

RIVIERA

1988
BUICK
OWNER'S
MANUAL



1988 BUICK RIVIERA OWNER'S MANUAL

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

Buick Motor Division
General Motors Corporation
902 E. Hamilton Avenue
Flint, Michigan 48550

All information, illustrations and specifications in this manual are based on the latest product information available at the time of printing. The right is reserved to make changes at any time without notice.

This manual includes information for all models and equipment, both standard equipment and options. Therefore, you may find some explanations for equipment not applicable to your vehicle.

For cars sold in Canada, substitute the name "General Motors of Canada Limited" wherever the name Buick Motor Division appears in this manual.

Buick Motor Division

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INTRODUCTION

This manual has been prepared to acquaint you with the operation and maintenance of your new Buick, and to provide important safety information. It is supplemented by a Maintenance Schedule booklet 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 car.

When it comes to service, keep in mind that your Buick 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.

Remember, if you have a concern 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 Buick product, and want to assure you of our continuing interest in your motor-ing pleasure and satisfaction.

FRENCH OWNER'S MANUAL

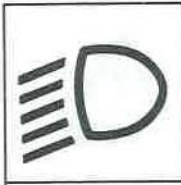
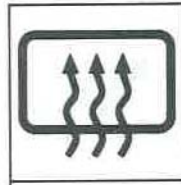
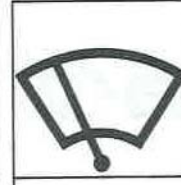
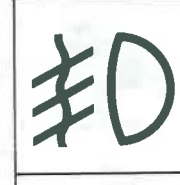
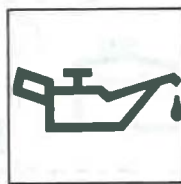
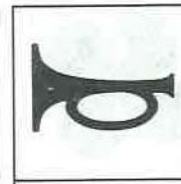
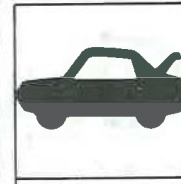
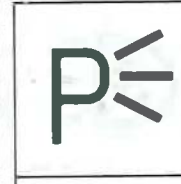
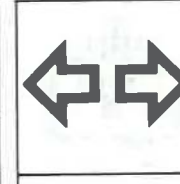
If preferred, a French Owner's Manual can be obtained either from your dealer or by writing to Dymont Limited, 36 Overlea Boulevard, Toronto, Ontario M4H 1B7.

Aux propriétaires canadiens:

Vous pouvez vous procurer un exemplaire de ce guide en français chez votre concessionnaire ou au Dymont Limitee, 36 Overlea Boulevard, Toronto, Ontario M4H 1B7.

FOR CONTINUING SATISFACTION, KEEP YOUR GM CAR ALL GM. GENERAL MOTORS PARTS ARE IDENTIFIED BY ONE OF THESE TRADEMARKS:



		GRAPHIC SYMBOLS CHART These symbols are used to identify controls and displays on Buicks.					
FASTEN SEAT BELTS	HEADLIGHT LOWER BEAM					LIGHTS OR HIGH BEAM	FUEL
							
BATTERY CHARGING SYSTEM	WINDSHIELD DEFROSTER	REAR WINDOW DEFOGGER	WINDSHIELD WASHER	WINDSHIELD WIPER	WINDSHIELD WIPER & WASHER	FOG LAMP	
							
ENGINE COOLANT TEMPERATURE	ENGINE OIL PRESSURE	HOOD RELEASE	HORN	TRUNK/HATCHBACK RELEASE	PARKING LIGHTS	TURN SIGNALS	

		GRAPHIC SYMBOLS CHART These symbols are used to identify controls and displays on Buicks.			
HAZARD WARNING FLASHER	CAUSTIC BATTERY ACID COULD CAUSE BURNS			CAUTION POSSIBLE INJURY	AVOID SPARKS OR FLAMES
					
POWER WINDOW	PROTECT EYES BY SHIELDING	BRAKE	MASTER LIGHTING SWITCH	CHOKE	FUSE
					
SPARK OR FLAME COULD EXPLODE BATTERY	STOP LIGHT	STOP/TAIL LAMP FAILURE	VENTILATING FAN	ILLUMINATION CONTROL	ENGINE COOLANT LEVEL
					
					LIGHTER

0-3

BEFORE DRIVING YOUR BUICK

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 car and its equipment before operating it.

Before Entering the Car

1. See that windows, mirrors, lights and reflectors are undamaged, 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 stored.
5. Check the area behind the car 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. Always properly fasten your safety belt. Check that safety belts

for all other occupants are fastened properly. Never let anyone ride any place in or on this vehicle where there is no safety 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 booklet, especially if problems are found.

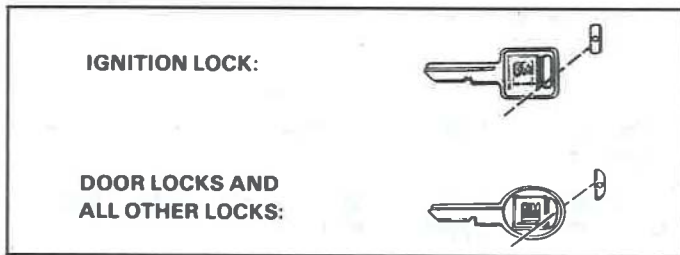
STORING THINGS IN THE CAR

CAUTION: To help avoid personal injury during a collision or sudden maneuver, always take extra care when storing things. Put luggage or cargo in the trunk if possible. Cargo weight should be located as far forward as possible. Secure all items inside the passenger compartment in place to help keep them from being thrown about. Do not pile luggage or cargo higher than the seatbacks. Do not place anything on the filler panel between the rear seatback and window. Also see "Vehicle Loading" under "Tires" in Section 5.

KEYS

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

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



For car 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 car.

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. Take the oval-head key with you. This will help prevent illegal entry into your car 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 car and its contents against theft, General Motors has provided anti-theft features which would also make it inconvenient and possibly expensive to enter the vehicle if you are locked out.

A chime will sound as the door is opened if the key has been left in the ignition and the engine is off.

DOOR LOCKS

Always Lock The Doors

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

The electric door lock switches are located to the rear of the door latch handle above the armrest.

Lock both doors by pushing the part of the door lock switch labeled "Lock." Unlock both doors by pushing the part of the switch labeled "Unlock."



To manually lock the door from inside, press down on the door lock button which is located to the rear of the electric lock switch - unlock by pressing up.

AUTOMATIC ELECTRIC - Option

All doors lock automatically when the shift lever is moved out of the "P" (park) position. All doors unlock automatically when the shift lever is moved to the "park" position. Automatic locking and unlocking will not occur if any door is open.

The driver's door will unlock automatically when opened with the key. Continue to hold the key in the unlock position for two seconds and the passenger's door will unlock. This feature allows you access to your door only, unless you want the passenger's door open too. If your car has the optional theft deterrent system, this feature will also work from the passenger door. The doors can still be unlocked as noted above.

THEFT DETERRENT SYSTEM - Option

Side window decals warn intruders that this car has the Theft Deterrent System.

Arming The System

The only way the system can be armed is with an open door. Before arming the system, close all the windows. Place the shift lever in "Park." Turn the ignition to "Lock" and take out the key. Open any door. The "SECURITY" light will begin to blink. To arm the system, lock the doors with the door lock switch of an open door. The "SECURITY" light will stay on. Close the doors. Now, the alarm will sound if any of the door jamb or tamper switches are used or "tripped."

The system can also be armed with the windows open. The alarm will be disarmed **only** when a door is opened with the key.

A flashing "Security" light (located in the strip of indicator lights below and to the left of the digital speed readout) tells you the system is unarmed. When the light stays on it means the system has been armed. After you have closed the doors, the light will shut off in about one (1) second.

Locking Without Arming

To lock the car without arming the system, lock them manually with the inside lock switches or use the key. If you are staying in the car, you may also lock the doors with the electric switch if you close the doors before you lock them.

Shutting Off The Alarm

To stop the alarm once it has been "tripped," unlock one of the front doors with a key.

Disarming The System

To disarm the system once the "Security" light is on and the doors are still open, push the switch to unlock. To disarm it once the doors have been closed, unlock the door with a key or turn the ignition switch on.

What Happens After Arming

The alarm will go off at once if the door is opened or if the trunk or door lock is damaged or forced. The horn will blow and the outside lights (except high beams) will flash (both about fifty [50] times a minute) for three to seven minutes. The car cannot be started. Finally, the alarm will shut down to preserve the battery. If the trunk or door lock is disturbed again, the alarm will - again - go off.

Opening The Trunk

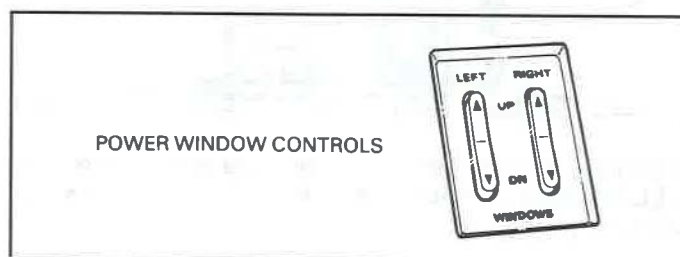
You may open the trunk by using the key. This will not set off the alarm nor will it disarm the system.

ILLUMINATED ENTRY SYSTEM

To use this feature, press and release the pushbutton on the door handle. A light will surround the keyhole to enable ease of insertion of the key. The lights inside the car will light up for 20 seconds so the inside of the car may be viewed. If you turn the key in the ignition before 20 seconds pass, the lights will go out.

WINDOWS

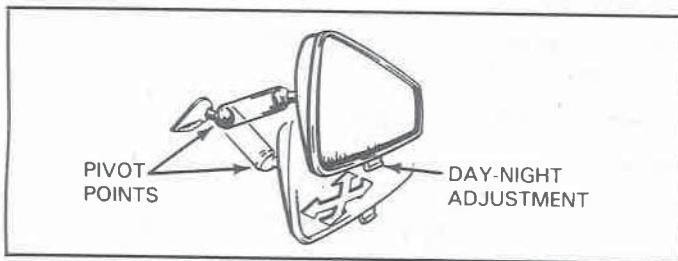
POWER WINDOWS



To use the windows, the ignition switch must be in the "Run" position or the retained accessory power feature must be activated. Master controls for all the windows are at the center of the console between the seats. To put the window up, press "UP." To put the window down, press "DN."

MIRRORS

INSIDE REARVIEW MIRROR



AUTOMATIC DAY/NIGHT MIRROR - Option

By using sensors, this mirror adjusts for the glare of vehicle headlights behind you. These sensors detect changes in varying light conditions as experienced in city and country driving. They also determine "day" or "night" operation.

During the day the mirror will remain in the "day" mode. At night it will read incoming light from following headlights, determine when glare is too high, and quickly change to the "night" mode.

DISTANCE: This dial covers a range of light sensitivity. You can adjust the sensitivity by turning the dial to any position between **FAR** and **NEAR**. **FAR** will be the most sensitive; bright headlights far away will cause the mirror to switch to the "night" mode. At the **NEAR** setting, bright headlights will have to be quite close to change the mirror.

OFF/AUTO: Use this switch to keep the mirror in either the day or night mode. Once in the AUTO position, you never have to turn it "Off."

When the mirror changes to the "night" mode, it will hold that position until glare is no longer in the mirror. A small green light in the center of the control panel lets you know when the mirror is in the "night" mode. Then an automatic time delay of about nine seconds begins before the mirror switches itself back to the "day" mode. The purpose of the delay is to prevent unnecessary changing of the mirror as traffic moves in and out behind you.

There is another important feature in the mirror's circuitry. Whenever the shift lever is placed in "R" (reverse), the mirror will hold in or return to the "day" mode. This gives the driver a bright image in the mirror whenever the car is backing up.

OUTSIDE REARVIEW MIRROR(S)

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

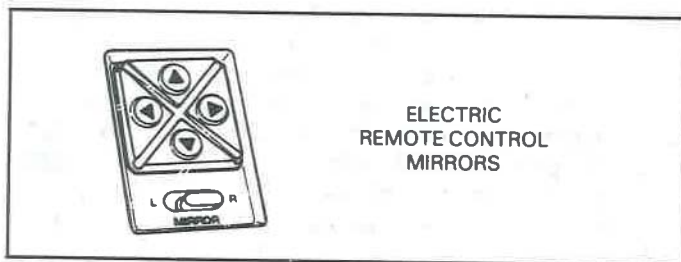
Convex Rearview Mirror

Your car has a convex outside right-hand mirror. (A convex mirror has a curved surface.)

- Use care when judging the size or distance of a car 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.

Electric Remote Control Mirrors



These mirrors can be adjusted by a touch control located on the console. A left/right switch allows you to choose which mirror you wish to adjust. Then, lightly touch the four areas (left, right, top, bottom) to get the tilt in the mirror that's best for you.

ELECTRICALLY HEATED DRIVER'S MIRROR - Option

The heat function for this mirror runs off the rear window defogger switch. When you turn on the switch, the surface of the mirror heats up. Any snow or ice will melt away. If the mirror is fogged, the heat will clear the mirror.

VISOR VANITY MIRROR

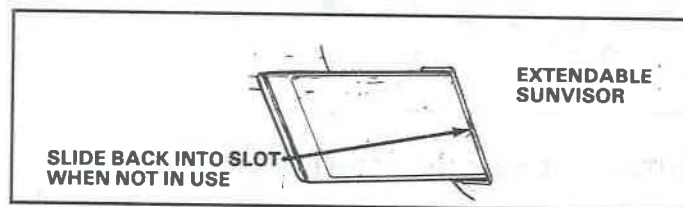
The lighted visor vanity mirror lights up when the mirror cover is opened. The lights can be set on either high or low using the

switch below the right light. Closing the mirror cover turns off the lights.

SUNVISORS

Sunvisors have a spring-loaded return so they snap back into place and out of your way.

EXTENDABLE SUNVISORS



This feature lets you extend the sunvisor with a tinted slide out panel. Slide out when needed and when not needed slide it back in place out of sight.

SEATS

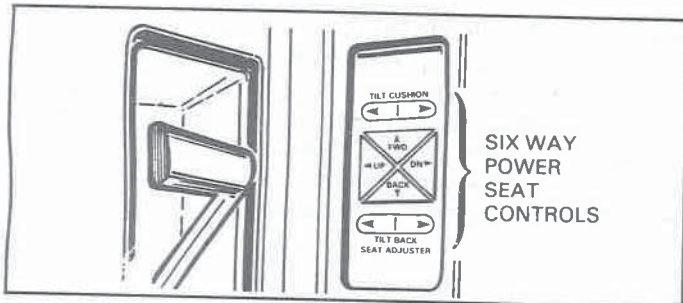
MANUALLY OPERATED FRONT SEAT

The front passenger seat may be adjusted forward or rearward by moving the control lever at the lower front of the seat. Move the control lever to the left to release the catch. Then, use a little body pressure to move the seat to the position you want. Release the control lever to lock the seat in position. Test the seat to make sure it is securely locked.

After adjusting a manually operated seat, push it back and forth to be sure it has locked. Take the car to your dealer for service if either seat adjuster does not lock.

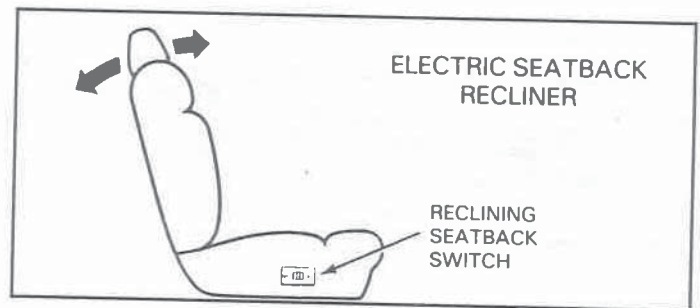
SIX-WAY POWER SEAT - Option (Standard Equipment on Driver's Side)

The power seat controls (for both driver and passenger) are located on either front door. Adjust the seat as follows: The front control moves the front of the seat cushion up-and-down. The center control moves the whole front seat back-and-forth and up-and-down. The back control moves the back of the seat cushion up-and-down.



ELECTRIC SEATBACK RECLINER - Option

This seatback can be tilted to the rear of its normal position or forward of the normal position by a two-way switch on the

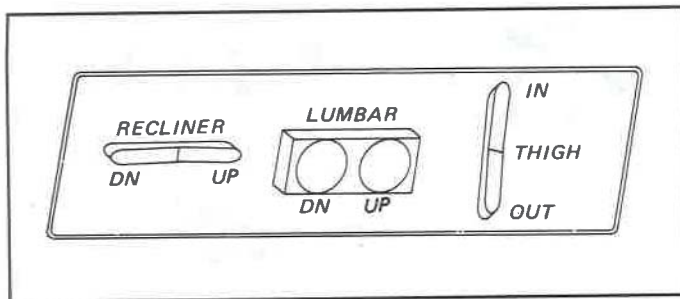


outboard side of the seat cushion. To tilt the seatback to the rear, push rearward portion of switch. To tilt the seatback forward, push forward portion of switch.

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.

SIXTEEN WAY ADJUSTABLE SEAT - Option

This seat provides comfort adjustments for your legs and back. It works separately from the driver and optional passenger Six-Way Power seats.



"Thigh"

The forward switch on the outboard side of the seat control is the "THIGH" support. Press the side of the switch marked "OUT" and the leg support in front of the seat cushion will move out toward the front of the car. Press the side of the switch marked "IN" and the leg support will move in close to the seat cushion.

"Lumbar"

The center switch controls inflation and deflation of the center seatback. It provides lower back support. Press the "domed" side of the switch marked "UP" and the inside middle of the seatback will rise outward. Press the "welled" side of the switch marked "DN" and the inside middle of the seatback will move inward.

Pressure is required on seatback to deflate.

"Recliner"

The rearward switch on the outboard side of the seat control operates the degree of recline of the seatback. Press the "UP" side of the switch and the seatback will move up toward the front of the car. Press the "DN" side of the switch and the seatback will move down toward the back of the car. The seatback can be tilted about 20 degrees to the rear, or about four degrees forward, of its normal position.

Head Rest

The headrest is manually adjustable up and down and toward the front or rear.

Reversible Seat Cushions - T-Type Only

Each seat may also have a reversible leather/cloth seat cushion. The seat cushion is connected to the seat by two snaps at the center of the cushion and by velcro strips at top and bottom. Raise the headrest and move the thigh support out to gain easy access to the velcro strips. After reversing a seat cushion, push in the leather loops that mount each snap out of the way behind the seat cushion.

Seatback Position When Moving

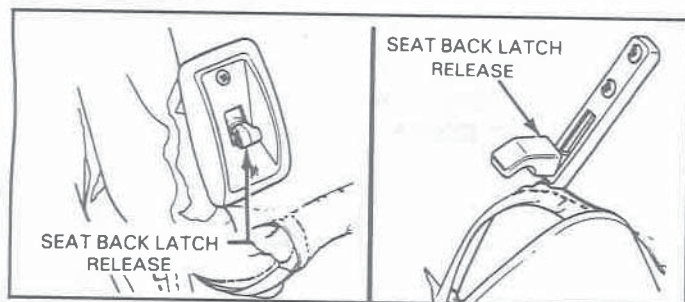
CAUTION: To reduce the risk of sliding under the lap belt during a collision, an occupied reclining seat should not be reclined any more than needed for comfort. The seatback and safety belts work best only when the

(Continued)

CAUTION: (Continued)

wearer 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 will increase with increasing recline of the seatback.) Do not adjust the reclining seatback on the driver's seat while the car is moving. The seatback could jerk and cause a loss of control.

FRONT SEATBACK LATCHES



The inertial seatback latches on folding front seats are designed to limit forward movement of the seatback only during a sudden slowing of the car. 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 on the 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 the seatback does not lock, have it serviced by your dealer.

EASY ENTRY SEAT

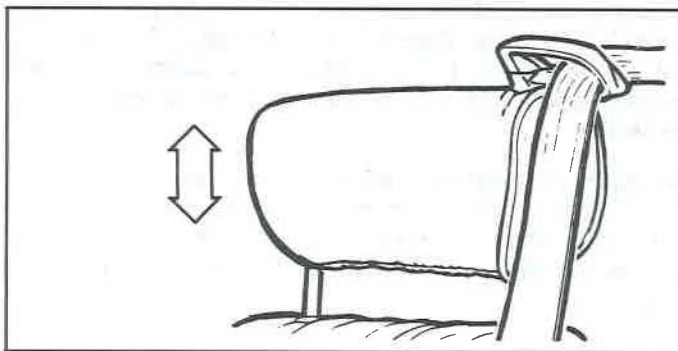
The right front seat of your car has an easy entry and exit feature.

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

CAUTION: ALWAYS press rearward on the seat to be sure it is locked to help avoid personal injury in the event of a collision.

3. To exit, again tilt the seatback fully forward.

HEAD RESTRAINTS

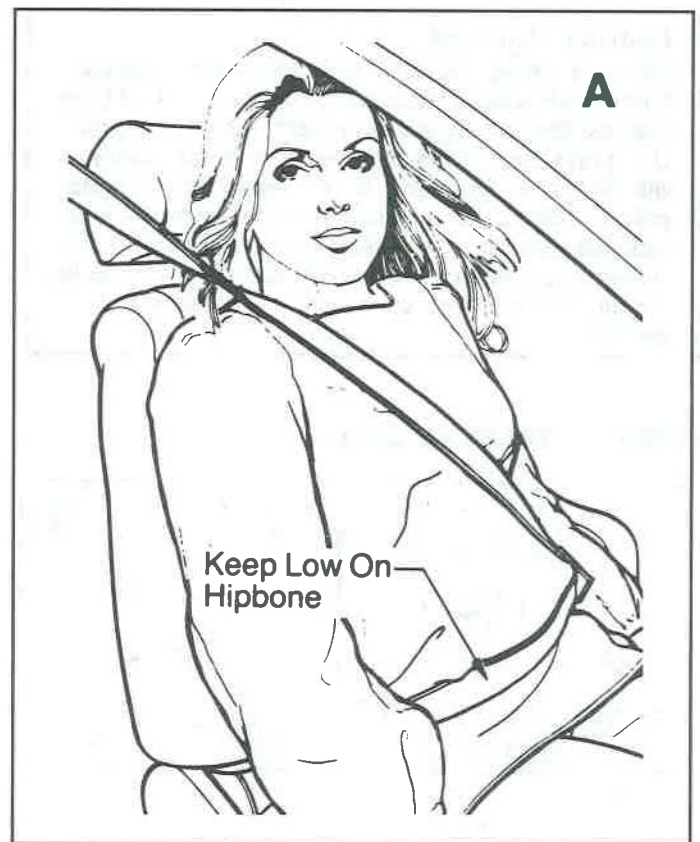


Head restraints are designed to help reduce the risk of neck injuries. Choose the position which places the top of the head restraint closest to the top of your ears. To raise or lower, just slide the head restraint up or down. (If your car has the optional Power Comfort Seat, or optional Driver's Performance Seat, the head restraint can also be adjusted toward the front or rear.

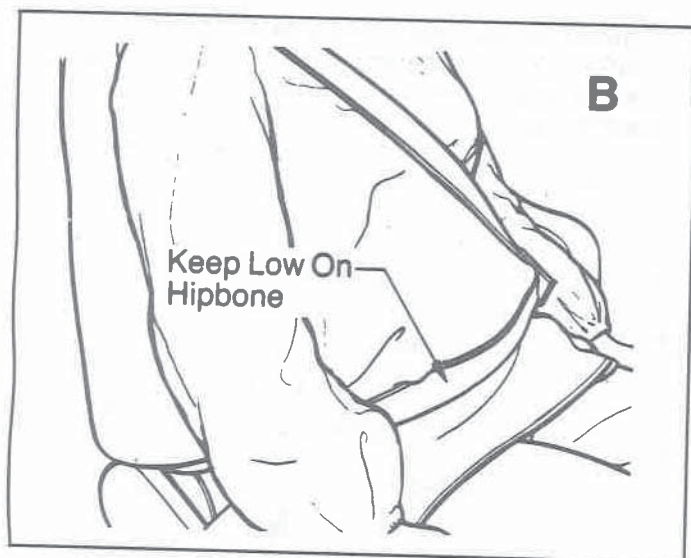
SAFETY BELT SYSTEMS

CAUTION: To help reduce the risk of personal injury in collisions or sudden maneuvers, use the safety belts following these instructions on their proper use, maintenance, and use with child restraint systems. This

(Continued)



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CAUTION: (Continued)

includes pregnant women; pregnant women should use a lap-shoulder belt whenever possible; the lap portion should continue to be worn low and snug throughout the pregnancy.

(Continued)

CAUTION: (Continued)

Children small enough for child restraints (as indicated on the label of such restraints) should always be transported in them. Accident statistics indicate children are safer when properly restrained in the rear seat rather than in the front seat. Accordingly, General Motors recommends children be restrained in the rear seat. General Motors also recommends that an adult be seated adjacent to an infant who is in an infant restraint. If the driver is the only adult in the vehicle, the infant restraint may be placed in the front seat.

Children who have outgrown child restraint systems should use the vehicle's safety belts and sit in the rear seat. If the child's seating position has a shoulder belt which is on or very close to the face or neck, move the child closer to the center of the car.

Once a child has grown enough so that the shoulder belt is no longer on or very close to the face or neck, a seating position with a shoulder belt should be chosen whenever possible.

NEVER:

- Put the lap portion of a safety belt over any armrest.
- Wear a shoulder belt under your arm.
- Use a belt for more than one person at a time.
- Wear the belts twisted or with a buckle release button facing downward or inward.

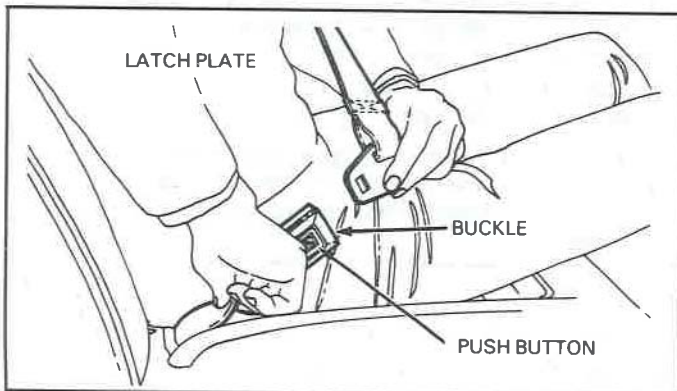
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- Let the belt system become damaged by a door or seat.
- Put anything into the opening where the safety belt passes through the trim panel. (This may jam the retractor or damage the belt.)

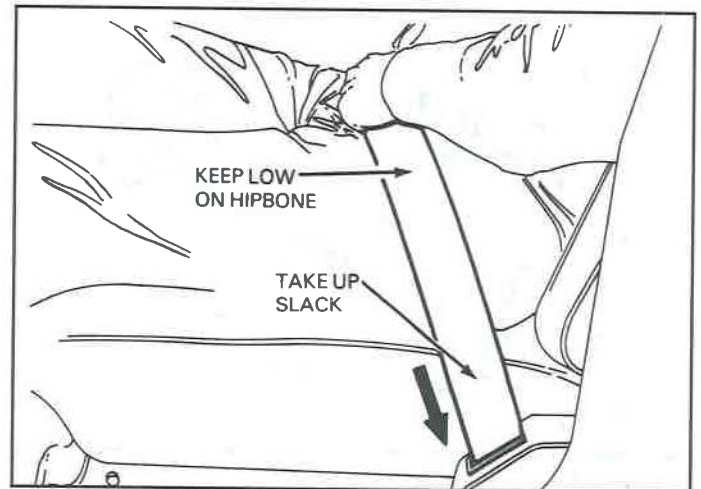
Many states (provinces in Canada) require front seat occupants to wear safety belts.

Front and Rear Lap-Shoulder Belts

1. Adjust the front seat as needed. Sit well back and straight up in the seat. Then pull the belt across your lap and push the latch plate into the buckle until it clicks. If the belt is not long enough to permit this, see "Safety Belt Extender" following.



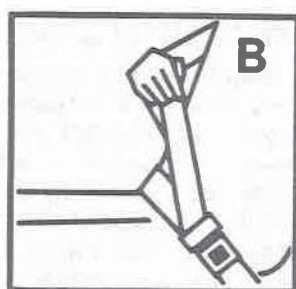
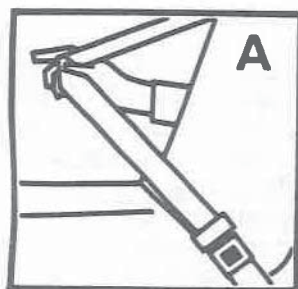
2. To reduce the risk of sliding under the belt during a collision, position the belt across your lap as low on your hips as possible and pull it toward the outer wall to a snug fit so the retractor can take up slack.



The front seat lap-shoulder belt is designed to lock only during a sudden stop or impact. At other times it should move freely. The lap portion of the rear seat lap-shoulder belt is designed to lock during a sudden stop or impact. At other times it should move freely. However, if the lap portion is pulled all the way out on some models, the retractor switches to an automatic

locking mode. If your vehicle is so equipped, the rear seat lap-shoulder belt will have a label about six inches (150 mm) from the latch plate. In the automatic locking mode as the belt retracts it cannot be pulled out until it is fully retracted. See "Child Restraint" in this section for details.

3. If the front seat shoulder belt is too snug:
 - A. Pull the shoulder belt out at least 130 millimeters (five inches) and let it return to your chest.
 - B. Then pull down on the shoulder belt—no more than needed to ease pressure, 25 mm (one inch) and let go.
4. To get rid of the slack, pull the belt out as you did in Step 3 A above.



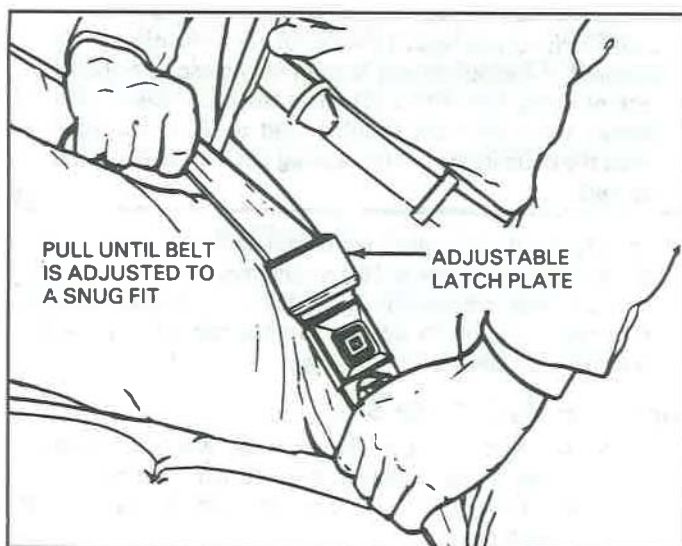
Keep any shoulder belt slack to a minimum – no more than 25 mm (one inch). Belt slack beyond the specified amount could significantly reduce the amount of protection in an accident because the belt is too loose to restrain you as intended.

CAUTION: To help reduce the risk of personal injury in an accident, if a shoulder belt is on or very close to a child's face or neck, then either (1) move the child toward the center, away from the shoulder belt or (2) if available, place the child in the center seating position and use the lap belt.

5. To unfasten the belt, push the button on the buckle. To store the belt, pull it out about 180 millimeters (seven inches) and let go. To help prevent damage to the safety belt and interior trim, before closing the door be sure the belt is fully retracted and the latch plate is out of the way.

Lap Belt for Rear Center Seat

1. Center seat lap belts should be positioned, worn, and released as described above; however, they do not have retractors. Adjust it to a snug fit by pulling on the end of the belt coming from the latch plate.
2. To lengthen the center seat lap belt, hold the latch plate at an angle to the belt webbing and pull on the latch plate; the belt should then slide easily through the adjustment feature.



SAFETY BELT REMINDER LIGHT

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 safety belts. Unless the driver's safety belt is buckled, an audible indicator will sound at the same time.

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

SAFETY BELT INSPECTION

Now and then check that belts, buckles, latch plates, retractors, anchorages and reminder systems work properly; look for loose parts or damage (without disassembly) that could keep the restraint system from doing its job. Have a belt assembly replaced if the webbing has been cut or otherwise damaged. Replace belts, retractors, and hardware in use during all but a minor collision. Also, restraint systems should be replaced and anchorages properly repaired if they were in areas damaged by a collision, whether the belt was in use or not. If there is any question, replace the belt system. Damage, whether visible or not, could result in serious personal injury in the event of an accident.

SAFETY BELT EXTENDER

If a safety belt cannot be fastened because it is not long enough, General Motors will be pleased to furnish a safety belt extender without charge. Contact your dealer; remember to bring the heaviest coat expected to be worn to obtain the proper length extender. Be prepared to choose a front or rear seat position where the extender will be used - an extender measured for a front seat may not be safe in a rear seat, and one measured for the rear seat may not be safe in a front seat. Remember also that the extender intended for this car may not be safe for use in another vehicle and that the extender from another vehicle may not be safe for use in this car. For example, an improper extender might come apart during an accident causing the user to be injured. The safety belt extender is to be used only by the person for whom it was measured; use by others or in another vehicle could reduce safety

belt restraint effectiveness in an accident and result in personal injury. Do not use the extender whenever the safety belt can be fastened without it.

To use the extender, sit in the seat measured for the extender (as indicated on the extender's label), push the car's safety belt latch plate into the extender's buckle and the extender's latch plate into the safety belt buckle. To unfasten the belt, push in the button in the center of the extender buckle so that it remains attached on the inboard side. This helps avoid damaging the extender or interior trim. Keep the extender in the vehicle for which it was intended.

CHILD RESTRAINT

CAUTION: Children small enough for child restraints (as indicated on the label of such restraints) should always be transported in them. Children who have outgrown child restraint systems should wear safety belts and sit in the rear seat. Accident statistics indicate that children are safer when properly restrained in the rear seat rather than in the front seat. Accordingly, General Motors recommends the child be restrained in the rear seat. General Motors also recommends that an adult be seated adjacent to an infant who is in an infant restraint. If the driver is the only adult in the vehicle, the infant may be placed in the front seat.

(Continued)

CAUTION: (Continued)

Children who have outgrown child restraint systems should use the vehicle's safety belts and sit in the rear seat. If the child's seating position has a shoulder belt which is on or very close to the face or neck, either move the child closer to the center of the car, or if available, place the child in a center seating position with a lap belt.

Once a child has grown enough so that the shoulder belt is no longer on or very close to the face or neck, a seating position with a shoulder belt should be chosen whenever possible.

Any unrestrained child could be injured by striking the vehicle's interior or by ejection from the vehicle during an accident or driving maneuver. Never allow a child to be held by another occupant instead of being properly restrained. If not properly restrained, the child could strike the vehicle interior or be crushed by the person holding the child, or by other occupants.

Be sure to follow all installation and use instructions that come with any child restraint system. Child restraint systems are designed to be secured in vehicle seats either by the lap belt, or the lap portion of the lap-shoulder belt at that seating position. The child must also be secured within the restraint by the means provided by the child restraint manufacturer. If the child or the child restraint is not properly secured, the child risks personal injury in the event of a collision.

Child Restraint With Top Strap

If you choose to use a top-strap-equipped child restraint in the rear seat of this vehicle, you may either want to have your Buick dealer install the top strap anchor bracket, or learn from the dealer where to attach it. (The anchor bracket is supplied by the company that makes the child restraint system.)

Your car may have a dual mode automatic locking retractor at the outboard seating position of the rear seat to lock the lap belt. If it is so equipped, it will have a label which describes it appearing about six inches (150 mm) from the latch plate. If the outboard rear lap belt is pulled all the way out, this switches the retractor to an automatic locking mode. In this mode as the belt retracts it cannot be pulled out until it is fully retracted.

Using A Child Restraint With The Locking Retractor

First, locate the child restraint system on the passenger seat and install any top strap and anchor it. Then:

1. Pull the lap belt out and position it around or through the child

restraint, in accord with the restraint's instructions, and buckle the lap belt.

2. Pull the remaining webbing out of the retractor to switch to the automatic locking mode. Then allow the excess webbing to retract.
3. Grasp the webbing between the child restraint system and retract and pull it tight around the entire child restraint while allowing it to feed into the retractor. Then try to withdraw webbing; if it will not pull out, it is in the automatic locking mode.
4. Try to move the child restraint system and webbing to assure the lap belt is holding it tightly.
5. Secure the child in the restraint in accord with the manufacturer's instructions.

Returning Retractor To Normal Use

Unbuckling the rear outboard belt and letting it retract all the way allows the belt to move freely again. In that mode, it is designed to lock only during a sudden stop or impact.

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 car, 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 car body. The best way is to keep the engine exhaust system, car and body ventilation system properly maintained. We recommend that the exhaust system and body be inspected by a competent technician:

- Each time the car 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 car is damaged or becomes corroded.

(Continued)

CAUTION: (Continued)

See your Maintenance Schedule booklet for parts requiring inspection.

To allow proper operation of your car'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 car 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 car body.

Do not run the engine in confined areas (such as garages or next to a building) any more than needed to move the car. When the car 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 car as follows:

(Continued)

CAUTION: (Continued)

1. The ventilation system is set by touching the "ECON" or front defrost and "HIGH" fan on the climate page of the Electronic Control Center.

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.

Driving with the trunk lid open is not recommended. Under some conditions, exhaust gases may be drawn into the car. If the trunk lid 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 and the body, follow these precautions:

- Close all windows.
- Adjust the heating or cooling system to force outside air into the car as described above, but set the fan to high speed.

NEW CAR "BREAK-IN" PERIOD

You can drive your new car 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 car.

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 car 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 car 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 "Recreational and Trailering Guide". Or, call (800) 521-7300. (In Canada, write to General Motors of Canada Limited, Customer Services Department, Oshawa, Ontario L1J 5Z6.)

TRAILER WIRING HARNESS

Your car's rear lights are electronically controlled and monitored. Improper "hook-up" of additional trailer lights could cause malfunction of the lights. It is recommended that you use a GM harness which is available from your Buick dealer.

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 car, also shown on the Tire Placard, is reduced by the trailer tongue weight whenever the trailer is attached to the car. See Section 5 for more tire information.

MAINTENANCE

More frequent service is required when using your car to pull a trailer. See the Maintenance Schedule booklet for automatic transaxle fluid and engine oil change requirements for trailering.

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

BREAK-IN SCHEDULE

See the new car break-in information in this manual. If trailer towing is permissible with your car, we recommend you drive your new car 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:

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:

- Keep the trailer tongue load at 10 percent of the loaded trailer weight. 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 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 Section 2.)

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 car 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 car 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 Section 3.

LONG UPHILL GRADES

When going up long grades, you can reduce the chance of engine overheating by downshifting the transaxle to a lower gear range and reducing speed to 45 mph (70 km/h) or below.

STEEP OR LONG DOWNGRADES

Before going down a steep or long grade, reduce speed and shift the transaxle into a lower gear to help control your car'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.

TRANSAXLES

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

PARKING

You should not park cars 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 regular brakes and then apply the parking brake; release the regular brake.
5. Shift the transaxle to "PARK".

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

When starting, if parked on a grade:

1. Apply the regular brakes and hold.
2. Start the engine while the transaxle is in "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.

FUEL REQUIREMENTS

Your gasoline (spark ignition) engine is designed to use regular grade unleaded fuel that meets American Society for Testing and Materials (ASTM) D439 (CGSB3.15-M87 in Canada) specifications. Unleaded fuel must be used for the emission control systems to operate properly. Use of fuels not meeting ASTM specifications could cause poor performance and increase emissions. The use of good quality fuels containing proper detergent additives is necessary for good performance and emission control. Such fuels can be identified through media or point-of-purchase advertising.

The regular and continued use of supplementary fuel additives is unnecessary and not recommended unless required to solve specific operating problems which occasionally arise in some vehicles. In such instances, supplementary additives with official GM part numbers will be made available through your dealer for use in appropriate service applications.

Damage caused by the use of leaded or other improper fuel is not covered by the New Vehicle and Emission Control Systems Warranties. The effectiveness of the catalytic converter decreases if leaded fuel is used. Also, your car may have the Computer Command Control System, which includes an oxygen sensor. Leaded fuel will damage the sensor, and may impair emission

control, driveability, and fuel economy. (For more information, see "Computer Command Control System" in Section 5 of this manual.)

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

In the United States, Federal law also requires that fuel octane ratings be posted on the pumps. The octane rating shown is an average of the Research (R) octane and Motor (M) octane numbers. In most parts of the United States, you should use unleaded fuel with an octane rating of at least 87.

Using unleaded fuel with an octane rating lower than stated above may 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 fuel of the recommended octane rating, or if you hear steady spark knock while holding a steady speed on level roads, have your Buick dealer correct the problem. Failure to take steps to stop such knocking is misuse of the vehicle, and damage due to misuse is not covered under the New Vehicle and Emission Control Systems Warranties.

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 fuel's octane rating when there is occasional light spark knock. Using fuel with a higher octane rating than that which allows occasional spark knock is an unnecessary expense.

FUELS CONTAINING ALCOHOLS

Unleaded fuels composed of blends of gasoline and alcohol (ethanol, methanol, cosolvents) are available. Some fuel suppliers voluntarily use labels of the type shown below to inform consumers that their gasoline contains alcohol. If such fuel blends are used, they must have the same minimum octane rating as specified for unleaded fuel without alcohol. Also, some states require the use of such labels. If you are not sure whether there is alcohol in the fuel you buy, ask the service station operator.

ALCOHOL CONTENT	
METHANOL	_____ %
ETHANOL	_____ %
COSOLVENT	_____ %

If you are not satisfied with the vehicle drivability and fuel economy provided by fuels containing alcohols, you may prefer to use unleaded gasoline that does not contain alcohol.

Ethanol

You may use properly blended fuels containing 10 percent or less ethanol (ethyl or grain alcohol) and still be covered by the New Vehicle and Emission Control Systems Warranties.

Methanol

Fuels containing 5 percent or less methanol (methyl or wood alcohol) may be suitable for use in your car, if they also contain sufficient quantities of appropriate cosolvents to prevent phase separation (according to proposed ASTM specifications), and ingredients to protect your car's fuel system against corrosion of metals and damage to plastics and rubbers caused by methanol. However, the suitability of these fuels is not fully known at this time. Check with the service station operator if you have any questions regarding whether the fuel contains appropriate cosolvents and corrosion inhibitors.

Do not use fuels containing more than 5 percent methanol under any circumstances. Fuel system damage or car performance problems resulting from the use of such fuels are not the responsibility of Buick Motor Division and are not covered under the New Vehicle and Emission Control Systems Warranties.

NOTICE: Take care not to spill fuel during refueling. Fuels containing alcohol may cause paint damage, which is not covered under the New Vehicle Limited Warranty.

OPERATION IN FOREIGN COUNTRIES

Your car requires unleaded fuel which may not be available in other countries.

Before taking your car 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 fuel or use of fuel that has a lower octane rating than is required by your car will cause the emission control system to lose its effectiveness and can cause engine knock or serious engine damage. Neither GM International Export Sales nor Buick Motor Division will be responsible for damage to your car as a result of using the improper fuel.

If you intend to take your car outside the U.S. or Canada, contact the GM International Export Sales, Service Department at the following address, to find out what you must do in order to operate your car in other countries, or for additional information and a copy of the applicable Maintenance Schedule booklet.

General Motors
International Export Sales
Service Department
Room 3-132
General Motors Building
Detroit, Michigan 48202

When writing, please include:

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

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

The careful attention you give your car as far as maintenance is 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** fuel meeting the octane ratings given under "Fuel Requirements" in this section of the manual. Unleaded fuel must be used for the emission control system to operate properly. Leaded fuel will damage the Computer Command Control System oxygen sensor, reduce the effectiveness of the catalyst and affect emission control. Using leaded fuel can also damage other parts of the emission control system and could result in loss of emission warranty coverage.

STARTING THE ENGINE

1. Apply the parking brake.
2. Shift the transaxle to Park or Neutral (Park 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 car is moving, shift the transaxle to Neutral.)
3. Start the engine as outlined below for different conditions.
4. After following starting instructions, apply the regular brakes and shift into the proper gear. Release the parking brake and drive off.

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

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

Cold or Warm Engine

Do not press down the accelerator pedal. With your foot off the pedal, crank the engine by turning the ignition key to "Start." Release the key when the engine starts.

If the engine does not start, or starts but fails to run: press the accelerator to 1/4 of its travel, crank the engine by turning the ignition key to Start. Release the key when the engine starts.

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.)

NOTICE: This engine is designed to work with the electronics in your car. Adding electrical parts or accessories may effect the operation of the fuel injection system. Contact your dealer before adding such equipment, as it may result in engine performance problems.

GUARD AGAINST THEFT

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

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

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 key:
 - Turn the key to "Lock" and remove the key. This locks the ignition and both steering and shift controls. The key can be removed only when the ignition is locked.
 - If you must leave a key with the car, leave the square-head key only. Take the oval-head key with you. This will help prevent unwanted entry into your car or any locked compartment.
3. Keep items that may appear to be of value out of sight and locked up when possible.
4. Lock all doors. (Remember that locking the doors with the door lock switch or button automatically arms the optional Theft Deterrent System.)

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.

(Continued)

CAUTION: (Continued)

3. Turn the key to "Lock."
4. Remove the key (the chime is designed to remind you).
5. Be sure the car is not moving before you leave the driver's seat.

To reduce the chance of personal injury and 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 display, immediate action is required to correct the condition. Continued operation of the engine even for a short time may result in a fire.

NOTICE: Do not park, idle, or operate your car over combustible materials, such as grass or leaves. They could touch the hot exhaust system and start a fire.

TRANSAXLES

The transaxle shift indicators are located on the console between the seats. Push the button in on the shifter before placing it in any gear.

DESCENDING A GRADE

CAUTION: To reduce the risk of personal injury, before going down a steep or long grade reduce speed and shift the automatic transaxle to a lower gear. Do not hold the brake pedal down too long or too often while going down hill. This could cause the brakes to get hot and not work as well. As a result, the car will not slow down at the usual rate. Failure to take these steps could result in loss of vehicle control.

AUTOMATIC OVERDRIVE TRANSAXLE

This car has an overdrive transaxle (designed for improved fuel economy with two drive ranges).

"D" (Overdrive)

This is the overdrive gear range position used for most normal driving. This position lets the transaxle choose the appropriate gear for load and driving conditions. Also, the transaxle is designed to shift automatically into overdrive (from Drive) when the car reaches a steady cruising speed of about 40 mph (65 km/h) or faster.

"D" (Third Gear)

On cars with the overdrive transaxle this is the same as "D" on cars without an overdrive feature and should be used when increased performance is needed, such as on hilly roads or when towing a trailer. It prevents the transaxle from shifting into overdrive. It also provides more "engine braking" than "D" range. You should shift to "D" range when driving on slippery surfaces to help avoid unexpected downshifts (out of overdrive) which may occur on slippery surfaces. See "Driving on Slippery Surfaces" in this section.

You should also shift to "D" if you notice what feels like excessive shifting between ranges. This could be caused by over engaging and disengaging of the overdrive, or of the torque converter clutch. This is normal under certain driving conditions; shifting from "D" to "D" should bring improvement. (When driving conditions change, shift back to "D" for improved fuel economy.)

If you need more power for passing, you can force the transaxle to downshift by fully pressing the accelerator pedal.

"Park"

Use this position with the foot-operated, "step-on" parking brake. **This position must never be used when the car is moving.** "Park" is one of only two positions (the other is "N") in which your car may be started.

"R" (Reverse)

Bring your car to a complete stop before shifting into this range to back up.

"N" (Neutral)

Use this position if you are towing the car and use it when you are restarting the engine while the car is still moving. See Section 3 for towing facts.

"2" (Low 2)

You may use this position when traveling down a medium grade where you want to slow down a little without pressing on the brakes. Change back to "D" position to return to normal driving.

"1" (Low 1)

Use this position when going down very sharp grades, when climbing a steep hill, or when moving through deep snow or mud. Shift back to "D" position so that the transaxle will again upshift into direct drive.

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 car under "Freeing Car from Sand, Mud, Snow or Ice" in Section 3.)
- Shifting to "R" (Reverse) or any forward range while operating the engine at high speed in "N" (Neutral) or "PARK".

(Continued)

NOTICE: (Continued)

- Shifting to "PARK" while the car's 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 drive range and the drive wheels aren't moving, such as when stuck in deep sand or mud or when the car is against a fixed barrier.)
- Holding the car on an upgrade by increasing engine speed with the accelerator pedal. (Use the regular brakes to hold car on an uphill grade.)

CLUTCH-TYPE TORQUE CONVERTER

Your automatic transaxle has a clutch-type torque converter. This clutch is designed to engage when the car reaches a steady speed of 25 mph (40 km/h) or higher depending on the particular model. When engaged, the clutch provides a direct mechanical connection between the engine and the drive wheels. This direct connection produces a more efficient operation of the transaxle and thereby helps contribute to improved fuel economy.

With the clutch-type converter, you may notice what feels like a transaxle shift when the clutch engages or disengages. Also, on occasion, you may feel certain incidental engine pulsations in the 25 to 50 mph (40 to 80 km/h) range. This feel is similar to that sometimes experienced in a manual transaxle equipped car.

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

BRAKING AND STEERING TECHNIQUE

To get maximum braking while maintaining vehicle control, use a "squeeze" braking technique. Do this by pushing on the brake pedal with steadily increasing pressure. If possible, steer around obstacles when there is not enough room to stop. If the vehicle doesn't respond to steering or changes direction when you are not steering, ease up on the brake pedal. If the front wheels are not rolling to some extent, you cannot control the direction of the vehicle by turning the steering wheel. To correct for a skid, ease

off the gas pedal or the brake and steer to keep the vehicle pointing where you want it to go. Don't touch the brake.

Driving On Slippery Surfaces

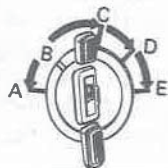
Drive, steering, and braking traction are reduced when water, snow, ice, gravel, or other material is on the road. Slow down and adjust your driving to such conditions. It is important to slow down when it is slippery because stopping distances will be longer and vehicle control more limited. While driving on a surface with reduced traction, avoid maneuvers involving sudden steering, acceleration, or braking (including engine braking due to shifting to a lower gear), which could cause the tires to skid. You may not realize the surface is slippery until the vehicle is skidding. Learn to recognize warning clues – such as enough water or ice on the road to make a "mirrored surface" – and slow down when there is any doubt. Also see "Traction" under Tires in Section 5.

STEERING COLUMN CONTROLS

ANTI-THEFT STEERING COLUMN LOCK

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

- A. ACCESSORY
- B. LOCK
- C. OFF
- D. RUN
- E. START



- **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** – Parking position 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 "PARK"
- **Off** – You can turn off the engine without locking the steering wheel and shift controls.
- **Run** – Normal operating position.
- **Start** – Cranks the engine.

To unlock the ignition, first be sure the key is pushed in all the way. Then, rotate the steering wheel to the right or left while you turn

the key. 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.

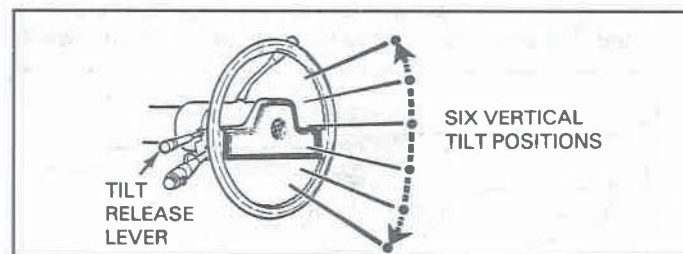
HORN PAD LOCATIONS

Press the horn symbol imprinted in the bottom part of the pad on the steering wheel.

POWER STEERING

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

TILT STEERING WHEEL

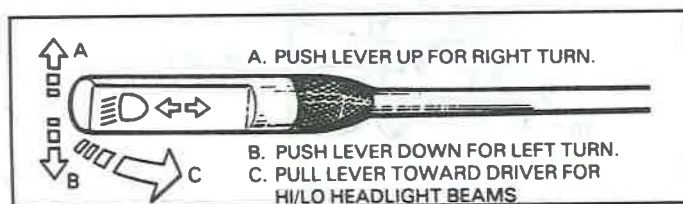


A small lever on the left side of the steering column, just below the turn signal lever, releases the tilt unit for adjustment. It can be tilted to any one of six positions. Hold the steering wheel, pull the release lever toward you, move the steering wheel to the position you want, and let go of the lever.

TURN SIGNAL AND HEADLIGHT BEAM LEVER

The turn signal lever on the left side of the steering column also controls headlight low-beam and high beam.

- **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.
- **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 a burned-out turn signal bulb. If the green light does not come on when you move the lever, check the fuse and indicator bulb.

- **Headlight Beam Changer** - With the headlights on, pull the turn signal 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. Only the two inner lamps are illuminated on the high beam setting.

FLASH-TO-PASS

When the headlights are not on, the headlights can be flashed as a signal to drivers ahead of you that you want to pass. To operate the Flash-To-Pass feature, pull the turn signal lever toward you and release. This will momentarily flash the headlight high-beams and high beam indicator. The lever is designed to return to its normal position when released.

CORNERING LIGHTS

Cornering lights work automatically by moving the turn signal lever to indicate a turn. The light comes on to give more lighting in the direction of the turn and stays on steadily until the turn is completed.

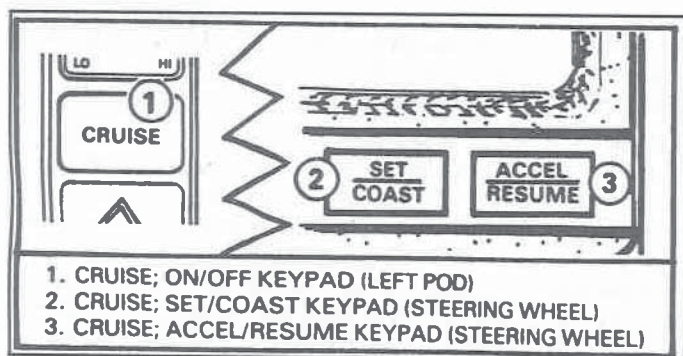
ELECTRONIC CRUISE CONTROL

On

The "CRUISE" keypad on the left pod must be pressed on. A light will glow in the right top corner of the keypad to show it's on. The car speed must be at least 25 miles per hour (40 kilometers per hour) before the system will work.

Off

There are several ways to release the "Cruise" feature. You can tap the brake pedal. You can push the "CRUISE" keypad to off. You can push in on the "SET/COAST" button and hold it there until your car's speed drops below about 25 miles per hour (40 kilometers per hour). You can stop the car and turn off the ignition.



Setting A Speed In Memory (Cruise Feature)

Push in the "SET/COAST" button on the steering wheel when your

car reaches the speed you want. Let go of the button. Your car will now be controlled by the "Cruise" feature. The "CRUISE" light (located in the left corner of the instrument panel cluster) will come on to show that it is on. When you bring your car to a stop and shut off the ignition, the speed will no longer be stored in memory.

Using "Accel-Resume" (Resume Acceleration Feature)

Let's assume you had to slow your car with the brakes. When you press the brake pedal, the "CRUISE" light in the instrument panel cluster will go out and the "RESUME" light will light up below it. Also, when the brake is pressed and cruise control disengages, the speed at which cruise was set will be stored in the Electronic Control Center on the SUMMARY page.

Now you want to go back to the "Cruise" speed you set. Quickly push the "ACCEL-RESUME" keypad on the steering wheel and let go. Your car will now increase its speed to the speed stored in memory. When the car completes acceleration to the previously set cruise speed, the "RESUME" light will go out and "CRUISE" will light above it. If you hold the "Accel-Resume" keypad for more than one second, the system will go into the acceleration mode described in the next paragraph.

If you want to go faster without breaking away from the "Cruise" mode, hold in the "ACCEL-RESUME" keypad for more than one second. When you reach the faster speed that you want, let go of the keypad. This new speed is your car's new "Cruise" speed.

You can press the accelerator pedal at any time to override the "Cruise" feature. When you take your foot off the pedal, your car's speed will go back to the speed stored in memory.

Coasting To A Slower Speed

If you want to slow the car's speed without using the brakes, push the "SET/COAST" keypad. Hold the keypad until your car has slowed to the new, lower "Cruise" speed. Let go of the keypad. Your new slower speed is stored in memory. During slowdown, the "CRUISE" light will be replaced by "RESUME" until the new, slower speed is set. Then, the "CRUISE" light will come back on.

Accelerating To A Faster Speed

You can also accelerate from any "stored" speed and then push the "SET/COAST" keypad to store the new, faster speed. It is, however, easier to do this by using the Resume Acceleration feature explained earlier.

"Tapping Up" The Car's Speed

You can "tap up" the car's "Cruise" speed by one mile per hour using the "ACCEL-RESUME" keypad. To do this, quickly push (or "tap") the keypad. Every time you do this, your car's speed will increase by one mile per hour. Remember, don't hold the keypad in or it will go into the acceleration mode described earlier.

"Tapping Down" The Car's Speed

You can "tap down" the car's "Cruise" speed by one mile per hour at a time using the "SET/COAST" keypad. To do this, quickly press (or "tap") the "SET/COAST" keypad. Every time you do this, your car's speed will decrease by one mile per hour. You can do this until your car's speed reaches about 25 miles per hour. Below this, the "Cruise" feature does not work. Don't hold the "Set" button in place or it will go into the "coast" mode.

NOTICE: To help keep the car under control, do not use the Cruise Control and particularly its "ACCEL/RESUME" 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 car 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 car will hold a set speed and will not slow down when you take your foot off the accelerator pedal. To slow the car, follow the instructions under Electronic Cruise Control.

When going up or down hills, it is possible for the car 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 press the accelerator pedal to maintain the speed desired. If going down a hill steep enough to cause the car to gain speed, press the brake pedal – which will both disengage the Cruise Control and help slow the car. 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 Section 2.

BRAKE SYSTEM

BRAKE WARNING LIGHT

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

"ANTILOCK" BRAKE WARNING LIGHT - Option

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

RIDING THE BRAKE

NOTICE: "Riding the brake" by resting your foot on the 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.

WET BRAKES

CAUTION: After driving through water deep enough to wet brake components or having the car washed, the brakes may require higher pedal effort. As a result, the car 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

(Continued)

CAUTION: (Continued)

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 or washing the car to help reduce the risk of personal injury.

VACUUM POWER BRAKES

If the engine stops, do not pump the brakes. The system is designed to stop the car 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 car 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)

See your dealer if pedal height is not normal or there is a rapid increase in pedal travel. This could be a sign of brake trouble.

ANTI-LOCK BRAKES - Option

An anti-lock brake system is available as a factory installed option on this vehicle. If your car has it, it will have an amber "ANTILOCK" light on the instrument panel. This light should come on and go out when you turn the ignition key to Run. If it does not, have the system repaired. In some cases, both the "ANTILOCK" and the "BRAKE" warning light may come on for as long as 30 seconds when the ignition key is first turned to Run. This is normal while the system checks itself out and then both lights should go out. If at this time the "ANTILOCK" light remains on, or this light comes on while driving, park the vehicle as soon as it is safe to do so. Turn the key to Off and restart the engine to reset the anti-lock system. If the amber light does not go out, or comes on again while driving, have the system repaired. If the "ANTILOCK" light is on, the conventional brake system will operate normally but without anti-lock assistance and the car can still be driven.

If the red "BRAKE" light is on, or flashes, it may mean that there is something wrong with part of the brake system. Stop carefully and park the vehicle as soon as it is safe to do so. See "Brake System Warning Light" under "Instrument Panel" in this section.

To get the maximum benefits of the anti-lock feature of this brake system, do not "pump" or rapidly apply and release the brake pedal. The anti-lock brake system is designed to prevent lock-up of the wheels during braking. It automatically releases and reapplies each front wheel brake independently and both rear wheel brakes as a pair. This occurs only during a brake application which would have caused one or more wheels to skid. When this happens, it causes the brake pedal to pulsate and it may push back

against your foot; this is normal. A pulsating brake pedal may be an indication of a slippery road; adjust your driving accordingly. When a brake application is not enough to cause a wheel to lock up, the brakes operate as conventional brakes and the pedal will not pulsate. Remember, even though the car has anti-lock brakes, maintain a safe distance from the vehicle ahead. Following too closely behind another vehicle might not allow enough time to avoid a collision if the other vehicle slows suddenly.

During a brake application which would cause one or more wheels to skid, the anti-lock feature is designed to help you maintain directional (steering) control. However, there still could be some loss of directional control under these conditions. Driving too fast around curves or turns especially on slippery pavement may result in loss of directional control. Drive only as fast as conditions permit; loss of directional control can cause an accident.

Even with a functioning anti-lock brake system, drive, steering, and braking traction are reduced on slippery surfaces. Slow down and adjust your driving to such conditions. See "Braking and Steering Technique" in the introductory part of Section 2.

DISC BRAKE WEAR INDICATORS

Front and rear 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 car is moving but will stop 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 booklet.

PUMP TO SET PARKING BRAKE

This car has a multiple stroke parking brake pedal which must be fully depressed (pumped) more than once to hold the vehicle stationary. The parking brake pedal is located at the driver's far left side.

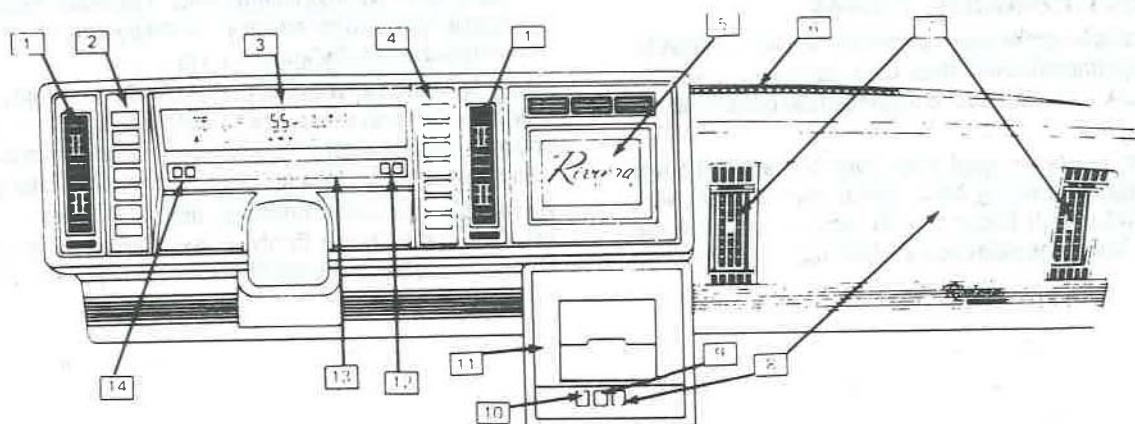
- To set the parking brake, hold the regular brake pedal down while pumping the parking brake pedal several times with your other foot until it becomes firm. Before you leave the driver's seat, follow the steps under "Parking" in this section.

- To release the parking brake, hold the regular brake pedal down while pulling the "Brake Release" handle at the lower left side of the instrument panel. The brake system warning light is designed to remind you if the parking brake pedal is not released when the ignition is on.

Never drive the car with the parking brake on as this will reduce rear brake effectiveness due to overheating, shorten brake life, and may cause permanent damage. If the system does not hold the vehicle securely or does not work as described, see your dealer.

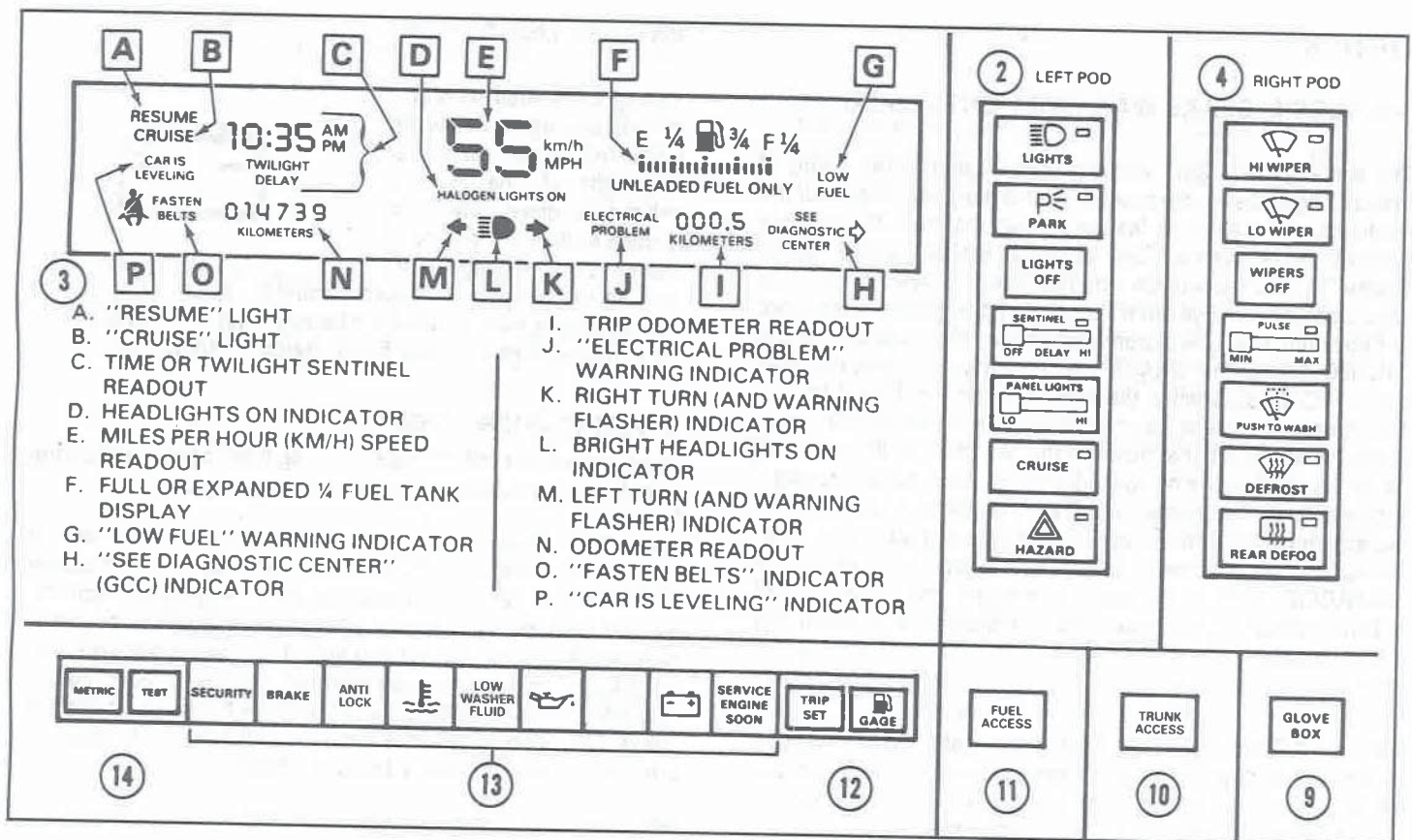
As your car accumulates mileage, more pumps may be needed to set the parking brake firmly. If the number of pumps exceed three-and-one-half, have the brake system adjusted by your dealer.

INSTRUMENT PANEL



- | | |
|--|---|
| 1. VERTICAL VENT + (ON/OFF CONTROL AT BOTTOM) | 6. DEFROSTER VENTS - (DRIVER'S SIDE NOT SHOWN) |
| 2. LEFT POD; HEADLIGHTS +, PARK LIGHTS +, LIGHTS OFF +, TWILIGHT SENTINEL ▲, INSTRUMENT PANEL AND COURTESY LIGHTS, CRUISE + (ON/OFF), HAZARD WARNING FLASHER + | 7. VERTICAL VENT (ON OFF CONTROL AT TOP) |
| 3. ELECTRONIC INSTRUMENT CLUSTER + (SEE FOLLOWING PAGE) | 8. GLOVE BOX AND GLOVE BOX RELEASE - |
| 4. RIGHT POD; HI WIPER +, LO WIPER +, WIPERS OFF +, PULSE (DELAY) WIPER CONTROL, PUSH TO WASH (WINDSHIELD) + DEFROST (FRONT) +, REAR DEFROST + | 9. TRUNK RELEASE - |
| 5. ELECTRONIC CONTROL CENTER (INCLUDES RADIO) + | 10. FUEL DOOR RELEASE - |
| | 11. TAPE PLAYER |
| | 12. TRIP SET AND FUEL GAGE KEY PADS - |
| | 13. INDICATOR LIGHTS; SECURITY ▲ BRAKE -, BLANK, TEMPERATURE - (SYMBOL), OIL +, (SYMBOL), BLANK, BATTERY + (SYMBOL) SERVICE ENGINE SOON - |
| | 14. METRIC AND TEST KEYPADS - |

+ STANDARD ▲ OPTIONAL



LIGHTS

"ANTILOCK" BRAKE WARNING LIGHT - Option

The amber "ANTILOCK" warning light located in the group of indicator lights below the speedometer is designed to monitor the readiness of the anti-lock feature on cars that have the optional anti-lock brake system. See "Anti-lock Brakes" under "Brake System" in this section. On cars that have the system, this light should come on and go out when you turn the ignition key to Run; if it does not, have the system repaired. In some cases, both the "ANTILOCK" and the "BRAKE" warning light may come on for as long as 30 seconds when the ignition key is first turned to Run. This is normal while the system checks itself out and then both lights should go out. If at this time the "ANTILOCK" light remains on, or this light comes on while driving, park the car as soon as it is safe to do so. Turn the key to Off and re-start the engine to reset the anti-lock system. If the amber light does not go out, or again comes on while driving, have the system repaired. If the "ANTILOCK" light is on, the conventional brake system will operate normally but without anti-lock assistance and the car can still be driven.

If the red "BRAKE" light is on, it may mean that there is something wrong with part of the brake system; stop carefully and park the car as soon as it is safe to do so and see the information on the "Brake System Warning Light" that follows this.

BATTERY LIGHT

This light is located in the strip of indicator lights below the instrument panel cluster, to the right of the steering column. It glows when the ignition switch is turned on; if it doesn't, and the engine isn't running, the bulb is burned out and must be replaced. If it stays lit with the engine running, the car's battery is not charging properly. Take the car to your nearest Buick dealer to find out the cause.



BRAKE WARNING LIGHT

The system has a red "BRAKE" warning light located in the strip of indicator lights below the instrument panel cluster.

For a bulb check, see "Test" keypad under "Miscellaneous Controls" in this section. 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" light is also intended to alert the driver if the brake fluid in the system is below the correct level. (If the light flickers irregularly, stays on, or comes on, it may indicate a low brake fluid level.)

See your Maintenance Schedule booklet 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. (See "Consumer Information, Vehicle Stopping Distance" in the "Specifications" section of this manual.)
 - 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 the car towed to the nearest dealer for repair.
- Continued driving without necessary repairs could be dangerous.

BRIGHT HEADLIGHT BEAM

A light located below the digital speed readout glows to let you know when your car's bright headlights are on.



"CAR IS LEVELING" LIGHT

This light will come on to let you know your car is leveling itself to the current load. This light is located to the left of the digital time display in the instrument cluster. When your car is leveled, the light will go out. See Automatic Level Control in this section.

COURTESY AND DOOR WARNING LIGHTS

The lights on the door armrest, under the instrument panel, on the rear of the console, and between the sunvisors turn on when any door is opened. They may also be turned on by sliding the panel lights lever to "HI."

"CRUISE" LIGHT

With Electronic Cruise Control, a light appears on the instrument panel to let you know when the car's Cruise Control speed is set. See "Electronic Cruise Control" in this section.

DISPLAY ON ENTRY

When you use the outside door handle to open the door, and you get in the car, the instrument panel cluster, indicator lights, and Electronic Control Center will run through a display pattern. This is the only time that the greeting "Riviera by Buick" will show. See "Test" keypad under "Other Controls and Features" in this section for instrument panel cluster and indicator lights testing.

"ELECTRICAL PROBLEM" WARNING LIGHT

If the words "ELECTRICAL PROBLEM" light up at the left of the trip odometer, an electrical problem has been detected. The light may come on in response to the Instrument Panel Cluster or the Electronic Control Center not working. Have the system serviced as soon as possible.

ENGINE COOLANT TEMPERATURE LIGHT

This light is located in the strip of indicator lights below the instrument panel cluster and should 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 the light does not come on during this check, have it repaired promptly. If



the light comes on at any other time, see "Engine Cooling System Overheating" in Section 3.

CAUTION: If the Engine Coolant Temperature light or display shows an overheat condition or you have other reason to suspect the engine may be overheating, continued operation of the engine (other than as explained in Section 3) even for a short time may result in a fire and the risk of personal injury and severe vehicle damage. Take immediate action as outlined under "Engine Cooling System Overheating" in Section 3.

"FASTEN BELTS" LIGHT

This light, located to the left of the digital odometer readout in the instrument panel cluster, glows to remind you to fasten your safety belts. It will stay on four to eight seconds after start-up. See "Safety Belt Reminder" in Section 1.



HAZARD WARNING FLASHER

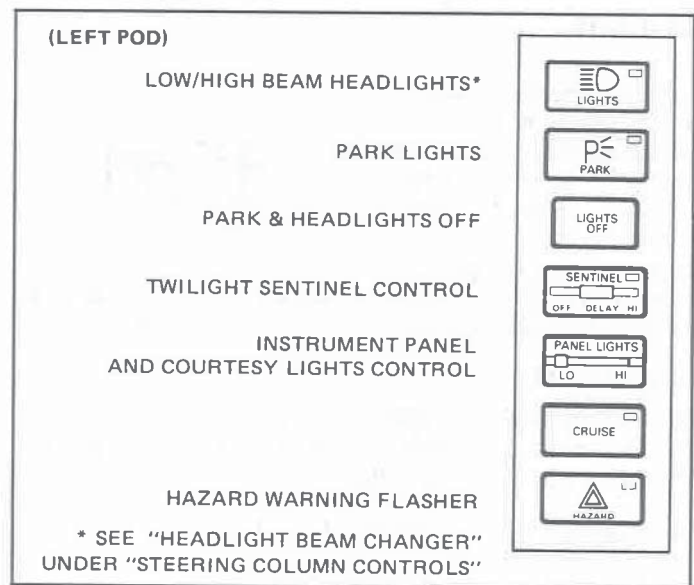
The Hazard Warning Flasher is covered in Section 3.

INSTRUMENT PANEL LIGHTS

The instrument panel lights turn on with either the parking lights or the headlights. Brightness of the instrument panel lights is changed by sliding the Panel Lights lever to "HI" or "LO" for brighter or dimmer respectively. This control also varies backlighting brightness for the shift indicators and the power mirror, seat, and window controls. Also, the brightness of the Electronic Control Center can be varied apart from the rest of the instrument panel.

LIGHT SWITCH

The light switches are in the left control pod. To turn on full headlights, press firmly on the top touch pad (LIGHTS). A light will appear in the right corner of the pad and the words "Halogen Lights On" will light up under the speed readout in the instrument panel cluster. To turn on the parking lights only, press the touch pad labelled "PARK". A light will appear in the right corner of the pad. To switch off either set of lights, press the "LIGHTS OFF" touch pad. See "Headlight Beam Changer" in this section. Only the two inner halogen lamps should be illuminated on high beam. The new halogen lamps in the composite style headlights produce higher illumination than previous headlamps.



"LOW FUEL" WARNING LIGHT

The "Low Fuel" warning light is located to the right of the fuel gage readout in the instrument panel cluster. It glows when the fuel level is down to about 1/8 of a tank or less. Also see Electronic Control Center "DIAGNOSTIC" section.

OIL LIGHT

This light is located in the strip of indicator lights below the instrument panel cluster. It should light when the ignition is turned on and the engine is not running. It should not be lit when the engine is running. If it comes on and stays on, check the engine oil level. If the oil level is within the operating range, see your Buick dealer immediately.



"RESUME" LIGHT

The word "RESUME" will light up whenever the electronic cruise control is on but temporarily disengaged from a set speed. See "Electronic Cruise Control" in this section.

"SEE DIAGNOSTIC CENTER" LIGHT

This light will go on when a problem has been detected in one of the car's systems. Refer to the Electronic Control Center to find out more about it. See Electronic Control Center section.

"SERVICE ENGINE SOON" LIGHT

All cars sold in the United States (and some cars sold in Canada) have the Computer Command Control System.

Cars with the Computer Command Control System include a "SERVICE ENGINE SOON" light (in the strip of indicator lights below the instrument panel cluster) 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 "SERVICE ENGINE SOON" 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 car is driveable, and does not require towing, see your Buick dealer as soon as possible for service.

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 driveability. See also "Computer Command Control System" in Section 5.

TWILIGHT SENTINEL - Option

The Twilight Sentinel control on the left control pod serves two purposes: 1) It sets the headlights to go on automatically in darkness or twilight and 2) It controls the amount of time the headlights are left on (Delay) after the ignition has been turned off.

Setting Headlights on Twilight Sentinel

To set the headlights to come on automatically, simply move the Sentinel lever from "Off" until you feel a click. A light will come on in the right corner of the control to show that it's on.

Setting Headlight Delay

When you move the Sentinel lever from "OFF," the time-of-day display on the left side of the instrument panel cluster will be

replaced by a "seconds" readout. This timer will readout up to 180 seconds (three minutes) when the Sentinel lever is at "HI." Move the lever until the timer reads the amount you want. After you set headlight delay, the timer readout will be replaced by the time-of-day. The timer will not display again until the Sentinel lever is moved.

DIGITAL CLOCK

The time of day is displayed on the left side of the instrument panel cluster. See the Electronic Control Center section for instructions on setting the clock. Also see "Twilight Sentinel" in this section.

INSTRUMENTS

GAGES

For gages that appear on the Electronic Control Center see that section in this manual.

FUEL GAGE

The fuel gage displays the amount of fuel in the tank with a bar graph in 1/4 and 1/20 measurements. You may push the "Gage" keypad when the tank is below 1/4 full. The fuel gage will now expand from "E" (empty) to 1/4, to show a close-up view of remaining fuel. When the fuel tank is empty, only the last part of the gage will stay



lighted. Also, refer to "Diagnostic" and "Trip Monitor" in the Electronic Control Center section for fuel related information.

SPEEDOMETER/ODOMETER

The speedometer lets you know how fast the car is traveling. It is located above the steering column in the center of the instrument cluster.

The odometer is to the left It keeps track of the total mileage driven and accumulated on this car.

TAMPER-RESISTANT ODOMETER

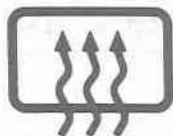
Federal law prohibits tampering with car odometers to alter accumulated mileage. For your protection the odometer of this car is designed with tamper-resistant features to indicate tampering. The odometer will display the word "ERROR" instead of the mileage if tampering has occurred or if the odometer system needs servicing.

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 car mileage, add the mileage shown on the label to the current odometer reading. If the replacement odometer can be set to the same mileage as the prior odometer, no door frame label is needed.

MISCELLANEOUS CONTROLS

ELECTRIC REAR WINDOW DEFOGGER

Push the "Rear Defog" switch (located at the bottom of the right control pod) to "On." The rear window will begin to heat and clear away any moisture. After the window has heated for five to ten minutes, the switch shuts itself off. You can also shut off the defogger by pushing the switch to "Off" or by turning off the ignition. While the defogger is in use, a light glows to show that it's on.



INSTRUMENT PANEL CLUSTER KEYPADS

There are four keypads below the right and left sides of the instrument panel cluster, two on each side. Each keypad operates an instrument panel cluster function.

"Metric" Keypad

Push in the "metric" keypad and the speedometer, odometer, and trip odometer will change from miles per hour to kilometers per hour or vice versa. The metric keypad also changes readouts in the Electronic Control Center. See that section for more information.

"Test" Keypad

When you push and hold in the "Test" keypad with the transaxle in Park or Neutral, the instrument panel cluster and indicator lights

will light up in a specific pattern. This tells you if the bulbs, numbers, words, and bar graph segments are working. Look at the picture of the instrument panel cluster and indicator lights at the beginning of the instrument panel section. Compare them to your car as the cluster and indicators run through the test pattern.

"Trip Set" Keypad

Push this keypad and the trip odometer will reset to 000.0.

"Gage" Keypad

When you push this keypad the fuel gage bar graph expands from E (empty) to 1/4 full. See "Fuel Gage" under "Gages" in this section.

ELECTRIC "TRUNK ACCESS"

You can open the trunk from inside the car by pushing the "Trunk Access" keypad in front of the automatic transaxle shifter. The key must be in the "Run" (On) or Accessory position or the retained accessory power feature must be activated for the trunk release to work. The trunk lid also unlocks in the usual manner - using the oval-head key.

"FUEL ACCESS"

Press this keypad, located in front of the automatic transaxle shifter, and the fuel fill door will automatically open. The key must be in "Run" (On) or Accessory. See "Fuel Door" in Section 7 for more information.

"GLOVE BOX"

To open the glove box door, press the "Glove Box" keypad in front of the automatic transaxle shifter. The key must be in "Run" (On) or Accessory or the retained accessory power feature must be activated.

HEADLIGHT ON REMINDER

The headlight tone advises you that either the parking lights or the headlights are on. It sounds only when the ignition switch is turned to the "Off" or "Lock" position. The tone can be shut off by closing the driver's door or inserting key into ignition switch.

When the headlights are under Twilight Sentinel Control (if equipped), the headlight reminder will not sound.

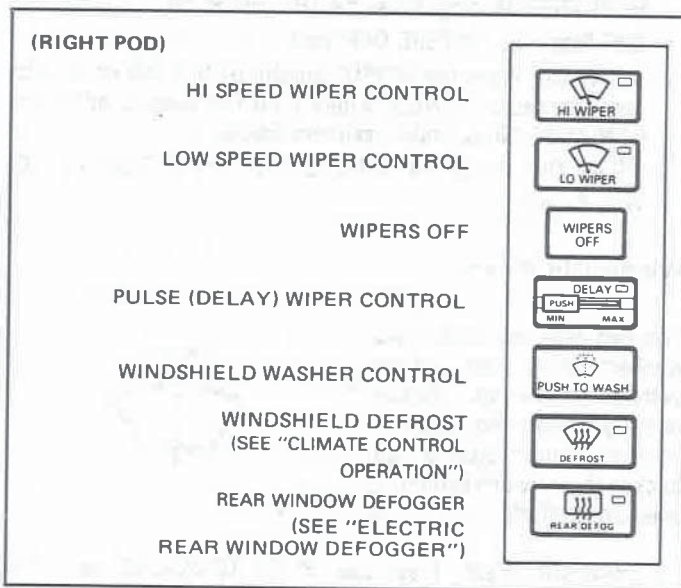
LIGHTER

To use the lighter, press in on the lighter knob located in the console between the seats. It will pop out when it is hot.

RETAINED ACCESSORY POWER

See Electronic Control Center section.

WIPERS AND WASHERS



Windshield Wiper With Low-Speed Delay

The windshield wiper and washer can be operated with the ignition lock in "RUN" or the retained accessory power feature activated.

- **LOW-SPEED Wiping:** Press the "LO WIPER" pad.
- **HIGH-SPEED Wiping:** Press the "HI WIPER" pad.
- **OFF:** Press the "WIPERS OFF" pad.
- **DELAY ON:** Press the "PUSH" button. Slide it left or right to vary the pause between wipes from 0-1 second minimum (MIN) to 15-20 seconds maximum (MAX).
- **DELAY OFF:** Press the "WIPERS OFF," "HI WIPER," or "LO WIPER" pad.

Windshield Washer

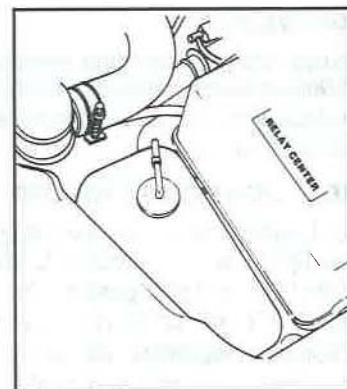
You can use the windshield washer while the wiper system is off or already running. When the cycle is done, the wiper system will go back to the previous setting or will turn itself off.



- **PROGRAM Wash:** Press the "PUSH TO WASH" pad. The washer and wiper systems provide several wash/wipe cycles. This will clean the windshield under most conditions.
- **DEMAND Wash:** Press and hold the "PUSH TO WASH" pad until as much fluid as you wish is on the windshield. Do not continue to use the washer if fluid stops prior to release.

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 or lower molding.
- Check the washer fluid level regularly. Do not try to operate the washer system when the fluid container is empty.
- 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 reservoir. 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.
- Check the fluid level often when the weather is bad.
- Don't fill the reservoir more than 3/4 full in the winter (or extremely cold weather, whichever is applicable). You must allow for expansion if the temperature falls low enough to freeze the fluid.



DELCO SOUND SYSTEMS

Your car may have one of several optional Delco GM Electronically Tuned Receiver (ETR)[®] Sound Systems. (To listen to any system, the ignition must be in "Run" or "Accessory.")

The Retained Accessory Power feature also allows the radio to be on with the ignition off. See Electronic Control Center section.

GENERAL INFORMATION

Speakers

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

FM and FM Stereo

FM broadcasts are "line-of-sight" from station antenna to receiving antenna. The range is often limited to 25 miles (40 km) or less for steady reception. Tall buildings or hills may cause flutter or noise which is not the fault of the radio.

AM Stereo

AM stations broadcasting C-QUAM[®]* stereo may be received in stereo if the receiver has this feature. Switching to stereo

improves fidelity but may increase noise on weaker stations. Switching stereo "off" may improve the reception in this case.

*Most AM stereo stations across the country broadcast in C-QUAM[®], but some do not. Check with your local stations for compatibility in your area.

*C-QUAM[®] is a registered trademark of Motorola, Inc.

Stereo Indicator

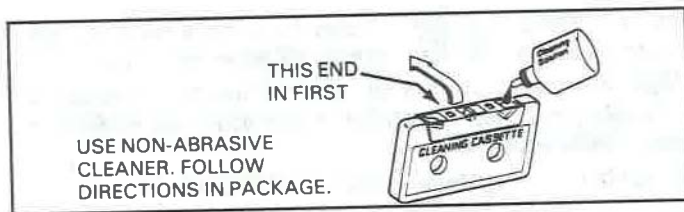
An indicator lights whenever a stereo broadcast is being received. Stereo (dual channel) sound is more realistic.

TAPE AND TAPE PLAYER CARE (If So Equipped)

Optimum performance can be maintained by cleaning the internal tape head, capstan, and pinch roller periodically (approximately each 100 hours of operation). This can be done by inserting a nonabrasive cleaning cassette in place of the music tape.

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.

Take out the cassette cartridge and close the door when not in use to prevent possible damage to the tape player and to the cassette. For best results, 120 minute tapes are not recommended.



CONCERT SOUND SYSTEM

This system is a special blend of speakers selected and mounted to create a concert sound. Use radio controls as described under "Electronic Control Center." A woofer and separate tweeter are located in each door. High response speakers have been placed in the package shelf. Altogether, you have six speakers which create a stereo effect in any seat in the car. Once you balance the sound effects in front, the sound is right in the back.

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 car operation. Expenses incurred to protect the car's systems from interaction with added mobile

communication systems are not the responsibility of Buick Motor Division.

Citizen Band (CB) radios, garage door openers, and GM Original Equipment Manufacturer (OEM) cellular phones normally will not affect car operation.

ANTENNA

The power antenna is controlled by the radio. When the radio is on, the antenna will go up. When the radio is turned off, either by the on/off control or by turning the ignition switch to the off position, the antenna is designed to go down.

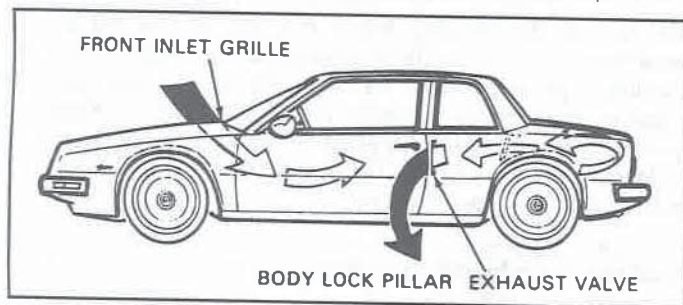
To Clean and Lubricate Power Mast:

1. Raise antenna to full mast extension.
2. Dampen clean cloth with mineral spirits and wipe mast sections to remove dirt.
3. Retract and extend antenna to check that mast sections are clean. Repeat step 2 if needed.
4. Dampen clean cloth with light sewing machine oil and wipe each mast section evenly to distribute oil.
5. Retract and extend antenna to check for ease of operation.

VENTILATION SYSTEM

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

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



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 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.

AIR OUTLETS

The air flow can be aimed up or down or split by moving one or both of the tabs in the middle of each vent. There is an on/off switch at the bottom of each vent to control air flow.

ELECTRONIC AIR CONDITIONING

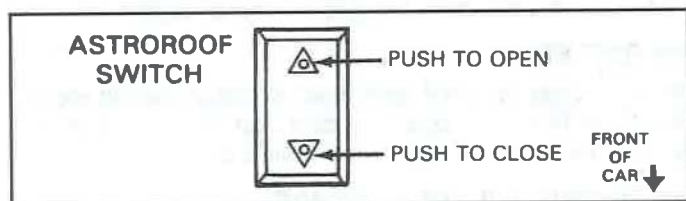
See "Climate" in the "Electronic Control Center" section.

OTHER CONTROLS AND FEATURES

ASTROROOF - Option

The optional Astroroof has a safety glass panel that can be opened as outlined below. The sunshade can be opened or closed by hand.

The sliding panels are controlled by a switch on the front center area of the roof. The ignition switch must be in "Run" position to move the panel or the retained accessory power feature must be activated.



To open, press the rearward side of the control switch. (This will also open the sunshade.) To close, press the forward side of the switch. (The Astroroof sunshade will stay open, but can be closed by hand.) The sliding glass panel can be left partly open by releasing the control switch while you are opening or closing the panel.

As the panel opens, an air deflector will automatically pop up to help assure a smooth flow of air over the roof. As an added feature, the rear of the glass panel can be moved to a venting position by

holding the switch forward. To close the glass again, momentarily press the switch rearward.

The Astroroof cannot be opened or closed manually if your car has an electrical power failure.

AUTOMATIC LEVEL CONTROL

This feature automatically keeps the rear of the car at a predetermined level position as the load changes. You don't need to adjust anything nor must the engine be running; just load or unload your car and the Automatic Level Control will make up for the change in weight within its limits. Do not load your car beyond the load limits shown on the Tire Placard. See "Car Is Leveling" under "LIGHTS" earlier in this section.

CENTER HIGH-MOUNTED STOP LIGHT

The high level stoplight is located in the center of the car above the level of the regular brake lights. It comes on when you press the brake pedal.

ELECTRIC TRUNK PULL-DOWN - Option

To take advantage of this feature, let the trunk lid drop to within an inch or two of closing. The trunk lid will then pull itself down into a fully closed and locked position. Be sure your fingers and clothing are out of the way.

ENGINE BLOCK HEATER - Option

The 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.

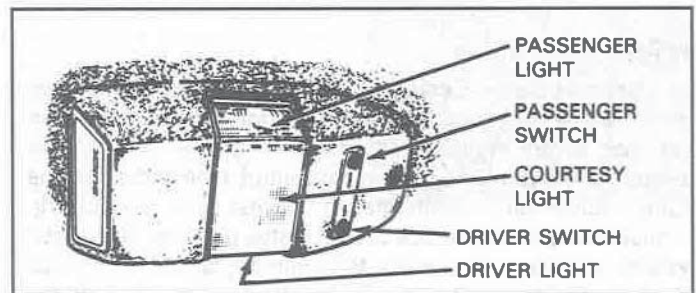
To Use The Block Heater:

1. Open the hood.
2. Unwrap the electrical cord from the brace on the passenger's side of the engine area. (After using the block heater, be sure to restore the cord properly 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.

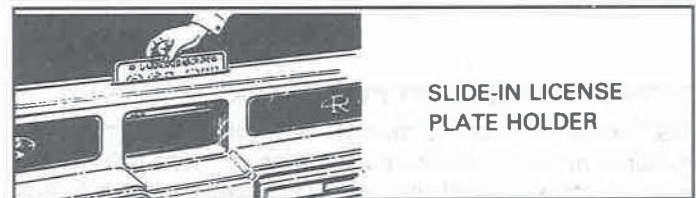
Outside temperature, oil viscosity, etc., will affect how long the block heater should remain plugged in. Contact your Buick dealer for advice on the conditions in your area.

FRONT COURTESY AND READING LIGHTS



These lights are between the sunvisors. There are separate switches for the driver and front passenger reading lights. Courtesy lights are turned on and off with the opening and closing of the doors.

SLIDE-IN REAR LICENSE PLATE HOLDER



Open the trunk lid. Slide your license plate into the slot. Closing the trunk lid prevents theft of the plate.

ELECTRONIC CONTROL CENTER

INTRODUCTION

The Electronic Control Center is an integrated information system which provides drivers with fingertip control of more information than ever before available. This feature - unique to the 1988 Riviera - allows you to adjust climate control, tune and adjust the radio, display engine information, access and update trip computer data, scan the operational status of all car diagnostic systems, and view and update the reminder calendar. Optional telephone and compass functions are also accessed through the Electronic Control Center.

CAUTION: For safety reasons, do this with the car parked and key "ON" (motor does not have to be running). We recommend that you become thoroughly familiar with the Electronic Control Center before entering traffic.

RETAINED ACCESSORY POWER FEATURE

This feature lets you use several electrical systems after the ignition is turned off, before a door is opened. If the radio is left on when you switch off the ignition, the system automatically shows the RADIO page. Then, in thirty (30) seconds the screen goes blank but the radio continues to work. Other systems which can be operated are:

- Power Windows
- Power Sun Roof
- Windshield Wiper and Washers
- Deck Lid Release
- Fuel Door Release
- Glove Compartment Door Release
- Glove Compartment Lamp

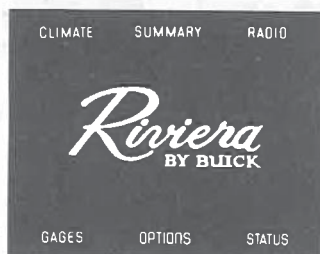
When either door is opened or the ten (10) minute timeout period is completed, power to all of the above systems is shut off.

ELECTRONIC CONTROL CENTER SCREEN

The Electronic Control Center will make the operation of your 1988 Riviera's many systems easier and more efficient through computerized control.

From one location, you have the ease of fingertip control to display and/or operate the radio, climate control, gages, trip monitor, diagnostic messages, and clock/calendar.

The system comes on and the Logo page (Figure I-1) appears for several seconds when you enter the car through the driver's door and close the door. After the ignition is turned to the "Run" position, the Logo page will fade and be replaced by the SUMMARY page. See the SUMMARY section for further information.



I - 1

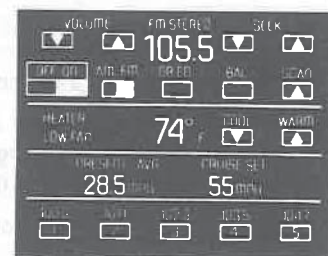
SYSTEM SWITCHING

Keys may be referred to as switches or pads in some publications. The system switches are called either Hard Keys or Soft Keys.

When you touch a hard key, a small light on the black border will come on and stay on as long as you are displaying that hard key's information.

Hard keys are any of six keys on the black border - CLIMATE, SUMMARY, RADIO, GAGES, OPTIONS, and STATUS. When hard keys are touched, you will hear a double beep, unless the system tone has been turned off.

Soft keys are on the screen. See examples on Figure I-2. The number of soft keys will vary with the page. When you touch a soft key, you may hear either a double or single beep (unless the system tone has been turned off) and the page or a setting may change.



I - 2

When you touch any soft key with an arrow, the arrow will darken and the surrounding area lighten. This lets you know the system is responding to your command. When you release the soft key, the arrow lightens and the surrounding area darkens.

Soft keys without arrows lighten when touched letting you know the system is responding to your command. The soft key may or may not stay lighted.

SELECTING PAGES

When you touch a hard key, a main page will appear. When you touch a soft key and a new page appears, this page is called a subpage.

HARD KEYS AT A GLANCE

- The SUMMARY page is shown after ignition is turned on. You can control basic systems from the SUMMARY page.

- You can set all heating and air conditioning functions on the CLIMATE page. You can control the defrost mode from this page as well as from a button on the right switch pod.
- The STATUS page provides the means to set the clock and calendar, adjust screen brightness, turn the system tone (beep) on or off, and access the diagnostic system.
- The GAGES page shows you engine speed (RPM), battery voltage, coolant temperature and engine oil pressure.
- The RADIO page has the major radio and tape player functions.
- The OPTIONS page allows access to the trip monitor and reminder pages, and optional compass and telephone pages.

SCREEN CARE

To prevent damage to the screen, avoid touching with any sharp or hard object. Clean the screen with GM Glass Cleaner, Part #1050427, which is available from your dealer.

HOW TO USE THIS SECTION

This section is set up so all controls on each page or subpage are described before moving to the next page or subpage.

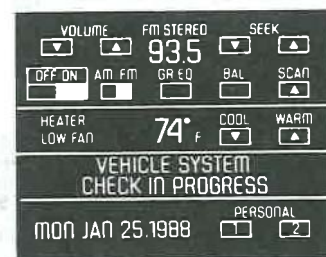
Subpages of each system follow that system's page. If you accidentally touch a soft key and a subpage appears, go back to the main page by touching the hard key. Most pages and subpages contain a RETURN soft key. Touch this soft key generally returns the previously viewed page or subpage to the display.

Measurements can be switched from Metric to English (or vice versa) by pressing the Metric button on the Instrument Panel Cluster.

The figures used in this section are representative depending on the option(s) you have chosen.

SUMMARY PAGE

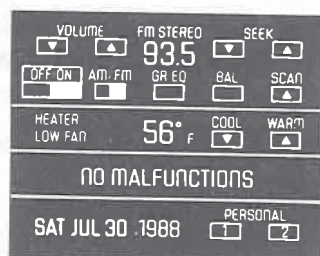
With the ignition switch turned to the "Run" position, the Summary page gives you a status check of the car (see Figures S-1 and S-1A) and lets you control basic systems. You will be given information about the Radio, Climate Control System, Vehicle Condition, and will be given the Current Date (see Figure S-2).



S-1

Summary page can be shown two ways:

1. By turning the ignition switch to the "Run" position.
2. By touching the hard key on the black border of the ECC (see Figure I-1), if the ignition switch is already in the "Run" position and another page is shown.

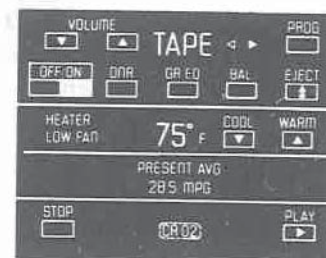


S-1 A

The Summary page has four areas (see Figure S-1):

- Radio Functions - shows Radio ON/OFF, AM/FM and station selection, and soft keys for basic controls.
- Tape Functions - with the tape player on, radio controls are replaced by tape soft key controls (see Figure S-2).

- Climate Control Function - shows the Climate Control System temperature setting, and mode and fan settings, and has soft keys to change temperature settings and to turn system ON or OFF.



S-2

- Diagnostic Message - shows VEHICLE SYSTEM CHECK IN PROGRESS followed by NO MALFUNCTIONS. If a malfunction exists the appropriate diagnostic message will appear. The NO MALFUNCTION message is followed by AVG MPG or AVG MPG/CRUISE SET.
- Calendar and PERSONAL soft keys are shown when the transaxle is in Park, Neutral or Reverse or when the optional tape player is on or when the radio is off. When the transaxle is in Drive with the radio on, five radio preset keys are displayed.

SUMMARY PAGE - RADIO CONTROLS/FUNCTIONS

The Radio controls/functions are:

1. VOLUME
2. OFF/ON
3. AM/FM
4. SEEK
5. TONE or GR EQ and BAL
6. SCAN



S-4

VOLUME has two soft keys. Touching the appropriate soft key will raise or lower volume. Touch both soft keys at the same time for mute (no sound). To restore sound, touch both soft keys at the same time again.

If you turn the ignition switch "Off" and then turn it to "Run," the volume will remain at the last level set.

OFF/ON is one soft key. Your selection is lit.

AM/FM is one soft key. Your selection is lit.

SEEK has two soft keys. Touch the appropriate soft key and the station frequency increases or decreases to the next strongest signal.

SCAN has one soft key. Touch the key to sample each station being received for a few seconds. To stop scanning, touch the soft key again.

TONE, GR EQ, or BAL each have a soft key. When you touch these soft keys, you are switched to the appropriate RADIO subpage.

For an in-depth description of the radio and tape player functions, see the RADIO section.

SUMMARY PAGE - CLIMATE CONTROL FUNCTIONS

The soft keys are used to turn on the Climate Control System and increase or decrease temperature.



S-5

If Climate Control was left on in any setting except DEF when you turned off the ignition, when you start the car again, that previous Climate Control setting will return. AUTO and AUTO FAN will replace the DEF setting on a restart. (See Figure S-6.)

Any time the Climate Control has been turned off an ON soft key will appear (See Figure S-5). If you touch that soft key, the previous temperature setting will appear (See Figure S-6) and the system will run in AUTO mode and AUTO fan.



S-6

See CLIMATE section for description and operation.

SUMMARY PAGE - DIAGNOSTIC MESSAGES

This shows the message MALFUNCTION or NO MALFUNCTION. If there is a malfunction the appropriate diagnostic sub-page will appear.

After a time-out period the display in the NO MALFUNCTION area will be replaced. The new display shows PRESENT AVG MPG with the CRUISE SET speed if instrument panel RESUME light is on. See Figure S-8.

For a complete description of the diagnostic procedures, see the DIAGNOSTIC section.



S-7



S-8

SUMMARY PAGE - CALENDAR AND PERSONAL 1 AND 2 FUNCTIONS

This display is available with the transaxle in Park, Neutral or Reverse or with the tape player and radio off. This display shows:

- Day of the week
- Date (Month, Day and Year)
- PERSONAL 1 and 2

Day of the week and date can be changed by touching the clock set soft key on the STATUS main page. The PERSONAL soft keys allow customization of entertainment and climate settings for two specific preferences. For example, touching PERSONAL 1 restores all radio and climate memory 1 settings. See RADIO and CLIMATE page sections for Memory Setting information.



S-9

When the transaxle is shifted to any drive range, with the radio on, this display changes to five radio preset soft keys. See Radio Section for information on changing preset settings.



S-10

STATUS

This page is shown when the STATUS hard key is pressed with the ignition switch turned to the "Run" position.



A-20

SET CLOCK

To set the clock and date, press the SET CLOCK soft key. then, touch the appropriate arrow under CURSOR until the figure to be reset is highlighted. Press the numbered keys to obtain the desired setting. When finished press RETURN to again view the STATUS page.



A-21

SET BRIGHTNESS

To adjust brightness of the display, touch the SET BRIGHTNESS soft key. The parking lights must be on and the car must be in a dark area to change this setting.



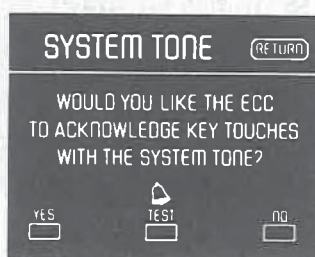
A-22



A-23

SYSTEM TONE

Touching the SYSTEM TONE soft key causes this subpage to be shown. If the tone is turned off a double tone (beep) will still be sounded if a diagnostic warning message or failure interrupts the normal screen display, or if an overspeed alarm setting is exceeded.



A-24

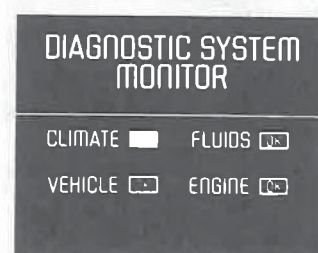
DIAGNOSTIC

Pressing the DIAGNOSTIC soft key produces this subpage, it has four soft keys:

- CLIMATE
- VEHICLE
- FLUIDS
- ENGINE

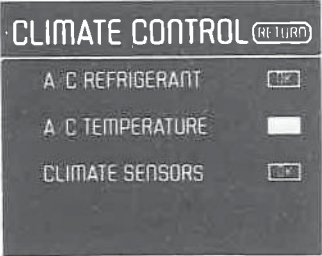
You can go back to this DISPLAY by pushing the RETURN soft key on any of the above mentioned subpages.

If there is a problem/condition in any of the four diagnostic categories, the soft key for that category will have "OK" replaced by a blinking light. In this illustration a problem/condition is indicated in the Climate Control System.



S-30

Touching the CLIMATE soft key will display this subpage, with a blinking soft key next to the source of the problem/condition - in this case A/C TEMPERATURE.

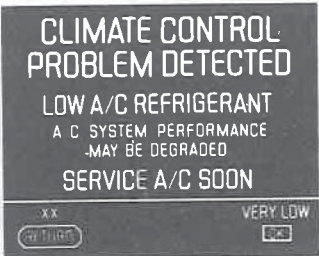


S-32

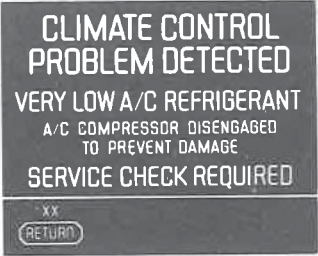
When the A/C TEMPERATURE soft key is pressed, this subpage is displayed. Following are the other subpages for Climate Control System problems/conditions.



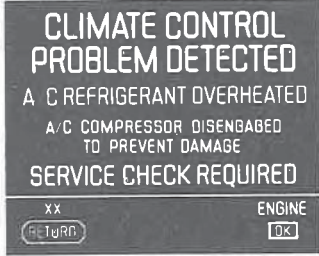
S-33



S-34



S-35



S-36

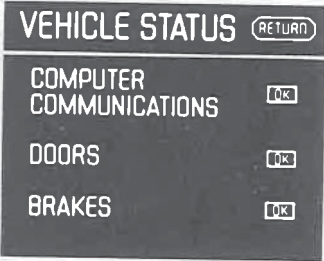


S-37

Diagnostic displays for the other three categories function in a similar manner, and are shown in the following illustrations.



Touching the VEHICLE soft key on the DIAGNOSTIC SYSTEM MONITOR subpage will display this subpage. Subpages in this category of the diagnostic system appear on the next page. Certain diagnostic subpages are specific for optional equipment which may not be on your car.



S-40





S-41



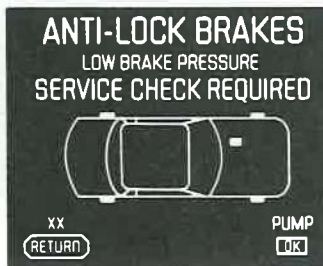
S-42



S-43



S-44



S-45



S-46

2-46

When the FLUIDS soft key is pressed on the DIAGNOSTIC SYSTEM MONITOR subpage, this subpage will appear. The diagnostic messages involved in this part of the diagnostics are on the next page.



S—50

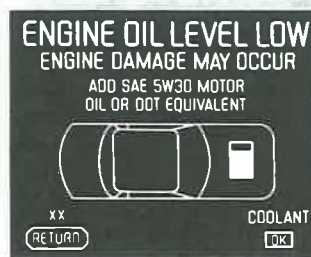
2-47



S-51



S-52



S-53



S-54



S-55



S-56

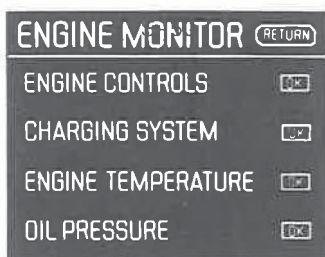


S-57

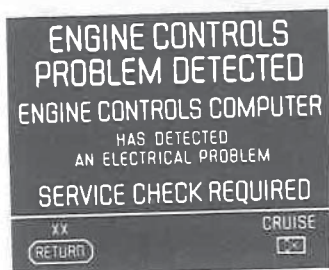


S-58

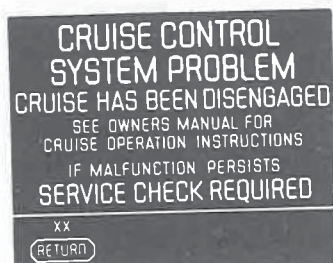
This subpage is displayed when the ENGINE soft key is touched on the DIAGNOSTIC SYSTEM MONITOR subpage. Engine diagnostic messages are illustrated on the next page.



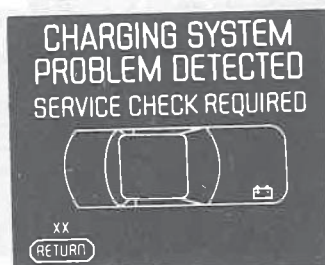
S-60



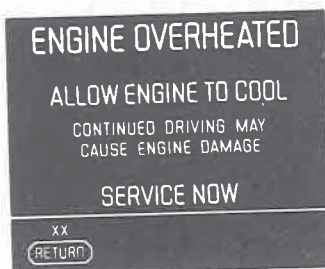
S-61



S-62



S-63



S-64



S-65

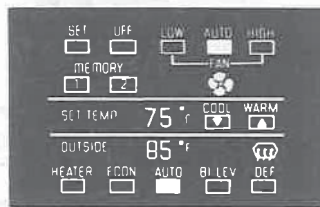
2-50

CLIMATE PAGE

To view this page touch the CLIMATE hard key.

In the AUTO settings, the Climate Control System is fully automatic. With the system set for your personal comfort, the volume, temperature, and outlet areas of circulated air are electronically controlled.

Other settings can be manually selected.



C-1

FAN SOFT KEYS

The fan soft keys are:

1. LOW
2. AUTO
3. HIGH

When any of these soft keys are touched, you hear a single tone, (unless system tone is turned off) the soft key lights, and the following happens:

LOW - The fan runs at constant low speed.

AUTO - The system chooses the fan speed.

HIGH - The fan runs at constant high speed.

Under certain conditions, the fan operation may be delayed.

MEMORY SOFT KEYS

The memory soft keys are:

1. SET
2. MEMORY 1
3. MEMORY 2

Set fan speed, temperature and mode as desired. Then, touch SET soft key and one of the MEMORY soft keys. The next time that MEMORY soft key is touched, the system will revert to the stored climate settings. Touching the corresponding Personal soft key on the Summary Page will also produce those climate settings.

MODE SOFT KEYS

The Mode soft keys are:

1. OFF
2. HEATER
3. ECON
4. AUTO
5. BI-LEV
6. DEF

When any of these soft keys are touched, you will hear a single beep, (unless the system tone is turned off) the key lights, and the following happens:

- OFF - Heating and/or cooling are off, but ventilation still occurs (see "Ventilation System").

- **HEATER** - The air coming into the passenger's compartment is directed to the floor. All incoming air is heated, and the in-car temperature increases to the setting you choose, unless what you choose is below the outside temperature. The fan speed adjusts itself unless you press the LOW or HIGH soft key.
- **ECON** - The fan speed and the air outlet positions adjust themselves. The LOW or HIGH soft keys override automatic fan. The compressor does not run in this mode. The system warms the air to the temperature you choose but does not cool the air colder than the outside temperature.
- **AUTO** - The system cools or warms the air to the temperature selected. The system will continue to regulate itself to the selected temperature using different fan speeds and air inlet and air outlet positions. To override the fan speed, touch either the HIGH or LOW soft key.
- **BI-LEVEL** - Air enters the passenger compartment through the heater and air conditioner outlets. This setting cools or warms the air to the temperature selected. To override fan speed, touch the HIGH or LOW soft key.
- **DEF** - Most of the air is directed to the windshield. The fan turns on to the HIGH speed. The fan speed can be changed by touching the LOW or AUTO soft key.

A DEF key pad is also located on the right pod. A light will glow in the key pad when DEF is on. This button lets you turn DEF on or off without going into the climate control system. When the DEF is turned off previous climate mode and fan settings are restored.

INSIDE SET TEMPERATURE

This function has two soft keys and a display. The soft keys are:

1. COOL
2. WARM

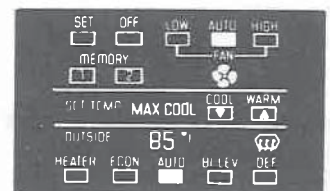
In all modes except off, the selected Climate Control System temperature appears to the left of the COOL soft key (See Figure C-1).

When the COOL or WARM soft key is touched, the arrow inside the soft key darkens, the surrounding area lightens, and the following happens:

COOL - The temperature lowers one degree Fahrenheit or one half degree Celsius each time you touch this key. If held, it lowers by two degrees Fahrenheit or one degree Celsius per second.

The lowest setting is "MAX COOL." The temperature decreases by degrees until you get to "MAX COOL" (See Figure C-2). At "MAX COOL" the in-car temperature will cool to the coolest temperature possible.

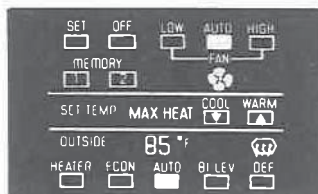
WARM - The temperature rises one degree Fahrenheit or one half



C--2

degree Celsius each time you touch this key. If held, it rises by two degrees Fahrenheit or one degree Celsius per second.

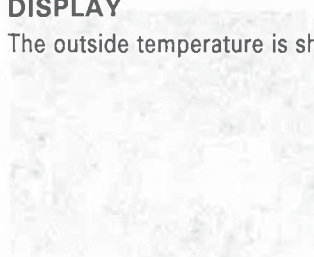
The highest setting is "MAX HEAT." The temperature increases by degrees until you get to "MAX HEAT" (see Figure C-3). At "MAX HEAT" the in-car temperature will heat to the highest temperature possible.



C-3

OUTSIDE TEMPERATURE DISPLAY

The outside temperature is shown above the Mode soft keys.

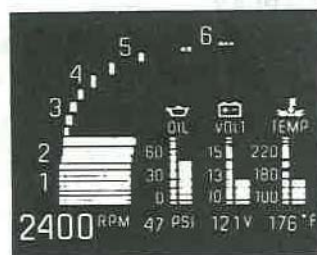


GAGES PAGE

You view this page by touching the GAGES hard key. The GAGES page gives important information about the engine. It includes the Tachometer, Engine Oil Pressure gage, the Voltage Gage, and the Coolant Temperature Gage.

Should a problem occur with battery voltage, coolant temperature, or engine oil pressure, a Diagnostic subpage will appear.

All gages show information as a number and as a graph.



G-1

TACHOMETER

The Tachometer measures engine speed in revolutions per minute (rpm) over a range of 0 rpm to 6000 rpm in 25 rpm increments. The engine should not be operated above 5500 rpm.

COOLANT TEMPERATURE GAGE

The Coolant Temperature Gage shows engine coolant temperature. It appears at the lower right of the page under the international symbol for coolant temperature. When the engine coolant

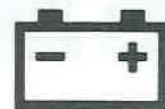
temperature is below 100°F (38°C), the Coolant Temperature Gage will show COLD at the bottom of the graph. When the coolant temperature is between 100°F (38°C) and 220°F (104°C), the temperature will show as a number at the bottom of the graph.

If the display warns that the engine coolant has overheated, immediate action is required to correct the condition. See "Engine Cooling System Overheating" in Section 3.



VOLTAGE GAGE

The Voltage Gage shows battery voltage. It appears under the international symbol for battery charging voltage. Normal voltage range will be between 12 and 15 volts.



OIL PRESSURE GAGE

The Oil Pressure Gage appears under the international symbol for engine oil pressure. The Oil Pressure Gage shows the engine oil pressure over a range of 0 to 80 pounds per square inch (psi) [0 to 530 kilo-Pascals (kPa)].



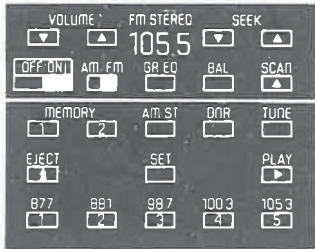
RADIO AND TAPE PLAYER

Radio pages and subpages are representative only. The RADIO pages will differ depending upon the radio option on your car.

RADIO PAGE

Display of this page is obtained by touching the RADIO hard key.

The Radio and tape player functions/controls are illustrated in Figure R-1.



R-1

VOLUME

The VOLUME soft keys are used to raise or lower the volume. Touch the appropriate soft key briefly, and the volume rises or lowers slightly. If you hold your finger on either of the soft keys, the volume will continue to increase or lower until you remove your finger from the soft key.

Touch both VOLUME soft keys at the same time for mute (no sound). To restore sound, touch both soft keys at the same time again.

OFF/ON

To turn the Radio On (or Off), touch the soft key. You will hear a single beep (unless the system tone is turned off) and the area under the word ON (or OFF) will lighten. Touch the soft key again and the Radio goes Off (or On) and the area under the word ON (or OFF) will darken.

AM/FM

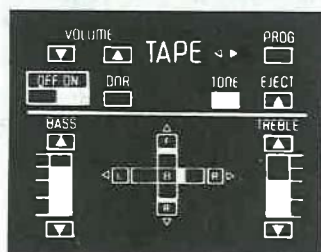
AM/FM soft key works like the OFF/ON soft key. When you choose either the AM or FM band, your choice will appear next to VOLUME soft keys. When the Radio is turned ON, the selected radio station frequency will appear next to the VOLUME soft keys.

TONE OR GRAPHIC EQUALIZER

When you touch the TONE soft key, the soft key will lighten and a subpage will appear.

This subpage has two areas. The top area shows the tape or radio controls. The bottom area shows the bass, balance, and treble controls. To return to the radio page, touch the TONE soft key.

The bass and treble controls are shown in graphic form and can be adjusted up or down by touching the appropriate soft key, or by touching the middle of each bar graph for equal tone.



R-2

If you have a GRAPHIC EQUALIZER, the RADIO and SUMMARY pages have soft keys for GR EQ and BAL. The graphic equalizer can be accessed by touching GR EQ soft key on SUMMARY or RADIO page. To use this feature when the radio or tape is playing:



R-3

Touch the GR EQ soft key. The Graphic Equalizer subpage will appear. To restore the radio page, touch the GR EQ soft key. Adjust the Equalizer to the desired settings by touching the appropriate soft key. Do this for each bar graph. Touch the center of each bar to obtain a flat response.

- 60 Hz and 250 Hz - Adjust bass response.
- 1 kHz - Adjust midrange response.
- 3.5 kHz and 10 kHz - Adjust treble response.

Figure R-3 shows a popular equalizer setting. If there is excessive hiss, reduce treble slightly.

BALANCE OR FADE

BAL (Balance) or FADE is accessed by touching the BAL or TONE soft key on the SUMMARY or RADIO pages.

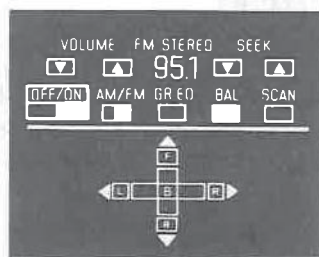
BAL control has five adjustments (see Figure R-4).

1. F - front
2. R - rear
3. L - left
4. R - right
5. B - automatic balance

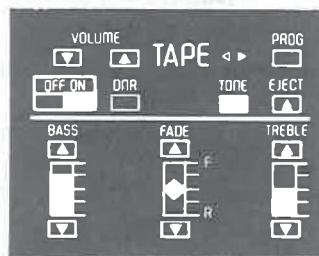
Speaker balance is adjusted by touching one of the lettered soft keys. For example, if you want more sound in the front of the car, touch the "F" soft key.

If you want the sound to be distributed evenly, then touch the "B" soft key in the middle of the graph. This will automatically adjust the sound to all speakers.

FADE, on Bose systems, is similar to BALANCE except sound levels are controlled only for front and rear. Bose design does not require left or right balance. See Figure R-5.



R-4



R-5

STATION TUNING

Tuning can be done in several ways:

- Manually by touching the TUNE soft key on the RADIO main page.
- SCAN soft key operation. This key is available on any summary or radio page unless the tape player is on.
- SEEK soft key operation. These keys are available on any summary or radio page unless the tape player is on.
- Station Presets. These soft keys are displayed on the Summary Page when the radio is on and the transaxle is in Drive and on the RADIO main page.
- MEMORY. MEMORY 1 or 2 settings can be obtained by touching the PERSONAL 1 or 2 soft key on the Summary Page, or the MEMORY 1 or 2 soft keys on the RADIO main page or tune subpage.



R-6

SCAN

SCAN is available on any radio page or Summary Page unless the tape player is on.

Touch the soft key to sample each station being received for a few seconds. Touch the SCAN soft key again to stop scanning.

STATION PRESET

To set your favorite stations:

1. Make sure you are on the desired band, if not touch the AM soft key or FM soft key.
2. Locate your favorite station by using the SEEK, TUNE, or SCAN soft keys.
3. Touch the SET soft key.
4. Touch one of the five station soft keys. The chosen station will be the highlighted soft key and the broadcast frequency will be displayed above the soft key.

A total of ten stations can be preset, five AM and five FM. When MEMORY soft keys one or two are touched, the ten presets in place when the memory setting was made will appear, regardless of any subsequent changes made to presets.

MANUAL TUNE

Touch the TUNE soft key on the RADIO main page.

Touch the appropriate soft key with a single arrow point to tune to a higher or lower frequency along the radio band. Touch a soft key with a double arrow point for faster tuning.

SEEK

The SEEK soft keys are used to move up or move down to the next strongest station signal.

MEMORY

For convenience, you can select your favorite station, presets, volume, tone, and balance by using the memory controls. MEMORY keys can be accessed by touching TUNE soft key on the SUMMARY page or the RADIO hard key. Operation of the personal keys access memory radio settings.

- Set MEMORY 1 or 2

1. Select desired settings for AM or FM station, station presets, Tone, Balance, and Graphic Equalizer (if equipped), and Volume.
2. Touch the SET soft key.
3. Touch the MEMORY 1 or MEMORY 2 soft key to store the desired settings.

Any time you wish to change settings you may reset each memory location by storing your new settings in place of the present ones. To do this, repeat the above procedure.

- Select MEMORY 1 or 2

Touch MEMORY 1 or MEMORY 2 soft keys to turn the radio on to the preset functions, including station preset soft keys.

DNR™ SETTING

Touch either the TUNE soft key on the Summary Page or the RADIO hard key. Now, touch DNR™ to turn this feature on or off. Use the feature to reduce frequency hiss you may hear when playing the radio or tape player. If you always leave DNR™ on, it will not damage the radio or tape player.

AM STEREO - Option

(Standard with Bose or Graphic Equalizer)

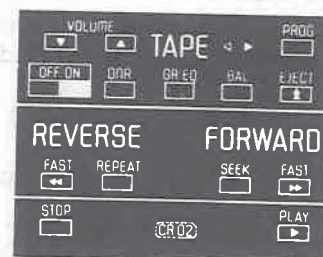
Touch the RADIO hard key to display the RADIO page. Touch the AM ST soft key. The radio will switch to stereo when tuned to an AM station broadcasting stereo. Touch the AM ST soft key again if AM stereo is not desired. Nonstereo may be desired in areas of high noise level.

TAPE PLAYER

To insert or remove a tape cassette touch EJECT. The radio does not need to be on.

PLAYING A CASSETTE

Insert a cassette (wide end down) into the door and close the door. Turn radio on and touch PLAY. The arrows to the left of the PROG soft key indicate which side of the tape is playing. If the arrow pointing right is lighted, selections listed on the side of the cassette facing the tape door are playing. If the arrow pointing left is lighted, selections listed on the other side are being played. To play the other side of the tape touch the PROG soft key. Tape will automatically reverse at end of tape.



R-16

FAST FORWARD

Touch the FAST soft key under FORWARD. Touch PLAY or FAST again to return to playing speed.

FAST REVERSE

Touch the FAST soft key under REVERSE. Touch PLAY or FAST again to return to playing speed.

SELECTION SEARCH (SEEK, REPEAT)

Touch the SEEK soft key to begin the next selection.

Touch the REPEAT soft key to repeat the selection being played, or the previous selection.

TAPE BIAS

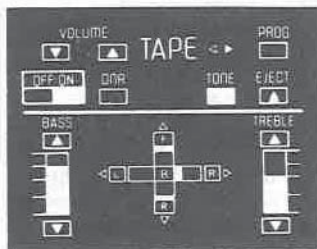
Equalization adjustments are made automatically as the tape cartridge is inserted. The CrO₂ indicator will light when chrome or metal tapes are being played.

STOP PLAYING AND CASSETTE REMOVAL

Touch the STOP soft key to stop the tape player.

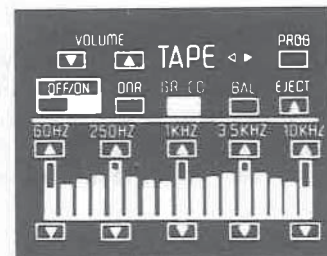
Touch the EJECT soft key to stop the tape player and open the tape door for tape removal. After a tape is removed, close the tape door to prevent dirt from entering the tape mechanism.

Touch the TONE soft key to view this subpage. The top area is the same as Figure R-16. The lower part of this subpage controls bass, treble and balance as described in the radio section.



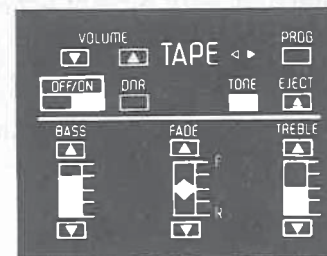
R-17

This page is accessed by touching the GR EQ soft key. Graphic equalizer operation is described in the radio section.



R-18

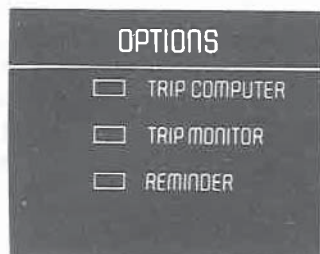
If you have the optional Bose radio on your car, touching the TONE soft key will display this page. Operation of bass, treble and fade controls are described in the radio section.



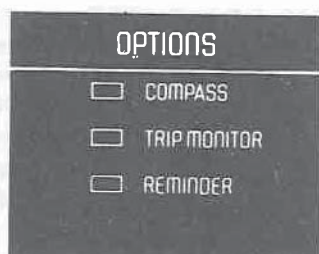
R-19

OPTIONS

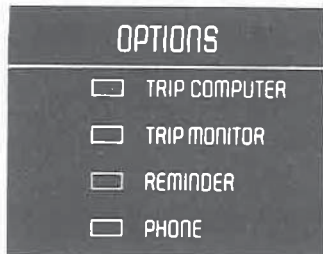
When the OPTIONS hard key is pressed any one of four option main pages will appear, depending on the equipment on your car. If your car is equipped with a compass, the trip computer is accessible through the first TRIP MONITOR subpage (see Figure T-2).



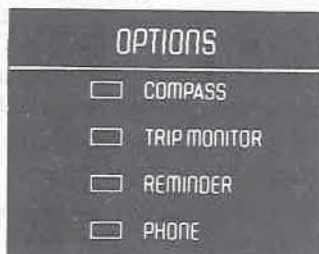
O-1



O-2

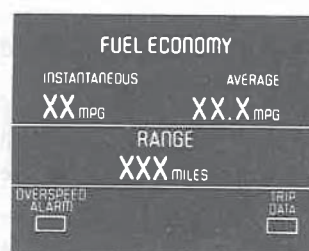


O-3

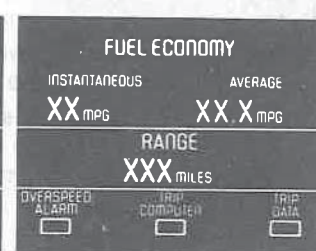


O-4

TRIP MONITOR



T-1



T-2

Touching the TRIP MONITOR soft key makes one of these subpages appear. The TRIP MONITOR tracks data that provides information on fuel economy and consumption, average speed, elapsed time, estimated time of arrival (ETA) and range based on remaining fuel. This page also offers the means to access the Overspeed Alarm System, Trip Data page and (if your car is equipped with a compass) the TRIP COMPUTER.

FUEL ECONOMY

The INSTANTANEOUS fuel economy figure indicates the current rate of fuel consumption, and is updated regularly as you drive to reflect the impact of driving conditions on fuel mileage.

2-61

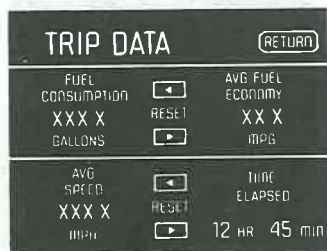
Average fuel economy (also displayed on the Summary and Trip pages) is overall average economy since the last reset on the Trip Data page.

Range is the distance you can travel before refueling and is based on average fuel economy and the measured fuel in your tank.

Fuel economy data is calculated electronically by monitoring the engine fuel injection system. The accuracy of these readings will be degraded by a poorly performing engine, particularly as the result of dirty fuel injectors.

Touch the TRIP DATA soft key to see this subpage.

Fuel Consumption since the last reset will show a maximum of 99.9 gallons (or 379 liters), at which point it will automatically reset to zero. AVG Fuel Economy is the same as AVG on the TRIP MONITOR subpage. AVG Speed shows average speed of the car since the last reset. Time Elapsed indicated the total time (including ignition off time) since the last reset. The maximum displayable figure is 999 hours.



T-3

TRIP COMPUTER

This subpage is accessed by touching the TRIP COMPUTER soft key on the options main page (see Figures O-1 and O-3), unless your car has a compass. Models with a compass have a trip computer soft key on the first TRIP MONITOR subpage (see Figure T-2).



T-4

ETA (estimated time of arrival) is presented in a digital

readout and graphically as a top view of a car moving from left to right across the screen. The position of the car is proportional to the portion of the trip completed. For example, if a destination of 100 miles is entered, the car will appear in the center of the screen after 50 miles have been traveled. ETA is based on:

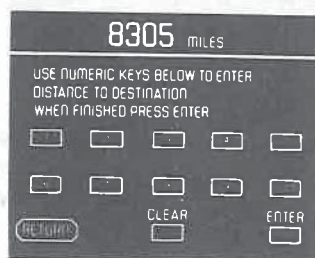
- Average speed for the last 10 miles, if distance to destination is more than 25 miles.
- Average speed for the last 2 miles if distance to destination is less than 25 but more than 5 miles.
- Current car speed if distance to destination is less than 5 miles.

Distance To Destination is set on the trip computer subpage which is reached by touching ENTER on this page.

Each mile traveled will reduce the distance to destination by one mile until the display reaches zero or a new distance is entered. The display will flash when it reaches zero. After one mile dashes will be displayed until a new distance is entered.

Time To Destination indicates length of time needed to reach your destination in hours and minutes or minutes and seconds (if less than an hour). Maximum time displayed is 999 hours.

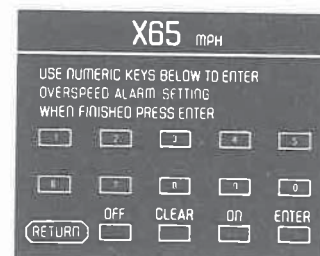
This subpage provides the means to enter a distance figure at the outset of a trip. If an error is made touch the CLEAR soft key and enter the correct figure. When complete touch ENTER to view the Trip Computer page (see Figure T-4). If a distance entry is not made within 15 seconds the Trip Computer page will reappear automatically.



T-5

This subpage is displayed as a result of pressing the overspeed alarm soft key on the trip monitor subpage (see Figure T-2). After setting the desired speed limit, touch the ENTER soft key. The alarm can be turned on or off by touching the appropriate soft key on the lower part of the display.

Each time the overspeed setting is exceeded with the system turned on, this display will appear accompanied by the system tone (beep), even if the tone has been turned off.



T-6



T-7

REMINDER

Press the REMINDER soft key on the OPTIONS main page to display this subpage.

REMINDER

☐ VIEW

☐ ENTER

RETURN

M-1

Touching the VIEW soft key presents a review of the first event recorded in the reminder system. Press the NEXT soft key to view the second event, etc. Touching the DELETE soft key will remove the event shown from the reminder memory. Pressing the UPDATE soft key will cause the first set subpage to appear (see below).

REMINDER VIEW

SANDRAS BIRTHDAY

SUN MAY 15 1988

1 00 PM

RETURN NEXT DELETE UPDATE

M-2

To view this page press the ENTER soft key on the Reminder Menu subpage or the UPDATE soft key on a Reminder View subpage. The reminder is entered one character or space at a time. To enter the letter B touch the 2ND soft key, then the ABC softkey; to enter a 4 touch the 1ST softkey, then the 456 soft key, etc. Each time a character or space is entered the cursor will automatically move to the right one space. If you wish to alter or correct the reminder, the cursor can be moved forward or backward on the reminder message by touching the appropriate arrow under CURSOR. Continue until the entire reminder message (up to 16 characters and spaces) is entered, then press ENTER.

Note that the system will not accept a blank reminder.

ENTER REMINDER DAVE'S BIRTHDAY

ABC DEF GHI JKL MNO

PQR STU VWX YZ 1ST

0 123 456 789 2ND

ENTER CURSOR SPACE 3RD

M-3

When the complete reminder is entered, press ENTER REMINDER to view this page. Touch the appropriate soft key to denote when and how often the reminder will be shown.

If ONCE was selected for frequency, this page will appear, set the date using the same technique used for setting the clock.

If the reminder is to appear every week, this page will appear. Enter the day and time.

ENTER HOW OFTEN THE
EVENT WILL OCCUR

☐ ONCE

☐ WEEKLY

☐ MONTHLY

☐ YEARLY

M-4

USE NUMERIC KEYS TO
ENTER REMINDER DATA
THEN PRESS ENTER

DATE MM DD YY

EVENT TIME 12 00

AM PM

REMINO DAILY 00

DAYS IN ADVANCE

ENTER CURSOR

1 2 3 4 5 6 7 8 9 0

M-5

USE NUMERIC KEYS TO
ENTER REMINDER DATA
THEN PRESS ENTER

DAY OF WEEK WED

EVENT TIME 12 00

AM PM

REMINO DAILY 00

DAYS IN ADVANCE

ENTER CURSOR

SUN 1 FRI 6

MON 2 SAT 7

TUE 3 8

WED 4 9

THU 5 0

M-6

If the event will be monthly this page will offer two choices.

ENTER THE TYPE OF
MONTHLY OCCURRENCE

☐ BY DATE
e.g. 15TH

☐ BY WEEKDAY
e.g. 1ST TUESDAY

RETURN

M-7

USE NUMERIC KEYS TO
ENTER REMINDER DATA
THEN PRESS ENTER

DAY OF MONTH 18

EVENT TIME 12 00

AM PM

REMINO DAILY 00

DAYS IN ADVANCE

ENTER CURSOR

1 2 3 4 5 6 7 8 9 0

M-8

ENTER THE TYPE OF
MONTHLY OCCURRENCE

☐ BY DATE
e.g. 15TH

☐ BY WEEKDAY
e.g. 1ST TUESDAY

CHOOSE THE WEEK
OF OCCURRENCE

1ST 2ND 3RD 4TH

RETURN

M-9

If the monthly event is a specific date it can be entered on this page.

If the monthly event is by weekday the first entry is made on this page.

This monthly event for a weekday setting is completed on this page.

USE NUMERIC KEYS TO ENTER REMINDER DATA THEN PRESS ENTER		SUN	FRI
		1	6
		MON	SAT
		2	7
EVENT DAY OF WEEK SUN		TUE	8
TIME XX XX		3	9
[AM] [PM]		THU	0
REMIND DAILY XX			
DAYS IN ADVANCE			
ENTER	CURSOR		
[]	[←] [→]		

M-10

This page is used to establish the date for a yearly reminder to appear.

Each reminder will appear on the day it is scheduled, after the vehicle system check is completed. If a reminder was scheduled to appear in advance it will also appear then, and each day until the scheduled event. Past reminders will continue to be shown once each day until they are deleted.

USE NUMERIC KEYS TO ENTER REMINDER DATA THEN PRESS ENTER		1	6
		2	7
EVENT MONTH/DAY 10 XX		3	8
TIME XX XX		4	9
[AM] [PM]		5	0
REMIND DAILY XX			
DAYS IN ADVANCE			
ENTER	CURSOR		
[]	[←] [→]		

M-11

Time of day must be entered on a reminder to cause the system to accept it; however, the time entry is for your reference only and does not cause the reminder to be shown at that time. As stated above, a reminder will appear as scheduled once each day.

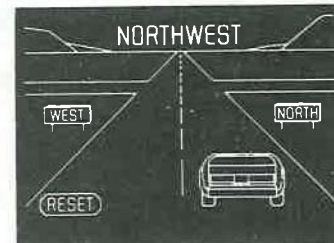
The reminder system has a capacity of twenty (20) messages. If an attempt is made to exceed that amount this subpage will appear.

REMINDER SPACE FULL
IF YOU WISH TO ADD AN ENTRY, AN EXISTING ENTRY MUST BE DELETED
[+ TURN]

M-12

COMPASS

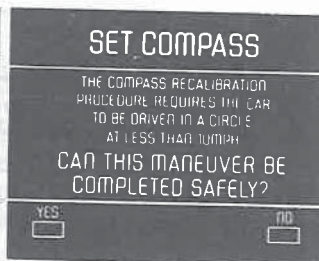
Touch COMPASS soft key on the OPTIONS main page to view this display. A simulated view of a road converging at the horizon is shown, along with the direction the car is heading at the top. Also, compass points at right angles (90°) to the vehicle heading are shown on simulated roads to the right and left. If it is necessary to recalibrate the compass touch the RESET soft key.



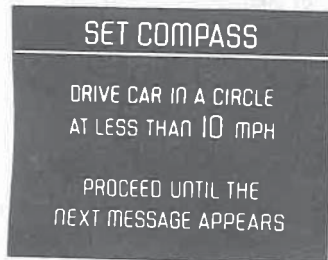
L-1



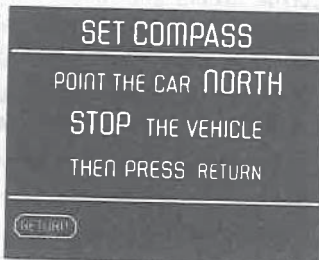
L-2



L-3



L-4



L-5

Driving in an area with tall buildings, overhead power lines, etc., may affect compass accuracy.

These subpages outline the calibration procedure. Select an area which has a flat and level surface, free of overhead power lines and large metallic objects. When performing these maneuvers, drive the car slowly so that it does not lean or roll. Also, note that the direction North must be established from a map or a land mark prior to starting the calibration procedure.

After completing the calibration procedure, bring the car to a complete stop before touching the RETURN soft key and remain stopped for at least 4 seconds after touching the RETURN soft key. This will insure accuracy of calibration.

If the rear window defogger is on when the calibration is initiated, it will automatically be turned off, but the light on the rear defog control will continue to glow.

CAUTION: If the calibration procedure is performed in an area accessible by other vehicles or pedestrians, have someone with you to help avoid accidents or injury to others.

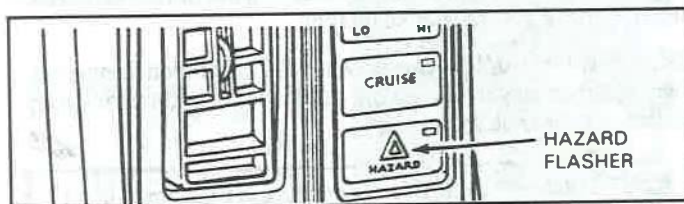
TELEPHONE

A separate manual covers the operation of the factory installed telephone.

IN CASE OF EMERGENCY

HAZARD WARNING FLASHER

Use the hazard warning flasher to warn other drivers any time your car becomes a traffic hazard, day or night. Avoid stopping on the roadway if possible. To turn it on, push the keypad labeled "HAZARD" on the left control pod. The flasher should work with the ignition either off or on. The turn signals do not work when the hazard flasher is on. If the brake pedal is pushed down, the lights will not flash until the brake is released. To turn off the flasher, again push the "HAZARD" keypad.



EMERGENCY STARTING YOUR VEHICLE DUE TO 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 car to start it. Under some conditions this may damage the catalytic converter or other parts of the car. Also, 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 car'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:

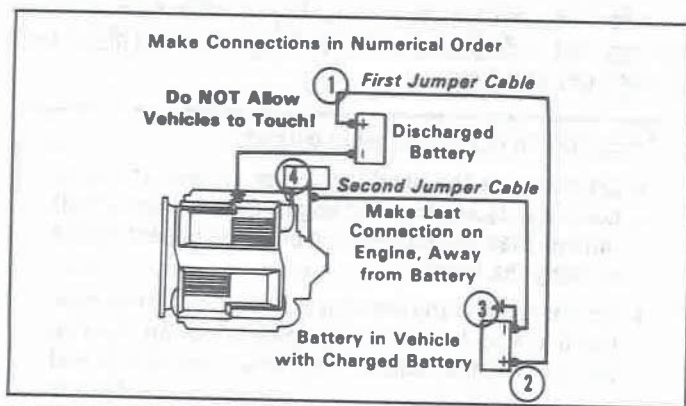
- Always shield your eyes and avoid leaning over the battery whenever possible.
- Do not expose the battery to open flames or sparks.
- Be sure any batteries that have filler caps are properly filled with fluid.
- Do not allow battery acid to contact eyes or skin. Flush any contacted area with water immediately and thoroughly. Get medical help.

(Continued)

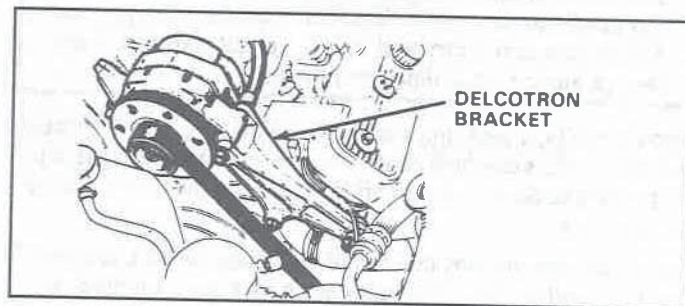
CAUTION: (Continued)

- Follow each step in the jump starting instructions.

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 the booster cables do not have loose or missing insulation.
2. In both vehicles:
 - Turn off the ignition and all lights and accessories except the hazard flasher or any lights needed for the work area.
 - Shift the automatic transaxle to park and apply the parking brake firmly.



3. Make sure the cable clamps do not touch any other metal parts. Clamp one end of the first booster cable to the positive (+) terminal on one battery, and the other end to the positive terminal on the other battery. Never connect (+) to (-).
4. Clamp one end of the second cable to the negative (-) terminal of the good (charged) battery. Make the final connection to a heavy metal bracket (such as the mounting bracket for the Delcotron generator or air conditioner compressor) on the engine about 450 millimeters (18 inches) from the discharged battery. 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. 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.

ENGINE COOLING SYSTEM OVERHEATING

CAUTION: If the the Engine Coolant Temperature light or display shows an overheat condition or you have other reason to suspect the engine may be overheating, continued operation of the engine (other than as spelled out here) ven for a short time may result in a fire and the risk of personal injury and severe vehicle damage. Take immediate action outlined as follows:

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

The cooling system may overheat if the coolant level is too low, if there is a sudden loss of coolant (such as a 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,
- towing a trailer.

If the Engine Coolant Temperature light comes on (or if you have an Engine Coolant Temperature display 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 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 car 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 reservoir cap if the coolant in the reservoir is boiling. Also do not remove the radiator cap while the engine and

(Continued)

CAUTION: (Continued)

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

CAUTION: To help prevent personal injury, keep hands, tools and clothing away from the engine cooling fan. 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 reservoir 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 reservoir. (Coolant is a mixture of ethylene glycol antifreeze and water; see "Engine Cooling System" in Section 5 for the proper antifreeze and mixture.)

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

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

- You must let engine cool first. You may then add coolant directly to the radiator. See "Adding Coolant" under "Engine Cooling System" in Section 5. 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 display 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 display does not show an overheat condition).

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

CAR JACK INSTRUCTIONS

CAUTION: To help avoid personal injury:

- Follow all jacking and storage instructions.

(Continued)

CAUTION: (Continued)

- Use the jack only for lifting this car during a wheel change.
- Never get under your car, start, or run the engine while it is supported by a jack.
- Always securely restore the spare tire (or flat tire) and all jacking equipment.

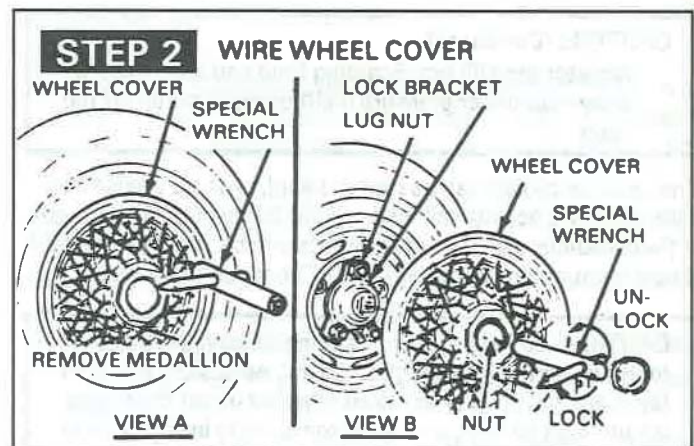
Step 1

1. Park on a level surface and firmly set parking brake.
2. Turn on the hazard warning flasher.
3. Set automatic transaxle in "Park."
4. Turn engine off.
5. Block front and rear of the tire diagonally opposite to the one being changed. Use a brick or block large enough to prevent the wheel rolling over it when the other end of the car is jacked up.

Step 2

Removing Wire Wheel Cover (If Equipped)

Remove the medallion from the center of the wheel cover. Use the blade side of the special wrench in the trunk. (See "Jack and Tool Storage" illustration.) Pry the "R" medallion off (View A). Push the wrench through the hole in the center of the wheel cover and turn



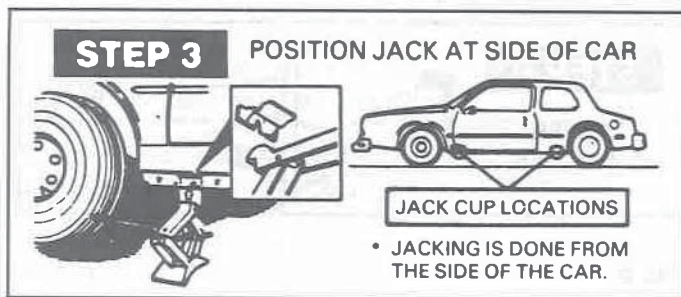
it counterclockwise. Loosen the bolt (View B). For installation procedures, see "Wire Wheel Covers" following these instructions.

Do not pry the wire wheel cover. With the fastener fully loosened from lock bracket, the cover can be removed from the wheel by hand.

Step 3

Remove the cover under the carpeting in the trunk by turning the screw-on cap counterclockwise. Use the storage cover to kneel on while changing the flat.

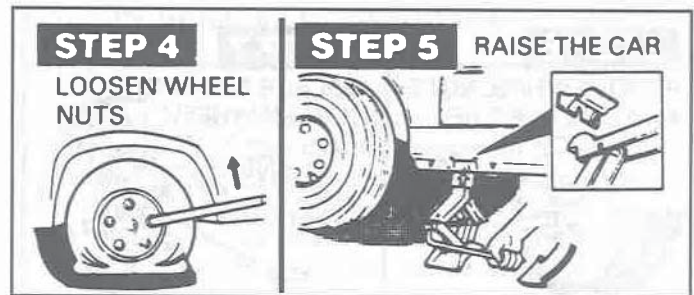
1. Position the jack at the **front** side location for a **front tire flat** and the **rear** side location for a **rear tire flat** (see illustration).



2. Raise the jack by turning the crank handle clockwise until the jack lift head fits into the jack cup. Car damage is likely if the lift head is not raised to the proper location.
3. **Don't** raise the car until after Step 4.

Step 4

1. Fit the wheel wrench over each wheel nut completely before loosening.
2. Loosen each wheel nut by turning the wheel wrench counterclockwise.
3. **Don't** completely remove the wheel nuts.



Steps 5 and 6

Proper fit of the jack head in the jack cup is necessary to avoid car damage and personal injury.

1. Raise the car by rotating the jack handle clockwise so that the spare tire will clear the surface it will rest on when installed.
2. Remove the wheel nuts (also the wire wheel cover lock bracket, if equipped) and the flat tire. Any corrosion on the inside of the wheel and wheel mounting surface on the hub should be removed before the tire is replaced (or as soon as possible).



Step 7

1. Place the spare tire over the wheel nut studs and replace the wheel nuts.
2. Replace the wheel nuts with the cone-shaped end toward the wheel.
3. Tighten each wheel nut making sure the wheel is seated on the hub.
4. Retighten all wheel nuts in the sequence shown.

NOTICE: Do not take your car through an automatic car wash with the compact spare installed. The car may get caught which could result in property damage.

Step 8

Lower the car by rotating the jack handle counterclockwise.



Step 9

1. Tighten the wheel nuts in the crisscross sequence shown in Step 7. The wheel nuts may have loosened slightly after the car weight was lowered onto the wheel.
2. Lower the jack until collapsed and ready for storage.
3. Restore the car jack tools. (See "Jack and Tool Storage" illustration.)
4. As soon as possible, tighten the wheel nuts to the torque specified in Section 6 under "Wheel Nut Torque."

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
(Continued)

CAUTION: (Continued)

while the car is moving, possibly causing loss of control, personal injury, and property 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.

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

WIRE WHEEL COVER - OPTION

Removal

Remove the medallion from the center of the wheel cover. Use the blade side of the special wrench (which is stored next to the car jack in the trunk). See "Step 2" under "Car Jack Instructions" for complete removal instructions.

Do not pry off wheel cover. With the fastener fully loosened from lock bracket, the cover can be removed from the wheel by hand.

Installation

Place the bolt in position. Tighten it by pushing the wrench through the hole in the center of the wheel cover and turn the wrench clockwise. Replace the medallion in the center of the wheel cover. Gently tap into place. Check firmness by trying to remove medallion by hand.

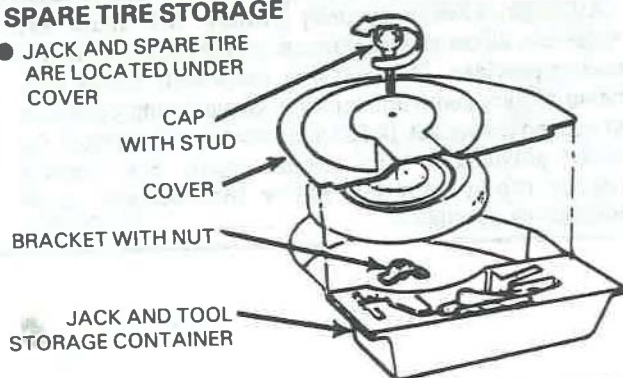
STORAGE OF SPARE TIRE AND JACK

CAUTION: Always securely restore the spare tire assembly, all car jack equipment, and the cover, using the means provided. This will help keep such things from being thrown about and injuring people during a collision or sudden maneuver. (A full-size flat tire will not fit in the space provided for the compact spare tire. Store a full-size tire in the trunk, flat on the floor and as far forward as possible.)

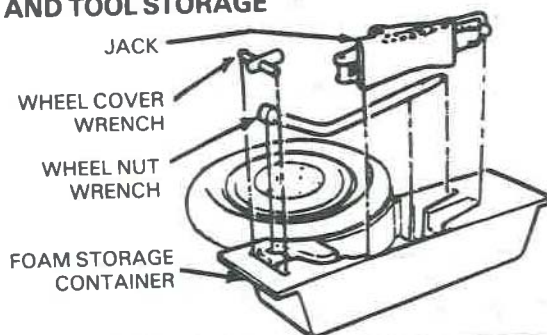
STORAGE INSTRUCTIONS

SPARE TIRE STORAGE

- JACK AND SPARE TIRE ARE LOCATED UNDER COVER



JACK AND TOOL STORAGE



COMPACT SPARE

The inflation pressure of the compact spare tire should be checked at least monthly. Use a quality pocket-type inflation pressure gage and set at 415 kPa (60 psi). At the same time, check that the tire is stored securely. If it is not, tighten it.

The compact spare tire is designed to save space in your storage 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 car jack instructions in this manual while keeping these points in mind:

- Check the tire inflation pressure as soon as practical after installing the spare.

NOTICE: Because this tire is smaller than the standard tire, the car's ground clearance is reduced. Do not take your car through an automatic car wash while the spare is installed; the car 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 storage area as soon as it is convenient to have your standard tire repaired or replaced.

- Because the compact spare was specifically designed for your car, 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 car 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 car and result in loss of the chain.

EMERGENCY (WRECKER) TOWING

CAUTION: To help avoid personal injury or property damage during any towing of your car, proper equipment and towing methods must be used. During towing the steering must be unlocked, the transaxle in Neutral, and the parking brake released.

If towing is necessary, contact any GM dealer or a professional tow truck service. Any GM dealer has detailed towing instructions.

State (provincial in Canada) and local laws which apply to cars in tow must be followed.

Do not tow your Buick on all four wheels.

If your Buick is equipped with an automatic transaxle, it may be towed on the drive wheels at speeds up to 55 mph for unlimited distances. Severe damage to the automatic transaxle may result if speed or distance limits are exceeded.

FREEING CAR FROM SAND, MUD, SNOW OR ICE

If your car gets stuck in sand, mud, snow or ice, shift the transaxle from a forward range to Reverse in a repeat pattern. 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 car while it is stuck may result in damage to car 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 car remains stuck after several rocking attempts, seek other assistance. Also see the Notice under "TRANSAXLE" in Section 2.

APPEARANCE CARE

CLEANING AGENTS

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 car 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 light colored seats, do not let materials with non-fast colors 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 leather trim regularly with a clean damp cloth. Normal trim soilage, spots, or stains can be cleaned with these GM cleaners:

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

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

Remember These Basic Steps Before Cleaning:

1. Remove stains as soon 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.

**CLEANING GENERAL SOILAGE OR WATER SPOTS
FROM FABRIC TYPE TRIM
(Including 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 and brush the area to remove any loose dirt.
- Always clean a whole trim panel or section. Mask surrounding trim along stitch or welt lines.
- Mix Multi-Purpose Powdered Cleaner following the directions on the container label. Mix in proportion for smaller quantities.
- Use suds only on a clean sponge. Do not brush wet suede. Do not saturate the material or rub it harshly. Immediately after

cleaning, remove suds with a sponge and rinse with a clean wet sponge. Wipe off remaining residue with a slightly damp absorbent towel or cloth.

- **Important** – Immediately after wiping, force-dry the material with an air hose. A heat dryer or heat lamp may be used. Use caution with a heat dryer or lamp to help prevent 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. For suede, raise nap with a dry scrub brush and vacuum to remove any final traces of residue.

**SPOT CLEANING FABRIC TYPE TRIM
(Except Suede Leather)
WITH SOLVENT TYPE CLEANER**

Before trying to remove a spot or stain from fabric, try to find out the type and age of the spot or stain. Some spots or stains can be removed with water or a 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 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 soiled area with GM Multi-Purpose Powdered Cleaner (as described under "Cleaning General Soilage or Water Spots from Fabric Type Trim with Foam Type Cleaner").

REMOVAL OF SPECIFIC STAINS (EXCEPT FROM SUEDE LEATHER)

Greasy or Oily 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 care 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 SUEDE LEATHER

For the removal of all grease or oil based stains, as well as all general stains on suede leather, GM recommends the use of a

qualified professional cleaner who has been trained to care for suede leather.

CLEANING LEATHER (Except Suede Leather) TRIM

Ordinary soilage can be removed from leather with warm water and a mild 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).

SAFETY BELT CARE

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

GLASS SURFACES

Glass surfaces should be cleaned on a regular basis. Use of GM Glass Cleaner or a liquid 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 car 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 THE OUTSIDE OF WINDSHIELD

If your windshield is not clear after using the windshield washer, or if the wiper blade chatters when running, wax or other material may be on the blade or windshield.

Clean the outside of the windshield with Bon-Ami, a non abrasive cleaner. Your windshield is clean if beads do not form when rinsing with water.

Clean the blade by wiping with a cloth soaked in a solution of one-half water and one-half GM Optikleen. A solution of one-half water and one-half methyl alcohol (methanol) may also be used. Then rinse the blade with water.

CLEANING GLASS ROOF PANELS

Never use abrasive cleaners on any glass roof panels, such as Astrorooftop 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 car provides beauty, depth of color, gloss retention, and durability.

WASHING YOUR CAR

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

Do not use hot water or wash your car 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.

GM cars are designed to operate under normal environmental conditions to withstand the natural elements. However, unusual conditions, such as high-pressure car washes, may cause water to enter inside the car.

POLISHING AND WAXING

Periodic polishing and waxing is recommended to remove surface residue from your paint finish. GM approved products are supplied through your authorized Buick dealer.

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 **(If So Equipped)**

Preserve the original appearance of aluminum wheels by keeping them clean and free from build-up of road dirt and/or road salt. Regular cleaning is recommended. Do not use abrasive cleaners or cleaning brushes, as they could damage the finish.

NOTICE: The Protective coating or paint on your wheels or wheel trim is similar to the painted surfaces of your vehicle.

Hard silicon carbide rotating brushes are being used at some car washes. These brushes, used to clean whitewalls, may remove the protective coating from aluminum wheels, scratch painted surfaces on rally wheels, or scratch wheel covers. Tracks used to guide the vehicle through some car washes may also cause damage to your wheels or wheel trim.

Before entering a car wash, check with the manager to see that adequate care has been taken to protect your wheels.

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.

WEATHERSTRIP LUBRICATION

Silicone grease application will lengthen weatherstrip life, help sealing, and assist in eliminating squeaks. At least every six months, all weatherstrips should be lubricated with a silicone-grease lubricant Part No. 1052863, or equivalent. A thin film of silicone grease lubricant should be applied using a clean cloth.

CLEANING THE OPTIONAL VINYL TOP

Wash the top often with neutral soap suds, lukewarm water and a brush with soft bristles. Rinse the top with plenty of clear water to remove all traces of soap.

If the top needs more cleaning, you can use a mild foaming cleanser such as GM Multi-Purpose Powdered Cleaner. Do not use volatile type cleaners or household bleaching agents on the top material.

- Rinse the top with water. Then, on an area of about 0.2 square meters (two square feet), apply a mild foaming type cleanser.
- Scrub the area with a soft bristle brush, adding water as needed until the cleanser foams to a soapy consistency.
- Wipe off the cleanser with a cloth or sponge. Apply more cleanser to the area, and scrub until the top is clean.

- To avoid streaking, keep the cleanser from running onto the body finish.
- Rinse the top with plenty of clear water to remove all traces of cleanser.

CORROSION PROTECTION

Your car has been designed and built to resist corrosion. Special materials and protective finishes were used on most parts of your car 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 car 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 car 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 car 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 Buick 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 Buick dealer can do this service for you.

FIBERGLASS SPRING

NOTICE: Do not use corrosive cleaning agents, engine degreasers, solvents, etc. on fiberglass springs. These materials will cause extensive damage to the springs.

NOTICE TO NEW BUICK OWNERS

REGARDING CHEMICAL PAINT SPOTTING

Buick Motor Division 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 Buick shares the pride which our owners take in preserving and maintaining the appearance of their vehicles, Buick 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.

APPEARANCE CARE AND MAINTENANCE MATERIALS

PART NUMBER	SIZE	DESCRIPTION	USAGE
1050201	16 oz. (0.473L)	Magic Mirror Cleaner-Polish	Exterior cleaner and polish
1052277	12 oz. (0.354 L)	Spray-A-Squeak	Weather strips - stops squeaks
1052863	1 oz (0.028 kg.)	Silicone Grease	
1050172	16 oz. (0.473 L)	Tar and Road Oil Remover	Also removes old waxes, polishes
1050173	16 oz. (0.473 L)	Chrome Cleaner and Polish	Removes rust and corrosion
1050174	16 oz. (0.473 L)	White Sidewall Tire Cleaner	Cleans white and black tires
1050214	32 oz. (0.946 L)	Vinyl/Leather Cleaner	Spot and stain removal
1050244	16 oz. (0.473 L)	Fabric Cleaner	Spot and stain removal
1050427	23 oz. (0.680 L)	Glass Cleaner	Also spot cleans vinyls
1050429	6 lb. (2.72 kg)	Multi-Purpose Powdered Cleaner	Cleans vinyl and cloth, also, tires and mats
1052349	12 oz. (0.340 kg)	Lubriplate (White Grease)	For hood, trunk, door hinges and latches
1051055	16 oz. (0.473 L)	Preservatone	Vinyl Top Dressing
1051398	8 oz. (0.237 L)	Spot Lifter	For cloth
1051516	32 oz. (0.946L)	Washer Solvent and Gas Line De-Icar	Windshield-washing system and gas line
1052870	16 oz. (0.473L)	Wash-Wax (conc.)	Exterior Wash

* Not recommended for pigskin suede leather.

See Your General Motors Dealers for These Products.
See Your Maintenance Schedule for Other Products.

SERVICE AND MAINTENANCE

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



OWNER MAINTENANCE

CAUTION: To help avoid personal injury, take care when doing any maintenance or making any check or repair. Follow manufacturer's instructions for all materials used during service and maintenance of this vehicle. If used or handled improperly, they may be hazardous. Improper or incomplete service can also affect the vehicle and result in personal injury, or damage to the car or its equipment.

(Continued)

CAUTION: (Continued)

If you have any questions 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 car 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 Buick dealer.

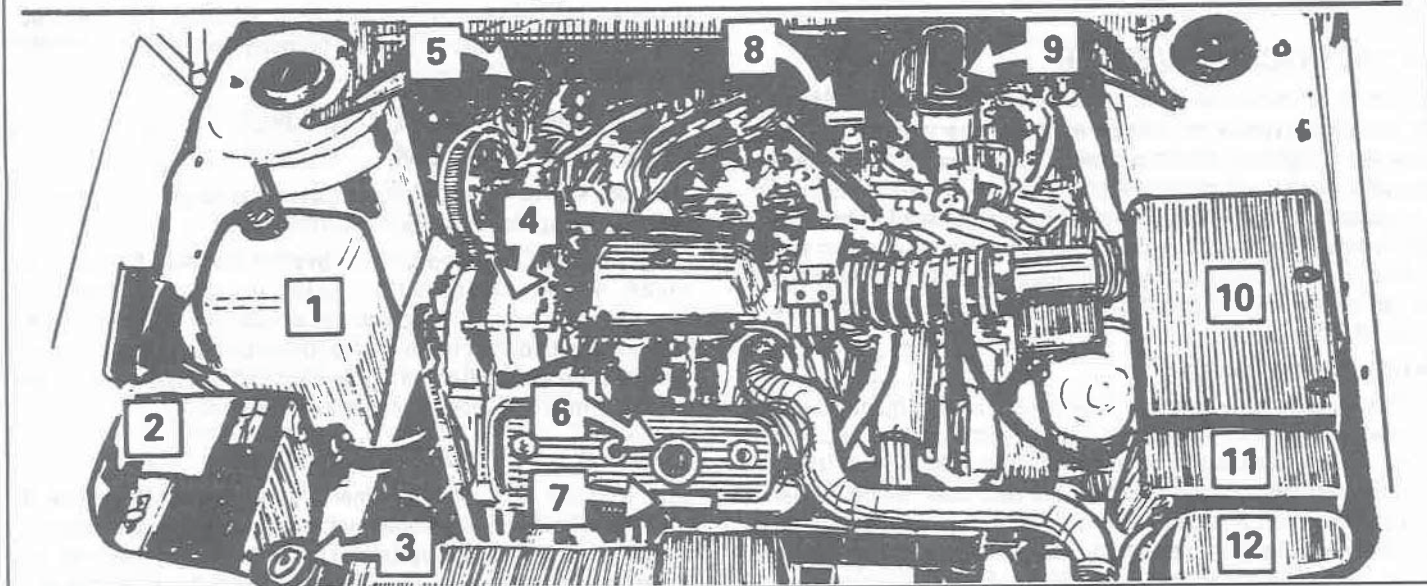
CAUTION: This car has many parts dimensioned in the metric system as well as in the customary system. Many fasteners are metric and are very close in dimension to well-known customary fasteners in the inch system. Mismatched or incorrect fasteners can result in damage to the car or possibly personal injury.

3.8L V-6 SFI ENGINE

- 1 COOLANT RESERVOIR
- 2 BATTERY
- 3 RADIATOR CAP
- 4 DELCOTRON
- 5 POWER STEERING DIPSTICK & FLUID RESERVOIR

- 6 OIL FILL CAP
- 7 OIL DIPSTICK
- 8 TRANSAXLE FLUID DIPSTICK

- 9 BRAKE FLUID RESERVOIR
- 10 AIR CLEANER ASSEMBLY
- 11 UNDERHOOD RELAY CENTER
- 12 WINDSHIELD WASHER FLUID RESERVOIR



5-2

MAINTENANCE SCHEDULE

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

Read this Schedule for a full understanding of your car's maintenance needs. See Section 6 for information on how to receive another Maintenance Schedule booklet for your car if one is lost.

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 car if you detect engine misfire, noticeable loss of

performance, or other unusual operating conditions. Instead, have it serviced promptly. See the Maintenance Schedule booklet for information on inspecting and maintaining the engine, exhaust system, and other components.

2. Do not push or tow this car 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.

THE COMPUTER COMMAND CONTROL SYSTEM

Most cars sold in the United States (and some cars 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 fuel in cars equipped with the Computer Command Control System. Leaded fuel will damage the oxygen sensor and may affect emission control.

"SERVICE ENGINE SOON" LIGHT

Cars with the Computer Command Control System include a "SERVICE ENGINE SOON" 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 "SERVICE ENGINE SOON" 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 car is driveable, and does not require towing, see your Buick dealer as soon as possible for service.

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 driveability. See also "Computer Command Control System" in this section.

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 car'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 located forward of the oil fill cap. 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. General Motors recommends that you use GM Goodwrench Motor Oil (or in Canada, GM Engine Oil) or an equivalent product identified with correct API quality service designations. The recommended oil quality for your vehicle is as follows:

API Service Designations of Quality

USE ONLY

SF/CC

SF/CD

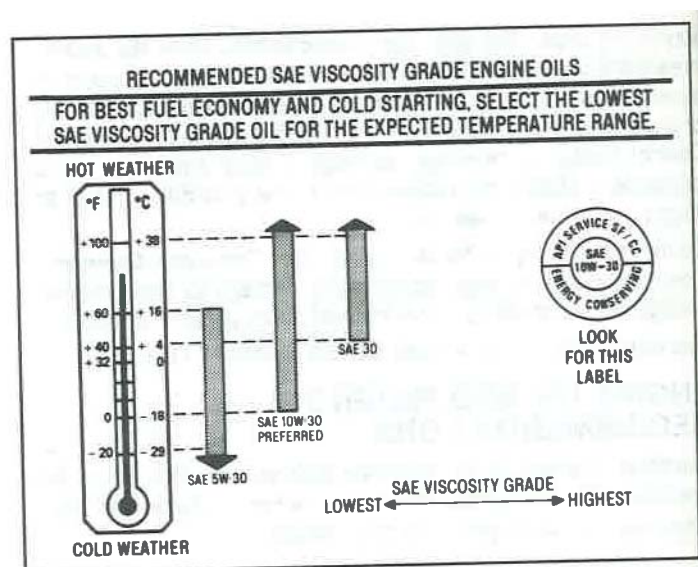
Additional designations of quality may also be present, BUT both SF and CC, or both SF and CD must be included. These designations may be shown alone, such as "SF," "CC" or "CD," or combinations separated by commas, slashes, or dashes, such as "SF/CC," "SF-CC, CD" or "SE, SF, CC." Use of oils without the

recommended designations may cause engine damage which is not covered by the new vehicle warranty.

Choosing Oil Viscosity

Engine oil viscosity (thickness) has an effect on fuel economy and cold-weather operation (starting and oil flow). Lower viscosity engine oils can provide better fuel economy and cold-weather performance; 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 car will be operated in before the next oil change. Then, select the recommended oil viscosity from the following chart. If outside temperatures are expected to be above 0°F (-18°C) prior to your next oil change, an SF/CC quality, SAE 10W-30, Energy-Conserving engine oil is the preferred engine oil for your vehicle. However, to improve cold-starting performance, an SF/CC quality, SAE 5W-30, energy-conserving engine oil may be used if the outside temperature does not exceed 60°F (16°C), and should be used if the temperature is below 0°F (-18°C).



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 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."

Oil Identification Logo

A logo (symbol) is used on most containers to help you select the oil you should use. The top portion of the logo shows the oil quality by API designations such as SF/CC, SF/CD, or others. The center portion of the logo shows the SAE viscosity grade, such as SAE 10W-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 the recommended oil quality and viscosity, as well as high-quality filters such as AC oil filters. Using oil other than recommended, 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 Buick's 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 car. See Oil Change Interval Chart to determine the proper oil and filter change intervals.

TYPE OF USE	CHANGE INTERVAL
Follow <u>Schedule I</u> if your car is mainly operated under one or more of the following conditions: • When most trips are less than 4 miles (6 kilometers). • When most trips are less than 10 miles (16 kilometers) and outside temperatures remain below freezing. • Idling for extended periods and/or low-speed operation in stop-and-go traffic.* • Towing a trailer. • Operating in dusty areas.	SCHEDULE I Change engine oil and filter every 3,000 miles (5,000 kilometers) or 3 months, whichever comes first. *Schedule I should also be followed if the car is used for delivery service, police, taxi or other commercial applications.
Follow <u>Schedule II</u> only if none of the above conditions apply.	SCHEDULE II Change engine oil every 7,500 miles (12,000 kilometers) 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. Supplemental engine oil additives should be used only for remedial purposes and not on a regular basis. Consult your Buick 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.

ANTI-LOCK BRAKE MASTER CYLINDER

Cars with this optional system have a "see-through" reservoir at the rear of the engine compartment on the driver's side. You can check the fluid level without removing the cap. Apply brake pedal 25 times with ignition off before inspecting level or adding brake fluid to the reservoir. If brake fluid is added before doing this, the reservoir will be overfilled. An overfilled reservoir could result in brake fluid being forced out. If this happens, the brake fluid could catch fire.

NOTICE: Whenever fluid is added, use only Delco Supreme 11 (Part No. 1052535) or equivalent DOT 3 brake fluid from a sealed container. Do not use DOT 5 silicone brake fluid in this car; use of DOT 5 fluid may cause internal damage.

BRAKE MAINTENANCE

GM replacement brake lining material is recommended for this vehicle to maintain the balance between front and rear brake performance. GM replacement brake parts have been carefully selected to provide the proper brake balance for purposes of both stopping distance and controllability over the full range of operating conditions. Installation of front or rear brake lining material with performance different from that of the GM replacement parts recommended for this vehicle can change the intended brake balance of this vehicle.

AUTOMATIC TRANSAXLE FLUID RECOMMENDATIONS

Use the Proper Fluid

Use only automatic transaxle fluid labeled DEXRON® II. You can buy this fluid from your Buick 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.

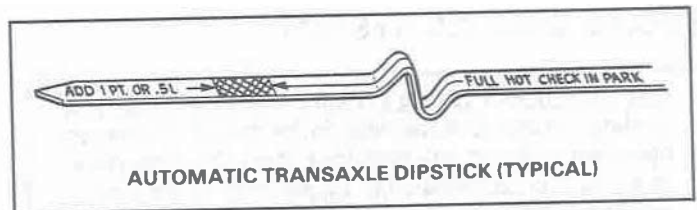
To check the fluid level, first set the parking brake, then start the engine in "P" (Park), and let idle for two minutes. You must check the fluid level with the engine running at slow idle, the car level, and the fluid at least at room temperature.

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

Move the selector lever through each gear range then position it in park range.

Remove the dipstick located on the driver's side of the engine compartment. Carefully touch the wet end of the dipstick to find out if the fluid is warm (at least room temperature). If it feels cold, replace the dipstick and drive the car for at least five miles before checking again. If the fluid is at room temperature or hotter, clean the dipstick and push it back in until the cap seats. Pull out the dipstick and read the fluid level. The level should be in the cross-hatched area on the dipstick.

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 booklet.

DEXRON ® II is a trademark of General Motors.

ENGINE COOLING FAN

CAUTION: To help prevent personal injury, keep hands, tools, and clothing away from the engine cooling fan. This electric fan 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 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 car has a coolant recovery system. Coolant in the system expands with heat and overflows into the reservoir. When the system cools, coolant is drawn back into the radiator.

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 alone. 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 display.

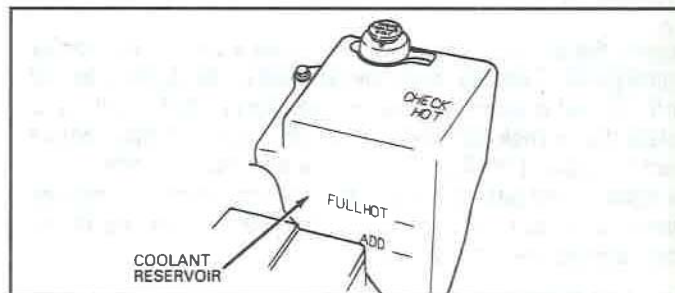
See the Maintenance Schedule booklet to find out when the coolant must be replaced. Note that changing the coolant is

needed to replenish the rust and corrosion inhibitors 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 coolant level in the "see-through" reservoir. When the engine is cold, the coolant level should be at or slightly above the lower notch on the reservoir. When the engine has fully warmed up, the level should be at or slightly above the "FULL HOT" mark on the reservoir.

If the coolant level is low, remove the cap on the coolant reservoir. Add to the reservoir 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 reservoir.



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.

Vehicles equipped with low coolant warning system, refer to service manual or contact your Buick dealer for coolant fill procedure. Improper fill procedure may cause low coolant warning indication.

If you have to add coolant more than four times a year (either to the reservoir 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

Every vehicle has a radiator cap.

CAUTION: To help avoid 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 reservoir to at or slightly above the "FULL HOT" mark. Put the reservoir 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 (-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.
- Use only ethylene glycol base antifreeze that meets GM Specification 1825-M.

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

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, GM AC-Delco parts are recommended.

AIR CLEANER - FLAME ARRESTOR

The air cleaner is a disposable-type element. Replace the element at the intervals specified in the Maintenance Schedule booklet. Do not wash, oil, or clean with an air hose. The air cleaner will require more frequent service under dusty conditions. Your Buick dealer can advise you on the proper interval. When replacement is necessary, an AC air filter element is recommended. A part number is specified in the engine specifications chart in Section 6 of this manual.

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 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.

POWER ANTENNA CLEANING AND LUBRICATION

The surface of the movable sections of the power antenna should be cleaned and lubricated every six months.

The power antenna is controlled by the radio. When the radio is on, the antenna will go up. When the radio is turned off, either by the on/off control or by turning the ignition switch to the off position, the antenna is designed to go down.

To Clean and Lubricate Power Mast:

1. Raise antenna to full mast extension.
2. Dampen clean cloth with mineral spirits and wipe mast sections to remove dirt.
3. Retract and extend antenna to check that mast sections are clean. Repeat step 2 if needed.
4. Dampen clean cloth with light sewing machine oil and wipe each mast section evenly to distribute oil.
5. Retract and extend antenna to check for ease of operation.

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 Buick 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.

CHASSIS LUBRICATION

Lubricate all grease fittings in front suspension and steering linkage. Lubricate transaxle shift linkage, hood latch, hood and door hinges, parking brake cable guides, underbody contact points, and linkage.

CIRCUIT BREAKERS

The headlight wiring is protected by two circuit breakers in the console fuse block. 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.

FREEDOM BATTERY

Your new car 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.

Working Near Battery

CAUTION: Follow the precautions listed in the "Jump Starting" Caution (see "Emergency Starting Your Vehicle Due to a Discharged Battery" in Section 3) 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.

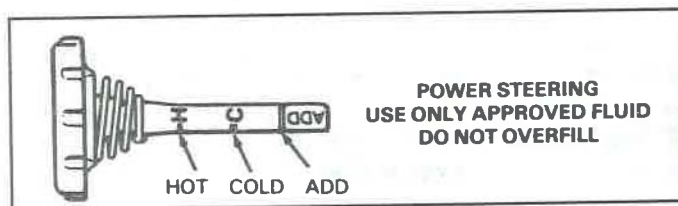
POWER STEERING SYSTEM

Check the fluid level in the power steering pump as recommended in the Maintenance Schedule power steering pump at the interval as recommended in the Maintenance Schedule booklet. Add GM Power Steering Fluid (GM Part Number 1050017 or equivalent) as needed:

- 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 filler cap indicator.

- 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.



HALOGEN BULB

CAUTION: Halogen bulbs contain a gas under pressure. Handling a bulb improperly could cause it to shatter into flying glass fragments. To help avoid personal injury:

- Turn off the light switch and allow the bulb to cool before changing bulbs. Leave the switch off until bulb change is complete.
- Always wear eye protection when changing a halogen bulb.
- Handle the bulb only by its base. And avoid touching the glass.
- Do not drop or scratch the bulb. Keep moisture away.

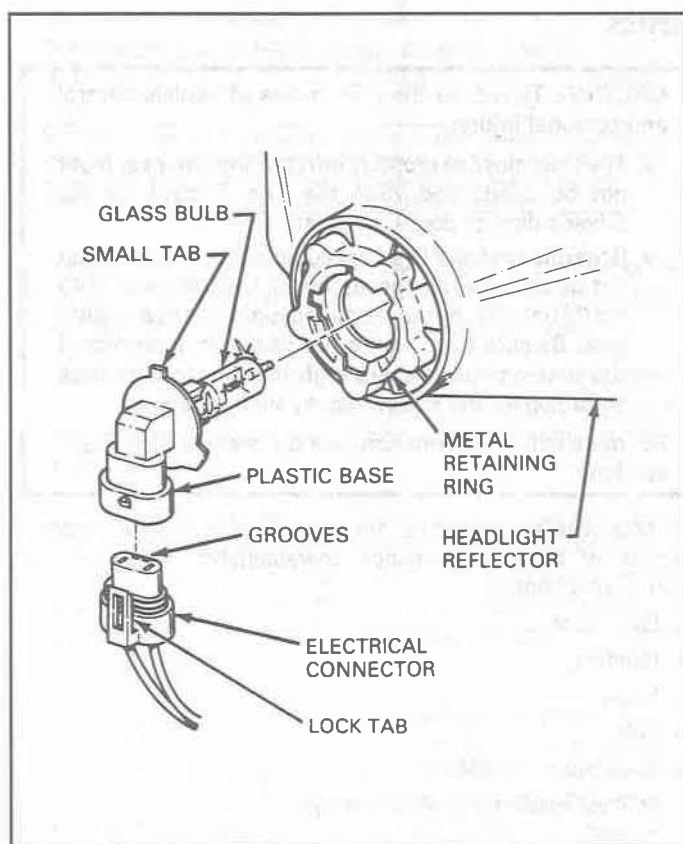
(Continued)

CAUTION: (Continued)

- Place the used bulb in the new bulb's carton and dispose of it properly. Keep halogen bulbs out of reach of children.

BULB REPLACEMENT

1. Lift the hood and locate access panel above and rear of headlamp.
2. Turn the access panel retainer 1/4 turn as indicated on the panel cover over the bulb to be changed. Lift the access panel off to reach either bulb.
3. Remove electrical connector from the bulb by raising the lock tab and pulling the connector down and away from the bulb's plastic base.
4. Press and turn the plastic base 1/4 turn counterclockwise and remove from metal retaining ring by gently pulling back and away from headlight.
5. Install bulb by inserting the smallest tab located on top of the plastic base into corresponding notch in metal retaining ring. Turn 1/4 turn clockwise until it stops. The small plastic tab should be at the top of the metal ring.
6. Install electrical connector with slotted grooves facing to front of vehicle.
7. Replace the access panel and turn the retainer 1/4 turn to lock it in place.



5-14

TIRES

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

- The tires must be properly inflated, and your car must not be overloaded. (See the Tire Placard on the driver's door or door lock pillar).
- Regardless of the legal speed limit, your Buick must not be operated at speeds faster than 85 mph (140 km/h) unless it has the required high-speed capability tires. Be sure to consult a tire dealer to determine if the tires on your car are high-speed capability tires before operating your Buick at such speeds.

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

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

- Endurance
- Handling
- Noise
- Ride
- Road Hazard Resistance
- Rolling Resistance (Fuel Economy)
- 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 car will perform well at all normal loads when inflated as recommended on the Tire Placard which is located on the driver's door or door lock pillar. Do not load your car beyond the weight shown under the heading "Vehicle Capacity Wt." on the Tire Placard. This vehicle capacity weight is the combined weight of the occupants, and all cargo including luggage compartment load. This weight would also include all non-factory installed options. The vehicle capacity weight tells you the design limits of the car, not just of the tires.

Also see "Storing Things In (or On) The Car" in Section 1 for additional information.

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.

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 Buick 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 car.

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 they could fail without warning.

You can get wheels from your Buick dealer.

Warranty

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

TIRE-LOADING INFORMATION

OCCUPANTS			VEHICLE CAPACITY WT.	
FRT.	CTR.	RR.	TOTAL	LBS. / Kg.

MAXIMUM LOADING AT GVWR **LBS./Kg.**

TIRE SIZE	IF TIRES ARE HOT ADD 4 PSI (28 kPa)		COLD TIRE PRESSURE	
	FRT.	PSI/kPa	REAR	
SPARE TIRE				

SEE OWNERS MANUAL FOR ADDITIONAL INFORMATION
PRINTED IN U.S.A. 01AP84 14065204B

Inflation Pressure

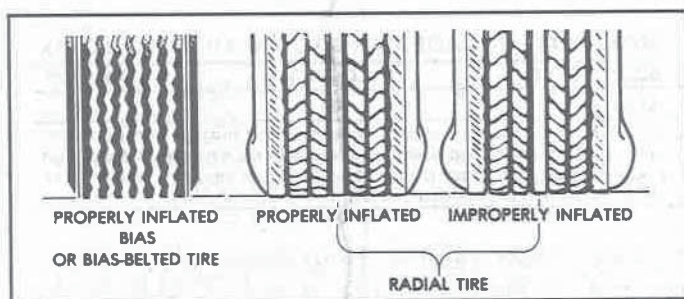
The cold inflation pressures listed on the Tire Placard provide the best balance of fuel economy, tire life, riding comfort, and handling under normal driving conditions. These pressures should be used for all driving conditions.

Incorrect tire inflation pressures can have adverse effects on tire life and car performance. Air pressure that's too low 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. Air pressure that's too high can result in abnormal wear and harsh ride, and can increase the chance of damage from road hazards.

MAXIMUM LUGGAGE/CARGO COMPARTMENT LOAD		
BODY STYLE	KILOGRAMS	POUNDS
ALL	68	150
NOTICE: The total combined weight of the luggage compartment load, luggage rack load (when equipped), trailer tongue load, and passengers must not be higher than the car's capacity weight. The weight is shown on the tire placard on the driver's door.		

Check tire inflation pressures at least monthly (this includes the spare tire) and whenever your car 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 car 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. We suggest you use a quality pocket-type tire pressure gage to check inflation pressure. 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.



4. 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.
5. 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 at the first 7,500 miles (12,500 km). 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 and be sure to check wheel nut tightness. See "Wheel Nut Torque" in Section 3 for further information.

CAUTION: Whenever a wheel is changed, always remove any corrosion and dirt buildup from the inside of the wheel and wheel mounting surface on vehicle. It may be necessary to use a scraper as well as a wire brush. 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 car is moving, possibly causing loss of control.

RECOMMENDED ROTATION PATTERN*



* READ "INSPECTION AND ROTATION" TEXT FOR ADDITIONAL INFORMATION ON TIRE ROTATION.

DO NOT INCLUDE "TEMPORARY USE ONLY" SPARE TIRE IN ROTATION.

Alignment and Balance

Proper wheel alignment improves tire tread life. Your car's suspension parts should be inspected often and aligned when needed. (See the Maintenance Schedule booklet for more information.)

Improper alignment will not cause the car 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 car 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:

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

Your car has TPC all-season radial tires (see "Tire Replacement" in this section), designed to provide better snow traction. In fact, these tires should be adequate for driving in most winter conditions. However, if you buy conventional snow tires, be sure they are the same size, load range, and construction type (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 car. In addition, if you have P215/65R15 size tires, tire chain clearance is extremely limited. For this reason, chains should be used only when absolutely necessary and under the following conditions:

- Do not exceed 30 mph (48 km/h).
- Do not exceed 5 mph (8 km/h) with the steering wheel turned fully in either direction.
- Avoid conditions that cause the front of your car to bounce up and down when the steering wheel is turned 2/3 or more in either direction.

Use of chains may adversely affect your car'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 car:

- Install the chains on the front tires as tightly as possible and tighten them again after driving 1/4 to 1/2 mile (0.4 to 0.8 kilometer). However, if the chains can be heard contacting the car, retighten immediately. If this is not done, damage to the vehicle may result. The use of chains on the rear tires is not recommended; the chains may contact and damage the car. 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. See the above information for reduced speed restrictions with certain tire options.
- Drive in a restrained manner and avoid large bumps, potholes, severe turns and other maneuvers which could cause the tires to bounce up and down.
- Follow any additional instructions of the chain manufacturer.

Spare Tire

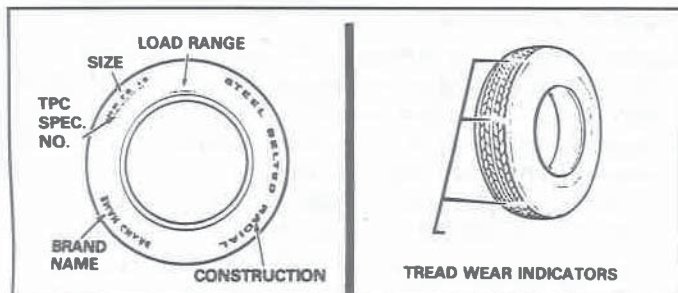
For the use and installation of your spare tire see Section 3.

Tire Replacement

CAUTION: Do not mix different tire construction types (such as radial, bias, and bias-belted) on your car except in emergencies because your car'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 car.

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 car. The TPC Spec. No. assures a proper blend 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 car. If you intend to replace your tires with an all-season tread design, make sure your TPC Spec. No. has MS (mud and snow) following the number.

When replacing tires with those not having a TPC Spec. No., you should use the same size, load range, speed rating and construction type (bias, bias-belted, or radial) as the original tires on your car. A different size or type of tire may affect such things as ride, handling, maximum speed capability,



speedometer/odometer calibration, vehicle ground clearance, and tire or tire chain clearance to the body or chassis. If replacing only a single tire, the new tire should be used on the same axle with the least worn tire.

You Should Replace Your Tires When:

- They 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.
- The tread or sidewall is cracked, cut or snagged deep enough to expose the cord, or fabric.
- The tire has a bump, bulge, or split.

- The tire has a puncture, cut, or other damage that can't be correctly repaired because of the size or location of the damage.

Uniform Tire Quality Grading

The following information relates to the system developed by the United States National Highway Traffic Safety Administration which grades tires by treadwear, traction and temperature performance. (This applies only to cars sold in the United States.)

Treadwear

The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear one-and-one-half (1 1/2) times as well on the government course as a tire graded 100. The relative performance of tires depends upon the actual conditions of their use, however, and may depart significantly from the norm due to variations in driving habits, service practices, and differences in road characteristics and climate.

Traction – A, B, C

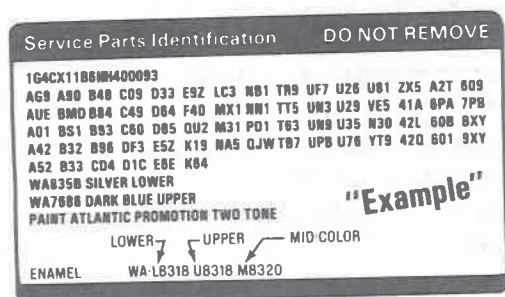
The traction grades, from highest to lowest are: A, B, and C. They represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance.

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

SPECIFICATIONS, PRODUCT SERVICE PUBLICATIONS, INDEX, ETC.

These specifications are given here for information only. Before using them, see the 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 Buick dealer may also be able to help.

SERVICE PARTS IDENTIFICATION LABEL



The Service Parts Identification Label is provided on all car models. It is located on the inside of the trunk lid. The Label lists the V.I.N. (vehicle identification number), paint information and all production options or special equipment on the car when it was

shipped from the factory. Be sure to provide this information to your authorized Buick dealer when it is necessary to order parts.

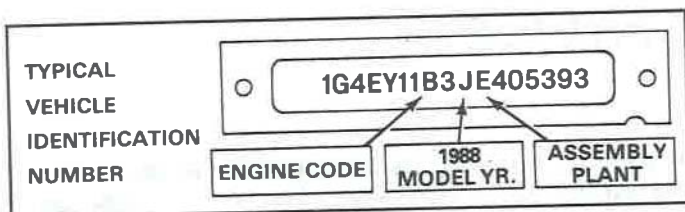
REPLACEMENT PARTS

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 Buick dealer or parts supplier. Use a part that is equivalent to the one being replaced.

IDENTIFICATION NUMBERS

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. (See illustration.) The VIN also appears on the certificates of Title and Registration.



Engine Identification

You can identify your engine from the Vehicle Identification Number. The eighth character of the VIN is the Engine Code. See the Engine Code Identification charts following. Some information in this manual may refer to the Engine Code. For example, Engine Code C denotes a 3.8 Liter, Option Code LN3, V-6 engine.

CAPACITIES

Capacities shown are rounded to the closest 1/2 measure. Use them only as guides as actual quantities will vary.

Crankcase: When changing the oil filter, add what engine oil is needed to bring the oil level above the "ADD" mark on the dipstick.

Transaxle: When draining or replacing the torque converter, add transaxle fluid to bring the fluid to a level as indicated in Section 5.

ENGINE CODE C¹ (LN3)² 3.8L V-6 SFI

BELT TENSIONS —

AUTOMATICALLY CONTROLLED BY AN IDLER PULLEY
TENSION ADJUSTMENT SHOULD NEVER BE
NECESSARY.

COOLING SYSTEM CAPACITY —

12.5 LITERS/13 QUARTS

CRANKCASE CAPACITY (LESS FILTER)

4 LITERS/4 QUARTS

FUEL TANK CAPACITY —

71 LITERS/18.8 GALLONS

AUTOMATIC TRANSAXLE CAPACITY —

10.5 LITERS/11 QUARTS

MAINTENANCE ITEM PART NUMBERS³ —

AIR CLEANER — A974C

FUEL FILTER — GF483

OIL FILTER — PF47

PCV VALVE — CV899C

RADIATOR CAP — RC27

SPARK PLUG — R44LTS6, GAP .060

¹ 8th Character of the Vehicle Identification Number.

² Made in a GM plant in the United States.

³ Part numbers are AC type.

TIRE AND WHEEL SYSTEMS -
WHEEL NUT TORQUE

140 Newton-Meters (100 pound-feet)

Refer to Sections 3 and 5 for complete wheel changing and tire information.

"ADD ON" ELECTRICAL EQUIPMENT

The electrical system in your car is designed to perform under expected operating conditions without interference between components. Before any additional electrical equipment is installed after you purchase your car, please consult your dealer. Certain electrical equipment or the way in which it is installed may adversely affect the operation of your car, including such components as the engine, or the operation of certain systems, including the driver information, entertainment and electrical charging systems. Buick assumes no responsibility for any expense which you may incur or for any adverse effect upon your vehicle or any of its components or systems which may result from the installation of additional electrical equipment which is not supplied or recommended for installation by Buick Motor Division.

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. 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 for most vehicles in the group will be better than the figures reported.

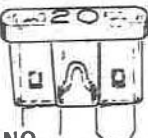
STOPPING DISTANCE DATA

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.

VEHICLE STOPPING DISTANCES	FULLY OPERATIONAL	LIGHT LOAD	 168		
	SERVICE BRAKE	MAXIMUM LOAD	 197		
	EMERGENCY SERVICE BRAKE WITH PARTIAL SERVICE BRAKE SYSTEM FAILURE - RED LIGHT ON		 419		
	BRAKE POWER UNIT FAILURE - MAXIMUM LOAD		 400		
	STOPPING DISTANCE IN FEET FROM 60 MPH	100	200	300	400

AUTOFUSE

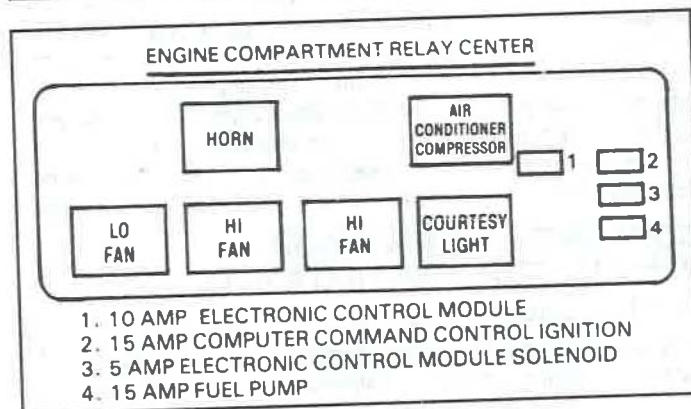
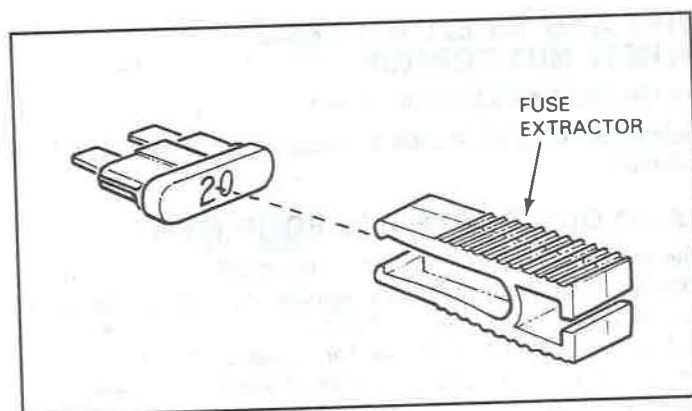
These are the fuses for the fuse block. They come in the following amperes and colors.

GOOD FUSE		BLOWN FUSE	
			
GM PART NO.	RATING	COLOR	
12004003	3 AMP	VIOLET	
12004005	5 AMP	TAN	
12004006	7.5 AMP	BROWN	
12004007	10 AMP	RED	
12004008	15 AMP	LIGHT BLUE	
12004009	20 AMP	YELLOW	
12004010	25 AMP	WHITE	
12004011	30 AMP	LIGHT GREEN	

FUSE BLOCK AND RELAY CENTER

There are two relay centers and a fuse block on your Riviera. The fuse block is located in the right (passenger's) side of the console under a snap-in cover. It can be removed by pulling on the finger recess to the right of the word "FUSES." A fuse puller is attached to the back of the cover.

The other relay center is located next to the windshield washer fluid container under the hood. Remove the cap labeled "Relay Center" to find the fuses and relays.

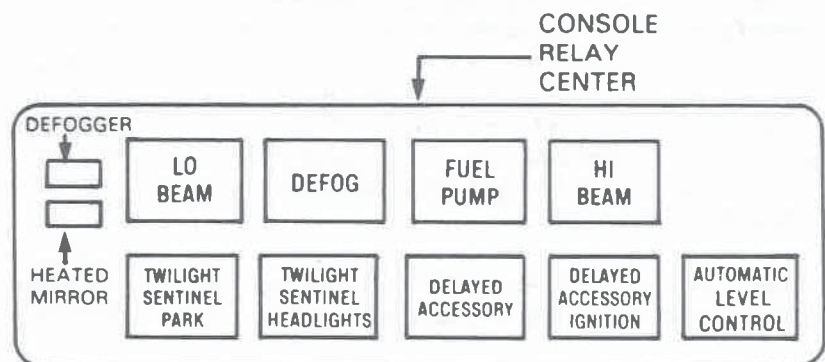
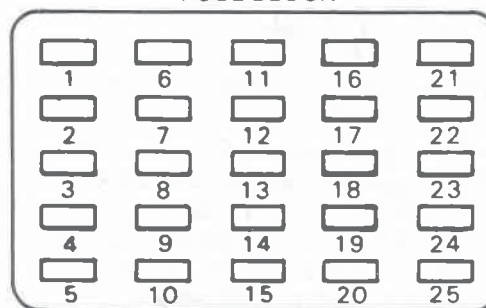


FUSE LOCATIONS

POSITION RATING DESCRIPTION

1. 20 AMP – IGNITION
2. 20 AMP – COURTESY LIGHTS, TRUNK LIGHT, CONSOLE PANEL LIGHTS
3. 10 AMP – ANTENNA
4. 20 AMP – LIGHTER
5. 15 AMP – CENTRAL POWER SUPPLY TO ELECTRONICS
6. 20 AMP – STOP/HAZARD LIGHTS
7. 15 AMP – TORQUE CONVERTER
8. 3 AMP – CRUISE
9. 10 AMP – CLIMATE CONTROL
10. 20 AMP – TAIL/PARK LIGHTS
11. 15 AMP – RADIO
12. 25 AMP – WIPER
13. 15 AMP – TRUNK RELEASE, FUEL DOOR RELEASE
14. 25 AMP – ACCESSORY
15. 3 AMP – ACCESSORY
16. 3 AMP – STARTER
17. 25 AMP – TRUNK
18. 20 AMP – AUTOMATIC LEVEL CONTROL
19. 10 AMP – CLIMATE CONTROL
20. 5 AMP – COOL FAN
21. 10 AMP CIRCUIT BREAKER – HEADLIGHTS
22. 20 AMP CIRCUIT BREAKER – HEADLIGHTS
23. 30 AMP CIRCUIT BREAKER – POWER SEATS
24. 30 AMP CIRCUIT BREAKER – HORN/DEFOG
25. 30 AMP CIRCUIT BREAKER – WINDOWS

FUSE BLOCK



6-5

UPDATED SERVICE INFORMATION YOU CAN OBTAIN*

Buick Motor Division regularly sends its dealers useful service bulletins about Buick products. Buick monitors product performance in the field. We then prepare bulletins for servicing our products better. Now, you can get these bulletins too.

Bulletins cover various subjects. Some pertain to the proper use and care of your car. Some describe costly repairs. Others describe inexpensive repairs which, if done in a timely manner with the latest parts, may avoid future costly repairs. Some bulletins tell a mechanic how to repair a new or unexpected condition. Others describe a quicker way to fix your car. They can help a mechanic service your car better.

Most bulletins apply to conditions affecting a small number of cars. Your Buick dealer or a qualified mechanic may have to determine if a specific bulletin applies to your car.

You can subscribe to all Buick bulletins. This way you'll get them as they come out. You can wait a while and get an index to the bulletins. The index summarizes some of the more important bulletins. You can also get individual bulletins. However, you'll need the index to identify them.

Subscriptions

You can subscribe to all Buick Product Service Publications (PSP'S). This will include bulletins for all of the cars sold by Buick and will not be limited to the PSP's applicable to any particular model. When you buy a Subscription, you will receive the PSP's in periodic mailings, shortly after they come out. A Subscription costs \$86.50 (or \$99.50 with binders) and entitles you to all the PSP's published by Buick during the model year. You can purchase a Subscription by sending a check or money order to Service Publications, P.O. Box 1901, Flint, Michigan 48501 along with the order form located at the end of this section. You may get additional subscription ordering forms by calling the toll-free number listed below, or you can find them at participating dealerships.

Individual PSP's

If you don't want to buy all the PSP's issued by Buick for all car models in the model year, you can buy individual PSP's, such as those which may pertain to a particular model. To do this, you will first need to see our index of PSP's. It provides a variety of information. Here's what you'll find in the index and how you can get one:

*Information on how to obtain Product Service Publications, Subscriptions, Indexes and Summaries as described below is applicable only in the fifty states (and the District of Columbia) and only for cars with GVWR less than 10,000 pounds.

In Canada information pertaining to Product Service Bulletins and indexes can be obtained by writing to: General Motors of Canada Limited, Service Publications Department, Oshawa, Ontario L1J5Z6.

What You'll Find in the Index:

- A list of all PSP's published by Buick in a model year (1985 or later). PSP's covering all models of Buick cars are listed in the same index.
- Ordering information so you can buy the specific PSP's you may want.
- Price information for the PSP's you may want to buy
- Easy-to-understand summaries of some of the more important PSP's. These Summaries highlight some of the PSP's which describe costly repairs or which are designed to prevent costly repairs, or which contain owner use and care information.

How You Can Get An Index:

Indexes are published quarterly each model year, and each quarterly issue is updated cumulatively for that model year. Most of PSP's which could potentially apply to the most recent Buick models will be listed in the last quarterly publication for that model year. This means you may want to wait until the end of the model year before ordering an index, if you are interested in buying PSP's pertaining to a current model year car.

Some PSP's pertaining to a particular model year car may be published in later years, and these would be listed in the later year's index. When you order an index for a model year that is not over yet, we'll send you the most recently published quarterly issue. You can specify an index for an earlier model year, but not before 1985.

Cut out the ordering form, fill it out, and mail it in. We will then see to it that an index is mailed to you. There is no charge for indexes for the 1985-1988 model years.

Toll-Free Telephone Number

If you want an additional ordering form for an index or a subscription, just call toll-free and we'll be happy to send you one. Automated recording equipment will take your name and mailing address. The number to call is 1-800-551-4123.

Copies at Participating Dealers

Copies of indexes and individual PSP's are at your participating Buick dealer. You can ask to see them.

A VERY IMPORTANT REMINDER: These PSP's are meant for mechanics. They are not meant for the "do-it-yourselfer." Mechanics have the equipment, tools, safety instructions and know-how to do a job quickly and safely.



PUBLICATIONS ORDER FORM

NAME _____

ADDRESS _____

CITY _____

STATE _____

ZIP _____

WHAT'S A PRODUCT SERVICE PUBLICATION?

Product Service Publication (PSPs), are bulletins, letters and articles published for trained dealer service personnel. They describe or recommend diagnostic, maintenance, or repair procedures, parts recommendations or use and care information. The indexes list all PSP's published by Buick in each model year.

Buick bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer". They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your Buick dealer for information on whether your vehicle may benefit from the information.

WHAT'S A CHASSIS SERVICE MANUAL?

Chassis Service Manuals have diagnosis, repair and overhaul information on engines, transmission, axle, suspension, brakes, electrical, steering, etc. 1984 through 1987 model manuals were published in looseleaf format and included all series in a single publication. The 1988 Chassis Service Manuals are published in a bound format for each series. The 1988 Regal Chassis Service Manual is combined with the Body Service Manual.

WHAT'S A BODY SERVICE MANUAL?

Body Service Manuals have repair information on trim, seats, windows, doors, etc. These manuals are published in a bound format. The 1988 Regal Body Service Manual is combined with the Chassis Service Manual.

WHAT ARE OWNER PUBLICATIONS?

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9-1-87R

OWNER'S RECORD OF UPKEEP & FUEL USAGE

DATE	MILEAGE	AMOUNT	^{gallons} CHECK# OR CREDIT CARD #	CITY	ST	MPG	COMMENTS
4/2/88	503	*12.00	13.6	Lee		16.5	
5/1	750	*13.75	14.3	"		17	
6/11	1050	*13.00	14	"		22	
7/2	1401	*12.00	13.2	"		26.6	
7/17	1598	*10.00	10.2	"		19	
8/1	1795 (197)	*10.00	10.0	"		20	
8/11	1934 (39)	*5.71	5.4	"		24	
9/12	2151 (17)	*12.67	12.9	"		16	
10/9	2423 (22)	*13.00	14.3	"		19	
10/14	2456	*16.00	oil + lube + antifreeze to -40° F.				
10/25	2620 197	*9.00	10.0	"		19.7	
11/16	2890	*13.00	13.3	"		20.5	
11/19	3134 244	*9.02	9.2	"		26	
12/5	3285 151	*7.00	7.5	"		20	
12/8	3621 326	*12.00	12.9	"		27	

OWNER'S RECORD OF UPKEEP & FUEL USAGE

DATE	MILEAGE	AMOUNT	^{gallons} CHECK # OR CREDIT CARD #	CITY	ST	MPG	COMMENTS
12/19	3874	*12.00	13.3	NE		19	
3/22/89	4663	*23.00	23.7	"		33	
5/1/89	4948	*15.00	13.3	"		21.5	
5/16	5076	*23.89		"			oil & lube & rotate tires
6/1	5194	15.00	13.5	"		17.5	
6/28	5486(292)	*15.00	13.5	"		21.7	
7/12	5788(302)	*16.00	14.7	"		21	
7/29	6058(270)	*15.00	14.2	"		19	
10/2	6348(290)	*16.00	15.3	"		19	
11/8	6526(278)	*8.00	8.4	"		20.5	
12/14	6778(253)	*12.00	12.8	"		20	
12/22	6999(221)	*12.00	12.9	"		17	
6/6/90	7377(224)	*17.00	16.0	"		17.5	
7/2/90	7521(244)	*12.00	12.0	"		21.1	
4/13	76341						oil & lube, new power steering pump

6-11

OWNER'S RECORD OF UPKEEP & FUEL USAGE

DATE	MILEAGE	AMOUNT	CHECK # OR CREDIT CARD #	CITY	MPG ST	COMMENTS
5/7	7824 (300)	*16.00	45.2	Ne	30	
6/25	7999 (178)	*11.00	10.2	"	17	
7/23	8291 (292)	*16.00	15.7	"	19	
8/23	8570 (279)	*13.00	10.0	"	22	
10/12	8677 (167)	*13.00	9.6	"	17	
1/30	8857 (188)	*13.00	9.8	"	18	
3/19/91	9089 (232)	*13.00	12.4	"	19	
4/2/91	9264 (172)	*12.00	10.6	"	16	
9/4	9564 (303)	*17.50	15.2	"	20	
10/17	9806 (242)	*13.00	11.9	"	20.6	
11/14	1014 (305)	*17.00	14.8	"	21	
11/14/92	10394 (283)	*17.00	15.5	"	18	
6/18	10613	oil, lube, filter, air filter, rotate tires				
7/7	10653 (258)	*16.00	13.5	"	19	
10/7	10989 (337)	*17.00	15.0	"	22.5	

6-12

OWNER'S RECORD OF UPKEEP & FUEL USAGE

DATE	MILEAGE	AMOUNT	CHECK # OR CREDIT CARD #	CITY	ST	COMMENTS
10/21	1124 (257)	\$13.00	11.4 / \$1.139	"	21	
11/7/93	11358/117	\$16.15	5.8 / \$1.079	"	20	
4/14	11488/130	\$8.00	7.0 / \$1.149	"	19	
5/19	11774/287	\$17.00	14.3 / \$1.189	"	20	
8/6	11939/165	\$10.00	8.9 / \$1.129	"	17	
10/5	12506		11.3 / \$1.149	"		
11/1/94	12611	new	battery \$105	- 6 year warranty. Oil & lube		
3/8	13100/596		~30	"	17	
3/21	13185/85	\$5.00	4.9 / \$1.02	"		
3/22	13009/424	14.25	14.7 / \$0.97		28.9	
3/25	13888/279	\$10.10	9.7 / \$1.02		28.8	
3/25						
3/26	14577/689	\$25.66	25.5 / \$1.102		26.1	
6/7	14772/190	\$11.30	10 / \$1.12	"	19	
7/14	15032/260	\$15.00	12.3 / \$1.23	"	21	

6-13

Gallons/price

CHECK # OR

MP6
ST

DATE	MILEAGE	AMOUNT	CREDIT CARD #	CITY	ST	COMMENTS
------	---------	--------	---------------	------	----	----------

[illegible]

COMMENT

[illegible]

6-15

OWNER'S RECORD OF UPKEEP & FUEL USAGE

[illegible]

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OWNER'S RECORD OF UPKEEP & FUEL USAGE

[illegible]

6-17

OWNER'S RECORD OF UPKEEP & FUEL USAGE

[illegible]

OWNER'S RECORD OF UPKEEP & FUEL USAGE

[illegible]

OWNER'S RECORD OF UPKEEP & FUEL USAGE

[illegible]

6-20

OWNER'S RECORD OF UPKEEP & FUEL USAGE

DATE	MILEAGE	AMOUNT	CHECK# OR CREDIT CARD #	CITY	ST	COMMENTS	

OWNER'S RECORD OF UPKEEP & FUEL USAGE

[illegible]

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OWNER'S RECORD OF UPKEEP & FUEL USAGE

DATE	MILEAGE	AMOUNT	CHECK # OR CREDIT CARD #	CITY	ST	COMMENTS	

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SERVICE STATION INFORMATION

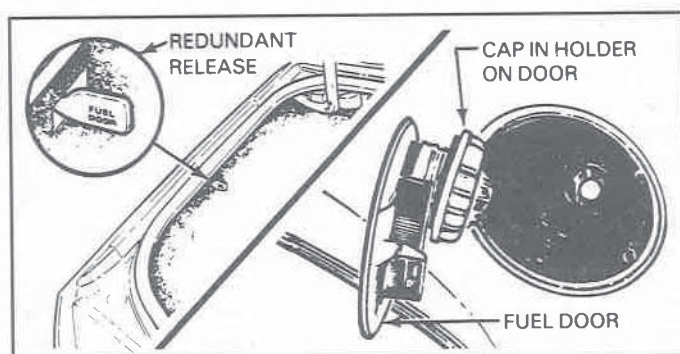
Refer to "Service and Maintenance," Section 5, for further details.

FUEL REQUIREMENTS

Use unleaded gasoline only. See "Fuel Requirements" in the first part of Section 2.

FUEL DOOR

The fuel door is on the driver's side rear quarter panel. To release the fuel door lock, push the "Fuel Access" keypad located in front of the automatic transaxle console shifter. The ignition lock must be in run or accessory position with the shift lever in park, or the retained accessory power feature must be activated for "FUEL ACCESS" key pad to operate. If you need to use it, there is an override lever inside the trunk on the same side near the fuel door. Grasp the lever and push it toward the front of the car. The door will pop open. Prying on an unreleased fuel door will damage it. Store the fuel cap in the holder on the fuel door while pumping fuel.



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 Buick dealer.

CAUTION: Fuel may be under pressure. Remove fuel cap slowly to prevent fuel from spraying out and causing injury.

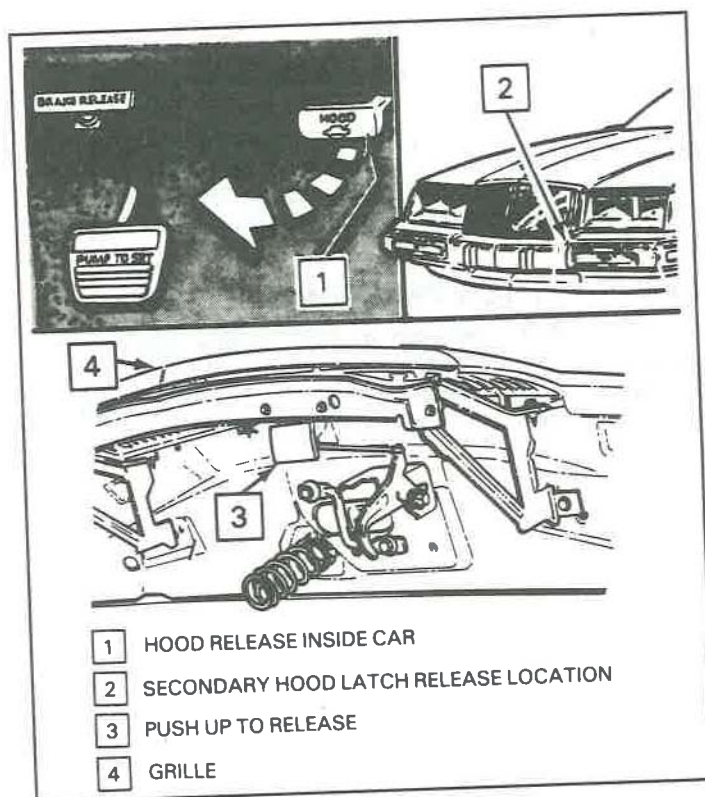
STEPS IN REFUELING

CAUTION: Before pulling up to a fuel pump, be sure that all occupants in your vehicle stop smoking and extinguish any smoking materials. Do not permit spark or flames in the presence of gasoline fuel or fumes, to help avoid personal injury or property damage due to fire. Gasoline will ignite and burn rapidly if fuel is free to vaporize in the 'right' proportions at a source of ignition; these proportions usually occur a short distance from liquid fuel such as at a filler pipe outlet.

1. Follow all the steps under "Parking" in Section 2.
2. Select the correct fuel as referenced above. Follow any posted safety rules. Stand to the side, never above or opposite the filler opening.
3. Check that the fuel cap is tight, and see to it that engine oil, coolant in the reservoir, and washer fluid, etc. are at proper levels. Then do the Driver Daily Checklist in Section 1.

HOOD RELEASE

The hood release handle is located beneath the instrument panel to the left of the steering column. To open, pull the handle to release the hood lock. Then, outside the vehicle, push down slightly on the hood while lifting the underhood lever, and raise the hood. (See illustration.)



ENGINE OIL

If the outside temperature is expected to be above 0°F (-18°C) prior to the next oil change, an SF/CC-quality, SAE 10W-30, Energy-Conserving oil is the preferred engine oil for your vehicle. However, where the outside temperature is expected to be below 60°F (16°C) prior to the next oil change, an SF/CC-quality, SAE 5W-30, Energy-Conserving oil provides improved cold-starting performance.

TIRE INFLATION PRESSURES

Check tire inflation pressures at least monthly (including the spare). Keep them inflated to the pressures shown on the Tire Placard on the driver's door or door lock pillar. (Keep compact spare tires inflated to 415 kilopascals or 60 pounds per square inch.)

ENGINE COOLING SYSTEM

Check the fluid level in the coolant reservoir 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 container fluid level regularly. Use a high quality premixed solvent available at most dealers or service stations, or GM Optikleen. Avoid hard water when mixing Optikleen or other windshield washer solvents. Hard water contaminates may plug orifices in washer systems and reduce performance.

BATTERY

Your new car 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.

**KEEP WITH CAR
AT ALL TIMES.
CONTAINS IMPORTANT
OPERATING, SAFETY,
AND MAINTENANCE
INSTRUCTIONS.**

