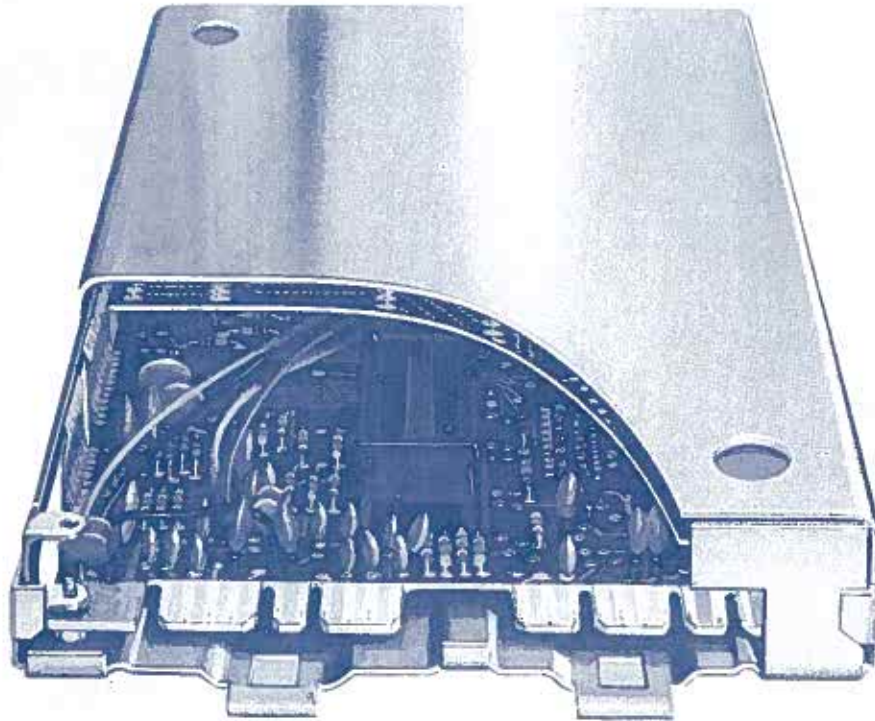
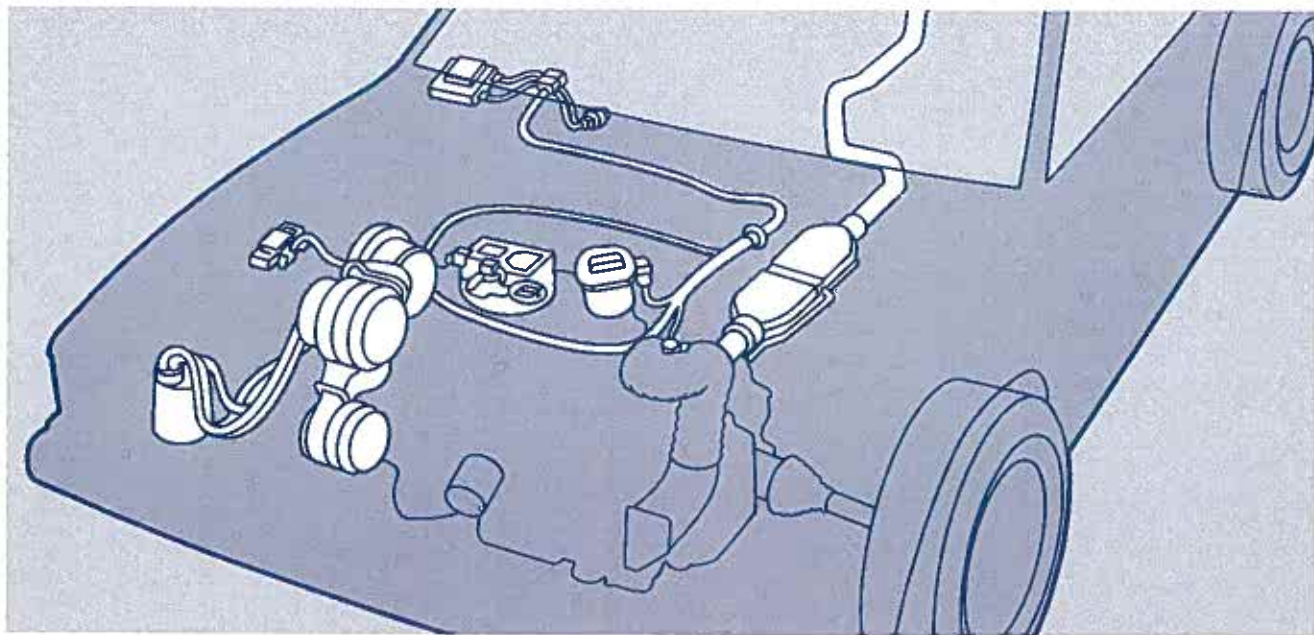


# CHEVROLET VALUE FEATURES FOR 1981



Computer Command Control

		<b>Index</b>	
Automatic Transmission Converter Clutch .....	5	Halogen Headlamps .....	6
Automatic Transmission With Overdrive .....	5	Headlamps-On Warning Buzzer .....	6
Ball Joint Wear Indicator .....	9	High Energy Ignition System .....	9
Column-Mounted Dimmer Switch .....	6	MacPherson Front Suspension .....	7
Compact Spare .....	6	Operating Economy .....	8
Computer Command Control .....	2	Permanently Lubricated Wheel Bearings .....	8
Coolant Recovery System .....	9	Power Steering .....	6
Diagnostic Connector .....	5	Rack-and-Pinion Steering .....	7
Diesel Engine .....	4	Service Intervals .....	8
Disc Brakes with Wear Sensor .....	8	Side-Lift Frame Jack .....	6
Easy-Roll Radial Tires .....	9	V6 Engines .....	3
Four-Cylinder Engines .....	3	Turbocharged V6 Engine Schematic .....	3
Four-Speed Manual Transmission .....	5	V8 Engines .....	4



## COMPUTER COMMAND CONTROL —

Chevrolet's new fuel management and emissions control system — with a memory!

For 1981, every gas-powered Chevrolet has the revolutionary Computer Command Control. This is an advanced power team control system — an on-board computer . . . that monitors engine functions and adjusts the carburetor and other components (similar to fine-tuning) to an optimum level as you drive.

Computer Command Control monitors or senses engine functions, such as oxygen in the exhaust, coolant temperature, engine vacuum, engine RPM, throttle position and, with some engines, actual vehicle speed. The computer processes the information and controls the air-fuel mixture, the A.I.R. system and, in most engines, actually adjusts timing as you drive. Further, with the base V6 engine in Caprice/Impala, Monte Carlo, Malibu and Camaro, idle speed is adjusted. The torque converter clutch in automatic transmissions is also controlled by the computer for driving smoothness. The continuous adjustment of the carbure-

tor and other components fine-tunes the engine performance which generally aids drivability. At the same time, the exhaust gases are in the proper mixture when they reach the dual-bed catalytic converter for the final "clean-up" of emissions, and Chevrolet will have the lowest exhaust emissions in its history. And as another benefit, fuel economy will actually be *increased* in the majority of the engines in the lineup.

Computer Command Control is covered by the 5-year/50,000-mile emissions system warranty. However, should a malfunction ever occur, a "check engine" light flashes to alert the driver that the *system* is not operating properly, *but the engine will still be operable*. The light's a warning to tell the driver to bring the car in for service at an early date to avoid wasting gasoline or to avoid excessive exhaust pollution.

Another remarkable feature of Computer Command Control is that not only will it signal the

driver, should a malfunction occur, but it will also have the ability to diagnose itself and store the information. It can tell the mechanic where to look for the malfunction. The mechanic grounds the computer's test terminal, and the "check engine" light will flash a code number with a series of dots to tell the mechanic where to check, according to a diagnosis/repair manual. Still another remarkable feature of the system is that it has the ability to store in its memory bank a number of malfunctions, including intermittent malfunctions, making them easy to diagnose.

This amazing Computer Command Control is a product of the Delco Electronics Division, the outfit that was involved in the design and manufacture of the guidance systems that took the Apollo astronauts to the moon and back. In addition, components of Computer Command Control have been installed in vehicles logging millions of miles.

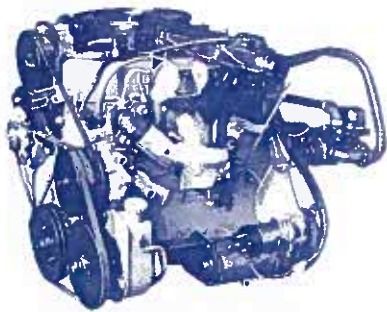


## ENGINES



### 1.6 LITER (98 CU. IN.) 2-BBL. L4 (RPO L17)

This engine, standard in all Chevettes, features a belt-driven overhead camshaft with aluminum intake manifold and staged, 2-barrel carburetor. The "tuned" intake manifold and specially designed cylinder head inlet ports help in free-breathing for peppy acceleration and exceptional fuel economy. Hydraulic valve lifters are standard.



### 2.5 LITER (151 CU. IN.) 2-BBL. L4 (RPO LW9)

This rugged cast-iron block 4-cylinder features a large-bore and short-stroke overhead valve design and is standard in Citation models. A Varajet carburetor is coupled with an aluminum intake manifold in a cross-flow configuration where the intake system is on one side of the cast-iron head and the exhaust system on the other. This gives a free-breathing design for power and economy. Hydraulic valve lifters are standard.



### 3.8 LITER (229 CU. IN.) 2-BBL. V6 (RPO LC3)

This engine is the standard powerplant in Caprice/Impala (except Wagons), Monte Carlo, Malibu Classic/Malibu and Camaro, in all states except California. It is a lighter weight, more compact version of the larger V8; with the same bore and stroke as the 5.0 Liter V8. This V6 features the same durability features as the V8. It also has hydraulic valve lifters.

### 3.8 LITER (231 CU. IN.) 2-BBL. V6 (RPO LD5)

This is the standard engine in California for Caprice/Impala (except Wagons), Monte Carlo, Malibu Classic/Malibu and Camaro. This even-firing compact V6 also features a large-bore, short-stroke design with large 2-barrel carburetor. Intake manifold on Caprice/Impala models is cast aluminum; cast iron on the other models. Hydraulic valve lifters are used in all applications.

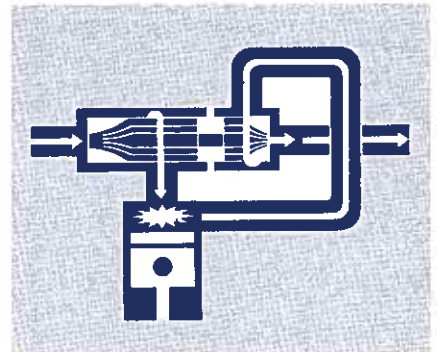
### 3.8 LITER (231 CU. IN.) TURBOCHARGED V6 (RPO LC8)

This optional V6 engine is available in Monte Carlo in all states. It features an exhaust-driven turbocharger and gives excellent acceleration and fuel economy. During normal operation, this even-firing V6 operates like a conventional engine with capable, smooth power. When extra power is needed, this exhaust-driven turbine drives a compressor, forcing a dense charge of air/fuel mixture into the cylinder. This produces the extra power.



### 2.8 LITER (173 CU. IN.) 2-BBL. V6 (RPO LE2)

Used as an optional engine for Citation, this even-firing V6 overhead-valve engine has a good horsepower-to-weight ratio. It features a distinctive 60°-V configuration for an exceptionally compact package. A 2-barrel carburetor, aluminum intake manifold, hydraulic valve lifters and exhaust valve rotators are included.



Schematic of Turbocharged V6



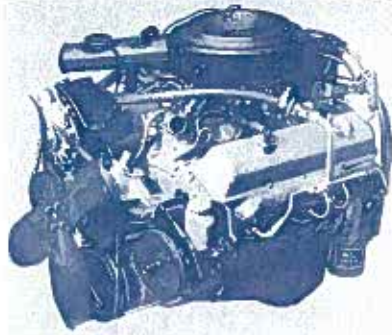
**2.8 LITER (173 CU. IN.) 2-BBL. (HIGH-OUTPUT) V6 (RPO LH7)**

This is a higher output version of the Citation V6 engine (and is included with the RPO Z19) Performance Package which includes a number of additional features, including a functional hood air inlet. The engine itself has larger intake and exhaust valves for greater breathing capacity. It also has a higher compression ratio.



**5.0 LITER (305 CU. IN.) 4-BBL. V8 (RPO LG4)**

This 5.0-Liter version of the V8 is available in Caprice/Impala, Monte Carlo, Malibu Classic/Malibu and Camaro models in all states (standard in Caprice/Impala Wagons in California). It features a 4-barrel carburetor, aluminum intake manifold and cast-iron cylinder heads and block. Short-stroke design features nodular iron crankshaft and cast alloy iron camshaft, hydraulic valve lifters and exhaust valve rotators.



**4.4 LITER (267 CU. IN.) 2-BBL. V8 (RPO L39)**

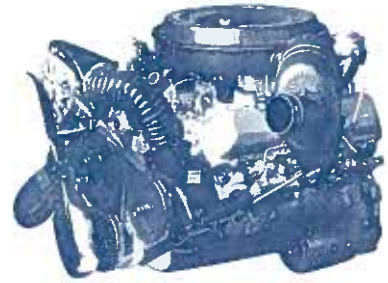
This is a smaller 4.4 Liter version of the V8 that is standard in Caprice/Impala Wagons, optional in Caprice/Impala, Monte Carlo, Malibu and Camaro and is available in all states except California. It features the same short-stroke design as the larger versions, but with a 2-barrel carburetor. It shares the same cylinder head, block, camshaft, crankshaft, valve and valve lifter features as the 5.0 Liter V8.

**5.7 LITER (350 CU. IN.) 4-BBL. V8 (RPO L81)**

Standard in Corvette, this engine features stainless steel exhaust manifolds, aluminum intake manifold and die-cast magnesium rocker covers. A thermostatically controlled electric cooling fan augments a smaller engine-driven cooling fan. This helps fuel economy and cuts noise by operating only when extra air is needed through the radiator during high temperature driving conditions.

**5.7 LITER (350 CU. IN.) 4-BBL. V8 (RPO LM1)**

Only available in Camaro Z28 as standard with automatic transmission, and in special Police Packages. 4-barrel carburetor, aluminum intake manifold, cast-iron block and heads, cast nodular iron crankshaft, cast alloy iron camshaft, hydraulic valve lifters and exhaust valve rotators combine to make this a free-breathing, lightweight, durable powerplant.



**DIESEL  
5.7 LITER (350 CU. IN.)  
V8 (RPO LF9)**

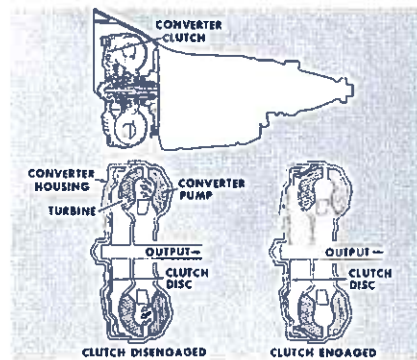
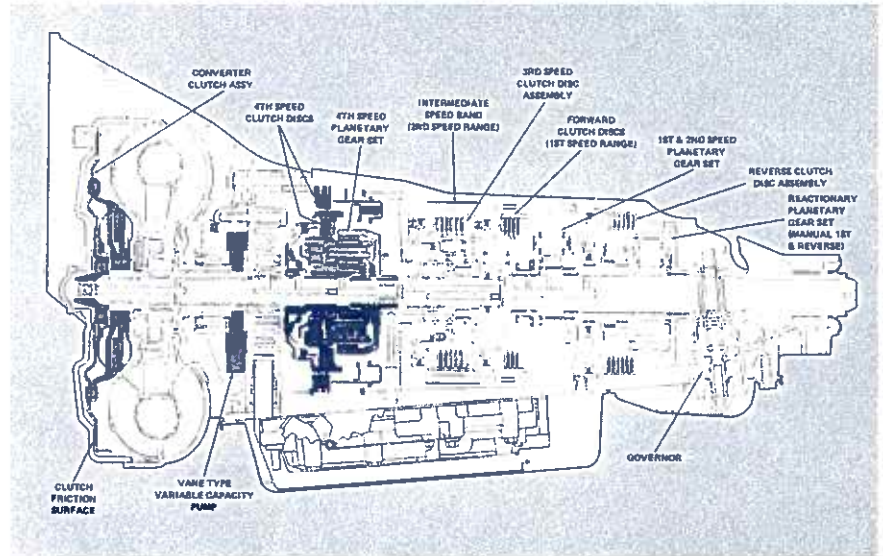
Compact-car economy in a full-size Chevrolet is offered for all Caprice and Impala models for 1981. This engine has no spark plugs, distributor or carburetor. It meets all existing emissions standards without a catalytic converter. This engine features a "quick-start" feature not found on some present and all older diesel engines. Quick starting is achieved by "fast-start glow plugs" that heat the combustion prechambers to reduce the waiting period, especially in cold weather. Tests show 8 seconds for warm-up at zero degrees Fahrenheit, compared to up to 60 seconds for older engines. There's an over-square 90°-V with a cast-iron reinforced structure, special components throughout. Recommended oil change intervals for normal conditions have been increased from 3,000 miles to 5,000 miles. (See Owner's Manual for conditions requiring more frequent intervals.)





## AUTOMATIC TRANSMISSION WITH OVERDRIVE

Available at extra cost only with 5.0 Liter V8 engine in Caprice and Impala models. It features a fourth gear or overdrive ratio that decreases engine speed on the highway. Coupled with a higher numerical axle ratio, this improves low and intermediate performance characteristics. When in overdrive, engine speed is decreased more than 14 percent in Sedans and Coupes, nearly 20 percent in Wagons, when compared to comparable 1980 models. Reduced engine speeds help give the feeling of effortless, quiet travel. Equipped with a fuel-efficient converter clutch, programmed through Computer Command Control the clutch engages at a nominal speed of 25 MPH. Overdrive engages at a speed above 35 MPH, with the torque converter clutch still engaged.

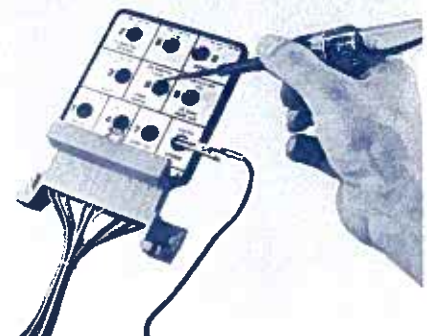


## COMPUTER-PROGRAMMED AUTOMATIC TRANSMISSION CONVERTER CLUTCH

Standard in all automatic transmissions except Citation and Chevette. Engagement is controlled by the Computer Command Control to provide smoother engagement than the vacuum control in 1980 models. The computer monitors throttle position and vehicle speed and programs engagement for 25 to 35 MPH for the 4.4 Liter V8, 30 to 35 MPH for 3.8 V6 and 5.0 Liter V8. In Camaro and Corvette with 5.7 Liter engine, engagement occurs in both 2nd and 3rd gears. Engagement occurs at 16 MPH and continues in 3rd gear to enhance fuel economy. Disengagement of the converter clutch occurs when the vehicle is accelerated or when the vehicle slows to a much lower speed, or when the throttle is suddenly released at highway speeds.

## 4-SPEED MANUAL TRANSMISSION

4-Speed manual transmissions are standard in Camaro Z28, Corvette, Citation and Chevette. All are fully synchronized in all forward speeds which means that shifting can be done without clashing gears. In all but the Citation, the transmission is located directly behind the engine and has a final drive ratio of 1:1. In the Citation, the transmission is also mounted behind the transverse-mounted engine, with the final drive coming out of the side (actually to the rear in this configuration) of the transmission case. Also in Citation, fourth gear has an overdrive ratio of .81.



## DIAGNOSTIC CONNECTOR

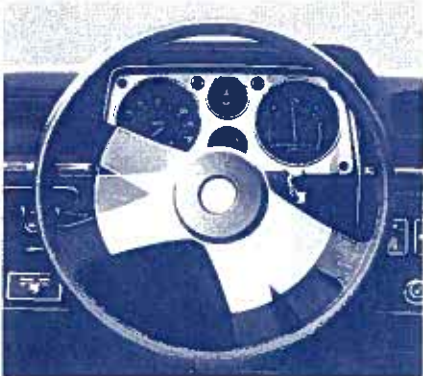
Standard on Caprice, Impala and Chevette models, the diagnostic connector allows the mechanic to quickly make up to 25 checks of the electrical system with diag-

nostic equipment. The connector also has a provision for using a remote starter button. Among the checks that can be made are the starting circuit, charging circuit, battery condition, lighting circuits and checking for shorts.



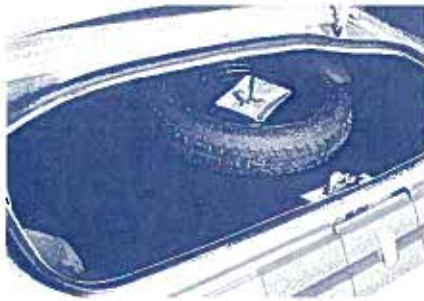
### COLUMN-MOUNTED DIMMER SWITCH

Standard on all models except Camaro. Integral with the turn signal lever, the control at the fingertips allows the driver to switch from low- to high-beam or vice versa with a flick of the lever. Avoids having to search for a floor button with the foot.



### POWER STEERING

Now standard in all models except Chevette and Citation, power steering aids parking and maneuvering in tight places. It features quicker steering than manual steering. While power steering is available on Citation (and for the first time on Chevette, with air conditioning and automatic transmission only), these models have rack-and-pinion steering standard.



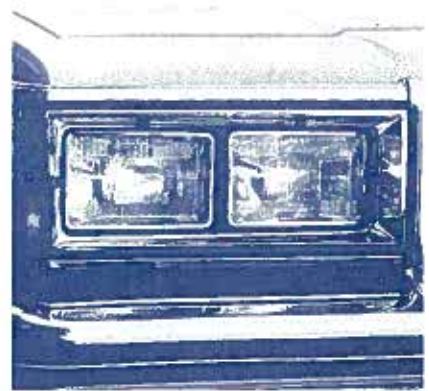
### COMPACT SPARE

All Chevrolet models now include a lightweight, fully inflated spare tire and wheel. This spare is easier to handle and install than a conventional full-size spare tire and wheel. It can be driven at normal highway speeds and can be driven for several thousand miles. Being of temporary nature, it is advisable to reinstall the conventional wheel and tire at an early convenient time.



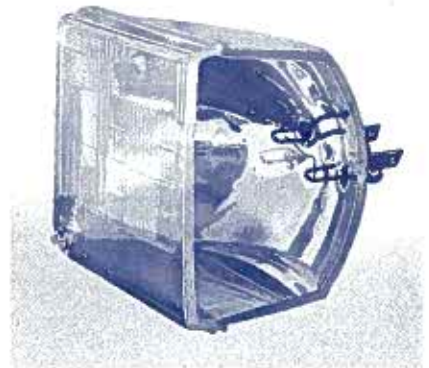
### SIDE-LIFT FRAME JACK

Standard on Caprice/Impala, Monte Carlo, Malibu Classic/Malibu. Jack is positioned at jacking points just behind front wheels or in front of rear wheels. Can be operated in either of two ways: by foot or by hand by using the conventional lug wrench/jack handle.



### HEADLAMPS-ON WARNING BUZZER

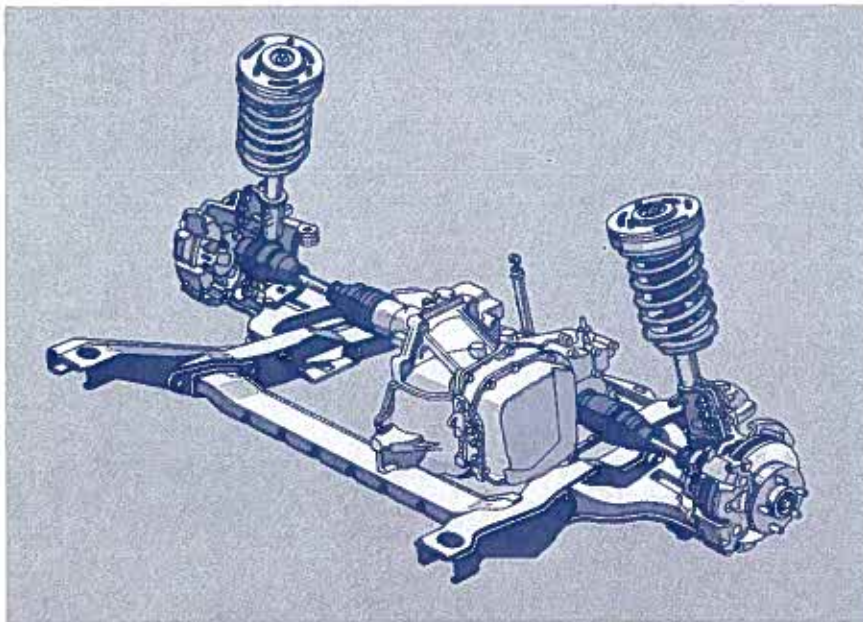
Standard on Caprice and available on all other models. This buzzer signals when the driver is about to leave the vehicle if the headlamps are on. Helps avoid run-down battery condition especially when using headlights on overcast or rainy days. Included as part of RPO TR9 for all models.



### HALOGEN HEADLAMPS

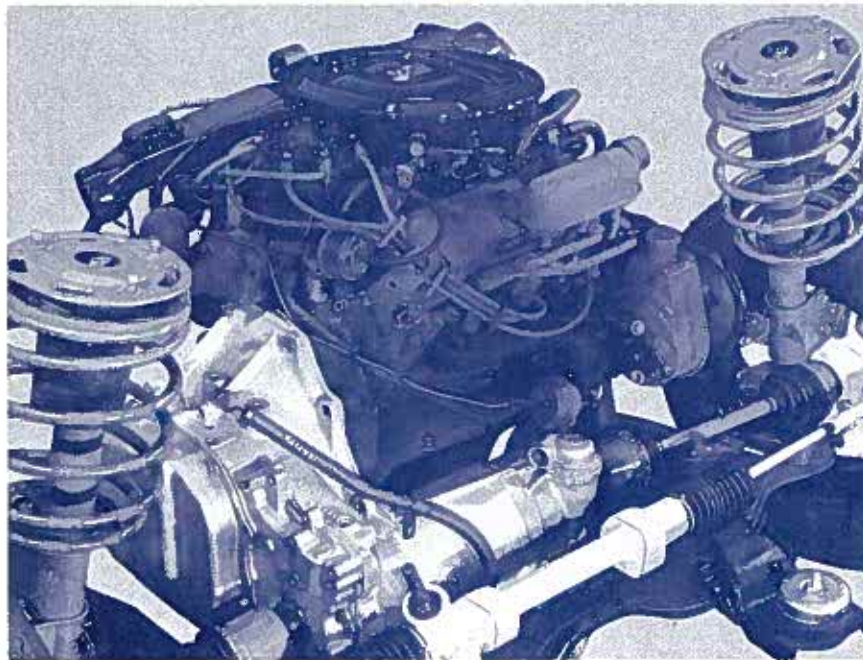
Standard in the high-beam unit of Corvette and available on all Chevrolet models for 1981. These headlamps allow extra illumination down the road, especially in highway driving. In four-beam headlamps, just the high-beam units are halogen; on other models, the entire lamp is a halogen unit.





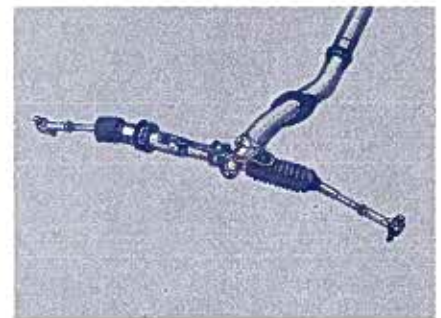
#### ◀ **MACPHERSON STRUT FRONT SUSPENSION**

Standard on Citation, this suspension design is exceptionally compact and permits mounting of the transverse engine between front wheels. With a conventional suspension, upper control arms would intrude more into the engine compartment.



#### ▲ **TRANSVERSE-MOUNTED ENGINE**

Mounted sideways in the chassis, this Citation engine arrangement allows for ample leg room in a very compact package. A unique engine-mounting system includes a special engine cradle that bolts to the integral body-frame structure and is designed to facilitate engine service from underneath. It makes oil pan removal easier.



#### **RACK-AND-PINION STEERING**

Standard in Citation and Chevette, this is one of the most compact steering gear designs. It eliminates the tie rods, tie rod ends and idler arms found in conventional steering linkages and is especially adapted to transverse-mounted engines. The gear is behind the engine and provides direct control of the front wheels. It helps to eliminate any "lost motion" for positive steering.

# TRUE OPERATING ECONOMY MEANS . . .

Batteries that never need water, a cooling system that recovers its coolant, brakes that "talk" when they need replacing, ball joints that "show" if they ever need re-

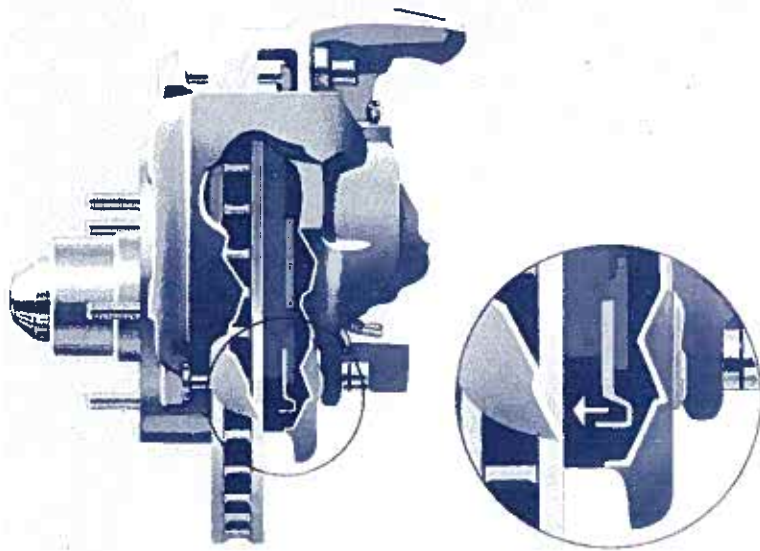
placing, plus some models even have wheel bearings that never need lubrication and some have tires that roll easier than ordinary tires. These, plus extended main-

tenance recommendations, are all features designed to save Chevrolet owners time and money . . . in some of the most fuel-efficient Chevrolets in history.

## SERVICE INTERVALS\*

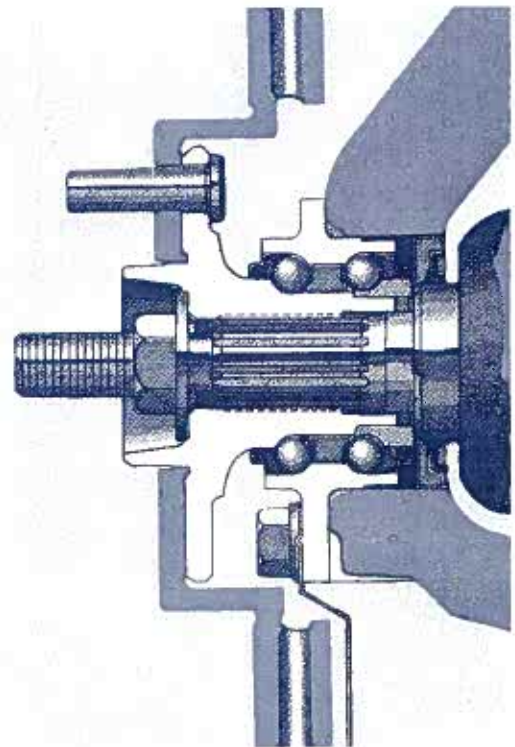
Engine Oil .....	12 months or 7,500 miles
Oil Filter .....	12 months or 7,500 miles; every 15,000 miles thereafter
Spark Plugs .....	30,000 miles
Chassis Lubrication .....	12 months and 7,500 miles
Automatic Transmission Fluid Change .....	Every 100,000 miles
Air Cleaner Element .....	50,000 miles

\*Under ideal conditions. For conditions requiring more frequent service and specific diesel and turbocharged engine recommendations, consult Owner's Manual.



### FRONT DISC BRAKES WITH WEAR SENSOR

All Chevrolet models except Corvette have a special device integral with the brake pads that contacts the brake rotor when the linings reach a stage when they should be replaced. When the linings do become worn and need replacing, this device emits a high-pitched squeal as the car is driven. This warns the driver that the linings have reached the replacement point. This helps to avoid severe scoring or gouging of the rotor which could lead to expensive replacement.



### PERMANENTLY LUBRICATED WHEEL BEARINGS

Standard at all four wheels of Citation, these permanently lubricated wheel bearings eliminate the need for periodic repacking, cutting down on maintenance time and expense.





### IMPROVED FREEDOM II BATTERY

This second-generation Freedom II battery never needs water, has more staying power and has improved resistance to damage from vibration compared to earlier Freedom batteries.

### HIGH ENERGY IGNITION SYSTEM

Chevrolet's High Energy Ignition system provides a very hot spark to aid starting and voltage throughout the entire driving range. Used along with unleaded fuels, this hotter spark helps keep spark plugs clean and extends life. Spark plug change intervals are now recommended at 30,000 miles, compared to 8-12,000-mile intervals recommended up until about 6 years ago.



### COOLANT RECOVERY SYSTEM

To avoid loss of costly coolant, every 1981 Chevrolet includes a sophisticated coolant recovery system. A separate reservoir is attached by a hose to the overflow in the neck of the radiator. As the coolant expands, any coolant that might normally be forced out onto the ground is routed to the translucent plastic reservoir. As the engine cools, a hydrosyphon effect draws the coolant back into the radiator to keep the proper coolant level. Also, addition of any coolant to the cooling system can be made into the reservoir, without having to remove the radiator cap.

### EASY-ROLL RADIAL TIRES

Standard on all Caprice, Impala, Monte Carlo and Malibu models. Higher pressure recommendations and advanced tire tread compounding reduce rolling resistance up to 20% over conventional-type radials. This decrease in rolling resistance contributes to fuel economy.



### BALL JOINT WEAR INDICATOR

With a visible wear indicator, this feature helps eliminate the often needless and expensive ball joint replacement. When excess wear does occur after a prolonged period, a special boss at the grease fitting is exposed. Until this boss shows, the ball joint is *not* worn out and *does not* need replacement.