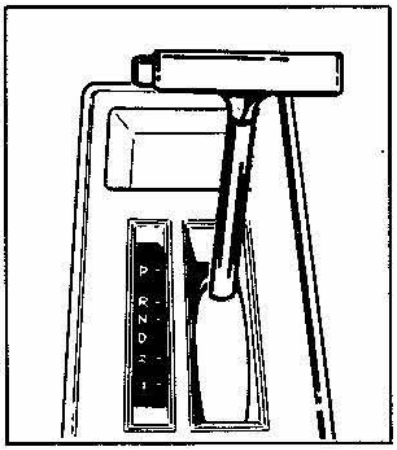
AUTOMATIC TRANSAXLES

Automatic transaxles replace the standard clutch and transaxle. After starting the engine with the selector lever in "N" (Neutral) or "P" (Park) position, select the range desired (see table) and depress the accelerator. A gradual start with a steady increase in accelerator pressure will result in best possible fuel economy. Rapid acceleration for fast starts will result in greater fuel consumption.

AUTOMATIC TRANSAXLE – 3 SPEED

P – (PARK)	This position is used to lock the transaxle when the vehicle is parked or while starting the engine. Never move the shift lever to Park until your vehicle is fully stopped. Use this position together with the parking brake.
R – (REVERSE)	This position is used for backing the vehicle. Bring your vehicle to a complete stop before shifting to Reverse.
N – (NEUTRAL)	This is the out-of-gear position. You may restart a stalled engine while the vehicle is still moving with the selector in Neutral. This position is also used when towing the vehicle. See the "In Case of Emergency" section for towing facts.
D – (DRIVE)	Use this position for all normal forward driving. Forced downshifts – with the selector in "D" you can get an automatic downshift at speeds under 35 mph (60 km/h) by pressing the accelerator pedal approximately halfway to the floor. You will also get a forced downshift at speeds above 35 mph (60 km/h) by pressing the pedal all the way to the floor. This will give you increased acceleration for passing maneuvers.
2 – (LOW2)	This range is used when extra performance is required for hill climbing or it can also be used to provide "engine braking" to slow the vehicle when going down medium grades. The shift lever may be moved from "D" to "2" (and vice versa) under most driving conditions.
1 – (LOW1)	This position is used to provide maximum engine braking when driving down very sharp grades or when maximum performance is required to climb a steep hill or run through deep snow or mud. You may shift into 1 at any speed but the transaxle will not lock into Low until vehicle speed is under 40 mph (60 km/h).

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Automatic transaxle shift quadrants of all GM vehicles continue the uniform sequence of selector positions. Shift indicators are arranged with "P"(Park) position at one end, followed in sequence by "R"(Reverse), "N"(Neutral) and the forward driving ranges. All automatic transaxles are equipped with a starter safety switch designed to permit starting the engine only when the transaxle selector is in the "P"(Park) or "N"(Neutral) position. For additional engine braking effect, as sometimes needed in mountainous driving, place the transaxle in an intermediate or low range.

Your automatic transaxle has a clutch-type torque converter. The clutch is designed to engage when the vehicle reaches a steady speed above 25 to 45 mph (40 to 72 km/h). When engaged, the clutch provides a direct connection between the engine and the drive wheels. This direct connection allows for more efficient operation of the transaxle and thereby helps contribute to improved fuel economy.

With the clutch-type converter, you may notice some operational differences compared to open-type automatic transaxle equipped vehicles. When the clutch engages, for example, you may notice what feels like an extra transaxle shift. Also, on occasion, you may feel certain incidental engine pulsations in the 30 to 50 mph (50 to 80 km/h) range. This feel is similar to that sometimes experienced in a manual transaxle equipped vehicle. In addition, when the accelerator pedal is released abruptly, you may feel a slight impulse before the clutch disengages.

These conditions are normal. They have no adverse effect on your vehicle and do not indicate the need for repairs.

Notice

The following practices could result in automatic transaxle failure:

- Shifting between forward and reverse driving range while operating the engine at high speed or heavy throttle, such as when the driving wheels are on snow or ice--commonly called "rocking." (See the correct method for "rocking" a vehicle under "Freeing Vehicle from Sand, Mud, Snow or Ice" in "In Case of Emergency," Section 3 of this manual.)
- Shifting to "R"(Reverse) or any forward range while operating the engine at high speed in "N"(Neutral) or "P"(Park).
- Shifting to "P"(Park) while the vehicle wheels are still turning.
- Operating the transaxle at or near "stall condition" for more than 10 seconds at a time. ("Stall condition" is when the engine is running at high speed while the transaxle is in a driving range and the drive wheels aren't

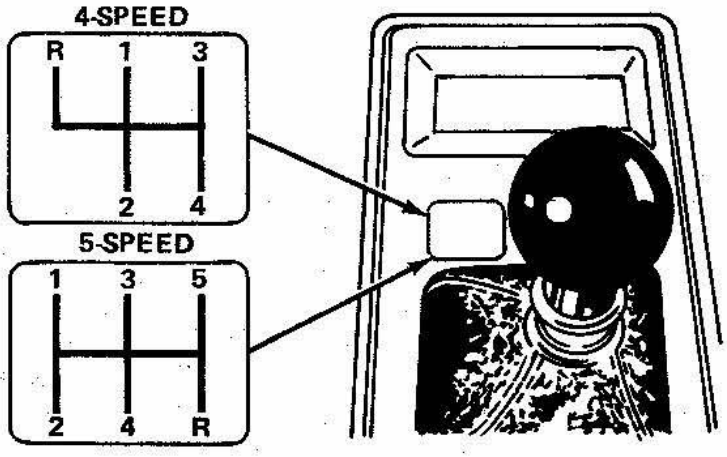
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moving, such as when stuck in deep sand or when the vehicle is against a fixed barrier.)

- Holding vehicle on an upgrade with the accelerator pedal. (Use the regular brakes to hold vehicle on an uphill grade.)

MANUAL TRANSAXLE

The standard 4-speed manual transaxle shift pattern is shown in the figure.



This transaxle is designed to be completely synchronized in all forward gears and may be downshifted into "1st" gear at any speed below 20 mph (30 km/h). Always depress the clutch pedal **fully** before attempting to shift into any gear. In "1st" and "Reverse" gear -- slowly release the clutch pedal while at the same time pressing down on the accelerator pedal. In all other gears the clutch may be released a little faster. This helps to reduce clutch wear.

When shifting into "Reverse" gear, push clutch pedal in then lift up on the ring located on the gear shift lever, hold ring in position until you have moved the shift lever into "Reverse" gear. The gear shift lever on a 5-speed transaxle is uninhibited, therefore, there is no gear shift ring.

Driving Precautions - Manual Transaxles

- Do not ride the clutch pedal; this produces a partly disengaged condition that may result in damage to the clutch.
- Downshift one or two gears from high gear when driving at slow speeds (less than 30 mph or 50 km/h) in stop-and-go traffic for improved vehicle performance during acceleration and when descending steep grades.
- Shift to the next lowest gear for extremely hard pulls at low road speeds.
- Do not overspeed engine when shifting down to next lowest gear.
- Shift the gears with a moderate effort to allow time for the transaxle synchronizers to coordinate.
- When stopped on an upgrade, do not hold car with engine. Use your regular brake.
- Do not coast in "Neutral" (illegal in many states).
- Set parking brake firmly before leaving the car.

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For the best compromise between vehicle performance and fuel economy, upshift the transaxle as recommended in the chart.

Shift at the highest vehicle speed listed unless you have reached cruising speed. (Cruising speed is a relatively steady speed which includes slight variations in speed to allow for road and traffic conditions.) For cruise, use the highest gear for that speed.

MANUAL TRANSAXLE RECOMMENDED SHIFT SPEEDS IN MPH (Km/h)

Engines & Transaxles	Acceleration Shift Speed				Cruise Shift Speed			
	1 to 2	2 to 3	3 to 4	4 to 5	1 to 2	2 to 3	3 to 4	4 to 5
2.0L L4 Eng. Code P 4-speed (M19) 4.10 Axle	15 (24)	25 (40)	40 (64)			20-25 (32-40)	27-40 (43-64)	
2.0L L4 Eng. Code P 5-Speed (MY7) 3.83 Axle	15 (24)	25 (40)	40 (64)	45 (72)		20-25 (32-40)	27-40 (43-64)	35-45 (56-72)

If vehicle speed drops below 20 mph (30 km/h), or if the engine is not running smoothly, you should downshift to the next lowest gear. You may need to downshift two or more gears to keep the engine running smoothly or for satisfactory performance.

Upshift Indicator Light

If your vehicle has a manual transaxle, there may or may not be a "SHIFT" light on the instrument panel. After the engine is warmed up, this light will come on if you can get better fuel economy by shifting to the next higher gear if conditions permit. Best fuel economy can be achieved by accelerating slowly and shifting to the next higher gear when the "SHIFT" light comes on.

Safe operation of the vehicle may require shifting differently than indicated by the "SHIFT" light to adapt to weather, road, or traffic conditions. The "SHIFT" light should be ignored when downshifting or when hard acceleration is required for satisfactory performance.

Downshifting one or more gears may be required to keep the engine running smoothly or to maintain satisfactory performance.

POWER STEERING

If the power steering assist system goes out because the engine has stopped or the assist system has failed, the vehicle can still be steered. However, much greater effort is needed, especially in sharp turns or at low speeds.

TILT STEERING WHEEL

The optional tilt steering wheel can be tilted up above normal position to provide additional room for entrance and exit as well as selected driving positions below normal height. The tilt control lever is located on the left side of the steering column just behind the turn signal lever. To operate pull the lever towards you and move the steering wheel to your desired position then release the lever. This permits individual selection of the most comfortable positions for all driving conditions. On longer trips the steering wheel position may be changed to help minimize tension and fatigue.

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CRUISE CONTROL WITH RESUME/ACCEL FEATURE

Cruise Control is an optional speed control system. The system allows the vehicle to keep a constant forward speed during most normal driving without keeping your foot on the accelerator pedal, thus increasing driver comfort on long trips. The system can hold a speed of about 30 mph (50 km/h) or higher within the limits of your engine.

The system is also designed to resume a pre-set cruising speed after:

- Braking, clutching with manual transaxle vehicles, without using the accelerator pedal.
- Accelerating from a given set speed to a higher control speed.

The system also allows the driver to "Tap-up" and increase speed or "Tap-down" to decrease vehicle speed in increments of about 1 mph (1.6 km/h) when needed. This feature is useful when traffic conditions warrant a small adjustment in speed. The controls are part of the turn signal lever. The "Cruise" switch must be moved to "On" before the system will work. The "Set/Coast" button is in the end of the turn signal lever.

To Engage at Cruising Speed

Accelerate to the desired speed, push in the "Set/Coast" button all the way and release it (or use the "Resume/Accel" (R/A) switch during first engagement only). Take your foot off the accelerator pedal and the set speed will be maintained up or down hill. The Cruise Control is designed to disengage when you apply the brakes and also with the clutch on manual transaxle vehicles. It will also disengage by moving the "Resume/Accel" (R/A) switch to off or by turning the ignition off. (To disengage the system without coming to a complete stop, push the brake pedal or clutch lightly; use just enough force to disengage the system, without stopping the vehicle.)

To Change Cruising Speed

To reset the Cruise Control to a faster speed, accelerate to the speed you wish. Push in the "Set/Coast" button all the way, (for less than a second) then release it.

Or, use the "Resume/Accel" switch to accelerate and reset to the speed you wish. The "Resume/Accel" (R/A) switch must be held (over a second) in order to engage the accel mode. Speed may also be increased by tapping the "Resume/Accel" switch for less than a second while cruising. The set speed will be increased by about 1 mph (1.6 km/h) for every tap. "Tap-ups" are limited to 10 mph (16 km/h) above vehicle speed.

To reset to a slower speed, push in the "Set/Coast" button all the way and hold it there. Wait until the vehicle slows to the desired speed, then release the button. Speed may also be decreased by tapping the "Set/Coast" button for less than a second while cruising and the memory speed will be decreased about 1 mph (1.6 km/h) for every tap, "Tap-downs" are limited to a minimum cruising speed of 23 mph (37 km/h).

To "Resume" a Pre-Set Speed

After braking or stopping the vehicle without turning off the ignition, you can "resume" to your last set cruising speed by accelerating to 30 mph (50 km/h) or more and sliding the cruise switch momentarily to "Resume/Accel"; when you release the "Resume/Accel" switch, your vehicle will accelerate to the cruising speed set before braking or stopping.

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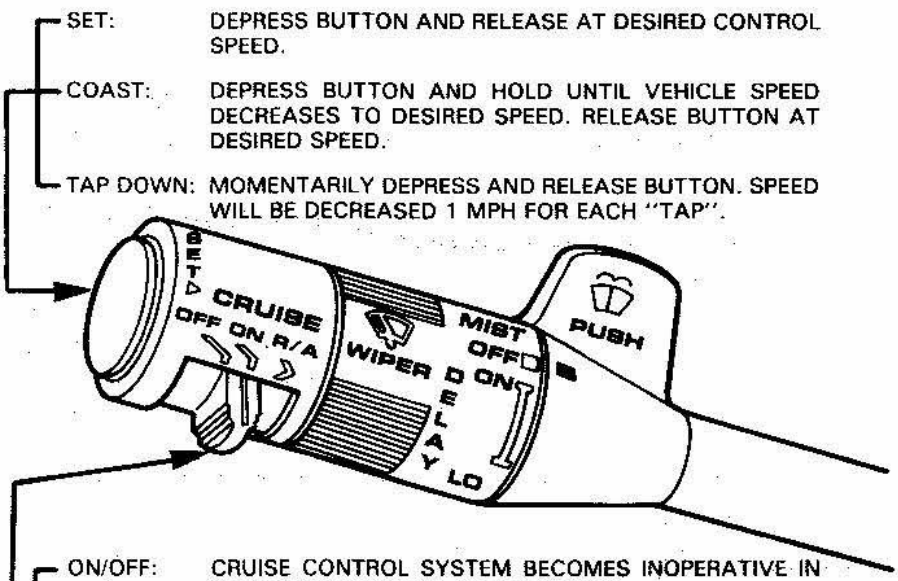
Sliding cruise switch to "Resume/Accel" position and **holding the switch in** longer than 1 second will accelerate the vehicle until the switch is released. The speed at which the switch is released will become the new cruising speed.

To Disengage

Disengage the Cruise Control by pushing the brake pedal or the clutch pedal on manual transaxle vehicles. Though not usually necessary, you can also turn off the system by moving the "Cruise" switch to "Off." Holding in the engagement button until vehicle speed falls below 30 mph (50 km/h), will also disengage the system.

To Pass A Vehicle

Use the accelerator pedal for more speed when passing. When you take your foot off the pedal, the vehicle will slow down to the speed set before passing.



NOTICE: To help keep the vehicle under control, do not use the Cruise Control and particularly its resume/accel feature under the following conditions:

- **WHEN THE PREVIOUSLY SET SPEED IS FASTER THAN THE EXISTING TRAFFIC FLOW.**
- **When it is not possible to keep the vehicle at a set speed.**
- **On slippery roads, such as those covered with snow and ice.**
- **On winding roads, in heavy or varying traffic volume, or in traffic that varies in speed.**

After accelerating to the desired speed and engaging the Cruise Control the vehicle will hold a set speed and will NOT slow down when you take your foot off the accelerator pedal. To slow the vehicle, follow the instructions above under "To Disengage".

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When going up or down hills, it is possible for the vehicle to lose or to gain speed (particularly when towing a trailer), even though the Cruise Control is engaged. If this happens while going up hill, merely depress the accelerator pedal to maintain the speed desired. If going down a hill steep enough to cause the vehicle to gain speed, depress the brake pedal -- which will both disengage the Cruise Control and help slow the vehicle. In addition, when going down a steep or long grade, the transaxle should be shifted into a lower gear to help control vehicle speed -- see "Descending A Grade" in "Starting and Operating," Section 2.

HORN

The horn on your vehicle is actuated by firmly pressing on the pad in the center of the steering wheel.

HAZARD WARNING FLASHER

The hazard warning flasher is covered in "In Case of Emergency," Section 3.

FLOOR CONTROLS

BRAKING SYSTEM

The regular braking system is designed for braking performance under a wide range of driving conditions even when the vehicle is loaded to its full rated vehicle load capacity.

CAUTION: Driving through water deep enough to wet brake components may cause the brakes not to work as well. As a result, the vehicle will not slow down at the usual rate, and it may pull to the right or left. After checking to the rear for other vehicles, apply the brakes lightly to check whether this has happened. To dry them quickly, lightly apply the brakes. At the same time keep a safe forward speed, with plenty of clear space ahead, to the rear, and to the sides. Do this until the brakes return to normal. Always do this after driving through water to help reduce the risk of personal injury.

Brake Warning Light

The brake system warning light is covered in the "Instrument Panel" section.

Vacuum Power Brakes

If the engine stops, do not pump the brakes. The system is designed to stop the vehicle with reserve power assist if the brake pedal is held down. This reserve is greatly reduced each time you apply and release the brakes. **If, when you turn the steering wheel during braking, the vehicle does not turn, don't push as hard on the brake pedal.**

Without power assist the vehicle can still be stopped by pushing much harder on the brake pedal, however, the stopping distance may be longer.

Brakes (Except Parking Brake)

If the brake pedal goes down farther than normal, it may be due to a lack of adjustment of any rear drum brakes. To find out if this is the case, drive backward and forward a few times, applying the brakes firmly when going in each direction.

See your dealer if pedal height does not return to normal, or there is a rapid increase in pedal travel whether or not your vehicle has rear drum brakes. This could be a sign of brake trouble.

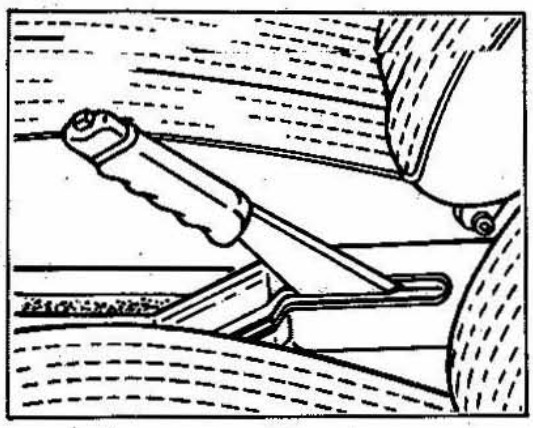
NOTICE: "Riding the brake" by resting your foot on the brake pedal when you do not intend to brake can overheat the brakes and wear out the brake linings and pads faster. This may also damage the brakes and will waste fuel.

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PARKING BRAKE

The parking brake lever is located between the seats.

- To set the parking brake, hold the brake pedal down while pulling the parking brake lever all the way up.
- To release the parking brake, hold the brake pedal down while pushing the button in the tip of the brake lever and lower the lever. The brake system warning light is designed to remind you if the parking brake control is not fully released when the ignition is on. **Never drive the vehicle with the parking brake set as this will reduce rear brake effectiveness due to overheating, shorten brake life, and may cause permanent damage.** If the parking brake does not hold the vehicle securely or does not fully release, see your dealer.



Torque Lock

The parking brake should be set first whenever leaving the driver's seat. If the vehicle is parked on a grade and the transaxle selector lever is placed in "P" (Park) before the parking brake is set, the weight of the vehicle may exert so much force on the parking pawl in the transaxle that it may be difficult to pull selector lever out of "P" (Park). This condition is called "torque lock." To prevent this, the parking brake should be applied BEFORE moving the selector lever to "P" (Park).

When preparing to move the vehicle, the selector lever should be moved out of the "P" (Park) position BEFORE releasing the parking brake. It is good driving practice to set the parking brake first, then release the transaxle from "P" (Park), even on level surfaces.

If "torque lock" does occur, it may be necessary to have another vehicle nudge this vehicle uphill to take some of the pressure off the transaxle while the driver pulls on the transaxle selector lever.

CLUTCH PEDAL

On models equipped with a manual transaxle a clutch pedal is used to engage or disengage the clutch, thereby connecting or disconnecting the engine from the transaxle and driveline to the front wheels. When the pedal is fully extended the clutch is engaged, driving the transaxle and the front wheels.

See "Clutch Adjustment in Section 5 of this manual.

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DISC BRAKE WEAR INDICATORS

Front disc brake pads have built-in wear indicators which should make a high-pitched squealing or cricket-like warning sound when the brake pads are worn to where new pads are needed. The sound will come and go, or be heard all the time when the vehicle is moving and when the brake pedal is pushed down firmly. Expensive rotor damage can result if pads are not replaced when needed. See also the brake checks listed in the Maintenance Schedule folder.

INSTRUMENT PANEL AND CONTROLS

INSTRUMENTS

The instruments, gages and indicator lights conveniently grouped in the instrument cluster are designed to tell you at a glance many important things about the performance of your vehicle. The following information will enable you to more quickly understand and properly interpret these instruments.

Speedometer

The speedometer hand indicates vehicle speed in miles per hour and kilometers per hour.

Odometer

The group of figures in the speedometer lower center section indicates the accumulated mileage or kilometers.

Tamper-Resistant Odometer

Federal law prohibits tampering with vehicle odometers to alter accumulated mileage. For your protection the odometer of this vehicle is designed with tamper-resistant features to indicate tampering. If silver lines appear vertically between odometer numerals, it is likely that the odometer has been turned back or reversed. The mileage shown may not be actual.

Whenever a new odometer is installed and cannot be set to the same mileage registered on the prior odometer, the law requires the owner to install a label on the driver's door frame to show the previous odometer reading and the date of replacement. The replacement odometer must then be set to zero. To determine the actual vehicle mileage, add the mileage shown on the label to the current odometer reading. If the replacement odometer can be set up to the same mileage as the prior odometer, no door frame label is needed.

Trip Odometer

A trip odometer is used to record mileage on trips or during extended driving.

The trip odometer can be reset to zero by pushing the knob located in the speedometer/odometer face until all zeros appear.

Fuel Gage

The fuel gage will register the APPROXIMATE fuel level in the tank, when the ignition is in the RUN position.

When the gage registers EMPTY, some fuel is still available as a reserve. When the gage registers FULL, some additional fuel can still be added to the tank. The following conditions may be considered normal:

- Fuel station pump may shut off before fuel gage indicates FULL.

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- Amount of fuel required for fill-up may not exactly correspond to gage.
- Needle may not move away from FULL until some time after fill-up.
- Needle may move during turns, stops and accelerations.

When the ignition switch is turned to the OFF position, the needle will not necessarily return all the way to the EMPTY mark.

Oil Pressure Light

When the ignition is turned to "Run," the "Oil" warning light appears until the engine is started. Thereafter, the light should be off unless there is insufficient oil pressure or engine idle speed is below normal. If the light should come on at any time while driving (other than momentarily at idle speed or after a sudden stop), stop immediately and investigate the cause of low oil pressure. This could possibly be caused by low oil level in the crankcase. Engine operation with low oil pressure will cause damage to the engine.

Engine Coolant Temperature Light

This light is located in the instrument cluster and is designed to come on **to warn the driver that the engine coolant has overheated and immediate action is required** to correct the condition. As a check that the bulb and its circuit are working, the light will come on during engine starting; if it does not, have it repaired promptly. If the light comes on at any other time, see "Engine Cooling System Overheating" in "In Case of Emergency," Section 3 of this manual.

CAUTION: If the Engine Coolant Temperature Light shows an overheat condition or you have other reason to suspect the engine may be overheating, continued operation of the engine EVEN FOR A SHORT TIME may result in a fire and the risk of personal injury and/or severe vehicle damage. Take immediate action as outlined under "Engine Cooling System Overheating" in "In Case of Emergency," Section 3.

Generator Indicator Light

The **VOLT** light is designed to come on when the ignition key is in the "RUN" position, but before the engine is started. After the engine starts, the light should go out and remain out. If the light remains on when engine is running, have your authorized dealer locate and correct the trouble as soon as possible.

Shift Indicator Light

The Shift Indicator Light is covered in the "Manual Transaxle" information in this section.

"Check Engine" Light

Most gasoline engine vehicles sold in the United States (and some vehicles sold in Canada) have the Computer Command Control system.

Vehicles with the Computer Command Control system include a "CHECK ENGINE" light on the instrument panel designed to indicate the need for system service. It will come on during engine starting to let you know the bulb is working. (The light will stay on a short time after the engine starts.)

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Have the system repaired if the "CHECK ENGINE" light does not come on during engine starting. If the light comes on, either intermittently or continuously while driving, service to the Computer Command Control system is required. Although in most cases the vehicle is drivable, and does not require towing, see your authorized dealer as soon as possible for service of the system.

Continued driving without having the Computer Command Control system serviced could cause damage to the emission control system. It could also affect fuel economy and drivability.

See also "Computer Command Control system" in Section 5 of this manual.

Brake System Warning Light

The regular braking system is a dual system designed so that one part will provide some braking if there is a loss of hydraulic pressure in the other part of the system. The system has a "BRAKE" warning light located in the instrument panel. The "BRAKE" light is designed to come on briefly during engine starting so you can check that the bulb is okay. To serve as a reminder, the light should stay on when the parking brake is not fully released and the ignition is on. Have the system repaired if the light does not come on when it should. This warning light does not do away with the need for brake inspection and maintenance. The brake fluid level must be checked regularly. See your Maintenance Schedule folder for other brake checks.

If the light remains on after engine start up or comes on during operation of the vehicle, it may mean that there is something wrong with part of the brake system.

What to do:

1. Check to see that the parking brake has been released. If it has been:
2. Pull off the road and stop carefully. Remember that:
   - Stopping distances may be longer.
   - You may have to push harder on the pedal.
   - The pedal may go down farther than normal.
3. Try out the brakes by starting and stopping on the road shoulder--then:
   - If you judge it to be safe, drive cautiously at a safe speed to the nearest dealer for repair. Or,
   - Have vehicle towed to the nearest dealer for repair.

Continued driving without getting necessary repairs could be dangerous.

Tachometer

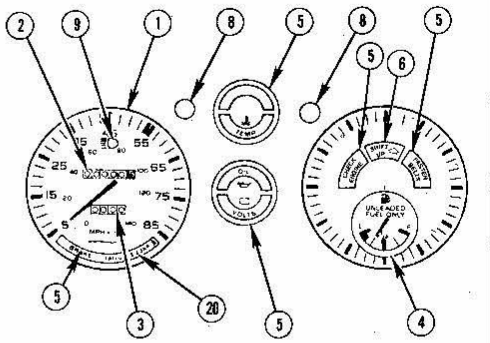
The optional tachometer indicates the speed of the engine in revolutions per minute. The indicated number, times 100, gives the engine speed. Operating the engine with the tachometer reading in the color-coded high-speed area could lead to serious engine damage.

Voltmeter

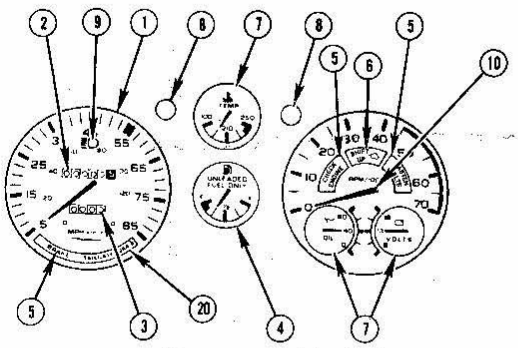
When the engine is operating, the voltmeter indicates the electrical system voltage. During minimum electrical load, the pointer will read to the right of the center. As the electrical load is increased, or in stop-and-go driving, the pointer will rotate to the left. A meter reading continuously in the left or right zone indicates an electrical system failure. Cause of the failure should be determined and corrected.

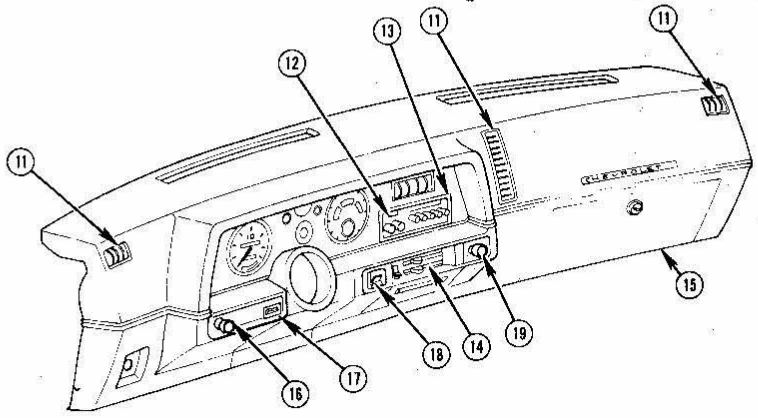
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STANDARD INSTRUMENT CLUSTER



OPTIONAL INSTRUMENT CLUSTER





1. Speedometer
2. Odometer
3. Trip Odometer (if equipped)
4. Fuel Gage
5. Warning Lights
   Brake, Fasten Belts, Check Engine Volts, Temperature, Oil Pressure
6. Shift up Lt. (on "ME" only)
7. Warning Gages
   Temperature, Oil Pressure, Volts
8. Turn Indicators
9. High Beam
10. Tachometer
11. A/C Outlet
12. Clock (if equipped)
13. Radio
14. Heater & Opt. A/C Control
15. Glove Box
16. Light Switch
17. Rear Window Defogger (Opt.)
18. Rear Window Wiper/Washer (Opt.)
19. Cigarette Lighter (Opt.)
20. Tailgate Ajar Lt.

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Engine Coolant Temperature Gage

This optional gage is located in the instrument cluster. **If the gage shows that an overheat condition exists**-as indicated by pointer moving beyond the center of the band **immediate action by the driver is required.** If an overheat condition is shown, see "Engine Cooling System Overheating" in "In Case of Emergency," Section 3 of this manual. The coolant temperature indication will vary with air temperature and operating conditions. The ignition must be in "Run" for accurate readings. Prolonged driving or idling in very hot weather may cause the pointer to move beyond the center of the gage. Make a practice of scanning this and other gages while driving, especially in hot weather and/or when the vehicle is under load.

CAUTION: If the Engine Coolant Temperature Gage shows an overheat condition or you have other reason to suspect the engine may be overheating, continued operation of the engine EVEN FOR A SHORT TIME may result in a fire and the risk of personal injury and/or severe vehicle damage. Take immediate action as outlined under "Engine Cooling System Overheating" in "In Case of Emergency," Section 3.

Oil Pressure Gage

The oil pressure gage indicates the pressure at which oil is being delivered to the various parts of the engine requiring lubrication. Pressures registered by the gage may vary according to outside air temperatures or weight of oil being used. Oil pressure of a cold engine being operated at a given speed will be somewhat higher than when the engine is at normal operating temperature at the same speed. Prolonged high speed operation on a hot day at the given speed will result in somewhat lower oil pressure readings. Readings of 205 to 275 kPa (30 to 40 psi) may be considered normal during moderate road speeds of 35 to 40 mph (55 to 60 km/h) with the engine at proper operating temperature. Gage readings which are consistently high or low under these conditions may indicate lubrication system and/or engine malfunction.

Light Switch

The three-position light switch controls the headlights, taillights, parking lights, sidemarker lights, instrument lights and dome lights.

Instrument light intensity can be varied by turning knob clockwise or counterclockwise. Full counterclockwise position turns on interior light.

The headlight circuit is protected by a circuit breaker in the light switch. An overload on the breaker will cause the lights to "flicker" on and off. If this condition develops, have your headlight wiring checked immediately. The headlight beam changer is located in the Turn Signal Lever; for operation see Section 2 under heading "Turn Signal and Multi-Function Lever."

Headlight High Beam Indicator Light

The headlights of your vehicle have high and low beams to provide you with proper nighttime visibility for most driving conditions. The "low" beams are used during most city driving. The "high" beams are especially useful when driving on dark roads since they provide long range illumination. The headlight beam indicator light (located on the speedometer face) will be ON whenever the high beams or "brights" are in use. The turn signal lever controls the headlight beams and is described in "Steering Column Controls."

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Headlight "ON" Warning Buzzer/Chime

The optional headlight reminder buzzer/chime provides an audible warning that the main light switch is in one of the "on" positions, either parking lights or headlights.

The reminder buzzer/chime is activated only when the ignition switch is turned to "OFF," "LOCK" or "ACCESSORY" position and the lights are on.

When the parking lights or headlights are to be operated with the key in the OFF position, the reminder buzzer/chime can be shut off by turning the light switch knob until the instrument cluster lights are not on.

Cigarette Lighter (Optional)

The cigarette lighter is located on the instrument panel face. To operate, push it in. When it becomes heated, it automatically pops out ready for use. Avoid holding the lighter in by hand while it is heating as damage to the heating element may result.

Ashtray

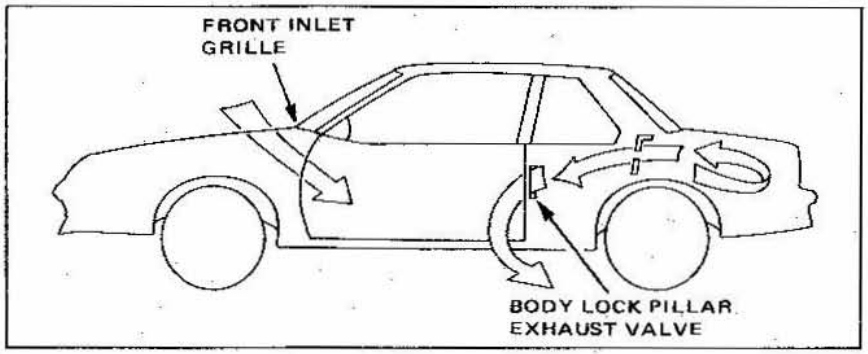
The ashtray may be simply pulled out for cleaning:

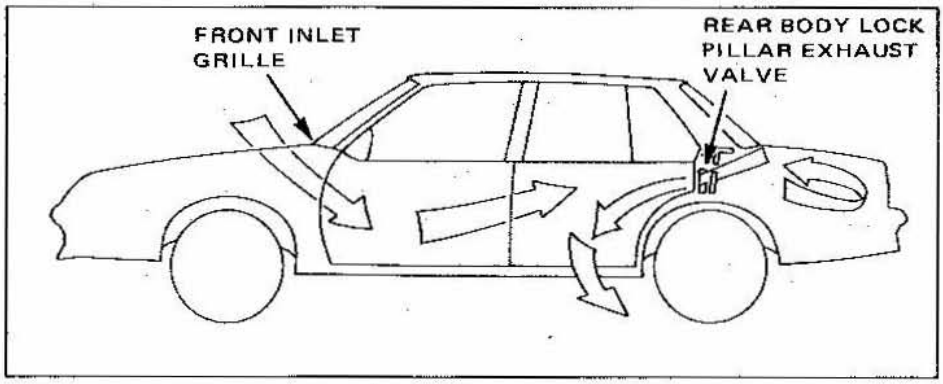
- Open ashtray.
- Pull ashtray up and remove for cleaning.
- Push ashtray back into bracket.

VENTILATION SYSTEM

Your vehicle has a flow through ventilation system that provides a supply of outside "ram" air into the vehicle when it is moving. When the vehicle is not in motion you can get a steady flow of outside air into the car when the heater or air conditioning blower is running.

With the side windows closed, the flow through ventilation system provides outside air flow into the front air inlet grilles, through the vehicle and out the rear air exhaust valves. (See illustration.)





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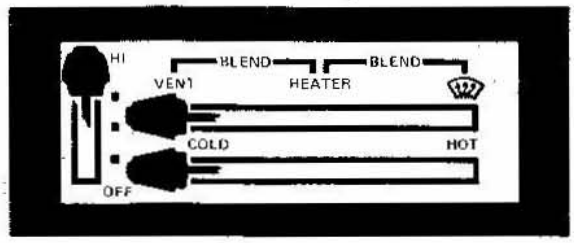
Operating Tips

- Clear snow and ice from the hood and air inlet in front of the windshield. This helps the heater and defroster work better and reduces the chance of fogging the inside of the windshield.
- Run the blower on "HI" for a few moments before driving off. This helps clear the intake ducts of snow and moisture and reduces the chance of fogging on the inside of the windows.
- Always keep the front inlet grilles clear of obstructions (leaves, ice, snow, etc.).
- Always keep the underseat air path clear of objects.

Lower Air Vents

Two control handles located beneath the center instrument panel open (pull) and close (full in) the lower "ram" air vents. The amount of air discharged at these lower outlets increases with vehicle speed. Maximum airflow can be obtained by opening any of the side door windows approximately six inches. If so equipped, the rear quarter swing-out windows will optimize lower vent performance and provide maximum airflow without opening a side door glass. In this condition, minimum air buffeting and road noise is incurred.

HEATER SYSTEM (NON-AIR CONDITIONED SYSTEM)



Fan Lever

The fan lever (OFF-HI) provides speed control of the blower fan in all Air Selector Lever positions.

Temperature Control Lever

The temperature control lever regulates the temperature of the air entering the passenger compartment in "HEATER" and "DEF" Air Selector Lever positions. Full right position (HOT) provides maximum heat air and full left position (COLD) provides minimum heat (ambient air temperature) air.

AIR Selector Lever

- VENT -- In this position, ambient outside ventilation air is discharged from the upper air outlets. Air quantity is controlled by the FAN LEVER.
- BLEND -- The AIR SELECTOR LEVER may be adjusted between VENT and HEATER to obtain a variable distribution of air between the upper air outlets and the floor air outlet.

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- HEATER -- In this position, most of the air is delivered to the floor air outlet with a small amount delivered to the windshield (defroster outlets). The air temperature is controlled by the TEMPERATURE LEVER while the air quantity is controlled by the FAN LEVER. This position is used for most winter driving.
- BLEND -- The AIR SELECTOR LEVER may be adjusted between HEATER and DEFROST positions to obtain a variable distribution of air between the floor air outlet and the windshield defroster air outlets.
- Side window defogger air outlets direct air to the side windows whenever the fan is operating.
- DEFROST -- In this position, most of the air is delivered to the windshield (defroster outlets) with a small amount to the floor air outlet.

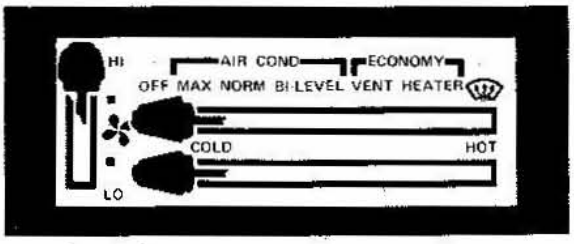
The windshield defrosting and defogging system assists in providing good visibility through designated areas of the windshield under most inclement weather conditions. For immediate operation of the vehicle, the windshield should be scraped clear.

Operate system for 30 seconds before switching to DEFROST. This will remove humid air from the system and minimize rapid fogging of the glass which can occur if humid air is blown onto a cool windshield.

AIR CONDITIONING SYSTEM

This system combines heating and cooling capabilities for comfort in all weather conditions.

During some air conditioning operating conditions, slight increases and decreases of engine speed/power may be noticed. This should be considered normal, as the system is designed to cycle the compressor ON and OFF to maintain desired cooling. The reduced compressor operation should benefit fuel economy.



Fan Lever

The fan lever (LO-HI) provides speed control of the blower fan in all Air Selector Lever positions except OFF.

Temperature Control Lever

The temperature control lever regulates the temperature of the air entering the passenger compartment in ALL Air Selector Lever positions.

Air Selector Lever

The air selector lever regulates air flow from the heater, defroster and air conditioning outlets. It also controls operation of the refrigeration compressor.

- OFF -- In this position the blower does not operate. However, when the vehicle is moving, air will enter the passenger compartment through the heater outlet.

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- MAX (AIR COND) -- Air from the passenger compartment is mixed with a small amount of outside air, conditioned and discharged from the upper outlets. This position, with the temperature lever in full COLD, is used for maximum cooling under conditions of high temperature and humidity.
- NORM (AIR COND) -- Outside air is conditioned as it passes through the system and is discharged from the upper outlets. This position is used for most air conditioning situations.
- BI-LEVEL (AIR COND) -- Outside air is conditioned and directed out the upper outlets PLUS the heater outlet. This position provides comfort and keeps the windshield clear under low fogging conditions.
- VENT (ECONOMY) -- Outside air is discharged from the upper outlets. This position is provided for cool to moderate weather operation when refrigeration is not required. The refrigeration compressor is turned off.

Operating Information - The engine cooling fan is automatically engaged in all air conditioning modes and defrost mode (with high air conditioning pressure).

- HEATER (ECONOMY) -- Outside air is delivered from the heater outlet with a small amount from the defroster outlets and the side window defogger outlets. This position is used for most winter driving. The air conditioning compressor is turned off.
- DEFROST -- Outside air is conditioned and delivered from the defroster outlets with a small amount from the heater outlet. This position is recommended for conditions of severe fogging and icing only.

Operating Tip

For satisfactory operation of the air conditioning system, windows should always be closed, except for the first two or three minutes to remove hot air if the car has been closed. This provides a fast cool-down in normal air conditioning mode.

ELECTRO-CLEAR REAR WINDOW DEFOGGER

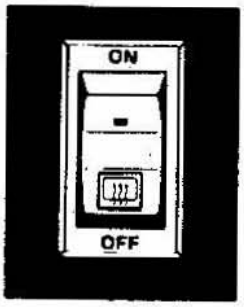
The optional defogger consists of a heating element bonded to the inside surface of the rear glass. The unit is operated by a switch on the instrument panel and functions only in the **ON** position. When activated an indicator light will illuminate. After the defogger has operated for a short time, the system will automatically shut off. If further defrosting or defogging is desired, simply actuate the switch again.

The defogger will not function if the ignition is turned off.

Refrain from removing decals or other material from the inside of rear window with a razor or other sharp instrument since this may damage the heating element.

Clear snow and ice from the rear window to improve the efficiency of the rear window defogger.

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REAR WINDOW WASHER/WIPER

The optional rear window washer/wiper is available on station wagon and hatchback models.

- To turn the rear single speed wiper on, push the top half of the switch, marked "WASH," to the center position. The wiper will operate as long as the switch is in the center position. Push the bottom half of the switch in to turn the wiper off.
- To wash, push the top half of the switch, marked "WASH," The washer will operate only as long as the switch is HELD in.



- The rear window washer fluid reservoir is located in the engine compartment. It is a split reservoir and is shared with the windshield washer system. Check the washer fluid level and add fluid as described for "Windshield Washer" under "Steering Column Controls" in this section.

DELCO SOUND SYSTEMS

Your vehicle may have one of several optional Delco GM Sound Systems. (To listen to any system, the ignition must be in "RUN" or "ACCESSORY.")

General Information

Speakers

NOTICE: All Delco Sound Systems have ungrounded speakers. Installing add-on tape players, CBs or other units that use the vehicle speakers may damage your Delco Sound System and impair operation of the added unit. Please consult your dealer in advance if you are considering additions.

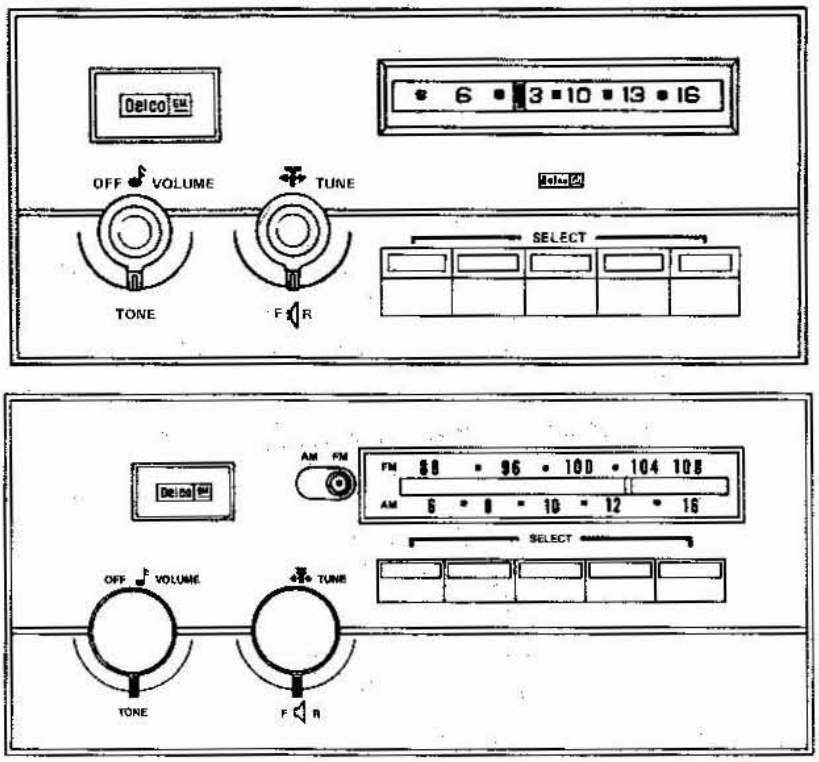
FM Reception - Although FM is normally static free, reception can be limited by terrain, atmospheric conditions, station strength and distance from the transmitter. Buildings or other obstructions can cause momentary static, flutter or station swapping. If you cannot keep good reception, tuning to a stronger station will bring improvement.

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Stereo Sound - All Delco Sound Systems with an FM stereo radio will switch to stereo operation whenever an FM stereo broadcast is being received, and an indicator in the dial will light. "Stereo" operation means the radio is separating a stereo broadcast back into the original two channels, called "left" and "right." Stereo sound is noticeably more realistic to the ear.

AM or AM-FM Monaural Radio

The following controls are common to both AM and AM-FM monaural sound systems.



- **Left Knob** - This knob turns the set on or off, and controls the volume. Behind the volume knob is a tone control. When turned to the right, it increases treble and voice clarity; when turned to the left, it increases bass.
- **Right Knob** - This knob is a manual tuning control for choosing radio stations. For radios with rear speakers, a fader control is behind it. This control adjusts the sound between the front and rear speakers.
- **Push Buttons** - Each radio has five push buttons you can use to easily select your favorite stations. On AM-FM radios, you may select five AM and five FM stations for a total of ten selections. Make sure the bandswitch is on the band you want when setting the stations. After using a push button, you may have to "fine-tune" the radio by hand for the best reception.

To "set up" the push buttons:

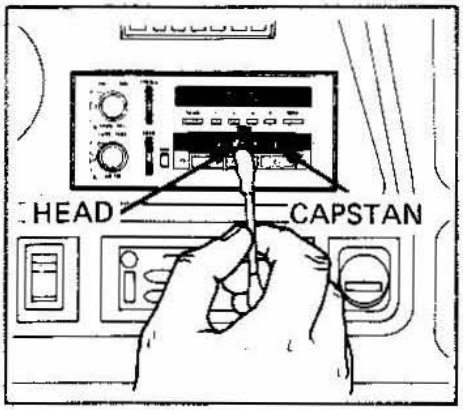
1. Choose the button you wish to use and pull it straight out.
2. Tune in the station using the tuning knob.
3. Press the button until it stops. The radio is designed to tune to the selected station whenever you press the button.

Tape and Tape Player Care

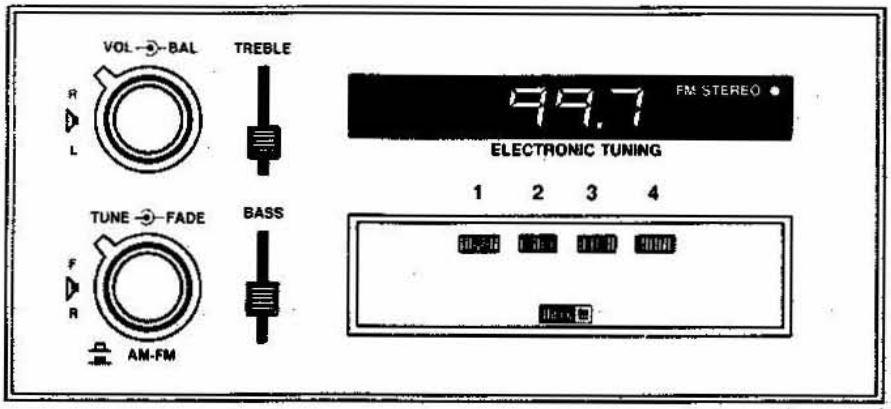
On Delco Sound Systems with cassette tape units, take out the cassette when not in use to prevent possible damage to the tape player and cassette.

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Store cassettes away from extreme heat or direct sunlight. Protect the open ends from dirt or damage; store them in their original cases or other protective cases. Cassettes eventually wear out and you may need to replace them if they become noisy. Clean the pickup head, tape guide and capstan (revolving metal post) after every 100 hours of operation. Use a cotton-tipped swab dipped in rubbing alcohol. Access is through the tape door. (See illustration.)



ETR AM-FM Stereo (No Seek/Scan)



To operate the ETR AM-FM Stereo radio:

- **Upper Knob** - rotate knob to turn radio on or off and to control volume. If your radio has a clock, and the radio frequency is being displayed, press knob to recall station frequency when listening to the radio.
- **Balance Control** (located behind upper knob) - turn to adjust left/right speaker balance.
- **Lower Knob** - rotate knob to manually tune radio stations. Frequency will be displayed during tuning. Press knob to alternately select AM or FM band.
- **Front/Rear Speaker Control** (located behind lower knob) - rotate control to adjust the sound between the front and rear speakers.
- **Bass and Treble Controls** - slide treble control up to increase treble, or down to decrease treble. Slide bass control up to increase bass, or down to decrease bass.
- **Pushbuttons**

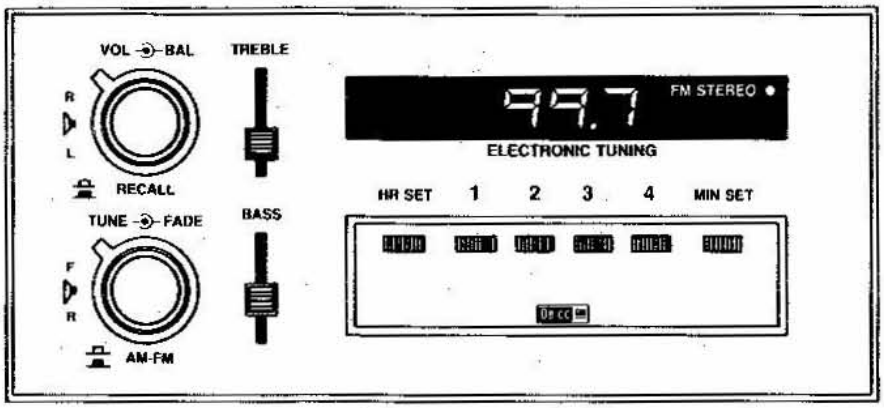
The radio has four pushbuttons you can use to easily select your favorite stations. You may select four AM and four FM stations for a total of eight selections.

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To set pushbuttons:

1. Make sure the bandswitch is on the band you want. Then, tune in the desired station.
2. Gently pull one of the four station pushbuttons and release.

   The radio will then tune to the selected station whenever you press the station button.

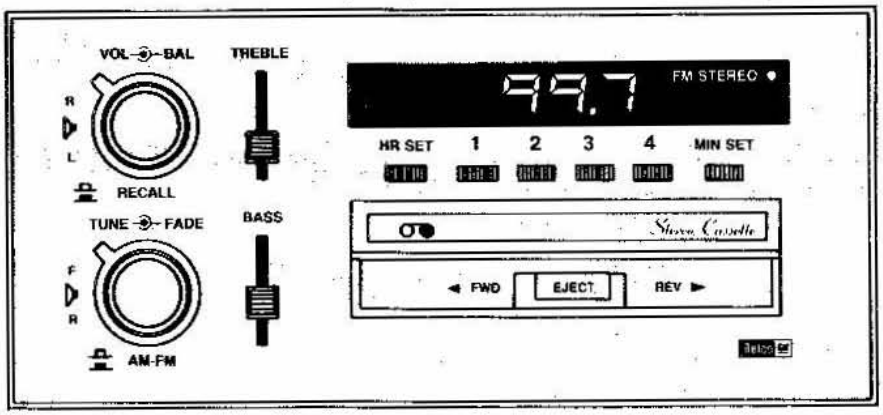


- **Time Set (if so equipped):**

To set the hour, gently pull and hold the "HR SET" button until the correct hour appears.

To set the minutes, gently pull and hold the "MIN SET" button until the correct minute appears.

The FM stereo indicator will light up whenever an FM station is broadcasting in stereo. "Stereo" operation means the radio is separating a stereo broadcast back into the original two channels, called "left" and "right". Stereo sound is noticeably realistic to the ear.



To operate tape player (if so equipped):

Insert the cassette squarely through the door. This automatically switches the unit from radio to tape operation. If the sound is garbled (or there is no sound), eject the tape and reinsert it squarely.

After the cassette has snapped into position, adjust the volume and fader controls to your preference.

To quickly advance to the next selection, slide the EJECT button to the left ("FWD") until it locks. When the tape reaches the end, the EJECT button will automatically return to the center position and the tape will be ejected.

To stop fast-forward at any time, return the EJECT button to its center position.

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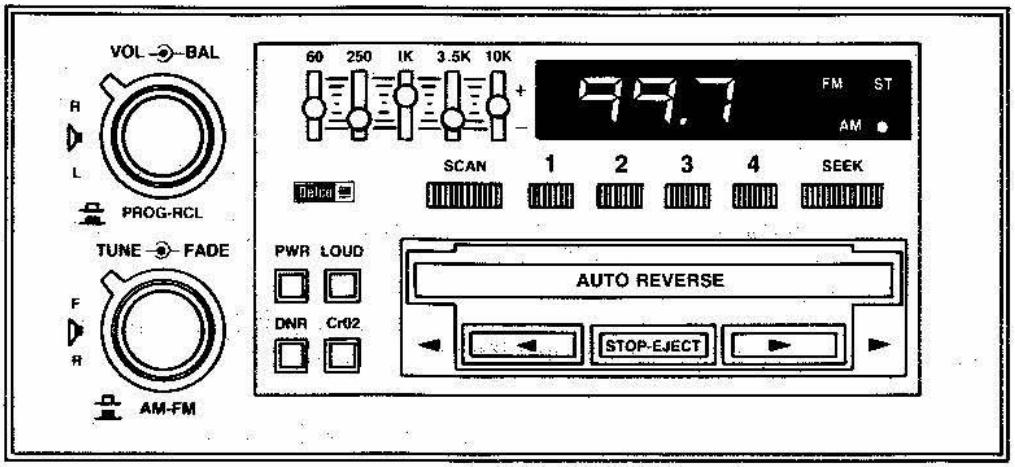
To listen to an earlier selection, slide EJECT button to the right ("REV") until it locks. When the tape reaches the end, the EJECT button will automatically return to center position and the tape will resume playing.

To stop reverse at any time, return the EJECT button to its center position.

NOTE: Before turning off ignition, eject the cassette tape. Insertion of the cassette tape cartridge overrides the radio and the time-of-day will be displayed continuously.

For best results, use only cassettes which are 30 to 60 minutes in length.

ETR AM-FM Stereo (Seek/Scan) with Cassette 5-Band Equalizer and Clock



To operate the ETR AM-FM Stereo radio:

- **Power Button** ("PWR") - press to turn radio on. Press again to turn radio off.
- **Upper Knob** - rotate knob to control volume. Press knob to recall station frequency when listening to the radio with the ignition on, or to display time-of-day with ignition off. Depress knob to select the other side of the tape when the cassette is playing.
- **Loudness Button** ("LOUD") - Press to boost bass frequencies when the radio is playing at low volume.
- **Balance Control** (located behind upper knob) - turn to adjust left/right speaker balance.
- **Lower Knob** - rotate knob to manually tune radio stations. Frequency will be displayed during tuning. Press knob to alternately select AM or FM band.
- **Front/Rear Speaker Control** (located behind lower knob) - rotate control to adjust the sound between the front and rear speakers.
- **5-Band Graphic Equalizer** - allows you to adjust bass, midrange, and treble to suit personal taste. Move control up to increase that frequency range, or down to decrease that frequency range. When a control is in the center (detent) position, that frequency range will not be processed by the graphic equalizer. When all 5 controls are in the center (detent) position, the system has a flat frequency response.

  NOTE: 60 and 250 denote bass; 1K denotes midrange; 3.5k and 10k denote treble.

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- **Pushbuttons**

The radio has four pushbuttons you can use to easily select your favorite stations. You may select four AM and four FM stations for a total of eight selections.

To set pushbuttons:

1. Make sure the bandswitch is on the band you want. Then, tune in the desired station.
2. Gently pull one of the four station pushbuttons and release.

The radio will then tune to the selected station whenever you press the station button.

- **SEEK and SCAN**

Use the SEEK and SCAN buttons for automatic station tuning.

Press SCAN button to automatically sample each station being received. To stop SCAN, press SCAN button again.

The SCAN indicator light on the frequency dial will be lit during SCAN operation.

Press the SEEK button to automatically locate and retain the next listenable station on the band.

- **Time Set:**

To set the hour, gently pull and hold the SCAN button until the correct hour appears.

To set the minutes, gently pull and hold the SEEK button until the correct minute appears.

The FM stereo indicator will light up whenever an FM station is broadcasting in stereo. "Stereo" operation means the radio is separating a stereo broadcast back into the original two channels, called "left" and "right". Stereo sound is noticeably realistic to the ear.

To operate tape player:

Insert the cassette squarely through the door. This automatically switches the unit from radio to tape operation. If the sound is garbled (or there is no sound), eject the tape and reinsert it squarely.

After the cassette has snapped into position, adjust the volume and fader controls to your preference.

To quickly advance to the next selection, press the button next to the lighted indicator. To listen to an earlier selection, press the button next to the **unlighted** indicator. To stop the forward or reverse movement, press the EJECT button to eject the tape.

When the left indicator light is lit, the top side of the tape is playing. When the right indicator light is lit, the bottom side of the tape is playing.

NOTE: When end-of-tape is reached in one direction, the unit will automatically play in the opposite direction, and will play the other side of the tape.

When ignition is turned off, the pinch roller automatically releases the tape.

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Insertion of the cassette tape cartridge overrides the radio and the time-of-day will be displayed continuously.

Press the Dynamic Noise Reduction (DNR™) button to remove high frequency background hiss on AM, FM, FM stereo, and tape.

Select the setting for proper tape equalization(CrO_2)as follows:

1. Select 70 usec (push button in).
2. Select 120 usec (button is out).

The equalization setting which is desired will vary according to the type of tape being used. Chrome and metal tapes have 70 usec equalization, while iron tapes have 120 usec equalization.

The tape bias is often indicated on the cassette label or case.

For best results, use only tapes which are 30 to 60 minutes in length.

MOBILE RADIO SYSTEMS

Mobile two-way radio units and mobile telephone equipment are subject to federal rules and must be installed by trained personnel. Certain such equipment or the manner of its installation may possibly adversely affect vehicle operation. Expenses incurred to protect the vehicle systems from the interaction of these added mobile communication systems are not the responsibility of Chevrolet Motor Division.

Citizen Band (CB) radios and garage door openers normally will not affect vehicle operation.

Fixed Mast Antenna

The fixed mast antenna is designed to withstand most car washes without damage. It cannot be adjusted up or down. If the mast becomes slightly bent, you can straighten it by hand. The mast antenna can be replaced if severely bent (by vandalism, etc.). Mast antennas must be kept clean for good performance.

OTHER CONTROLS AND FEATURES

HATCHBACK LID

To open the hatchback lid, use the oval-head key in the lock at the rear of the car. Close the lid firmly to be sure it locks.

LIFTGATE OPERATION (STATION WAGONS)

To open the liftgate, use the oval-head key in the outside lock. (Two gas support struts, one at each side of the glass, are designed to help hold the gate open.)

CAUTION: The liftgate or hatchback lid should be closed while driving to help avoid drawing dangerous exhaust gases into the car. (See "Engine Exhaust Gas Caution (Carbon Monoxide)" at the beginning of "Starting and Operating," Section 2 of this manual.)

If you have to drive with the liftgate or hatchback lid open, these precautions should be observed:

- Close all other windows.

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- Adjust the heating or cooling system to force outside air into the car as follows:
  1. On cars not equipped with air conditioning, set the fan to high speed and the upper control lever to any position except "Off."
  2. On cars equipped with air conditioning, set the fan to high speed and the upper control lever to any position except "Off" or "Max."
- On cars that have outside air vents in or under the instrument panel, open vents fully.

"Gate Ajar" Light

Station wagons have a "GATE AJAR" warning light located in the instrument cluster. It is designed to come on if the liftgate is not fully closed and the ignition is on, thus warning against driving with the liftgate even partially open. See "Engine Exhaust Gas Caution (Carbon Monoxide)" at the beginning of "Starting and Operating," Section 2 of this manual. To test that the light circuit is working correctly, start the car and check that the light comes on when the liftgate is open or only partially latched.

Electric Trunk, Hatchback, Or Tailgate Release

An electric release permits opening the trunk, hatchback or station wagon tailgate from inside the car by pressing a release button in the instrument panel glove box. The release for the hatchback and the station wagon tailgate will function only if the automatic transaxle is in "P" (Park) or "N" (Neutral) or, on manual transaxle cars, if the parking brake is applied.

SUNSHADE (OPTIONAL)

If your hatchback model is equipped with the optional louvered rear window sunshade, the sunshade is hinged at the top and held down at the bottom by a one-quarter turn fastener on each end of the sunshade. This method of attachment allows you to raise the sunshade for cleaning the exterior of the hatchback glass.

To clean the hatchback lid exterior glass:

1. Using a coin or screwdriver, rotate each fastener one-quarter turn until they pop up; the sunshade is now unlocked.
2. Grasp the lower edge of the sunshade approximately in the middle and lift the sunshade away from the hatchback lid.
3. Clean the hatchback glass as desired while holding the sunshade in the open position.
4. Lower the sunshade to its original position and locate the one-quarter turn fasteners over the holes in the lower bracket assemblies; using a coin or screwdriver, push the one-quarter turn stud downward until it engages the wire bail on the bracket and rotate one-quarter turn to lock. (Make sure the fastener is locked to the bracket by lifting each corner of the sunshade.)

NOTICE: DO NOT DRIVE when sunshade is not locked in position.

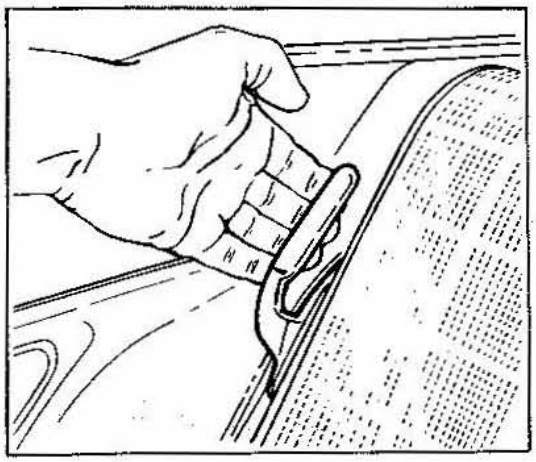
To remove the sunshade from the car, if desired, release the sunshade as you would for cleaning. Then, remove the four nuts which secure the sunshade hinges to the hinge base plate on the hatchback lid. Lift the sunshade assembly from the car.

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To store the sunshield when removed from the car, always select a place where the sunshade can lay flat without anything stored on top of it or leaned against it. Hanging the sunshade flat on a wall by its hinges is an excellent way to store it.

As with any decorative surface, washing with a mild soap and water solution is recommended. Abrasive materials or chemical solvents may adversely affect the finish of the sunshade.

FOLDING SEATBACK OPERATION



Station wagon and hatchback models are equipped with either a one-piece or split folding rear seatback which is **not** designed to lie flat, but does provide additional load floor area when lowered.

To lower the one-piece second seatback, pull the lever at the right side of the second seatback and fold down. Styles equipped with split folding rear seatbacks have a lever on both the right and left sides which allows either side to be folded down separately. Stops on the load floor hold the seatback folding panels, locking the seatbacks down. To lock a seatback in place, push down on the front of the seatback and slip the filler panel over its stop on the load floor.

To raise a seatback, push down on seatback to release it from its stop, lift the folding panel slightly to clear the stop, then raise the seatback.

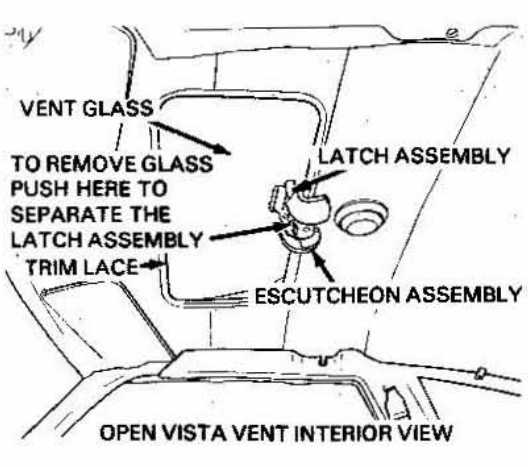
Keep the seat belt webbing and hardware clear of seat hinging and latching mechanisms when you tilt the folding seat. This helps prevent damage to the belt system.

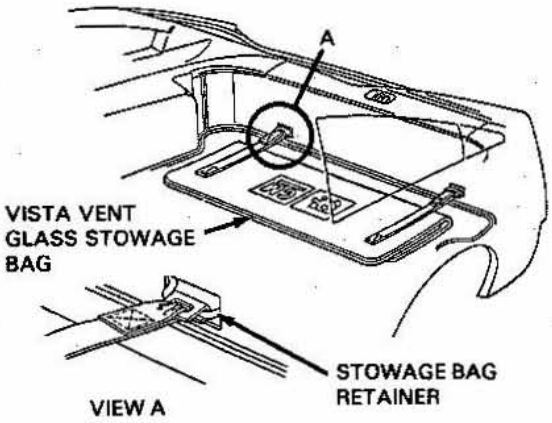
Check now and then to see if the latch or latches, if so equipped, on the folding rear seat or seats work properly. To do this, push forward and pull rearward on the top of the seatback or each seatback, if so equipped. seatback(s) that do not latch properly in the upright position, must be repaired because in a sudden stop it could cause injury.

VISTA-VENT

The Vista-Vent is a hinged glass panel. The panel can be opened by moving the latch release handle forward and up to lock the glass in place. The glass will stay open only in the fully up position - when the rear of the glass is raised about 38 millimeters (1-1/2 inches). As an added feature, an air deflector will pop up when the glass panel is opened to help assure a smooth flow of air over the roof.

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The glass panel can also be removed completely. First, open the Vista-Vent as described. Then, press the glass release tab (in the latch release handle) and lift the panel up and out to disengage the front hinges. Store the glass panel in the protective storage bag in the trunk or rear area.

CAUTION: To help avoid personal injury and/or equipment damage:

- **Do not try to remove the panel while the car is moving. Otherwise, the panel may become a hazard by falling into or flying off the car.**
- **After removing the roof panel, place it in the protective bag provided. Stow the roof panel in the trunk, if the vehicle is so equipped. If your car is a hatchback, stow the roof panel on the rear load floor behind the second seat and secure the straps on the bag to the anchor brackets as shown. This will help keep the panel from being thrown about and injuring people during a collision or sudden maneuver, AND will help protect the panel.**
- **The protective storage bag and the brackets mounted in the rear of hatchbacks are designed to secure ONLY the removable roof panel.**
- **After putting the roof panel back in place, always check that it is firmly latched by pushing up on the underside of the panel.**

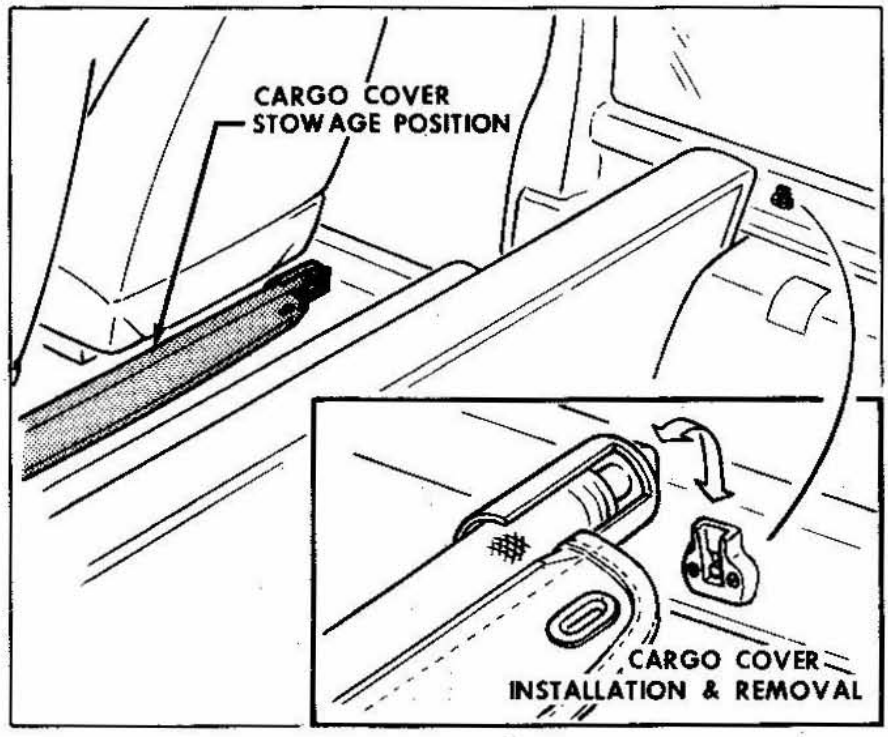
ROLL-UP CARGO COVER (HATCHBACKS)

Hidden stowage in the rear area of hatchbacks is provided by the optional roll-up cargo cover. The cover is mounted behind the rear seat and can be extended over the rear area by grasping the handle and pulling the cover rearward like a window shade. Eyelets at each corner of the cover can be placed on hooks at the back corners of the rear area to hold the cover in place.

To carry larger items the cargo cover can be removed and the rear seat folded down. To remove the cover, grasp one end of the roller and push it toward the opposite end. This will shorten it so you can slide it out of the bracket on the trim panel. Stow the rolled cover on the floor behind the front seat.

When installing the cover be sure the handle is on top. Standing at either side, grasp one end of the roller and place the opposite end into the mounting bracket on the far side. Push the roller toward the inserted end to shorten it and slide the near end into the slot of the other bracket so it snaps in place. Pull on each end of the cover to be sure it is fully seated. The cover can be left rolled up when not needed.

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CAUTION: To help keep the cargo cover from being thrown about and injuring people during a collision or sudden maneuver:

- **Be sure the cover is installed according to these instructions.**
- **When not installed, stow the cover behind the front seats (see illustration).**

Your vehicle may be equipped with optional rear seat shoulder belts in addition to the roll-up cargo cover, or you may wish to install a child restraint system that requires use of a top strap in the rear seat of the vehicle. In either case, be sure to route the shoulder belts or top strap **ABOVE** the cargo cover roller. Hold the shoulder belts out to the side if it is necessary to extend or retract the cargo cover while the shoulder belts are in use.

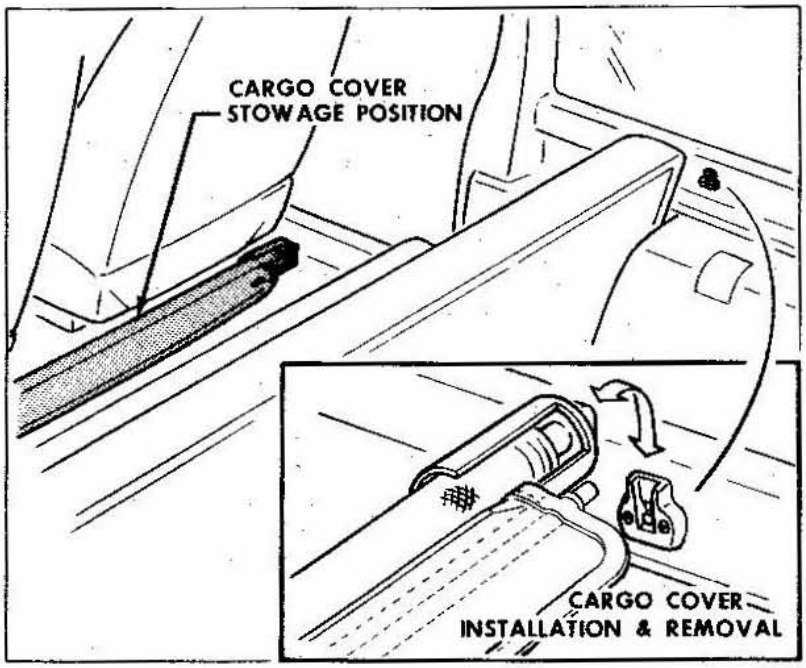
CAUTION: When using rear seat shoulder belts or a child restraint system that requires a top strap, always route the shoulder belts or top strap ABOVE the cargo cover roller. If a shoulder belt or top strap is routed under the roller, it could dislodge the roller during a collision and increase the risk of personal injury.

ROLL-UP CARGO COVER (STATION WAGONS)

Hidden stowage in the rear area of station wagons is provided by the optional cargo cover. The cover is mounted behind the rear seat and can be extended over the rear area by grasping the handle and pulling the cover rearward like a window shade. Pins at each corner of the cover can be placed in retainers at the back corners of the rear area to hold the cover in place.

To carry larger items, the cargo cover can be removed and the rear seat folded down. To remove the cover, grasp one end of the roller and push it toward the opposite end. This will shorten it so you can slide it out of the bracket on the trim panel. Stow the rolled cover on the floor behind the front seat.

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When installing the cover, be sure the handle is on top. Standing at either side, grasp one end of the roller and place the opposite end into the mounting bracket on the far side. Push the roller toward the inserted end to shorten it and slide the near end into the slot of the other bracket so it snaps in place. Pull on each end of the cover to be sure it is fully seated. The cover can be left rolled up when not needed.

CAUTION: To help keep the cargo cover from being thrown about and injuring people during a collision or sudden maneuver:

- **Be sure the cover is installed according to these instructions.**
- **When not installed, stow the cover behind the front seats as shown.**
- **Remove and stow the roller when a top-strap equipped child restraint is placed in the rear seat.**

ROOF CARRIER (STATION WAGON ONLY)

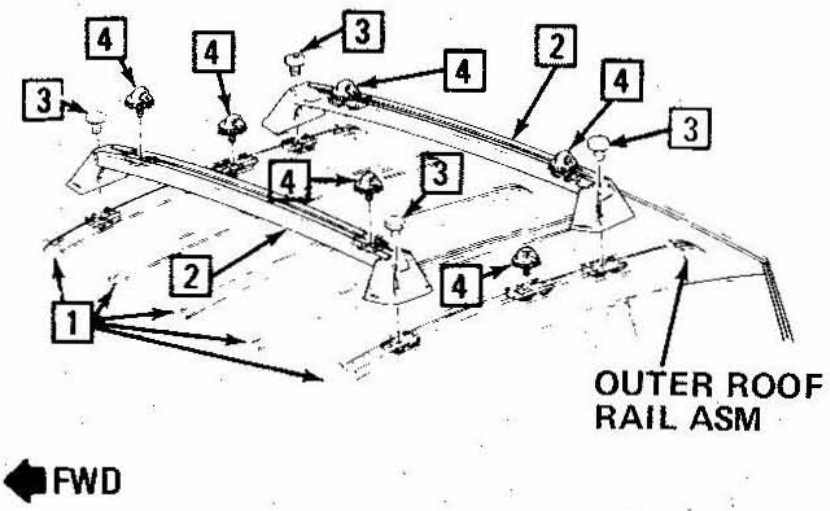
The optional roof luggage carrier is designed to allow loading of items onto the roof of your car. The carrier does **not** increase the total load-carrying capacity of the car, shown opposite "Max Load" on the Tire Placard on the driver's door. Be sure the total weight of the cargo on the roof, plus the weight of the cargo and passengers inside the car, plus the tongue load of any trailer you are towing, does not exceed this "Max Load" vehicle capacity weight. See "Tires" in "Service and Maintenance," Section 5 for more information on vehicle loading. If needed, see "Trailer Towing" in "Starting and Operating," Section 2.

NOTICE: To help avoid damage to the car, do not exceed 70 kilograms (150 pounds) cargo weight on the roof. Position the cargo on the luggage carrier as evenly as possible. If carrying long items, never exceed car length and fasten loads securely at the front and rear of the car, as well as to the luggage carrier.

The carrier consists of: five roof slats attached to the top of the car, two crossrails with knobs at each end that allow the crossrails to be adjusted or removed, and six adjustable tie-downs.

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1 ROOF RAIL ASM.
2 CROSSRAILS
3 CROSSRAIL KNOBS
4 TIE-DOWNS



The crossrails will adjust to help position your load. Rotate the large knob ("No. 3" in the illustration) counterclockwise to move or remove the crossrails; and clockwise to tighten down or install the crossrails.

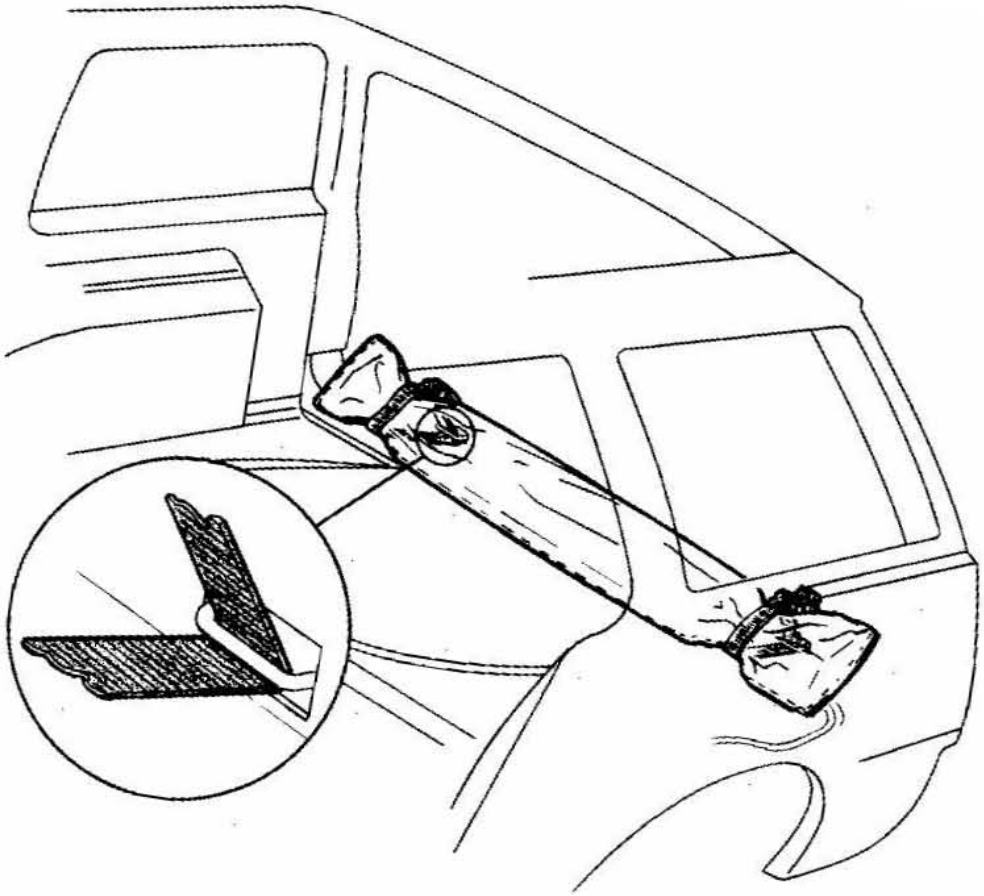
Attached to the top of the crossrails are two adjustable tie-downs ("No. 4" in the illustration). There is also one adjustable tie-down located in the center of each outer roof slat assembly (also called "No. 4" in the illustration). The tie-downs may be easily moved within the outer slat assembly and across the top of the crossrails to the desired position. To move the tie-down, rotate it counterclockwise to loosen and clockwise to tighten down. If needed to secure a certain type of load, the tie-downs on the crossrails may be removed and repositioned on the outer roof slat assemblies.

While under way, check now and then to make sure the crossrails, tie-downs and cargo are securely fastened, to help prevent damage or loss.

See your Chevrolet dealer for attachments to your Chevrolet luggage carrier to hold bicycles, skis and other items, and for straps to help secure your cargo, which are available as accessories.

CAUTION: The crossrails may be removed from the roof luggage carrier. Never carry the crossrails loose or unsecured in the passenger area because they could be thrown about and injure people during a collision or a sudden maneuver. Be sure to stow the crossrails in the vinyl bag. Place the bag on the rear load floor behind the second seat and secure the straps (on the bag) to the anchor brackets as shown. The bag and brackets are designed to secure ONLY the crossrails.

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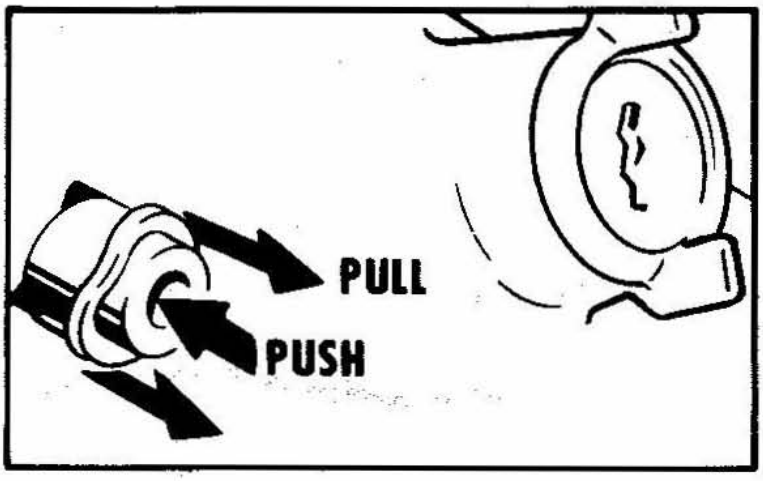
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SECTION 3

IN CASE OF EMERGENCY

FOUR-WAY HAZARD WARNING FLASHER

Use the hazard warning flasher to warn other drivers any time your vehicle becomes a traffic hazard, day or night. Avoid stopping on the roadway if possible. To turn it on, push the button (inside the collar) beneath the steering wheel on the right of the steering column. The flasher should work with the ignition either off or on.



The turn signals do not work when the hazard flasher is on. On some vehicles, if the brake pedal is pushed down, the lights will not flash until the brake is released. To turn off the flasher, pull the button collar out.

EMERGENCY STARTING YOUR VEHICLE DUE TO A DISCHARGED BATTERY

If your vehicle will not start due to a discharged battery, it can often be started by using energy from another battery - a procedure called "jump starting."

NOTICE: Do not push or tow this vehicle to start it. Under some conditions this may damage the catalytic converter or other parts of the vehicle. Also, since this vehicle has a 12 volt battery, be sure the vehicle or equipment used to jump start your engine is also 12 volt. Use of any other type system may damage the vehicle's electrical components.

Jump Starting Instructions

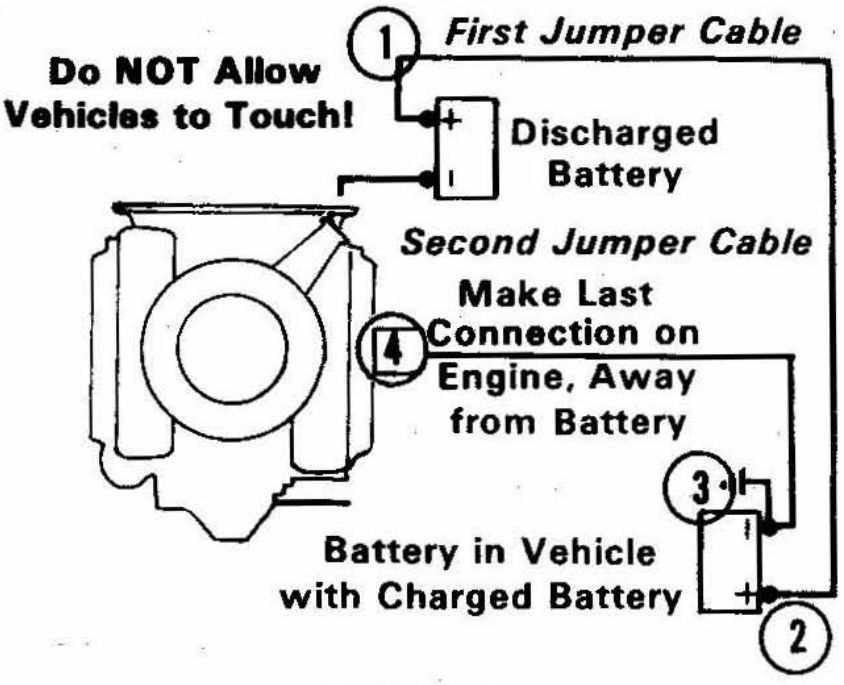
CAUTION: Batteries produce explosive gases, contain corrosive acid and supply levels of electrical current high enough to cause burns. Therefore, to reduce the risk of personal injury when working near a battery:

- **Always shield your eyes and avoid leaning over a battery whenever possible.**
- **Do not expose a battery to open flames or sparks.**
- **Be sure any batteries that have filler caps are properly filled with fluid.**
- **Do not allow battery acid to contact eyes or skin. Flush any contacted area with water immediately and thoroughly, and get medical help.**
- **Follow each step in the jump starting instructions.**

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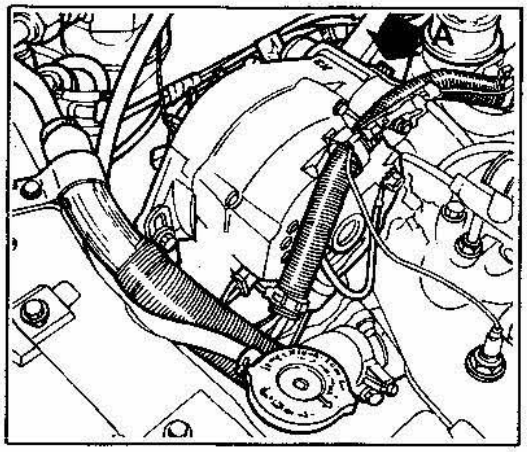
1. Position the vehicle with the good (charged) battery so that the booster (jumper) cables will reach but never let the vehicles touch. Also, be sure booster cables to be used do not have loose or missing insulation.
2. In both vehicles:
   - Turn off ignition and all lights and accessories except the hazard flasher or any lights needed for the work area.
   - Apply the parking brake firmly, and shift the automatic transaxle or transmission to Park (or manual transaxle or transmission to neutral).
3. Making sure the cable clamps do not touch any other metal parts, clamp one end of the first booster cable to the positive "+" (red) terminal on one battery, and the other end to the positive terminal on the other battery. Never connect "+" (red) to "—" (black).

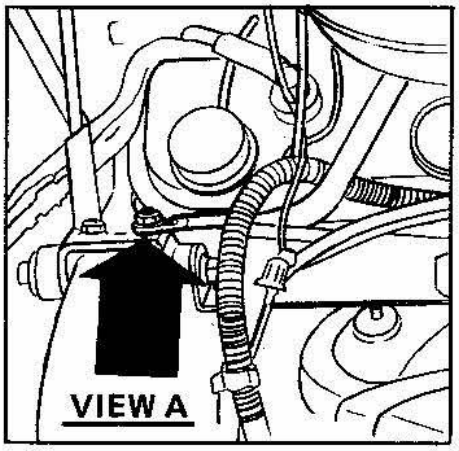
Make Connections in Numerical Order



4. Clamp one end of the second cable to the negative "—" (black) terminal of the good (charged) battery and make the final connection to a heavy metal bracket on the engine about 450 millimeters (18 inches) from the discharged battery. DO NOT use the Delcotron (generator) mounting bracket attaching nut or bolt or, the bolt on the rear of the Delcotron as the final ground attachment. Such improper grounding could cause damage to the Delcotron. Either of the two bolts atop the mounting bracket, or the air conditioner compressor (if so equipped) generally make a good point for the final ground attachment. See the illustration. Make sure the cables are not on or near pulleys, fans, or other parts that will move when the engine is started.
5. Start the engine of the vehicle with the good (charged) battery and run the engine at a moderate speed for several minutes. Then, start the engine of the vehicle that has the discharged battery.
6. Remove the booster cables by reversing the above installation sequence exactly. While removing each clamp, take care it does not touch any other metal while the other end remains attached.

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ENGINE COOLING SYSTEM OVERHEATING

If you see or hear escaping steam or have other reason to suspect there is a serious overheat condition, **stop and park the vehicle as soon as it is safe to do so and turn off the engine immediately and get out of the vehicle.**

The cooling system may overheat if the coolant level is too low, if there is a sudden loss of coolant (such as a worn hose splitting), or if other problems occur. It may also temporarily overheat during severe operating conditions such as:

- climbing a long hill on a hot day,
- stopping after high-speed driving,
- idling for long periods in traffic, or
- towing a trailer.

If the Engine Coolant Temperature light comes on (or if you have an Engine Coolant Temperature gage and it shows an overheat condition), or you have any reason to suspect the engine may be overheating:

- If your air conditioner is on, turn it off.
- If you are stopped in traffic, shift the transaxle to "N" (Neutral).

If the warning light does not go off (or engine coolant temperature does not start to drop) within a minute or two:

- Pull over, stop and park the vehicle as soon as it is safe to do so.
- Let the engine run at normal idle speed for two or three minutes.

If the warning light does not go off (or engine coolant temperature does not start to drop), **turn off the engine and get out of the car,** then proceed as follows:

CAUTION: To help avoid being burned:

- **DO NOT OPEN THE HOOD if you see or hear steam or coolant escaping from the engine compartment. Wait until no steam or coolant can be seen or heard before opening the hood.**
- **DO NOT REMOVE THE RADIATOR CAP or coolant RECOVERY TANK CAP IF THE COOLANT IN THE RECOVERY TANK IS BOILING. Also do not remove the radiator cap while the engine and radiator are still hot. Scalding fluid and steam can be blown out under pressure if either cap is taken off too soon.**

If no steam or coolant can be seen or heard, raise the engine hood. **If the coolant is boiling, wait until it stops before proceeding.** Look at the

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coolant level in the see-through recovery tank. The coolant level should be at or above the "FULL HOT" mark on the recovery tank.

CAUTION: Keep hands, tools and clothing away from the engine cooling fan to help prevent personal injury. This fan is electric and can come on whether or not the engine is running. The fan can start automatically in response to a heat sensor when the ignition is in "Run."

Make sure the water pump belts are not broken, or off the pulleys, and that the fan runs when the engine is running and there is an indication on the instrument panel of an overheat condition.

If the coolant level in the recovery tank is low, look for leaks at the radiator hoses and connections, heater hoses and connections, radiator, and water pump. If you find major leaks, or spot other problems that may have caused the engine to overheat, do not run the engine until these problems have been corrected. If you do not find a leak or other problem, **carefully** add coolant to the recovery tank. (Coolant is a mixture of ethylene glycol antifreeze and water; see "Engine Cooling System" in "Service and Maintenance," Section 5, for the proper antifreeze and mixture.)

CAUTION: Under some conditions, the ethylene glycol in engine coolant is combustible. To help avoid being burned, DO NOT spill antifreeze or coolant on the exhaust system or hot engine parts.

If the coolant level in the recovery tank is at the correct level but there is still an indication on the instrument panel of an overheat condition:

- You may add coolant directly to the radiator. YOU MUST LET ENGINE COOL FIRST. See "Coolant Replacement" under "Engine Cooling System" in Section 5, "Service and Maintenance" in this manual. Follow steps 1 through 3 for the correct way to remove the radiator cap and add coolant.

Once the Engine Coolant Temperature light has gone out (or the Engine Coolant Temperature gage no longer signals an overheat condition), you can resume driving at a reduced speed. Return to normal driving after about ten minutes if the light does not come back on (or the gage pointer does not again show an overheat condition).

If no cause for the overheat condition was found, see a qualified service technician.

JACKING

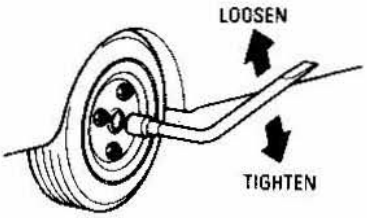
CAUTION

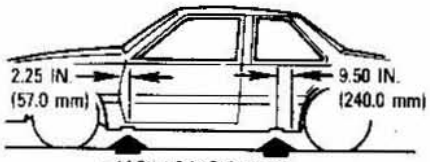
To help avoid personal injury:

- Follow all jacking and stowage instructions.
- Use jack only for lifting this vehicle during wheel change.
- Never get beneath the vehicle, start or run engine while vehicle is supported by jack.
- Always securely restow spare tire (or flat tire) and all jacking equipment.

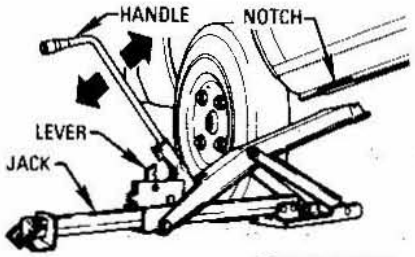
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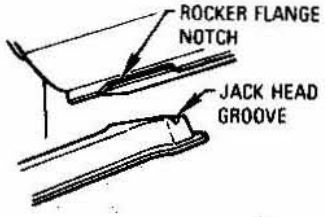
JACKING INSTRUCTIONS





JACK LOCATIONS TO ROCKER FLANGE NOTCH





WHENEVER A WHEEL IS CHANGED, ALWAYS REMOVE ANY CORROSION THAT MAY BE PRESENT ON INSIDE OF WHEEL AND WHEEL MOUNTING SURFACE ON VEHICLE.

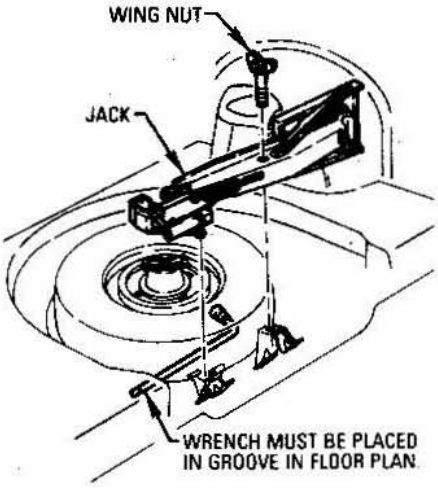
1. PARK ON A LEVEL SURFACE AND SET PARKING BRAKE FIRMLY.
2. SET AUTOMATIC TRANSMISSION IN "PARK" (MANUAL TRANSMISSION IN "REVERSE").
3. TURN ON THE HAZARD WARNING FLASHER.
4. REMOVE JACKING TOOLS AND SPARE TIRE FROM STOWAGE AREA.
5. BLOCK FRONT AND REAR OF WHEEL DIAGONALLY OPPOSITE WHEEL BEING REMOVED BEFORE OPERATING JACK.
6. LOOSEN, BUT DO NOT REMOVE WHEEL NUTS BY TURNING WRENCH COUNTERCLOCKWISE. (IF EQUIPPED WITH CHROME CAPPED WHEEL NUTS, NUTS MAY BE DAMAGED IF WHEEL NUT WRENCH IS NOT FULLY SEATED ON NUT).
7. PLACE LEVER IN "UP" POSITION AND PLACE JACK UNDER ROCKER FLANGE NOTCH NEAREST WHEEL BEING REMOVED.
8. RAISE JACK UNTIL JACK HEAD GROOVE FITS INTO ROCKER FLANGE NOTCH.
9. OPERATE JACK WITH SLOW, SMOOTH MOTION, USING HAND OR FOOT TO PUMP HANDLE.
10. RAISE VEHICLE SO AN INFLATED TIRE WILL JUST CLEAR SURFACE. REMOVE NUTS & WHEEL.
11. INSTALL WHEEL AND REPLACE WHEEL NUTS WITH CONE SHAPED END TOWARD WHEEL. THEN SLIGHTLY TIGHTEN EACH NUT. WHEEL MUST BE SEATED ON HUB.
12. PLACE LEVER IN "DOWN" POSITION.
13. LOWER VEHICLE, AND FULLY TIGHTEN WHEEL NUTS IN A CRISS-CROSS SEQUENCE BY TURNING WRENCH CLOCKWISE.
14. **AS SOON AS POSSIBLE TIGHTEN WHEEL NUTS WITH A WHEEL WRENCH. (SEE TORQUE SPECIFICATIONS SECTION 6.)**
15. **JACK RATCHET MECHANISM SHOULD BE OILED AFTER EACH USE.**

WHEN DRIVING THE VEHICLE WITH THE COMPACT SPARE INSTALLED, STOW THE WHEEL TRIM COVER ASSEMBLY FLAT ON THE REAR FLOOR BEHIND THE FRONT PASSENGER SEAT.

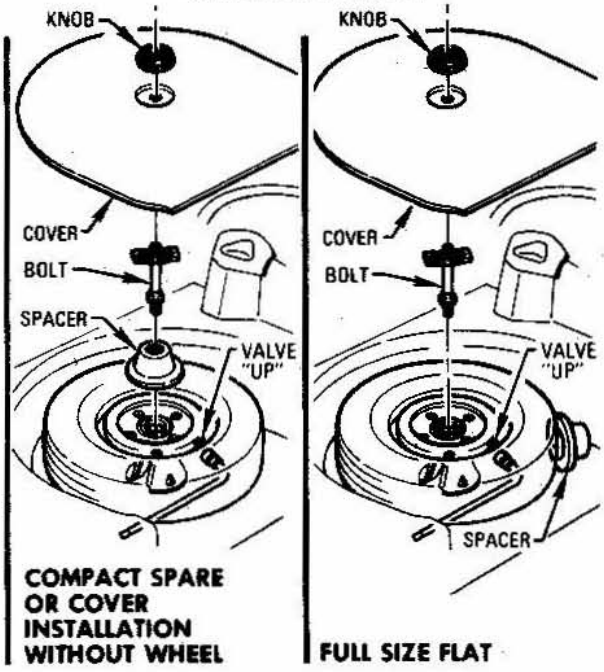
NOTICE: DO NOT TAKE YOUR VEHICLE THROUGH AN AUTOMATIC CAR WASH WITH COMPACT SPARE INSTALLED. THE VEHICLE MAY GET CAUGHT WHICH COULD RESULT IN PROPERTY DAMAGE.

STOWAGE INSTRUCTIONS

JACK STOWAGE



WHEEL STOWAGE



COMPACT SPARE OR COVER INSTALLATION WITHOUT WHEEL

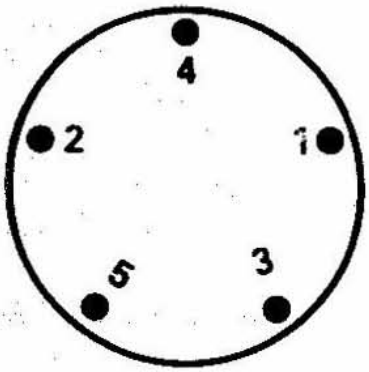
FULL SIZE FLAT

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Stowage of Tire and Jack

CAUTION: Always securely restow the spare tire assembly (or flat tire), all jacking equipment, and the cover, using the means provided. When driving the car with the Compact Spare installed, stow the wheel cover in the trunk. In station wagons and hatchbacks, when the rear seat is folded down, stow the wheel cover flat on the rear floor behind the right front seat. When the rear seat is up, stow the wheel cover in the rear area. This will help keep such things from being thrown about and injuring people during a collision or a sudden maneuver.

WHEEL NUT TORQUE



CAUTION: Never use oil or grease on studs or nuts. Snug all wheel nuts and then tighten to the specified torque in the numerical sequence shown. Improperly tightened wheel nuts could eventually allow the wheel to come off while the vehicle is moving, possibly causing loss of control and/or personal injury or damage. As soon as possible after installing any wheel, have a technician tighten wheel nuts with a torque wrench to the torque shown in "Specifications," Section 6.

(Also see the "Replacement Fasteners" Caution in "Service and Maintenance," Section 5 regarding the danger of mixing metric and customary fasteners. See the "Inspection and Rotation" Caution under "Tires" in the same section regarding the importance of obtaining good metal-to-metal contact.)

Spare Tire

At least monthly, check the spare tire to be sure that it is stowed securely and properly inflated. If you have a Compact Spare, adjust the pressure to 415 kilopascals (60 pounds per square inch). (To find out if you have a Compact Spare, see "Compact Spare" in this section.) For all other tires, see "Inflation Pressure" in Section 5 of this manual to learn what pressure to use.

Cast Aluminum Wheel Hub Cap

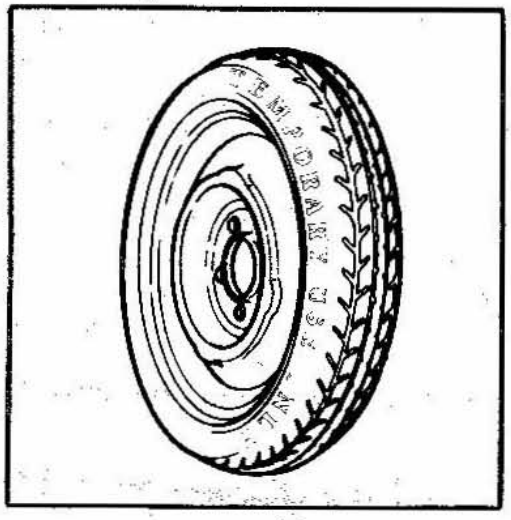
1. Remove wheel and tire assembly from car.
2. The hub cap may be removed by pushing or hitting it away from the wheel from the back side (inboard side of wheel). It is preferred that a blunt tool be used on the backside of the hub cap. However, the lug wrench may be used if no other tool is available but caution must be exercised to avoid hub cap damage.

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3. Install wheel and tire assembly and install hub cap by pushing or hitting into place (the wheel can be mounted with hub cap in place). The hub cap must be oriented by engaging the bump on the side of the hub cap retention tab with the cutout on the side of the wheel pilot hole.

Compact Spare

The compact spare tire is designed to save space in your stowage area, and its lighter weight makes it easier to install if a flat tire occurs. The lighter weight also helps improve fuel economy.



If you have a flat tire, follow the jacking instructions in this section, while keeping these points in mind:

- Check the tire inflation pressure as soon as practical after installing the spare (we suggest you use a pocket-type high-pressure inflation gage) and adjust the pressure to 415 kilopascals (60 pounds per square inch). The tire pressure should be checked at least monthly and kept at 415 kPa (60 psi) while the tire is stored. Also at least monthly, check that the spare tire is stowed securely; tighten it if it is not.

NOTICE: Because this tire is smaller than the standard tire, vehicle ground clearance is reduced. Do not take your vehicle through an automatic car wash while the spare is installed; the vehicle may catch on the equipment, possibly resulting in property damage.

- You can expect a tread life up to 3,000 miles (4 800 kilometers), depending on road conditions and your driving habits. The tire was designed to let you finish an extended trip (up to 3,000 miles/4 800 kilometers) and buy a replacement tire, if needed, at a store of your choice. However, to conserve tire tread life, return the spare to the stowage area as soon as it is convenient to have your standard tire repaired or replaced.
- Because the compact spare was specifically designed for your vehicle, it should not be used on any other vehicle.
- The compact spare tire and wheel are designed for use with each other. The compact spare tire should not be mounted on any other type of wheel, and the compact spare wheel should not have any other type of tire mounted on it. Also, do not try to use wheel covers or trim rings on the compact spare wheel since they will not fit. If such use is attempted, damage to these items or other vehicle components may occur.
- Do not use tire chains with your compact spare tire. Because of the smaller tire size, a tire chain will not fit properly. This could cause damage to the vehicle and result in loss of the chain.

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TOWING

Proper equipment must be used to prevent damage to vehicles during any towing. State (provincial in Canada) and local laws which apply to vehicles in tow must be followed. Get detailed towing instructions from your dealer.

Your vehicle, if equipped with an automatic transaxle, may be towed on all four wheels at speeds less than 35 mph (55 km/h) for distances up to 50 miles (80 kilometers). These speed and distance restrictions do not apply if your vehicle has a manual transaxle. The driveline and steering must be normally operable.

For such towing, the steering must be unlocked, transaxle in neutral and the parking brake released. Connect to main structural parts of the vehicle. Do NOT attach to bumpers or brackets. Remember also that power assist for brakes and steering will not be available when the engine is off.

If the vehicle is to be towed by a wrecker, use only equipment designed for this purpose, following the instructions of the wrecker manufacturer. Towing on the rear wheels is preferred because of the front-wheel drive. However, if necessary, your vehicle may be towed backwards on the front drive wheels at speeds up to 35 mph (55 km/h) for distances of 50 miles (80 kilometers) if it is equipped with an automatic transaxle. These speed and distance restrictions do not apply if your vehicle has a manual transaxle. Severe damage to the transaxle may result if speed or distance limits are exceeded.

A safety chain system must be used for all towing.

FREEING VEHICLE FROM SAND, MUD, SNOW OR ICE

If your vehicle gets stuck in sand, mud, snow or ice, shift the transaxle from a forward range to reverse in a repeat pattern. (On manual transaxle models, shift the transaxle from First or Second to Reverse.) Apply a light pressure to the accelerator pedal while the transaxle is in gear. Remove your foot from the accelerator while shifting. Do not race the engine. For best traction, avoid spinning the wheels. Incorrect rocking of your vehicle while it is stuck may result in damage to vehicle components.

CAUTION: Do not spin the wheels faster than 35 mph (55 km/h). Personal injury and damage (including tire, vehicle body parts, and/or transaxle failure) may result from excessive wheel spinning.

If the vehicle remains stuck after several rocking attempts, seek other assistance. Also see the Notice under "Automatic Transaxles" in "Starting and Operating", Section 2 of this manual.

Extended Vehicle Storage

If you plan to store your vehicle over an extended period of time, certain steps should be taken to give it maximum protection. It is recommended that you write the Consumer Relations Department, Chevrolet Motor Division, Warren, Michigan 48090, (in Canada, write to General Motors of Canada Limited, Customer Services Department, Oshawa, Ontario L1J5Z6) for detailed instructions on how to prepare your vehicle for storage.

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SECTION 4

APPEARANCE CARE

CAUTION: Follow the manufacturer's advice WHENEVER cleaning agents or other chemicals are used, inside or outside the vehicle. Some cleaners may be poisonous or flammable, and improper use may cause personal injury or damage. When cleaning the inside or outside of the vehicle, DO NOT USE volatile cleaning solvents such as: acetone, lacquer thinners, enamel reducers, nail polish removers; or such cleaning materials as laundry soaps, bleaches or reducing agents except as noted in the fabric cleaning advice on stain removal which follows. NEVER use carbon tetrachloride, gasoline, benzene, or naphtha for any cleaning purpose.

Open all vehicle doors for ventilation when ANY cleaning agents or other chemicals are used in the interior. Overexposure to some vapors may result in a health problem which is more likely to occur in small, unventilated spaces.

NOTICE: To avoid possible permanent discoloration of white or light colored seats, DO NOT let materials with unstable dyes come in contact with seat trim materials until these materials are totally dry. (This includes certain types of casual clothing, such as colored denims, corduroys, leathers and suedes; also decorative paper, etc.)

CARE AND CLEANING OF THE INTERIOR

With the use of modern trim materials, it is VERY IMPORTANT that you use proper cleaning techniques and cleaners. Failing to do this on the first cleaning may result in water spots, spot rings, or setting of stains or soilage - all of which are more difficult to remove in a second cleaning.

Dust and loose dirt that collect on interior fabrics should be removed often with a vacuum cleaner or soft bristle brush. Wipe vinyl or leather trim regularly with a clean damp cloth. Normal trim soilage, spots, or stains can be cleaned with these GM cleaners:

GM CLEANERS		
Cleaner	Container Size	GM Part Number
GM Spot Lifter (Solvent Type)	8 oz. (0.237 L)	1051398
GM Multi-Purpose Powdered Cleaner (Foam Type)	6 lbs. (2.72 kg.)	1050429

The above products are excellent cleaners when used properly. They are available through your authorized dealer.

Remember these basic steps before cleaning:

1. Remove stains as quickly as possible before they become "set."
2. Use a clean cloth or sponge, and change to a clean area often. (A soft brush may be used if stains persist.)
3. Use solvent-type cleaners only in a well ventilated area; also, do not saturate the stained area.
4. If a ring forms after spot cleaning, clean the entire area immediately.
5. Follow specific instructions on cleaner labels.

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Cleaning General Soilage Or Water Spots From Fabric-Type Trim (Including Fleece and Pigskin Suede Leather) With Foam Type Cleaner

GM Multi-Purpose Powdered Cleaner is excellent for this type of cleaning and for cleaning panel sections where small cleaning rings may be left from spot cleaning.

- Vacuum the area thoroughly to remove any loose dirt.
- ALWAYS clean a full trim assembly or complete trim section. Mask surrounding trim along stitch or welt lines.
- Mix Multi-Purpose Powdered Cleaner in strict accordance with the directions on the container label. Mix in proportion for smaller quantities.
- USE SUDS ONLY ON A CLEAN SPONGE OR SOFT BRISTLE BRUSH. DO NOT SATURATE THE FABRIC OR RUB IT HARSHLY WITH A BRUSH. IMMEDIATELY AFTER CLEANING, WIPE OFF EXCESS SUDS WITH A SLIGHTLY DAMP ABSORBENT TOWEL OR CLOTH.
- **IMPORTANT** - IMMEDIATELY AFTER WIPING, FORCE-DRY THE FABRIC WITH AN AIR HOSE. FOR MATERIALS OTHER THAN PIGSKIN SUEDE LEATHER A HEAT DRYER OR HEAT LAMP MAY BE USED. (Use caution with heat dryer or lamp to help prevent fabric damage.)
- When trim materials with a sheen or luster finish are dry, wipe the fabric lightly with a soft, dry, clean cloth to restore its sheen or luster.

Spot Cleaning Fabric Type Trim (Except Pigskin Suede Leather) with Solvent Type Cleaner

Before trying to remove a spot or stain from fabric, determine as accurately as you can the type and age of the spot or stain. Some spots or stains can be removed with water or mild soap solution (see "Removal of Specific Stains"). Spots or stains should always be removed as soon as possible.

Some types of stains or soilage, such as lipstick, inks and grease, are very difficult (sometimes impossible) to completely remove. When cleaning this type of stain or soilage, be sure not to enlarge the soiled area.

GM Fabric Cleaner (Solvent Type) is excellent for spot cleaning grease, oil, or fat stains.

NOTICE: Solvent type cleaners MUST NOT be used on pigskin suede leather. Damage to the material may result from such use.

- Gently scrape excess stain from the trim material with a clean, DULL knife or scraper. USE VERY LITTLE CLEANER, light pressure and clean cloths (preferably cheesecloth). Cleaning should start at the outside of the stain, "FEATHERING" toward the center. Keep changing to a clean section of the cloth.
- When you clean a stain from fabric, immediately dry the area with an air hose, heat dryer, or heat lamp to help prevent a cleaning ring. (Use caution with a heat dryer or lamp to help prevent fabric damage).
- If a ring forms, immediately repeat the cleaning operation over a slightly larger area with emphasis on "FEATHERING" towards its center. If a ring remains, mask off surrounding trim sections and clean the entire affected area with GM Multi-Purpose Powdered Cleaner (as described under "Cleaning General Soilage or Water Spots from Fabric Type Trim with Foam Type Cleaner").

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Removal Of Specific Stains (Except from Pigskin Suede Leather)

Grease or Oil Stains - Includes grease, oil, butter, margarine, shoe polish, coffee with cream, chewing gum, cosmetic creams, vegetable oils, wax crayon, tar and asphalts.

- Carefully scrape off excess stain, then use GM Fabric Cleaner (Solvent Type) as previously described.
- Shoe polish, wax crayons, tar and asphalts will stain if left on trim; they should be removed as soon as possible. Use caution as the cleaner will dissolve them and may cause them to "bleed."

Non-Greasy Stains - Includes catsup, coffee (black), egg, fruit, fruit juice, milk, soft drinks, wine, vomit and blood.

- Carefully scrape off excess stain, then sponge the stain with cool water.
- If a stain remains, use Multi-Purpose Powdered Cleaner (Foam Type) as previously described.
- If an odor lingers after cleaning vomit or urine, treat the area with a water/ baking soda solution: 5 milliliters (1 teaspoon) of baking soda to 250 milliliters (1 cup) of lukewarm water.
- Finally, if needed, clean lightly with Fabric Cleaner (Solvent Type).

Combination Stains - Includes candy, ice cream, mayonnaise, chili sauce and unknown stains.

- Carefully scrape off excess stain, then clean with cool water and allow to dry.
- If a stain remains, clean it with Fabric Cleaner (Solvent Type).

Removal of Specific Stains from Pigskin Suede Leather

For the removal of all grease or oil, non-greasy and combination stains on Pigskin Suede Leather, GM recommends the use of a qualified professional cleaner who has been trained to care for suede leather.

Cleaning Vinyl Or Leather Trim (Except Pigskin Suede Leather)

Ordinary soilage can be removed from vinyl or leather with warm water and a mild soap such as saddle soap or oil soap, or an equivalent.

- Apply a small amount of soap solution and let it soak for a few minutes to loosen dirt; then, rub briskly with a clean, damp cloth to remove dirt and traces of soap. (This may be repeated several times, if needed.)
- Soilage such as tars, asphalts, shoe polish, etc. will stain if left on trim. They should be wiped off as quickly as possible and the area cleaned with a clean cloth dampened with GM Vinyl/Leather Cleaner (Solvent Type).

Seat Belt Care

- Keep belts clean and dry.
- Clean seat belts only with mild soap and lukewarm water.
- Do not bleach or dye belts since this may severely weaken them.

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Glass Surfaces

Glass surfaces should be cleaned on a regular basis. Use of GM Glass Cleaner or a commercial household glass cleaner will remove normal tobacco smoke and dust films sometimes caused by ingredients used in vinyls and interior plastics.

Never use abrasive cleaners on any vehicle glass, as they may cause scratches. If abrasive cleaners are used on the inside of the rear window, any electric defogger element may be damaged. Avoid placing decals on the inside rear window, since they may have to be scraped off later. Any temporary license, etc. should not be attached across the defogger grid.

Cleaning Glass Roof Panels

Never use abrasive cleaners on any glass roof panels, such as Vista-Vent panels, as such cleaners may cause scratches. Also, if you use such cleaners on the inside surface, the tinted coating may be damaged. Avoid placing decals on the inside surface, since they may later have to be scraped off.

CARE AND CLEANING OF THE EXTERIOR

Exterior Finish

The paint finish on your vehicle provides beauty, depth of color, gloss retention and durability.

Washing Your Vehicle

The best way to preserve your vehicle's finish is to keep it clean by frequent washings. Wash the vehicle in lukewarm or cold water.

Do not use hot water or wash your vehicle in the direct rays of the sun. Do not use strong soap or chemical detergents. All cleaning agents should be flushed promptly from the surface and not allowed to dry on the finish.

Polishing and Waxing

Polishing is recommended to remove built-up residue and eliminate any "weathered" appearance.

Your dealer offers several polishes and cleaners which have proven value in maintaining original finish appearance and durability.

Protecting Exterior Bright Metal Parts

Bright metal parts should be cleaned regularly to keep their luster. Washing with water is all that is usually needed. However, you may use GM Chrome polish on chrome or stainless steel trim, if necessary.

Use special care with aluminum trim. To avoid damaging protective trim, never use auto or chrome polish, steam or caustic soap to clean aluminum. A coating of wax, rubbed to a high polish, is recommended for all bright metal parts.

Cleaning Aluminum Wheels

Preserve the original appearance of aluminum wheels (if your vehicle has them) by keeping them clean and free from build-up of road dirt and/or road salt. Regular cleaning followed by a coat of wax is recommended. Do not use abrasive cleaners, as they could damage the protective coating.

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Cleaning White Sidewall Tires

Use GM White Sidewall Tire Cleaner or a tire cleaner which will not harm aluminum wheel trim. A stiff brush may be used with the cleaner.

CORROSION PROTECTION

Your vehicle has been designed and built to resist corrosion. Special materials and protective finishes were used on most parts of your vehicle when it was built to help maintain good looks, strength and reliable operation. However, some parts which normally are not visible (such as certain parts under the vehicle and under the hood) are such that surface rust will not affect their reliability. So, corrosion protection is not needed or used on these parts.

Sheet Metal Damage

If your vehicle is damaged and requires sheet metal repair or replacement, make sure the body repair shop applies anti-corrosion material to the parts repaired or replaced so that corrosion protection is restored. (Also see "Finish Damage" which follows.)

Foreign Material Deposits

Calcium chloride and other salts, ice melting agents, road oil and tar, tree sap, bird droppings, chemicals from industrial chimneys, and other foreign matter may damage vehicle finishes if left on painted surfaces.

Prompt washing may not completely remove all of these deposits. Other cleaners may be needed. When using chemical cleaners, be sure they are safe for use on painted surfaces.

Finish Damage

Any stone chips, fractures or deep scratches in the finish should be repaired promptly. Bare metal will corrode quickly and may develop into a major repair expense.

Minor chips and scratches can be repaired with touch-up materials available from your dealer or other service outlets. Larger areas of finish damage can be corrected in your dealer's body and paint shop.

Underbody Maintenance

Corrosive materials used for ice and snow removal and dust control can collect on the underbody. If these materials are not removed, accelerated corrosion (rust) can occur on underbody parts such as fuel lines, frame, floor pan, and exhaust system even though they have been provided with corrosion protection.

At least every spring, flush these materials from the underbody with plain water. Take care to clean any areas where mud and other debris can collect. Sediment packed in closed areas of the frame should be loosened before being flushed. If desired, your authorized dealer can do this service for you.

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NOTICE TO NEW CHEVROLET OWNERS REGARDING CHEMICAL PAINT SPOTTING

Chevrolet believes that certain weather and atmospheric conditions may create a chemical fallout whereby certain airborne pollutants fall upon and attack vehicle paints. Occurrences have taken place primarily in the northeastern seaboard area. The paint damage takes two forms: blotchy, ringlet-shaped discolorations, and small irregular dark spots etched into the paint surface.

Paint spotting as a result of the fallout is not related to a defect in paint materials or workmanship. For this reason, claims arising from this condition are not considered to be warranty related. Nevertheless, because Chevrolet shares the pride which our owners take in preserving and maintaining the appearance of their vehicles, Chevrolet has authorized its dealers to repair, at no charge to the owner, the surfaces of new vehicles damaged by this fallout condition within 12 months or 12,000 miles (20 000 kilometers) of purchase, whichever comes first.

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APPEARANCE CARE AND MAINTENANCE MATERIALS

PART NUMBER	SIZE	DESCRIPTION	USAGE
1051516	0.946 L (32 oz.)	Washer Solvent and Gas Line De-Icer	Windshield washing system and gas line
1050017	0.946 L (32 oz.)	Power Steering Fluid	Power Steering
1052277	0.354 L (12 oz.)	Spray-A-Squeak	Weather Strips - stops squeaks on metal-to-metal and metal-to-rubber contact
1050172	0.473 L (16 oz.)	Tar and Road Oil Remover	Removes old waxes, polishes, tar, and road oil
1050173	0.473 L (16 oz.)	Chrome Cleaner and Polish	Removes rust and corrosion on chrome and stainless steel
1050174	0.473 L (16 oz.)	White Sidewall Tire Cleaner	Cleans white and black tires
*1050214	0.946 L (32 oz.)	Vinyl/Leather Cleaner	Spot and stain removal on leather or vinyl
*1050244	0.473 L (16 oz.)	Fabric Cleaner	Spot and stain removal on cloth and fabric
1052627	0.354 L (12 oz.)	Heat Valve Lubricant	Free up sticky heat risers - general purpose penetrant
1050427	0.680 L (23 oz.)	Glass Cleaner	Glass cleaning and spot cleaning on vinyls
1050429	2.72 kg (6 lb.)	Multi-Purpose Powdered Cleaner	Cleans vinyl and cloth on door trim, seats, and carpet - also, tires and mats
1052349	0.340 kg (12 oz.)	Lubriplate (White Grease)	Grease for hood, trunk and door hinges and latches
1050729	0.237 L (8 oz.)	Vinyl Top Cleaner	Cleaning of vinyl tops
1052870	0.473 L (16 oz.)	Wash - Wax (conc.)	Exterior Wash
1051055	0.473 L (16 oz.)	Preservatone	Vinyl Top Dressing
*1051398	0.237 L (8 oz.)	Spot Lifter	Spot and stain removal on cloth and fabric
1051515	0.946 L (32 oz.)	GM Optikleen	Windshield washer solvent and anti-freeze
1050201	0.473 kg (16 oz.)	Magic Mirror Cleaner - Polish	Exterior cleaner and polish
1051855	0.946 L (32 oz.)	Dexron® II	Automatic transmission and Four Speed Manual Transmission
1052367	0.473 L (16 oz.)	GM Engine Oil Supplement (E.O.S.)	See your Dealer for specific usage
1052753	3.785 L (1 gal.)	Permanent Type Anti-Freeze Coolant (Ethylene Glycol Base)	Year round coolant and anti-freeze
1052271	0.680 L (23 oz.)	GM Gear Lubricant	Rear axle lubricant
1052535	0.473 L (16 oz.)	Delco Supreme II Brake Fluid	Brake Fluid

*Not recommended for Pigskin Suede Leather. See your General Motors Dealer for these products.

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SECTION 5

SERVICE AND MAINTENANCE

Your authorized dealer has factory trained technicians and Genuine GM Parts to service your vehicle properly. For expert advice and quality service, see your authorized dealer.

CAUTION: As with any machine, take care when making any check, doing any maintenance, or making any repair, to avoid being injured. Some of the MATERIALS in this vehicle may also be hazardous if used, serviced, or handled improperly. Improper or incomplete service can affect the vehicle itself which may in turn result in personal injury, or damage to the vehicle or its equipment. If you have ANY question about carrying out some service, have the work done by a skilled technician.

REPLACEMENT FASTENERS

During vehicle maintenance, any fasteners used to replace older ones must have the same measurements and strength as those removed, whether metric or customary. (The numbers on the heads of metric bolts and on the surfaces of metric nuts show their strength. Customary **bolts** use radial lines to show this, while most customary **nuts** do not have strength markings.) Fasteners taken from the vehicle should be saved for re-use in the same spot when possible. Where a fastener cannot be used again, take care to choose a replacement that matches the old one. For information and help, see your authorized dealer.

CAUTION: This vehicle is primarily dimensioned in the metric system. Most fasteners are metric and many are very close in dimension to well-known customary fasteners in the inch system. Mismatched or incorrect fasteners can result in damage to the vehicle or possibly personal injury.

MAINTENANCE SCHEDULE

For owner convenience, a separate folder has been provided with your vehicle which outlines the maintenance your vehicle requires. The Maintenance Schedule folder is supplemented by this section of the Owner's Manual.

Read this publication for a full understanding of your vehicle's maintenance needs. If you need a replacement Maintenance Schedule, see your dealer or contact the Consumer Relations Representative, Chevrolet Central Office, Chevrolet Motor Division, Warren, Michigan 48090 (313-492-5500). (In Canada, contact the Customer Services Representative, General Motors of Canada Ltd., Oshawa, Ontario, L1J 5Z6; 416/644-6624).

FUEL CAP

The fuel cap is located behind a hinged door on the right rear fender. For your convenience there is a fuel cap hanger located on the filler door.

The fuel tank filler cap has a "screw-on ratcheting type" feature.

- To remove — rotate cap counterclockwise to clear the inside of the filler neck. This will allow any residual pressure to escape.
- To install — reverse this procedure and tighten cap securely until a "ratcheting", clicking sound is heard indicating cap is on properly.

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NOTICE: If you need to replace the fuel cap, use only a cap specified for your model. An incorrect fuel cap can result in a serious malfunction of the fuel system or emission control system. You can get a correct replacement cap from your dealer.

CATALYTIC CONVERTER

The catalytic converter is an emission control device added to the exhaust system to reduce exhaust gas pollutants. The converter contains a ceramic material coated with noble metal catalysts. To prevent contamination and loss of effectiveness of the catalysts, unleaded gasoline **must** be used. Unleaded gasoline also reduces spark plug fouling, exhaust system corrosion and engine oil deterioration. Leaded gasoline will also damage the oxygen sensor in the Computer Command Control system which could affect emission control.

To help prevent damage:

1. Keep your engine properly maintained. Engine malfunctions involving the electrical, carburetion, electronic fuel injection or ignition systems may result in unusually high catalytic converter and exhaust system temperatures which, under extreme malfunctioning conditions, may ignite interior floor-covering materials above the converter. **Do not keep driving your vehicle if you detect engine misfire, noticeable loss of performance, or other unusual operating conditions.** Instead, have it serviced promptly. See the Maintenance Schedule folder for information on inspecting and maintaining the engine, exhaust system, and other components.
2. Do not push or tow this vehicle to start it. This may result in unusually high catalytic converter and exhaust system temperatures which under extreme conditions may ignite interior floor-covering material above the converter.

Disregarding these instructions could damage the catalytic converter, the vehicle, or nearby property and affect warranty coverage.

COMPUTER COMMAND CONTROL SYSTEM

Most vehicles sold in the United States (and some vehicles sold in Canada) have the Computer Command Control system.

The Computer Command Control system monitors the exhaust stream with an oxygen sensor. Based on sensor signals, the electronic control module adjusts the air-fuel ratio as needed. It is **very important** to use **only unleaded** gasoline in vehicles equipped with the Computer Command Control system. Leaded gasoline will damage the oxygen sensor, and may affect emission control.

"Check Engine" Light

Most vehicles sold in the United States (and some vehicles sold in Canada) have the Computer Command Control system.

Vehicles with the Computer Command Control system, include a "CHECK ENGINE" light on the instrument panel designed to indicate the need for system service. It will come on during engine starting to let you know the bulb is working. (The light will stay on a short time after the engine starts.) Have the system repaired if the "CHECK ENGINE" light does not come on during engine starting. If the light comes on, either intermittently or continuously while driving, service to the Computer Command Control system is required. Although in

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most cases the vehicle is drivable, and does not require towing, see your authorized dealer as soon as possible for service of the system.

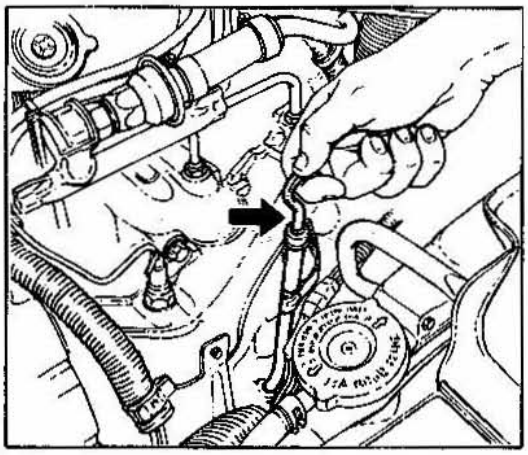
Continued driving without having the Computer Command Control system serviced could eventually cause damage to the emission control system. It could also affect fuel economy and drivability.

ENGINE OIL AND FILTER RECOMMENDATIONS

The following engine oil recommendations are based upon the operation of your engine with the fuels recommended under "Fuel Requirements" in Section 2 of this manual.

Checking Oil Level

The engine oil must be kept at the right level to help assure proper lubrication of your vehicle's engine. It is normal for an engine to use some oil, and some engines may use more oil when they are new.



It is the owner's responsibility to check the oil level at regular intervals (such as every fuel stop), according to the following instructions:

- The best time to check the engine oil level is when the oil is warm, such as during a fuel stop. After stopping the engine, wait a few minutes for the oil to drain back to the oil pan. Then, pull out the dipstick on the front of the engine. Wipe it clean, and push the dipstick back down all the way. Now, pull out the dipstick and look at the oil level on it.

Add oil, if needed, to keep the oil level above the "ADD" line. Avoid overfilling the engine since this may cause engine damage. Push the dipstick back down all the way after taking the reading.

- If you check the oil level when the oil is cold, do not run the engine first. The cold oil will not drain back to the pan fast enough to give a true oil level.

Choosing the Right Quality Oil

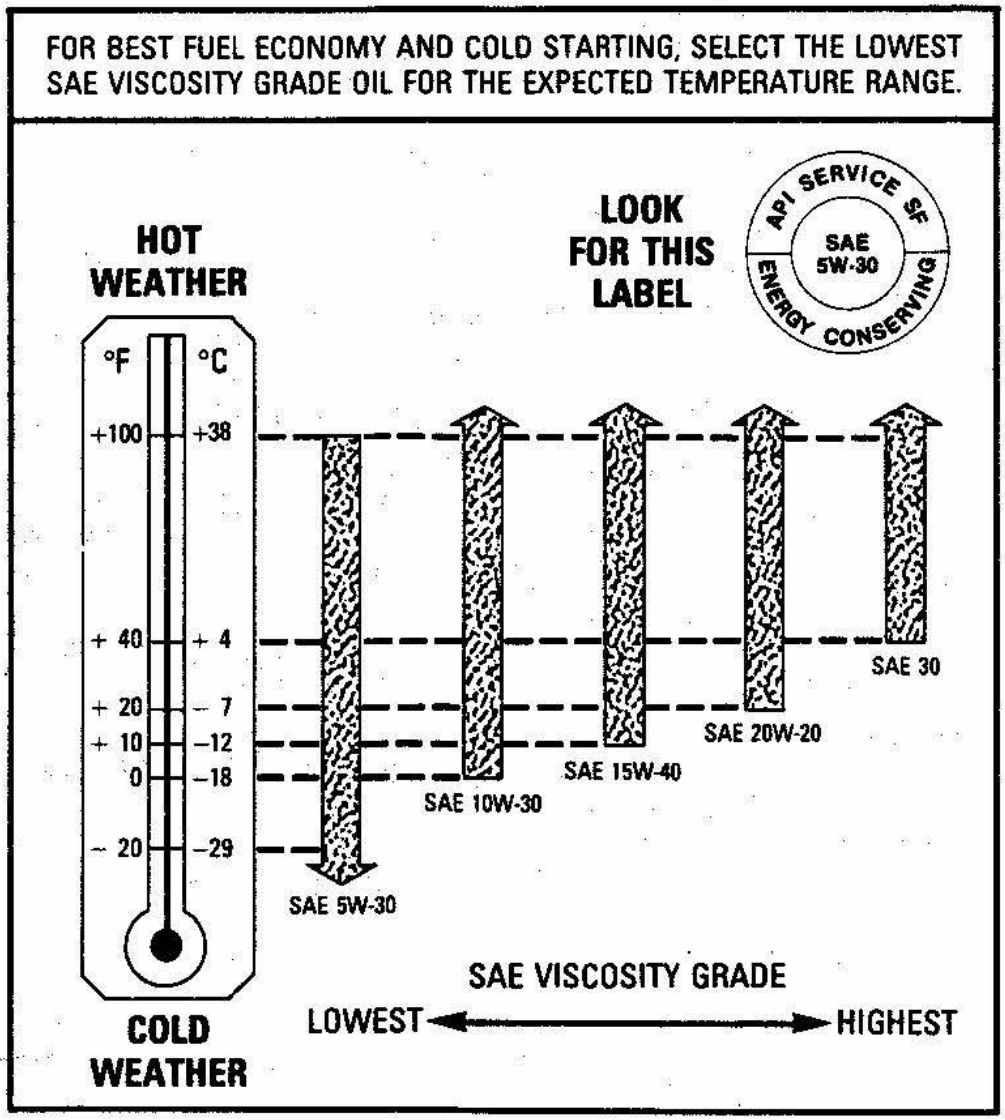
Engine oils are labeled on the containers with various API (American Petroleum Institute) designations of quality. Be sure the oil you use has the API designation "SF," either alone or shown with other designations such as SF/CC or SF/CD. These designations may be separated by commas, slashes or dashes. Oils which are **not** labeled "SF" should not be used. For example, **do not use oils labeled ONLY SA, SB, SC, SD, SE, CA, CB, CC, or CD; or oils with a combination of any of these letters— such as "SE/CD" as this may cause engine damage.**

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Choosing Oil Viscosity

Engine oil viscosity (thickness) has an effect on fuel economy. Lower viscosity engine oils can provide better fuel economy; however, higher temperature weather conditions require higher viscosity engine oils for satisfactory lubrication. **Using oils of any viscosity other than those viscosities recommended could result in engine damage.**

When choosing an oil, consider the range of temperature your vehicle will be operated in before the next oil change. Then, select the recommended oil viscosity from the following chart. If outside temperatures are not expected to exceed 38°C (100°F) prior to your next oil change, SF-quality, SAE 5W-30 Energy-Conserving engine oil is the preferred viscosity grade.



Energy Conserving Oils

It is recommended that you select an oil not only of the proper quality and viscosity, but also a fuel-saving product. These oils can be found in dealer service departments, service stations and other retail stores. They are identified by words such as: "Energy Conserving," "Energy Saving," "Conserves Gasoline," "Gas Saving," "Gasoline Saving," "Friction Reducing," "Improved Gasoline Mileage," "Improved Fuel Economy" or "Fuel Saving."

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Oil Identification Logo

A logo (symbol) has been developed to help you select the oil you should use, and it probably will be included on oil cans sometime during 1983. The top portion of the logo shows the oil quality by API designations such as SF, SF/CC, or others. The center portion of the logo will probably show the SAE viscosity grade, such as SAE 5W-30. "Energy Conserving," shown in the lower portion, indicates that the oil has fuel-saving capabilities.

Change Intervals

The oil and oil filter change intervals for your engine are based on the use of SF-quality oils and high-quality filters such as AC oil filters. **Using oil other than SF-quality, or oil and filter change intervals longer than recommended could reduce engine life.** Damage to engines due to improper maintenance or use of incorrect oil quality and/or viscosity is not covered by the Chevrolet new car warranties.

Your engine was filled with a high-quality engine oil when it was built. You do not have to change this oil before the first recommended change interval.

Oil and filter change intervals depend upon how you use your vehicle. The following should assist in determining the proper oil and filter change intervals:

TYPE OF USE	CHANGE INTERVAL
• Operating in dusty areas. • Towing a trailer. • Idling for extended periods and/or low speed operation such as found in police, taxi or door-to-door delivery service. • Operating when outside temperatures remain below freezing and when most trips are less than 4 miles (6 kilometers).	• Change engine oil and filter every 3,000 miles (4 800 kilometers) or 3 months, whichever comes first.
• Operating on a daily basis, as a general rule, for several miles and when none of the above conditions apply.	• Change engine oil every 7,500 miles (12 000 km) or 12 months, whichever comes first. Change engine oil filter at first oil change, then every other oil change if mileage determines when you change oil. If time determines change intervals, change the filter with each oil change.

Engine Oil Additives

Engine oils contain a variety of additives. Your engine should not need any extra additives if you use the recommended oil quality and change intervals. However, if you think your engine has an oil-related problem, a supplemental additive ("GM Engine Oil Supplement") is available that may solve your problem without causing other difficulties. Consult your dealer who can provide you with this tested and approved additive.

Used Oil Disposal

Do not dispose of used engine oil (or any other oil) in a careless manner such as pouring it on the ground, into sewers, or into streams or bodies of water. Instead, recycle it by taking it to a used oil collection facility which may be found in your area. If you have a problem disposing of your used oil, it is suggested that you contact your dealer or a service station.

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AUTOMATIC TRANSAXLE FLUID RECOMMENDATIONS

Use the Proper Fluid

Use only automatic transmission fluid labeled DEXRON® II. You can buy this fluid from your dealer or other service outlets.

Check the Fluid Level with Care

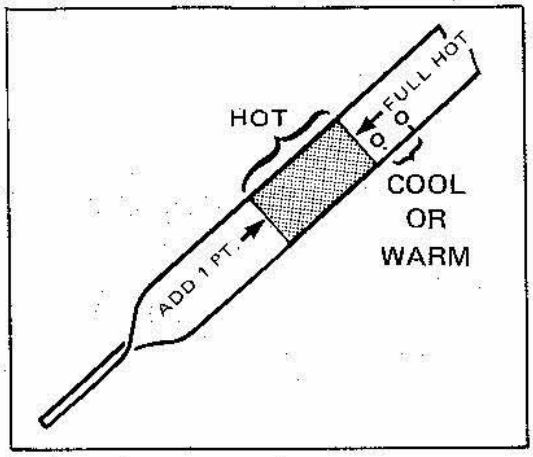
Check the automatic transaxle fluid level at each engine oil change. Driving with too much or too little fluid can damage the transaxle.

To check the fluid level, first set the parking brake, then start the engine in "P"(Park), and let idle for two minutes. You must check the fluid level with the engine running at slow idle and the vehicle level.

You cannot read the correct fluid level if you have just driven the vehicle for a long time at high speed, in city traffic in hot weather, or if the vehicle has been pulling a trailer. Wait until the fluid has cooled down (about 30 minutes).

Remove the dipstick located on the driver's side forward of the cowl. Carefully touch the wet end of the dipstick to find out if the fluid is cool, warm or hot. Wipe it clean and push it back in until the cap seats. Pull out the dipstick and read the fluid level.

- If it felt cool or warm (about room temperature and warmer, but not too hot to hold), the level should be between the two dimples **above** the "FULL" mark.
- If it was too hot to hold, the level should be in the cross-hatched area on the dipstick, near the "FULL" mark.



Add just enough DEXRON® II fluid to fill the transaxle. It takes only 0.5 liter (one pint) to raise the level from "ADD" to "FULL" with a hot transaxle.

Automatic Transaxle Drain Intervals

Change the transaxle fluid and change the filter as outlined in the Maintenance Schedule folder.

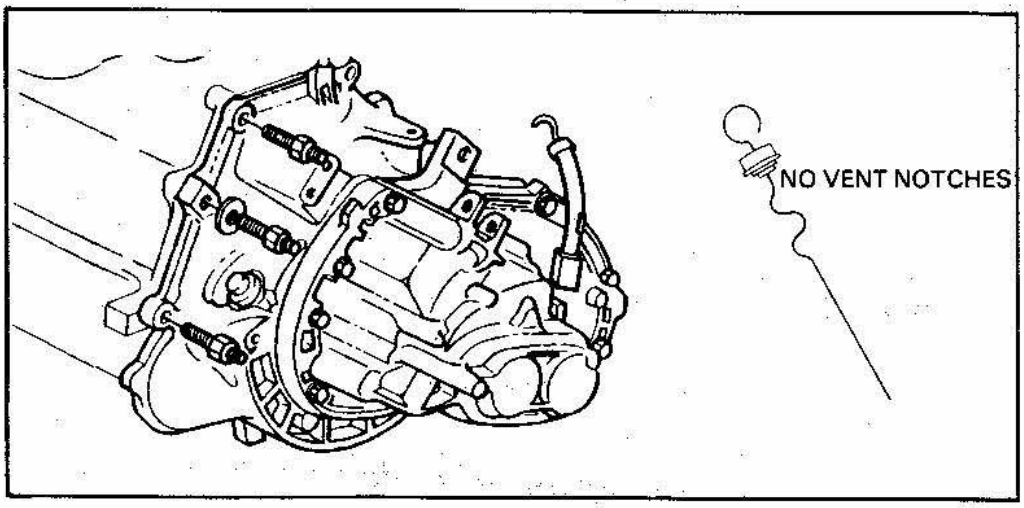
MANUAL TRANSAXLE

See the Maintenance Schedule folder to find out how often the fluid level should be checked and what type of lubricant should be used.

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Check the fluid level only when the engine is off, the vehicle is level and the transaxle is cool enough so that you can rest your fingers on the transaxle case. To check, remove the dipstick on the driver's side of the case, above the axle shaft. Be sure that the fluid level is at the "Full Cold" mark; oil may appear on the bottom of the dipstick even when the fluid is several pints low.

If needed, add enough lubricant to bring the fluid level up to the "Full Cold" mark on the dipstick. Be sure to fully seat the dipstick when reinstalling.



CLUTCH ADJUSTMENT

The clutch linkage in your vehicle should be adjusted every 5,000 miles (8 000 km) or less. To adjust the clutch linkage pull the clutch pedal up until it stops and then depress the pedal slowly.

NOTICE: To avoid clutch linkage damage do not continue to pull up on the pedal after it stops.

Electric Fan

CAUTION: Keep hands, tools, and clothing away from the engine cooling fan to help prevent personal injury. This fan is electric and can come on whether or not the engine is running. The fan can start automatically in response to a heat sensor when the ignition key is in the "Run" position.

ENGINE COOLING SYSTEM

CAUTION: If your cooling system overheats, see "Engine Cooling System Overheating" in "In Case of Emergency," Section 3. CONTINUED OPERATION OF THE ENGINE EVEN FOR A SHORT TIME MAY RESULT IN A FIRE AND THE POSSIBILITY OF PERSONAL INJURY AND/OR SEVERE VEHICLE DAMAGE.

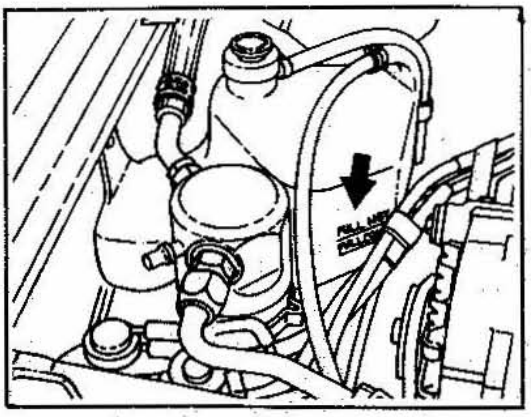
Your vehicle has a coolant recovery system. Coolant in the system expands with heat and overflows into the recovery tank. When the system cools down, coolant is drawn back into the radiator.

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The cooling system was filled at the factory with a quality coolant that meets GM Specifications. It is important to use proper coolant to prevent damage to cooling system components. Coolants meeting GM Specification 1825-M or those specially formulated for aluminum component protection should be used. The cooling system is designed to use coolant (a mixture of ethylene glycol, corrosion inhibitors and water) rather than plain water. The coolant solution must be used year round to provide:

- freezing protection down to —37°C (—34°F),
- boiling protection up to 128°C (262°F),
- protection against rust and corrosion in the cooling system,
- the proper engine temperature for efficient operation and emission control, and
- proper operation of the coolant temperature light or gage.

See the Maintenance Schedule folder to find out when the coolant must be replaced. Note that changing the coolant is needed to make certain that all parts of the cooling system work well.



Cooling System Care

Check the cooling system at regular intervals, such as during fuel stops. You usually do not need to remove the radiator cap to check the coolant level. Lift the engine hood and look at the "see through" coolant recovery tank. When the engine is cold, the coolant level should be at or slightly above the "Full Cold" mark on the recovery tank. When the engine has fully warmed up, the level should be at or slightly above the "Full Hot" mark on the recovery tank.

If the coolant level is low, remove the cap on the coolant recovery tank. Add to the recovery tank enough of a 50/50 mixture of water and a good quality ethylene glycol antifreeze (meeting GM Specification 1825-M) to bring the level up to the proper mark. Put the cap back on the recovery tank.

CAUTION: Under some conditions the ethylene glycol in engine coolant is combustible. To help avoid being burned when adding coolant, DO NOT spill it on the exhaust system or engine parts that may be hot. If there is any question, have this service performed by a qualified technician.

Certain conditions, such as air trapped in the system, may affect the coolant level in the radiator. You should check the coolant level in the radiator at the time you change the engine oil and when the engine is cold. Follow the steps under "Adding Coolant" for the correct way to remove the radiator cap and add coolant.

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If you have to add coolant more than four times a year (either to the recovery tank or to the radiator), or if coolant is dirty or discolored, see your dealer for a cooling system check.

NOTICE: If you use the proper quality antifreeze, there is no need to add extra inhibitors or additives which claim to improve the system. They may be harmful to the proper operation of the system.

Adding Coolant

CAUTION: To help avoid the danger of being burned, do not remove the radiator cap while the engine and radiator are still hot. Scalding fluid and steam can be blown out under pressure if the cap is taken off too soon.

1. When the engine is cool, remove the radiator cap.
   - Turn the cap slowly to the left until it reaches a "stop." Do not press down while turning the cap.
   - Wait until any remaining pressure (indicated by a hissing sound) is relieved, then press down on the cap and continue turning it to the left.
2. Add enough water and ethylene glycol antifreeze (meeting GM Specification 1825-M) to provide the required cooling, freezing and corrosion protection. Use a solution that is at least 50 percent antifreeze but no more than 70 percent antifreeze. Fill the radiator to the base of the filler neck and fill the coolant recovery tank to at or above the "Full Hot" mark. Put the recovery tank cap back on.
3. Run the engine, with the radiator cap removed, until the upper radiator hose is hot. With the engine idling, add coolant to the radiator until it reaches the bottom of the filler neck. Install the radiator cap, making sure the arrows on the cap line up with the overflow tube on the radiator filler neck.

It is the owner's responsibility to:

- Maintain cooling system freeze protection at —37°C (—34°F) to ensure protection against corrosion and loss of coolant from boiling. (A 50/50 mixture of water and ethylene glycol antifreeze will provide freeze protection to —37°C or —34°F.) You should do this even if you don't expect freezing temperatures. Periodic replacement of coolant is needed to replace the anti-corrosion additives that wear out with use. Coolant that has become dark in color shows that it needs to be changed for this reason.
- Add ethylene glycol base antifreeze that meets GM Specification 1825-M when antifreeze has to be added because of coolant loss or for more protection against freezing at temperatures less than stated.

NOTICE: Do not use methanol-base antifreeze, or alcohol, or plain water alone, in your vehicle at any time. They will boil at a lower point than that at which the "TEMP" light (or temperature gage) will warn of overheating, and they do not provide proper protection against corrosion.

Thermostat

The engine coolant temperature is controlled by a thermostat. It stops coolant flow through the radiator until a preset temperature is reached. This thermostat is installed in the engine coolant outlet on the engine block. The same thermostat is used in both winter and summer. When a replacement is needed, AC-Delco parts are recommended.

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Radiator Pressure Cap

The radiator cap, a 105 kPa (15 psi) pressure type, must be installed tightly, otherwise coolant may be lost and damage to engine may result from overheating. Radiator pressure cap should be checked periodically for proper operation. If replacement is required, an AC cap is recommended.

ACCELERATOR LINKAGE

Lubricate all pivot points with engine oil at the interval shown in the Maintenance Schedule. **Do not lubricate the accelerator cable.**

AIR CLEANER ELEMENT

When replacement of air cleaner filter element is necessary, an AC air filter element is recommended.

See your Maintenance Schedule for change intervals. Operation of vehicle in dusty areas will necessitate more frequent replacement. Your dealer can be of assistance in determining the proper replacement frequency for the conditions under which you operate your vehicle.

CAUTION: The air cleaner also functions as a flame arrestor in the event of engine backfire. The air cleaner should be installed at all times unless its removal is necessary for repair or maintenance. To help reduce the risk of personal injury and/or property damage, be sure that no one is near the engine compartment before starting the engine with the air cleaner removed. If engine backfire occurs with the air cleaner removed, there could be a burst of flame and possibly other fire in the engine compartment.

HOOD LATCHES AND HOOD HINGE

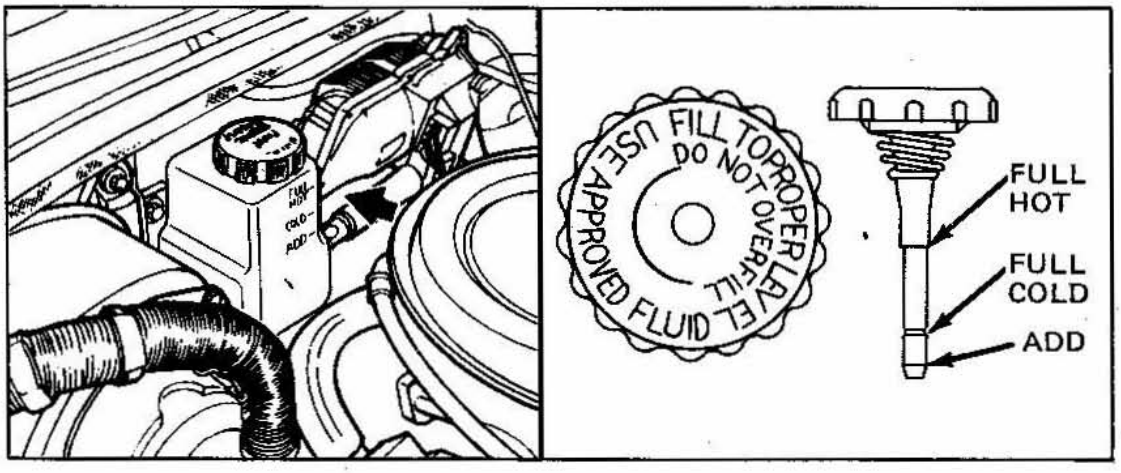
See the Maintenance Schedule folder to find out how to lubricate hood latch and hood hinge assembly.

BRAKE MASTER CYLINDER

Check master cylinder fluid level in the reservoir at the interval shown in the Maintenance Schedule. If the fluid is low in the reservoir, it should be filled to the maximum level line with Delco Supreme No. 11 or DOT-3 fluids.

POWER STEERING SYSTEM

Check the fluid level in the optional power steering pump as recommended in the Maintenance Schedule folder. Add GM Power Steering Fluid (Part Number GM 1050017) as needed:



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- If the fluid is warmed up (about 66°C or 150°F -- hot to the touch), the fluid level should be between the "HOT" and "Cold" marks on the power steering reservoir.
- If cool (about 21°C or 70°F), the fluid level should be between the "Add" and "Cold" marks.

This fluid does not need periodic changing.

FRONT SUSPENSION AND STEERING LINKAGE

Lubricate fittings at the interval shown in the Maintenance Schedule with water resistant EP Chassis Lubricant which meets GM Specification 6031M.

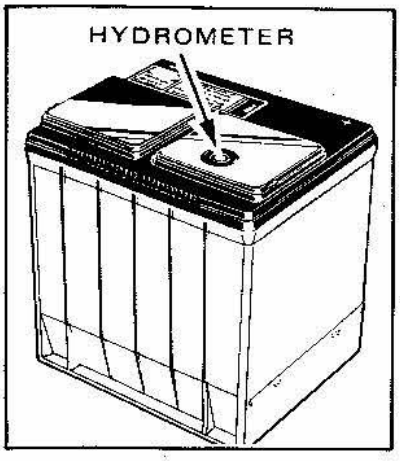
NOTICE: Ball joints should not be lubricated unless their temperature is -12°C (10°F), or higher. During cold weather, they should be allowed to warm up as necessary before being lubricated or damage to the ball joint could occur.

FREEDOM BATTERY

Your new vehicle has a Delco FREEDOM battery. It needs no periodic maintenance. Its top is permanently sealed (except for two small vent holes) and has no filler caps. You will never have to add water.

The hydrometer (test indicator) in the top of the battery provides information for testing purposes only.

If the vehicle is not going to be driven for 30 days or longer, disconnect the cable from the "-" (black) negative terminal of the battery to prevent discharge. For full power needs at replacement time, a Delco battery with the same catalog number as shown on the original battery's label is recommended.



CAUTION: Follow the precautions listed in the "Jump Starting" Caution (see the "In Case of Emergency" section of this manual) when working on or near the battery. Personal injury (particularly to eyes) or property damage may result from battery explosion, battery acid, or electrical (short circuit) burns.

AIR CONDITIONING

Periodically have your dealer check your air conditioning system to be sure there has been no loss in cooling output. See your dealer immediately if you suspect the system is not performing as it should.

Your vehicle's air conditioning system will not operate below ambient temperatures of approximately 4°C (40°F) regardless of control position.

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CAVALIER BUMPER SYSTEM

The front and rear bumpers have a rubber-like plastic cover over an energy-absorbing impact bar. In an impact, the cover may return to its original shape without showing that it was struck. If the impact was great enough, the energy-absorbing devices and impact bar may have been damaged. To be sure the bumper is in a state of full readiness, it should be checked by your Chevrolet dealer. The check should be made if you can see that the bumper is out of position. It should also be checked if the car has been in a serious collision in which the bumper was struck, even when no damage to the bumper system can be seen.

TIRES

CAUTION: To reduce the risk of loss of vehicle control and personal injury:

- **The tires MUST BE properly inflated, and your vehicle MUST NOT BE overloaded (see the Tire Placard on the driver's door).**
- **Your vehicle MUST NOT BE operated at speeds faster than 85 mph (140 km/h) unless it has police pursuit tires or equivalent high-speed capability tires, regardless of the legal speed limit. Be sure to consult a tire dealer to determine if the tires on your vehicle are high speed capability tires before operating your vehicle at such speeds.**

For more safety information, see the rest of this "Tires" section.

The tires installed on your vehicle are engineered to provide a proper balance of these performance characteristics under normal driving conditions:

- Endurance
- Handling
- Noise
- Ride
- Road Hazard Resistance
- Rolling Resistance
- Traction
- Tread Mileage

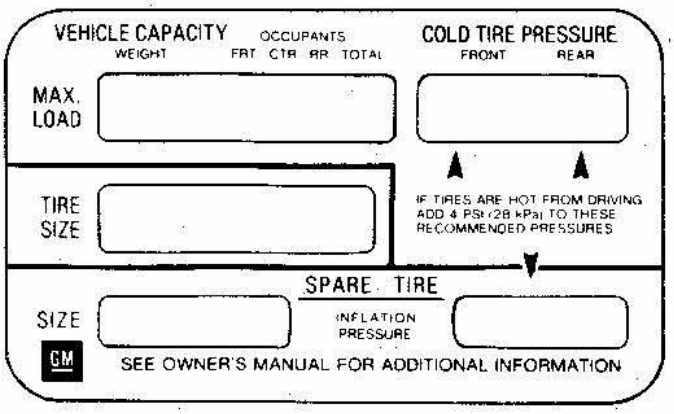
This section has some tips on how you can get the most benefit from these tires.

Vehicle Loading

The tires on your vehicle will perform well at all normal loads when inflated as recommended on the Tire Placard (located on the driver's door of your vehicle). Do not load your vehicle beyond the load limits (total kilograms or pounds) shown on the Tire Placard. The placard tells you the design limits of the vehicle, not just of the tires.

Station wagon loads should be moved as far forward as possible. Luggage carriers do not increase the maximum load limits shown on the Tire Placard. See also "Stowing Things In (or On) The Car" in Section 2 of this manual.

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MAXIMUM LUGGAGE/CARGO LOAD CAPACITY

Coupe and Sedan	**60.0 kg/132 lbs.**
Station Wagon	**40.0 kg/88 lbs.**

Notice: Total combined weight of luggage compartment load, luggage rack load (when equipped), trailer tongue load, non-factory installed options and passengers must not exceed the vehicle capacity weight (shown on the tire placard located on the driver's door).

Inflation Pressure

The cold inflation pressures listed on the Tire Placard provide for the best balance of fuel economy, tire life, riding comfort, and vehicle handling under normal driving conditions. These pressures should be used for all vehicle loading conditions.

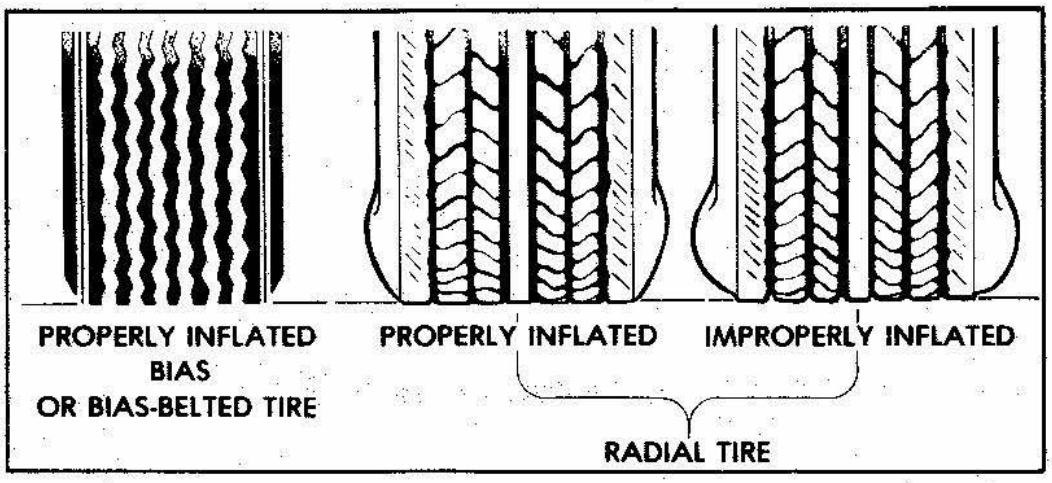
Incorrect tire inflation pressures can have adverse effects on tire life and vehicle performance. Too low an air pressure causes increased tire flexing and heat buildup. This weakens the tire and increases the chance of damage or failure. It can result in tire overloading, abnormal tire wear, adverse vehicle handling, and reduced fuel economy. Too high an air pressure can result in abnormal wear, harsh ride, and can increase the chance of damage from road hazards.

Check tire inflation pressures at least monthly (this includes the spare tire) and whenever your vehicle is serviced. When possible, check tire inflation pressures when the tires are "cold."

1. The "cold" tire inflation pressure is the tire pressure when a vehicle has not been driven more than one mile (1.6 kilometers) after sitting for three hours or more. This is the most accurate pressure reading.
2. It is normal for tire pressures to increase 30 to 60 kilopascals (4 to 8 pounds per square inch) or more when the tires become hot from driving. If you must set inflation pressures when the tires are not "cold," set them 28 kilopascals (4 pounds per square inch) more than the cold pressures recommended on the Tire Placard.
3. The tire inflation pressures on the Tire Placard are adequate for all speeds. No tire pressure adjustment is required for freeway speeds. (Also follow the Caution at the beginning of this "Tire" section).

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4. Always use a tire pressure gage when checking inflation pressures (we suggest you purchase a quality pocket-type gage). Simply looking at the tires to check inflation pressures is not enough, especially with radial tires. Underinflated radial tires may look like correctly inflated radial tires. If the inflation pressure on a tire is often low, have your dealer correct the cause.
5. Be sure to put the tire inflation valve caps or extensions back on, if so equipped. This will help keep dirt and moisture from getting into the valve core which could cause a leak.



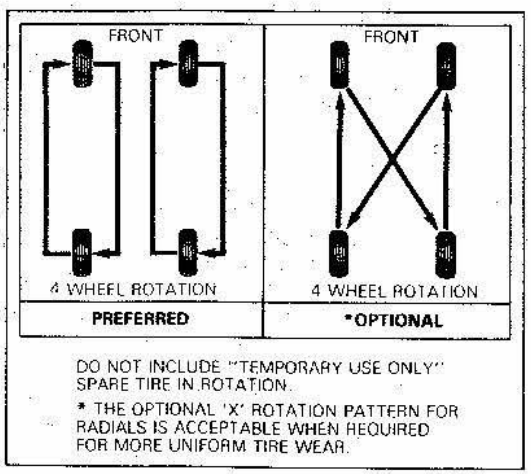
6. If an air loss occurs while driving, do not drive on the flat tire more than is needed to stop safely. Driving even a short distance on a flat tire can damage a tire and wheel beyond repair.

Inspection and Rotation

Front and rear tires perform different jobs and can wear differently depending on the types of roads driven, your driving habits, etc.

For longer tire life, you should inspect and rotate your tires as recommended in the Maintenance Schedule folder. Many car and tire dealers will perform a free tire inspection to look for uneven or abnormal tire wear (usually caused by wrong inflation pressures, lack of regular rotation, improper wheel alignment, out of balance tires, or poor driving habits).

After rotation, adjust the front and rear tire pressures (see the Tire Placard) and be sure to check wheel nut tightness (see also "Wheel Nut Torque" in Section 3 of this manual.)



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CAUTION: **Whenever a wheel is changed, always remove any corrosion that may be present on inside of wheel and wheel mounting surface on vehicle. Installing wheels without good metal-to-metal contact at the mounting surfaces can cause wheel nuts to loosen, which can later allow a wheel to come off while the vehicle is moving, possibly causing loss of control.**

Alignment and Balance

Proper wheel alignment improves tire tread life. Your vehicle's suspension parts should be inspected often and aligned when needed. (See the Maintenance Schedule Folder for more information.) Ball joints have built-in wear indicators and some movement in the joints is normal.

Improper alignment will not cause the vehicle to vibrate. However, improper alignment can cause:

- the tires to roll at an angle, which will result in faster tire wear;
- your tires to wear unevenly;
- your vehicle to "pull" to the left or right.

Proper tire balancing provides the best riding comfort and helps reduce tire tread wear. Out-of-balance tires can cause annoying vibration and uneven tire wear such as cupping and flat spots.

Traction

Driving, cornering, and braking traction are reduced when water, snow, ice, gravel, or other material is on the road. Adjust driving practices and vehicle speed to road conditions.

When driving on wet or slushy roads, a wedge of water can build up between the tire and road. This is known as hydroplaning, and may cause partial or complete loss of traction, vehicle control, and stopping ability.

To reduce the chance of traction loss, follow these tips:

1. Slow down during rainstorms or when roads are slushy.
2. Slow down if the road has standing water or puddles.
3. Replace the tires when the tread wear indicators are showing.
4. Keep the tires properly inflated.

If your vehicle has TPC radial tires (see "Tire Replacement" in this section), your tires were designed to provide better snow traction. In fact, these tires should be adequate for driving in most winter conditions. However, if you do feel you do need to buy conventional snow tires, be sure they are the same size, load range, and construction type (bias, bias-belted, or radial) as your other tires.

Tire Chains or Similar Traction Devices

If you buy tire chains for your car, make sure they are designated as SAE Class "S" type chains. Use of other types of chains may cause damage to your vehicle.

Use of chains may adversely affect your vehicle's handling. When using chains: (1) adjust speed to road conditions, (2) avoid sharp turns, and (3) when possible, avoid locked-wheel braking.

In addition, to help prevent chain damage to your vehicle:

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- Install the chains on the front tires as tightly as possible, then tighten them again after driving 1/4 to 1/2 mile (0.4 to 0.8 kilometer). The use of chains on the rear tires is not recommended; the chains may contact and possibly damage the vehicle. If you intend to use chains on the rear tires, be sure there is enough clearance.
- Do not exceed 45 mph (70 km/h), or the chain manufacturer's speed limitation, if lower.
- Drive in a restrained manner and avoid large bumps, potholes, severe turns and other manuevers which could cause the tires to bounce up and down.
- Follow any other instructions of the chain manufacturer which do not disagree with the above.

Spare Tire

For the use and installation of your spare tire, see "In Case of Emergency," Section 3 of this manual.

Tire Replacement

CAUTION: Do not mix different tire construction types (such as radial, bias, and bias-belted) on your vehicle except in emergencies, because your vehicle's handling could be affected and may result in loss of control. This caution does not apply to a compact spare tire furnished with your vehicle.

On most vehicles originally equipped with radial tires, you will find a TPC Spec. No. (Tire Performance Criteria Specification Number) molded into the tire sidewall near the tire size marking. This shows that the tire meets rigid size and performance standards which were developed for your vehicle. The TPC Spec. No. assures a proper combination of endurance, handling, load capacity, ride and traction on wet, dry, or snow-covered surfaces. When you replace your tires with tires having the same TPC Spec. No., your new tires will be compatible with your vehicle.

When replacing tires with those not having a TPC Spec. No., you should use the same size, load range, and construction type (bias, bias-belted, or radial) as the original tires on your vehicle. A different size or type of tire may affect such things as ride, handling, speedometer/odometer calibration, vehicle ground clearance, and tire or tire chain clearance to the body or chassis. If replacing only a single tire, it should be paired on the same axle with the least worn tire of the other three.

Uniform Tire Quality Grading

The following information relates to the tire grading system developed by the United States National Highway Traffic Safety Administration which will grade tires by traction and temperature performance. (This applies only to vehicles sold in the United States.)

Traction - A, B, C

The traction grades, from highest to lowest are: A, B, and C. They represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance.

Warning: The traction grade assigned to this tire is based on braking (straight-ahead) traction tests and does not include cornering (turning) traction.

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Temperature - A, B, C

The temperature grades are A (the highest), B, and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel. Sustained high temperature can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. The grade C corresponds to a level of performance which all passenger car tires must meet under the Federal Motor Vehicle Safety Standard No. 109. Grades B and A represent higher levels of performance on the laboratory test wheel than the minimum required by law.

Warning: The temperature grade for this tire is established for a tire that is properly inflated and not overloaded. Excessive speed, underinflation, or excessive loading, either separately or in combination, can cause heat buildup and possible tire failure.

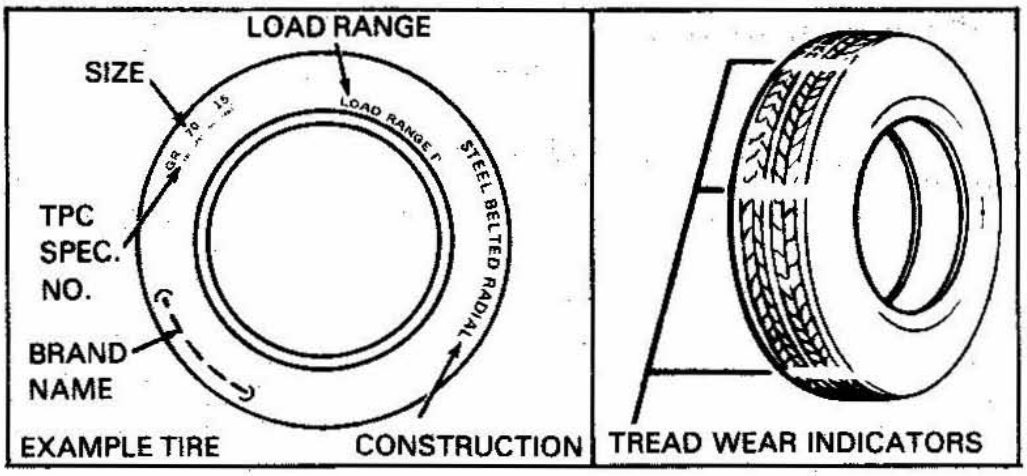
These grades are molded on the sidewalls of passenger car tires.

While the tires available as standard or optional equipment on General Motors vehicles may vary with respect to these grades, all such tires meet General Motors performance standards and have been approved for use on General Motors vehicles. All passenger car tires must conform to Federal safety requirements in addition to these grades.

You should replace your tires when:

1. The tires are worn to a point where 1.6 millimeters (2/32 inch) or less tread remains, or the cord or fabric is showing.

To help you detect this, your tires have built-in tread wear indicators that appear between the tread grooves when the tread is 1.6 millimeters (2/32 inch) or less. When the indicators appear in two or more adjacent grooves at three spots around the tire, the tire should be replaced.



2. The tread or sidewall is cracked, cut or snagged deep enough to expose the cord or fabric.
3. The tire has a bump, bulge or split.
4. The tire has a puncture, cut, or other injury that can't be correctly repaired because of the size or location of the injury.

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Wheel Replacement

Damaged wheels must be replaced. For example, replace wheels if they are bent, cracked, or heavily rusted, or if wheel nuts often become loose. Also replace wheels which leak air (except some aluminum wheels which can be repaired-- see your authorized dealer). See the Caution under "Inspection and Rotation" in this section regarding the importance of obtaining good metal-to-metal contact when replacing or changing wheels.

Do not use bent wheels which have been straightened, and do not use inner tubes in leaking wheels designed for tubeless tires. Such wheels may have structural damage and could fail without warning. When replacing wheels for any reason, the new wheels should be equal in load limit, diameter, width, offset, and mounting configurations to those originally installed on your vehicle.

A wheel of the wrong size or type may adversely affect such things as wheel and bearing life, brake cooling, speedometer/odometer calibration, stopping ability, headlight aim, bumper height, vehicle ground clearance, and tire or tire chain clearance to the body and chassis. Replacement with used wheels is not advised; they may have been treated harshly or have very high mileage, and could fail without warning.

You can get wheels from your dealer.

Warranty

Tires are warranted by the tire manufacturers. Warranty information is included in the manufacturer's warranty folder furnished with your vehicle.

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SECTION 6
SPECIFICATIONS

These specifications are given here for information only. Before using them see cautions and other instructions throughout this manual — the index may help you locate such items. For more information, see the service manual covering the chassis or body part in question. Your Chevrolet dealer may also be able to help.

DIMENSIONS

Models		Metric Measure	U.S. Measure
Length — Overall —	Station Wagon . . .	4433mm	174.5"
	4-Door Sedan	4428mm	174.3"
	2-Door Hatchback Coupe	4378.5mm	172.4"
	2-Door Coupe . . .	4378.5mm	172.4"
Wheelbase — Overall	. . . . .	2571mm	101.2"
Height — Overall —	2-Door Coupe . . .	1321mm	52.0"
	2-Door Hatchback Coupe	1317mm	51.9"
	4-Door Sedan	1369mm	53.9"
	Station Wagon . . .	1382mm	54.4"
Width —	2-Door Coupe . . .	1677mm	66.0"
	4-Door Sedan, Station Wagon . .	1685mm	66.3"

CAPACITIES

Items	Metric Measure	U.S. Measure
Fuel Tank (Approx.)		
All Models	53L	14 gal.
Crankcase (approx. refill). After refill, check oil level as outlined in Section 5 of this manual.		
Oil Change and/or Oil Filter Change .	3.8L	4 qts.
Cooling (Approx.)		
Std. With or Without A/C	9.1L	9.6 qts.
H.D. With Air	9.2L	9.8 qts.

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REPLACEMENT PARTS AND FILTERS

Replacement part numbers listed in this section are based on the latest information available at the time of printing, and are subject to change. If a part listed in this manual is not the same as the part used in your car when it was built, or if you have any questions, please contact your authorized dealer or parts supplier. Be sure the part you use is equivalent to the one replaced.

Item	Usage	Recommendation
Oil Filter	2.0 (121) L4	PF51
Air Filter	2.0 (121) L4	A785C
PCV Valve	2.0 (121) L4	CV789C
Spark Plug	2.0 (121) L4	R42CTS (.035 Gap) R42TS Opt.-(.035 Gap) NOTE: R41CTS or R41TS can be installed for severe duty service. R43 or hotter series spark plugs are not recommended for this engine.

BATTERY

Engine	Model No.
2.0 (L4)	70-60

TIRE INFORMATION

Wheel Nut Torque	140 N·m (100 ft. lbs.)
Complete tire information will be found in Section 5.	

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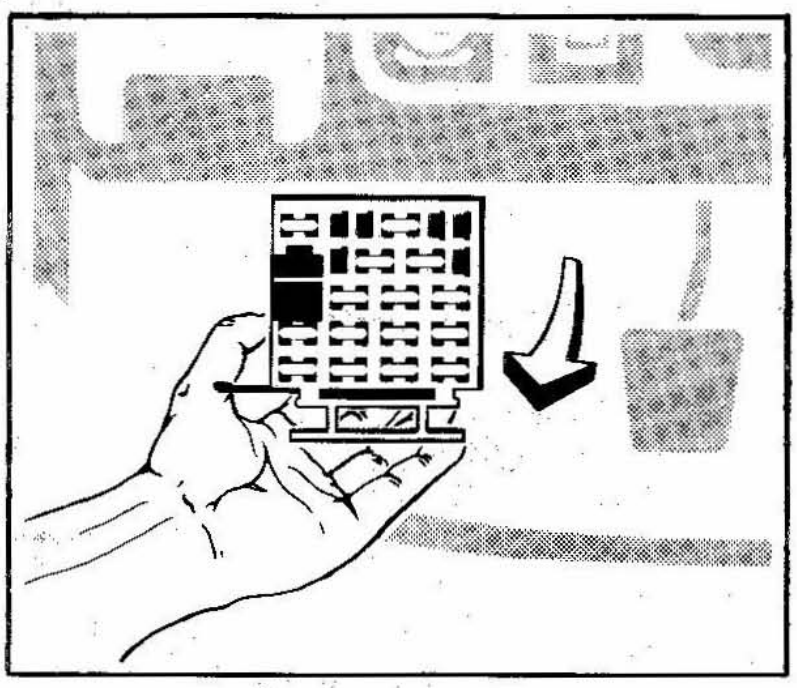
LAMP BULB DATA

APPLICATION	BULB NO.	QUANTITY	RATING CANDLEPOWER
FRONT LAMPS			
Headlamp – Inner–Std.	4651	2	50 Watts
– Inner–Halogen	H4651	2	50 Watts
– Outer	4652	2	60/40 Watts
Park & Turn Signal	2057	2	32
Sidemarker	194	2	2
REAR LAMPS			
Back-up	1156	2	32
License – Exc. Wagon	194	1	2
– Wagon	194	2	2
Sidemarker	194	2	2
Tail & Stop – Exc. Wagon	2057	2	2/32
Tail, Stop & Turn Signal – Wagon	2057	2	2/32
Turn Signal – Exc. Wagon	1156	2	32
INTERIOR ILLUMINATION			
A/C – Heater Control	168	1	3
Ash Tray	168	1	3
Auto Trans	168	1	3
Courtesy Lamp	906	2	6
Dome Lamp Std.	561	1	12
Dome & Reading – Dome	562	1	6
– Reading	90	1	6
Glove Box	194	1	2
Instrument Cluster	194/168	2/4	2/3
Luggage/Cargo – Exc. Wagon	1003	1	15
– Wagon	561	1	12
Radio Dial	194	1	2
Underhood Lamp	93	1	15
WARNING LIGHTS & INDICATORS			
Brake	194	1	2
Check Engine	168	1	3
High Beam	194	1	2
Oil Pressure	194	1	2
Seat Belt	168	1	3
Tailgate Ajar	194	1	2
Temperature	194	1	2
Turn Signal	194	2	2
Upshift	168	1	3
Volts (Battery)	194	1	2

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FUSES AND CIRCUIT BREAKERS

The wiring circuits in your vehicle are protected from short circuits by a combination of fuses, circuit breakers, and fusible thermal links in the wiring itself. This greatly reduces the hazard of electrically caused fires in the automobile. For access to fuses, grasp the handle of the fuseblock (located under the left hand side of the instrument panel) and pull the fuseblock downward. Swing the bottom of the fuseblock back up until it latches when access is no longer desired.

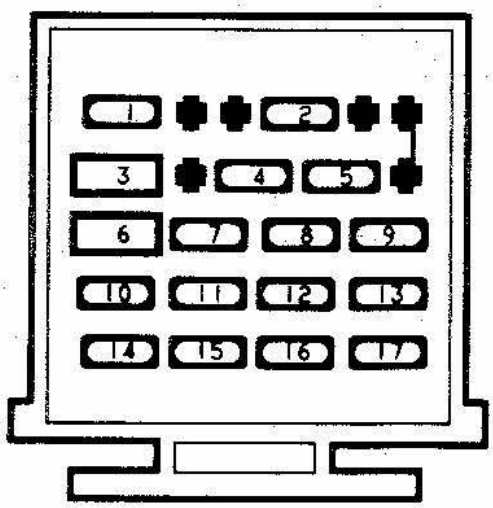


The headlight wiring is protected by a circuit breaker in the light switch. An electrical overload will cause the lights to go on and off, or in some cases to remain off. If this happens, have your headlight wiring checked right away. The windshield wiper motor is protected by a circuit breaker in addition to a fuse. If the motor overheats, due to overloading caused by heavy snow, etc., the wiper will remain stopped until the motor cools. Be sure to have the cause of the overloading corrected.

Also, circuit breakers in the fuseblock protect the power windows and other power accessories. When the current load is too heavy, the circuit breaker opens and closes intermittently, protecting the circuit until the cause is found and eliminated.

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FUSES AND CIRCUIT BREAKERS

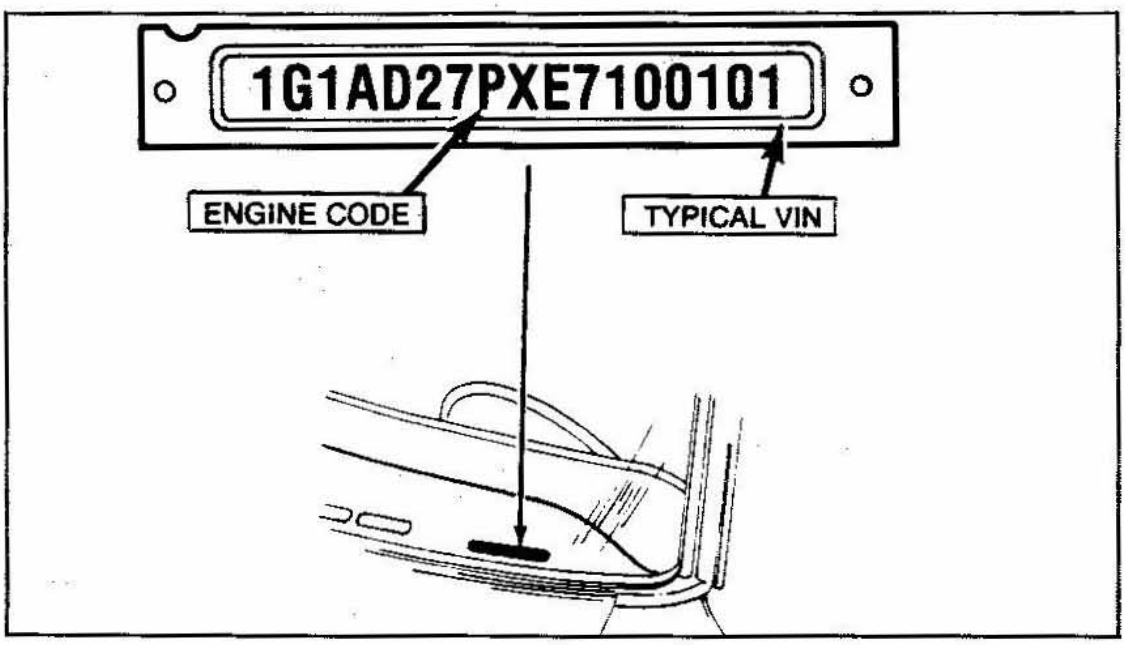


1. SPARE
2. (3 AMP)
   COMPUTER COMMAND CONTROL CRANKING
3. CIRCUIT BREAKER (35 AMP)
   POWER ACCESSORIES
4. (10 AMP)
   RADIO, CRUISE CONTROL
5. (5 AMP)
   INSTRUMENT PANEL LAMPS
   HEADLAMP MINDER
6. CIRCUIT BREAKER (35 AMP)
   POWER WINDOWS
7. (20 AMP)
   COURTESY LIGHTS, HORN
   AUDIBLE WARNING SYSTEM
   CIGAR LIGHTER, DOOR LOCKS
   CLOCK, TRUNK RELEASE
8. (25 AMP)
   WINDSHIELD WIPER/WASHER
9. (20 AMP)
   GAGES/WARNING INDICATOR
   AUDIBLE WARNING SYSTEM
   COMPUTER COMMAND CONTROL
   REAR WINDOW DEFOGGER
   REAR WINDOW WIPER/WASHER
10. (25 AMP)
    HEATER/AIR CONDITIONER
11. (20 AMP)
    PARK & SIDE MARKER LAMPS
    LICENSE LAMP
12. SPARE
13. (20 AMP)
    TURN SIGNAL LAMPS
    BACK-UP LAMPS
14. (20 AMP)
    CHOKE HEATER
    COOLANT FAN
15. (20 AMP)
    STOP LAMPS
    HAZARD LAMPS
16. (10 AMP)
    FUEL PUMP
17. (10 AMP)
    COMPUTER COMMAND CONTROL

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Vehicle Identification Number (VIN)

This is the legal identifier for your vehicle. It appears on a plate attached to the left top of the instrument panel. This plate can be seen easily through the windshield from outside your car. The VIN also appears on the certificates of Title and Registration.



Engine Identification

You can identify your 1984 GM engine from the Vehicle Identification Number. The eighth character of the VIN is the Engine Code. See the Engine Code Identification chart below. Some information in this manual may refer to the Engine Code. For Example, a 2.0 Liter L-4 engine may be referred to as a 2.0 Liter (Engine Code P) L-4 engine.

Engine Code	ENGINE DESCRIPTION			Produced in a GM Plant Operated by:
	Displacement Liter (CID)	Type	Fuel System	
P	2.0L (121)	L-4	TBI	Chevrolet

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CONSUMER INFORMATION - VEHICLE STOPPING DISTANCES

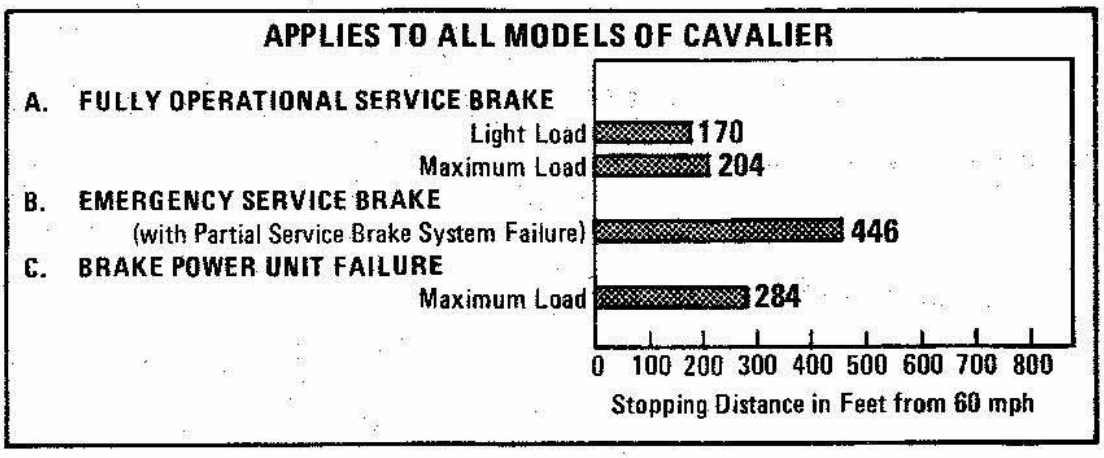
INTRODUCTION

This table contains information on stopping distances as required by the Consumer Information Regulations issued by the National Highway Traffic Safety Administration of the United States Department of Transportation. As permitted by the regulation, data for various models with differing options and accessories are grouped in a single table. **Since the regulations require that the least favorable figures for any specific model in the group be reported for the entire group, the actual performance of most vehicles in the group will be better than the figures reported.**

Data for stopping distances is derived from tests conducted with new vehicles under optimum road conditions by highly skilled test drivers and are not necessarily representative data for a used vehicle, for many road conditions, or for the abilities of most drivers.

STOPPING DISTANCE DATA

This table indicates braking performance that can be met or exceeded by the vehicles to which it applies under different conditions of loading and with partial failures of the braking system. The information presented represents results obtainable by skilled drivers under controlled road and vehicle conditions, and the information may not be correct under other conditions.



SERVICE STATION INFORMATION

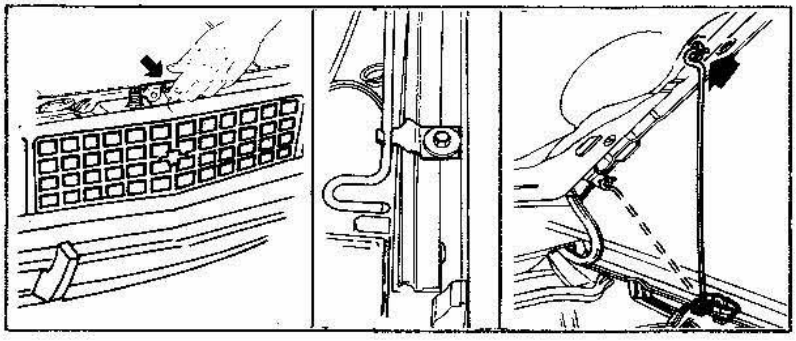
Refer to "Service and Maintenance," Section 5, for Further Details.

Fuel Cap - Located behind a hinged door on the right rear quarter panel. To remove the fuel cap, see fuel cap removal procedure in "Service and Maintenance," Section 5 of this manual.

Fuel Requirements - Use **unleaded gasoline** only. See "Fuel Requirements" in "Starting and Operating," Section 2 of this manual.

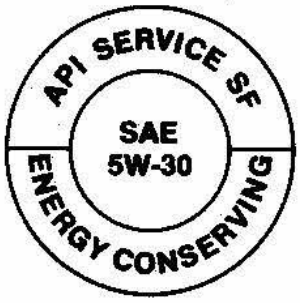
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Hood Release - The hood release handle is located on the left side of the instrument panel. To open, pull the handle to release the hood lock. Then, push down slightly on the hood while lifting the underhood lever, raise the hood, and hold it open with the prop rod. To lower hood, lift the hood slightly to remove tension from the hood prop. Then, place the hood prop in its retaining clip and lower the hood.



Engine Oil - Use SF-quality, SAE 5W-30, Energy-Conserving engine oil in your gasoline engine if the outside temperature is not expected to exceed 38°C (100°F) prior to the next oil change.

For other expected outside temperatures and additional important information on engine oil see "Engine Oil and Filter Recommendations" in Section 5 of this manual for the recommended viscosity grade. Add oil as needed to maintain the proper level within the operating range shown on the dipstick.



Tire Inflation Pressures - Check at least monthly (including the spare). Keep them inflated to the pressures shown on the Tire Placard on the left front door. (Keep compact spare tires inflated to 415 kPa or 60 psi.)

Engine Cooling System - Check the fluid level in the coolant recovery tank at regular intervals, such as during a fuel stop. (See "Engine Cooling System" in "Service and Maintenance," Section 5 of this manual.)

Windshield Washer - Check the windshield washer reservoir fluid level regularly. Use a washer fluid, such as GM Optikleen.

Battery - Your new vehicle has a Delco FREEDOM battery . You will never have to add water. The hydrometer (test indicator) in the cover provides information for testing purposes only.

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SECTION 7

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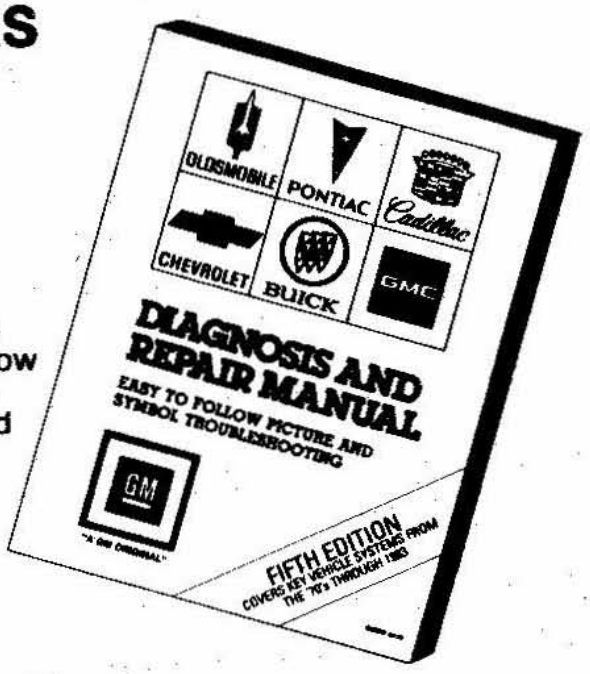
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