★

MAKE
YOUR DEALER YOUR
SERVICE ADVISOR
SEE HIM REGULARLY

» He knows YOUR CAR and is in position to render you better service.

» His Service Department has capable, friendly, co-operative management.

» His service personnel have been thoroughly instructed on all models.

» He receives service information monthly from Chevrolet's factories and laboratories.

» He uses special tools and equipment which are factory-approved for YOUR Chevrolet.

» He abides by the terms of your "OWNER SERVICE POLICY."

» His prices are commensurate with the high quality of his workmanship.

» He is a dependable merchant, interested in your Community's progress.

YOUR DEALER OFFERS
"SERVICE"
AFTER THE SALE

★

CHEVROLET

Owner's MANUAL

1940 PASSENGER CARS

CHEVROLET MOTOR DIVISION
General Motors Sales Corporation
DETROIT, MICHIGAN

15

OWNER'S MANUAL

1940

PASSENGER CARS

FIRST EDITION

To those who are desirous of having more mechanical information covering design and construction of the 1940 passenger car, a copy of the Chevrolet Shop Manual is available upon receipt of a remittance of 25 cents in coin.

CHEVROLET MOTOR DIVISION
GENERAL MOTORS SALES CORPORATION
DETROIT MICHIGAN

Understanding—

THE DOOR TO FRIENDSHIP

You have purchased a new Chevrolet car, and that purchase means a great deal to you, to your Chevrolet dealer, and to Chevrolet.

To you, it means possession of a fine motor car. To your Chevrolet dealer, it means an opportunity—and an obligation—to help you realize true satisfaction with your investment. And to Chevrolet, it means a large and willing interest in maintaining your continued satisfaction, for the entire Chevrolet organization desires not merely to make sales, but also to make friends.

Our interest in you, as a Chevrolet owner, and in your car, as a Chevrolet product, will continue during all the months and years that you drive your Chevrolet. We want to make Chevrolet ownership the most pleasant motor car experience you have ever enjoyed.

We ask you to read these pages carefully. They are the key to a better and mutual understanding, and will open the door of friendship between you, your Chevrolet dealer, and Chevrolet.

CHEVROLET'S
Responsibilities

◆

We, of CHEVROLET, have the following definite responsibilities to you, as a Chevrolet owner, and to your Chevrolet dealer:

I. To use our best efforts to deliver the finest motor car that it is possible to build in the low-price field.

II. To guarantee Chevrolet cars, by the terms of our standard warranty, against defective materials and workmanship.

III. To provide a nationwide service organization composed of dealers chosen for their ability and willingness to maintain Chevrolet standards of service.

We assume all these responsibilities gladly, and will continue to discharge them faithfully, because we know that this is the only way to merit your friendship.

YOUR CHEVROLET DEALER'S *Responsibilities* to YOU and to CHEVROLET

◆

YOUR Chevrolet dealer also has definite responsibilities to you and to Chevrolet. These responsibilities are:

I. To abide by the terms of our *Owner Service Policy*, which is given to every owner when he takes delivery of his car.

II. To observe the following terms of the policy specifically:

1. NEW CAR CONDITIONING AND DELIVERY.

a. Thoroughly inspect the car and make any adjustments to fit local driving conditions.

b. See that the car is properly lubricated.

c. Wash and polish car, and check tires for correct pressure.

2. FIVE-HUNDRED MILE FREE INSPECTION AND TUNE-UP.

To be performed free of charge by the selling dealer. This service is intended as a final adjustment to your car after the 1,000-mile break-in period, as specified in the *Owner Service Policy*.

III. To give prompt, courteous and reliable service.

Your local Chevrolet dealer—like Chevrolet dealers all over America—desires to meet these responsibilities squarely because he is a reliable merchant and because he values your patronage and friendship.

YOUR *Responsibility* as a CHEVROLET OWNER

◆

YOU, too, have a responsibility as a motor car owner—but it is a responsibility to yourself alone—the responsibility of giving your Chevrolet motor car the reasonable degree of attention that any fine piece of mechanism deserves. By observing the following things to do, you will not only reduce operating costs—you will also obtain greater motoring satisfaction and longer car life:

I. First 500 Miles:

Take your car back to your Chevrolet dealer, and have the free inspection and check-up provided for in your *Owner Service Policy*.

II. Every 1,000 Miles:

Lubricate chassis.
Check storage battery.
Check transmission and differential to insure oil being at the proper level.

III. Every 5,000 Miles:

Have general tightening up of car.
Have motor tune-up.
Drain, flush and refill transmission and rear axle.
(This is in addition to the regular seasonal transmission and rear axle oil changes for summer and winter driving.)
Check brakes.

You can depend on skilled, reliable service from your Chevrolet dealer, who has trained mechanics, Chevrolet approved tools and machinery, and genuine parts, and who offers service at the lowest rates consistent with quality workmanship.

Your car has been thoroughly inspected and necessary adjustments made to fit local driving conditions.

The *Owner Service Policy* which you received from your dealer identifies you as a purchaser of a new Chevrolet, and is your protection against defective materials and workmanship under the terms of the Standard Warranty.

Attached to your Owner Service Policy is a coupon entitling you to a free inspection and adjustments at the 500-mile period.

Having just purchased your new Chevrolet car, you are most interested in operating it at the least possible cost. Recognizing this, we have made available through any authorized Chevrolet Dealer a preventive maintenance service to help you.

The inspections and adjustments made at regular intervals of 1,000 and 5,000 mile periods will be performed at a nominal charge and repay you many times in maintaining your car in good order.

CHEVROLET PREVENTIVE MAINTENANCE ORDER
PASSENGER CARS AND TRUCKS

Operation No. 1—General Inspection and Lubrication Every 1000 Miles

Car No._____ Dealer Repair Order No._____ Date_____

Owner's Name_____ Car Serial No._____

Address_____ Engine Number_____

Operator_____ Mileage_____

Name of Dealer_____ Address_____

NOTICE: No work other than that listed hereon is to be performed without specific authorization

√—IF O. K. X—ADJUSTMENTS MADE O—REPAIRS DESIRABLE

- ☐ 1. Lubricate Car.
- ☐ 2. Change Engine Oil—(if ordered). Engine Hot.
- ☐ 3. Clean Air Cleaner—(Fill oil bath type to proper level with SAE 50 Oil).

While Lubricating Vehicle—Thoroughly Inspect the Following—No Charge Except for Extra Lubricant Used. Any Work Ordered Performed as a Result of this Inspection Will Be Charged for at Regular Flat Rate.

- ☐ 1. Check Steering Gear oil level. Add lubricant if necessary.
- ☐ 2. Check Radiator and Hose Connections for leaks.
- ☐ 3. Inspect Fan Belt adjustment and lubricate Water Pump Bearings.
- ☐ 4. Check all Lights and Horn.
- ☐ 5. Inspect Battery and fill to proper level.
- ☐ 6. Check Clutch Pedal adjustment.
- ☐ 7. Check to see if Gasoline Gauge is recording.
- ☐ 8. Check Rear View Mirror.
- ☐ 9. Check Starter to see if it operates properly.
- ☐ 10. Check Choke and set Carburetor for proper idling speed.
- ☐ 11. Check Windshield Wiper.
- ☐ 12. Check to see if Oil Pressure is up to standard.
- ☐ 13. Check Generator charging rate.
- ☐ 14. Check Steering Gear for adjustment.
- ☐ 15. Inspect for Spring Shackle adjustment.
- ☐ 16. Check Front Wheel Bearings for adjustment.
- ☐ 17. Check Tire Air Pressure and inflate as recommended.
- ☐ 18. Check Transmission oil level. Add lubricant if necessary. Extra charge for lubricant.
- ☐ 19. Fill Universal Joints. (1½-Ton Truck.)
- ☐ 20. Check Differential oil level. Add lubricant if necessary. Extra charge for lubricant.
- ☐ 21. Check Knee Action oil level. Add lubricant if necessary. (Enclosed type.)
- ☐ 22. Check Rear Wheel Bearings for adjustment. (1½-Ton Trucks.)
- ☐ 23. Test Emergency and Service Brakes during road test.
- ☐ 24. Check reading of Heat Indicator.
- ☐ 25. Indicate condition of Fenders_____ Body_____

Paint_____ Decalcomanias_____

This Inspection Indicates That The Following Repairs Are Desirable

Description of Suggested Repairs	Estimated Cost		
	Parts	Labor	Total

SERVICE MANAGER

Fig. 1—Preventive Maintenance Order—1000 Miles

CHEVROLET PREVENTIVE MAINTENANCE ORDER

PASSENGER CARS AND TRUCKS

Operation No. 2—General Inspection, Adjustment and Lubrication Every 5000 Miles

Car No. _____ Dealer Repair Order No. _____ Date _____

Owner's Name _____ Car Serial No. _____

Address _____ Engine Number _____

Operator _____ Mileage _____

Name of Dealer _____ Address _____

NOTICE: No work other than that listed hereon is to be performed without specific authorization

√—IF O. K. X—ADJUSTMENTS MADE O—REPAIRS DESIRABLE

A—TUNE ENGINE—Which Includes the Following Inspection and Adjustments.

- ☐ 1. Check, Clean, and adjust Spark Plugs.
- ☐ 2. Check, Square, Lubricate and Set Distributor Points. Fill Distributor Shaft Grease Cup.
- ☐ 3. Check and Clean Distributor Cap.
- ☐ 4. Inspect Ignition Wiring and seat wires in coil and cap securely.
- ☐ 5. Set Octane Selector at 0°.
- ☐ 6. Clean sediment bulb on Fuel Pump.
- ☐ 7. Tighten Fuel Pump lines. (Fuel Pump should be overhauled every 15,000 miles at extra charge).
- ☐ 8. Adjust Water Pump Packing Nut, and Lubricate Pump Bearings—Bushing Type Only.
- ☐ 9. Tighten Hose Connections and Check Radiator for leaks.
- ☐ 10. Check and Adjust Fan Belt.
- ☐ 11. Clean and service Air Cleaner—(Fill oil bath type to proper level with SAE 50 Oil).
- ☐ 12. Inspect Carburetor and set float level and choke adjustment.
- ☐ 13. Adjust Metering Rod setting by using metering rod gauge.
- ☐ 14. Check Starter.

The following operations should be performed with engine hot and running.

- ☐ 15. Tighten Cylinder Head Bolts.
- ☐ 16. Tighten Manifold Bolts and Exhaust Packing Nuts.
- ☐ 17. Check Manifold Heat Control.
- ☐ 18. Set Engine Ignition Timing.
- ☐ 19. Adjust Valve Tappets Hot—engine should be hot and running.
- ☐ 20. Adjust Carburetor. Use Vacuum Gauge when possible. Adjust for proper idling speed.
- ☐ 21. Check and Adjust Clutch Pedal for proper clearance. Lubricate Throw-Out Bearings, '37 and earlier.
- ☐ 22. Check reading of Heat Indicator.
- ☐ 23. Check to see if Oil Pressure is up to standard.
- ☐ 24. Check Generator and adjust charging rate.
- ☐ 25. Check Windshield Wiper.
- ☐ 26. Check to see if Gasoline Gauge is Recording.
- ☐ 27. Check Manual Choke.
- ☐ 28. Check All Lights. (Does not include focusing).

B—GENERAL TIGHTEN-UP—Which Includes the Following Inspection and Adjustments.

- ☐ 1. Check and Adjust Steering Gear.
- ☐ 2. Check and Adjust Drag Link and Front Axle Tie Rod Connections and Pitman Arm.
- ☐ 3. Check Front Wheel Bearings. (Remove—clean and inspect. Lubricate—see Lubrication Chart).
- ☐ 4. Tighten Radiator and Front Fender Support Bolts.
- ☐ 5. Tighten Front Wheel Hub Bolts.
- ☐ 6. Tighten Front Bumper Bolts.
- ☐ 7. Tighten Front Engine Support Bolts.
- ☐ 8. Check King Pins.
- ☐ 9. Check Knee Action and Radius Rods for looseness.
- ☐ 10. On Conventional Axle vehicle—Inspect and Tighten Front Springs—Shackles and U Bolts.
- ☐ 11. Tighten Engine Rear Mountings.
- ☐ 12. Tighten Running Board Bolts.
- ☐ 13. Tighten Front Floor Boards.
- ☐ 14. Adjust Body or Cab Hold Down Bolts.
- ☐ 15. Tighten Universal Joint Ball Cup Bolts. (Adjust if necessary.)
- ☐ 16. Tighten Rear Fender Bolts.
- ☐ 17. Tighten Rear Wheel Axle Nuts and Hub Bolts.
- ☐ 18. Tighten Muffler Support Bolts.
- ☐ 19. Tighten Battery Clamp Bolts.
- ☐ 20. Inspect and Tighten Terminals.
- ☐ 21. Check and Adjust Rear Spring Shackles and Tighten Rear Spring U Bolts.
- ☐ 22. Check Brake Master Cylinder for fluid level. Add fluid if necessary.
- ☐ 23. Check Rear View Mirror.
- ☐ 24. Check operation of Window Regulators and Door Locks.
- ☐ 25. Check Tire air pressures and inflate as recommended.
- ☐ 26. Test Emergency and Service Brake adjustment during road test.

C—GENERAL LUBRICATION—Which Includes the Following Inspections. Extra Charge for Lubricant Added.

- ☐ 1. Lubricate Car.
- ☐ 2. Change Engine Oil—(If ordered). Engine Hot.
- ☐ 3. Check and fill Knee Action to proper level, 1938 and earlier.
- ☐ 4. Check and fill Transmission and Differential to proper level. (Change every 10,000 miles in addition to seasonal changes.)
- ☐ 5. Lubricate Rear Wheel Bearings—(1½ ton—10,000 miles at extra charge).
- ☐ 6. Lubricate all Door and Trunk Hinges, Bumpers, Locks and Handles.
- ☐ 7. Check and fill Storage Battery.
- ☐ 8. Rear Spring Covers Should Be Lubricated each 10,000 miles at extra charge.

THIS INSPECTION INDICATES THAT THE FOLLOWING REPAIRS ARE DESIRABLE

Description of Suggested Repairs	Estimated Cost		
	Parts	Labor	Total

SERVICE MANAGER

Fig. 2—Preventive Maintenance Order—5000 Miles

WAYS TO SAVE GAS AND OIL

How many miles do you get to the gallon? Unless you are the exception, you can get still greater mileage. And without cost! Just eliminate a few of the faults which most of us have and which tend to waste gasoline and oil. Some of the most common ones are listed here. Study them! Correct them and you'll save on fuel bills.

1. QUICK get-aways are thrills that cost money. Tramping suddenly on the accelerator, or pumping it, feeds your motor more gasoline than it can use. Quick get-aways, too, waste gasoline by carrying you too far in second gear. Get away easily and smoothly to save gasoline. Slip into high gear at 20 to 25 miles per hour.

2. SUDDEN STOPS are sometimes necessary, but always use extra gasoline. Stopping gradually, with the engine braking, saves gas money—and brake lining, too.

3. HIGH SPEEDS are more than dangerous. At 70 miles per hour your motor uses almost twice as much gasoline, to go one mile, as it does at 20 miles per hour. Economical cruising speeds are 30 to 45 M.P.H.

4. SOFT TIRES are hard on your gasoline bill. They mean more road friction. This gives your motor unnecessary work to do and makes it use extra gas. Keep the extra money in your pocket by keeping your tires inflated to the recommended pressures.

5. PARKING IN THE SUN wastes gasoline. Park your car in the shade, if you can, so that the hot sun will not evaporate gas from your tank.

6. AN IDLING MOTOR is a useless expense. Turn it off while you are waiting at the curb for a friend, or at a train crossing.

7. AN INEFFICIENT CARBURETOR is an efficient gasoline waster. Have yours checked at least twice a year (for summer and winter driving) to be sure it is properly adjusted, that the octane selector is properly set, and that the sediment bulb is clean.

8. CHEAP LUBRICATION is a waste of money. Use oil of good quality and of the grade specified by the manufacturer. Have your car well greased every thousand miles.

9. ONE FAULTY OR DIRTY SPARK PLUG may waste much of your gasoline.

10. AN OVER-FULL CRANKCASE wastes oil and does not give you better lubrication, despite theories you may have heard. Keep your oil level within the limits marked on the "bayonet" gauge in the crankcase.

11. TO OBTAIN MAXIMUM EFFICIENCY and greatest gas mileage, have a complete motor tune-up performed every 5,000 miles or at least twice a year.

BREAKING-IN PERIOD

Your Chevrolet car has been designed to furnish you many thousands of miles of motoring pleasure.

In order to maintain its high standard of performance and efficiency, special care should be given for the first two thousand miles as to the speed at which the car is driven and also to lubrication.

To properly break-in the moving parts of the car, do not drive faster than:—

40 Miles per hour for the first 100 Miles.
45 Miles per hour for the next 200 Miles.
55 Miles per hour for the next 200 Miles.

Continuous high speed driving should not be attempted until the car has been driven 2000 miles.

See that your car is lubricated at regular intervals in accordance with the recommendations under "General Lubrication."

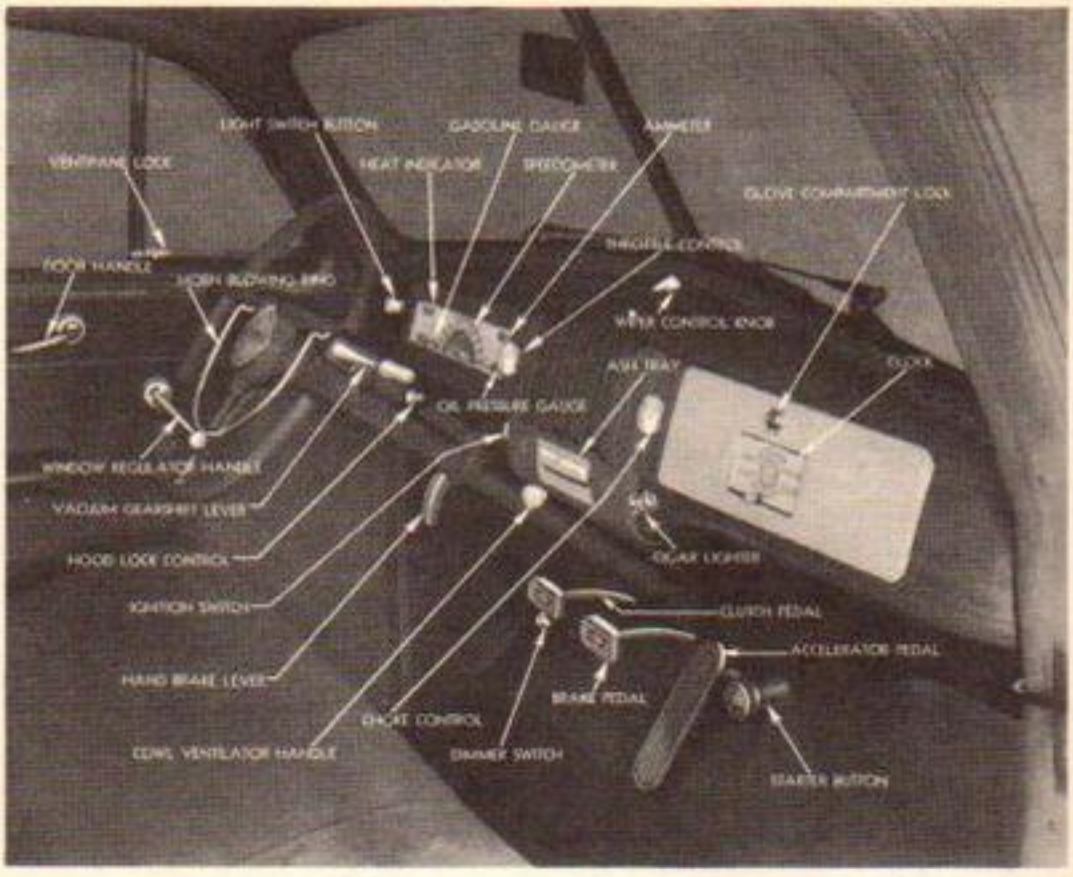


Fig. 3—Controls and Instruments (Special De Luxe Models)

The first thing the driver of a new car must do is to familiarize himself with the various controls provided for its proper handling. This does not apply to the beginner alone, as although there are many points of similarity among all cars, there are also important differences, and it is not wise regardless of previous experience, to drive a new car before fully understanding what each control is for and how to use it.

IGNITION AND GLOVE COMPARTMENT LOCKS

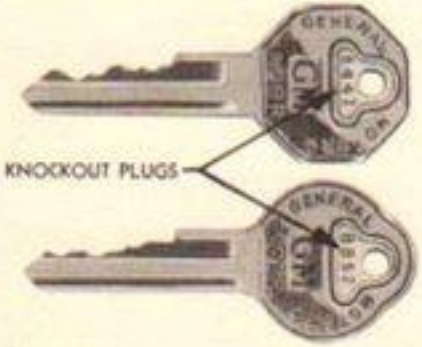


Fig. 4—Keys

The ignition and door lock keys are the same. The lock number stamped on the knock-out plug in the center of the key, see Figure 4, should be recorded to protect you in case your keys are lost. The lock number is not stamped on the lock.

If a new key is needed (and you do not know the lock number), you

may obtain it by ordering through the Theft Bureau of the Chevrolet Motor Division, General Motors Sales Corporation, Detroit, Michigan, advising them of the car serial and engine numbers.

To lock the doors from the inside, push down the locking knob located on the bottom of the window opening of each door.

To lock the car from the outside, either of two ways may be used:

1—With the door open, push down the inside locking knob and hold the outside handle down (vertical) while closing the door.

2—With the door closed, insert key in the locking handle of the right front door and give the key a quarter turn to the right.

To unlock the car, insert door key and give key a quarter turn to the left.

After a record has been made of the key number, the clover leaf knock out in the center of the key should be pushed out and destroyed.



Fig. 5—Ignition Lock

IGNITION LOCK

The ignition lock is illuminated and theft resisting. The keys supplied for the door lock are also used for unlocking and locking the ignition switch.

THROTTLE CONTROL

The opening and closing of the throttle valve in the carburetor is controlled from the driving compartment by the accelerator pedal, but it is sometimes advisable to use the throttle knob on the instrument panel. Pulling out the throttle knob will open the throttle.

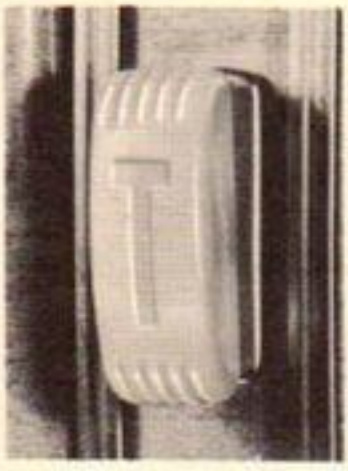


Fig. 6—Throttle Knob

SPARK CONTROL

The spark timing of the Chevrolet engine is controlled by two engineering features:

1—MANUALLY—The Octane Selector—For maximum economy and performance the octane selector must be advanced as far as possible without causing the engine to knock at wide open

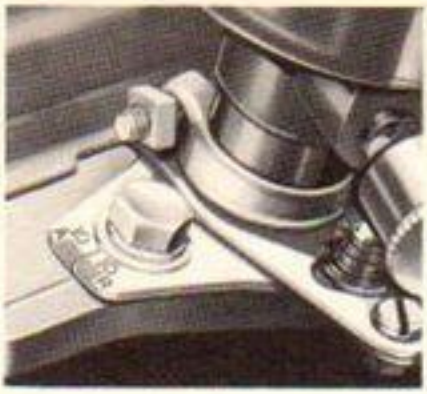


Fig. 7—Octane Selector

throttle. When the lower octane (lower grade) fuels are used, the selector should be retarded. Higher octane fuels permit more advance, resulting in a still greater economy and better performance.

2—AUTOMATIC—By the speed of the engine, through the governor weights in the distributor and by vacuum control.

CHOKE CONTROL

When starting a cold engine, it is necessary to provide a fuel mixture richer in gasoline than is ordinarily required. The choke control knob operates a device on the carburetor for enriching the fuel mixture being supplied to the engine.



Fig. 8—Choke Knob

The correct use of the choke is extremely important; if improperly handled it may seriously affect the life of the engine by the thinning effect on the lubricating oil of unburned gasoline leaking by the pistons.

The choke should not be used if the engine retains any heat from previous running, without first attempting to start the engine with its normal fuel mixture.

If the choke has been used excessively, causing failure to start, open the throttle to admit sufficient air to overcome the overloaded condition of the engine.

OIL PRESSURE GAUGE



Fig. 9—Oil Pressure Gauge

This gauge on the instrument panel is an indicator only, and merely shows whether the pump is working. The pressure shown on the gauge does not necessarily indicate the condition or quantity of oil in the crankcase.

If the gauge does not register pressure when the engine is running, stop the engine immediately and determine the cause.

AMMETER

This instrument registers the flow of current to and from the battery, except that taken by the starting motor. The ammeter reading is an indication of whether the battery is receiving charging current from the generator, but does not indicate the condition of the battery. The charging rate of the generator is regulated by the voltage and current regulator. The voltage regulator protects the battery from overcharging while the current regulator limits the output of the generator.

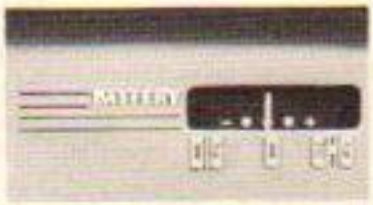


Fig. 10—Ammeter

The functioning of these units often cause slight fluctuations in the ammeter hand. This fluctuation is one of the indications that the voltage and current regulator are operating satisfactorily and should cause no concern on the part of the car owner.

LIGHTING CONTROL

The headlamps, parking lamps, and tail lamps are controlled by a single switch operated by a knob on the left side of the instrument panel. When it is pulled out half way, the parking lights, tail lamps, dash lamp, ignition switch lamp, and license lamp are lighted. When pulled out all the way, the headlamps, tail lamps, dash lamps, license lamp, and ignition switch lamp are lighted.



Fig. 11—Light Switch Knob

By turning the light control knob, any degree of instrument cluster and ignition lock lighting may be obtained, or the lights may even be turned off.

The direction of the headlamp beam may be varied by pressure on the foot switch located at the left side of the toe board. For city driving the hand switch knob should be all the way out and the foot switch should be in that position which throws the light nearest the car. To throw the light farther ahead for driving on the open road, depress the foot switch again.



Fig. 12—Dimmer Switch

A headlamp beam indicator is provided in the instrument cluster, and the small slots between

the words "Bright Lights" are illuminated when the country beams are on.

The fuse is of 30 ampere capacity. It is located on the back of the lighting switch, easily reached in case it requires replacement.

The dome light switch is on the right door lock pillar of the Special DeLuxe Models and is the sliding button type and indicates the on and off position. On Master DeLuxe and Master "85" Models the switch is located in the dome lamp.



Fig. 13—Dome Lamp Switch (Special De Luxe Models)

On Special DeLuxe Models a light in the glove compartment provides illumination when the door is open and the headlamps or parking lights are on.

HORN BUTTON



Fig. 14—Horn Button Ring (Special De Luxe Models)

Special DeLuxe Models are equipped with a horn blowing ring, permitting sounding of the horn by a finger touch without removing the hand from the wheel.

The horn button on Master DeLuxe and Master "85" Models is located in the center of the steering wheel.

SPEEDOMETER

The speedometer is of the semi-circular type, located in the center of the instrument cluster. A red warning line extends around the dial for speeds over 50 miles per hour, as a safety indicator.



Fig. 15—Speedometer

CLOCK
(Special De Luxe Models)

Special DeLuxe Models are equipped with an illuminated stem wind clock located in the door of the glove compartment. The clock is set like a conventional clock by turning a small knob on its frame below the dial.

When the headlights or parking lights are on, a light within its case illuminates the dial.

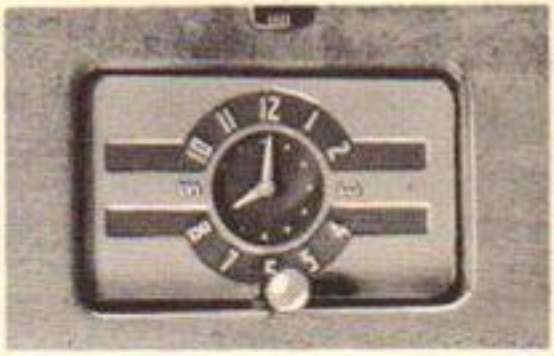


Fig. 16—Clock (Special De Luxe Models)



Fig. 17—Cigarette Lighter (Special De Luxe Models)

CIGARETTE LIGHTER
(Special De Luxe Models)

Special DeLuxe Models are also equipped with a press-in-to-light type cigarette lighter. It is thermostatically controlled so that, as soon as the lighter element becomes red hot and its glow shows through the green jewel, the current is shut off so that no damage may result.

GASOLINE GAUGE

An electrically operated gasoline gauge indicates the fuel supply when the ignition switch is turned on.



Fig. 18—Gasoline Gauge



Fig. 19—Water Temperature Indicator

WATER TEMPERATURE INDICATOR

The water temperature indicator on the instrument panel functions as a thermometer, indicating the temperature of the water in the cylinder head.

STARTING BUTTON

Pressing down on the starting button first engages the starter pinion with the teeth of the flywheel and, at the end of the stroke, closes the switch of the electric starting motor, which cranks the engine.



Fig. 20—Starting Button

As the starting button is depressed, the carburetor throttle valve automatically is opened approximately one-third, so that when the engine starts to run, it will be operating at an engine speed of approximately 30 miles per hour.

HOOD CONTROL

The hood is of the alligator jaw type, opening at the front, and has a concealed lock under the fore part of the hood for protection of the engine compartment contents.



Fig. 21—Hood Lock Handle

The hood lock is operated by a control located under the left side of the instrument panel. The hood lock is released by pulling out the control knob. This raises the hood one inch, sufficient opening to enable you to release the safety catch located under the fore part of the hood.

FRONT SEAT ADJUSTER

The finger lever to release the front seat adjusting mechanism is at the left-hand corner of the front seat. Upon raising the lever, the seat can be easily moved forward or backward until the proper location is reached to afford maximum comfort for the driver.



Fig. 22—Seat Adjuster Lever



Fig. 23—Cowl Ventilator Handle

COWL VENTILATOR

The cowl ventilator is opened and closed by means of the handle located below the center of the instrument panel. Three open positions are provided for the regulation of air admitted.

QUARTER WINDOW REGULATOR

The quarter window glass on the Four-door Sedans and on the Four-Passenger Coupe slides toward the rear in opening. The regulating mechanism is controlled by the handle rising through the lower window moulding. When the handle is in the forward position "A" (Fig. 24), the window is closed. By pulling the handle all the way toward the rear (position "B"), the window will be opened as far as possible, slightly more than 4 inches. The window is automatically locked when fully closed and in any one of ten different open positions.

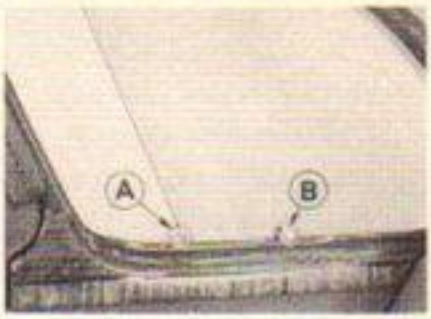


Fig. 24—Quarter Window Regulator Handle



Fig. 25—Ash Receiver (De Luxe Models)

ASH RECEIVER
(De Luxe Models)

A convenient ash receiver, located in the center of the instrument panel, is opened by pulling out on the finger grip. The ash receiver is equipped with a cigarette snuffer.

WINDSHIELD WIPER CONTROL

The windshield wiper control lever is located close to the lower end of the center dividing strip of the windshield. Moving it to the right starts the wiper.



Fig. 26—Wiper Control Lever

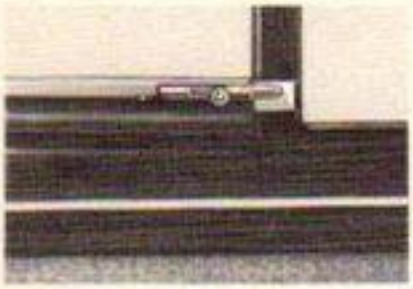


Fig. 27—Ventipane Lock

FRONT VENTIPANE CONTROL

The front door ventipanes, or ventilators, are operated with a crank handle. They are locked by means of a sliding bolt on the lower frame. To lock the ventipane in the closed position, simply slide the knob toward the rear of the door. To open the lock, the knob must be pulled out before the bolt can be disengaged.

CLUTCH PEDAL

By means of this control the power required in putting the car in motion may be gradually and smoothly applied to the drive system.

When the clutch pedal is in its normal position, the clutch is engaged and the engine is directly connected to the transmission. By depressing the pedal, the clutch is released and the engine disconnected from the transmission gears, permitting the shifting of the transmission gears.

To assure maximum clutch efficiency and long life of the clutch parts, there should be ¾ to 1 inch of free pedal travel before the clutch starts to disengage.



Fig. 28—Clutch and Brake Pedals

BRAKE PEDAL

Depressing this pedal applies the four-wheel service brakes.



Fig. 29—Hand Brake Lever

HAND BRAKE LEVER

The hand brake lever is interconnected with the rear service brakes and is used for holding the car when parked or when about to get under way up a steep grade.

VACUUM POWER SHIFT

The vacuum power shift utilizes both manual control and vacuum power to accomplish the change in gears.

Movement of the gear shift lever, mounted on the steering column below the steering wheel, requires only a very small percentage of the force necessary to shift gears with the conventional gear shift lever. This makes it possible for the driver to shift the transmission gears safely and conveniently without removing the hand from the steering wheel.



Fig. 30—Gear Shifting

The gear shift lever may be placed in any one of five positions—neutral, reverse, first, second and third. The travel of the lever is the same as that

of the conventional floor-board lever, except that it moves in a vertical plane instead of a horizontal plane. The operation of the lever in engaging the gears consecutively is as follows:

1—See that gear shift lever is in neutral position (lever may be moved up and down).

2—First speed—With clutch pedal depressed, raise lever and pull toward the rear of the car until it is fully engaged in first speed location; then gradually release clutch pedal.

3—Second speed—With clutch pedal depressed, push lever toward the front of car. Lever will cross through neutral position and engage second speed position. Release clutch pedal.

4—Third speed—With clutch pedal depressed, pull lever toward the rear of the car until lever has reached the end of its travel into third speed position.

5—Reverse—With car at a standstill, depress clutch pedal, raise lever, and push forward.

TIRES

The tires that come with your car are guaranteed by the manufacturer, or his authorized agent, according to the Standard Tire Manufacturer's Warranty.

Maintenance of correct tire inflation pressures is one of the most important elements in tire care. The tire pressure of your Chevrolet car should be held at approximately 26 pounds front, 28 pounds rear, when the tires are cool. The pressure increases up to approximately three pounds when warmed by operation at fairly high speeds, and this amount (three pounds) should be added to the recommended pressure when the tires are inflated while warm.

It is recommended that tires in ordinary use be checked for inflation pressure once each week.

It is good practice to replace smooth tires with new tires as insurance against tire accidents.

REMOVING WHEELS

To remove the wheel, first securely apply the hand brake lever, then jack up the car and pry off the hub cap with a screw driver. Remove the wheel nuts with the demountable wheel wrench. The wheel can now be removed from the hub.

When replacing the wheel, turn all nuts up lightly at first, then continue to tighten them gradually until the wheel is drawn up snugly and evenly against the wheel flange.

DISMOUNTING TIRES

Changing tires is an unpleasant task ordinarily done at your service station. However, on rare occasions, the tire must be changed by the driver. The following instructions will simplify the operation.



Fig. 31



Fig. 32

Dismounting the Tire

After the wheel has been removed, deflate the tube entirely. Lay the wheel down and loosen the beads or edges of the tire on each side. Use a tire iron or other flat tool if necessary. With the wheel still flat, push the tire bead, on the side across the wheel from the valve, into the well in the wheel rim. Hold this section of the tire in the well with the knees or feet.

Place a tire iron or other flat tool about four inches on each side of the valve between the tire and the rim. By forcing down on these tools, raise the tire bead over the edge of the rim flange (Figure 31). Follow around the flange with one tool until the bead is completely free from the rim.

Then push the valve stem out of the wheel rim and remove the tube. Turn the wheel and tire over on its other side and, with the feet, force the top edge of the tire down inside the well in the rim. Insert the two tire irons under the lower edge of the tire, about 12 inches apart, keeping the opposite side down in the well, and push on the two tire irons so that the wheel rim flange is raised over the tire.

Hold the tire irons in that position with the feet (Figure 32) and lift the wheel from the tire.

MOUNTING THE TIRE

Clean out all dirt from the inside of the casing.

Application of a little vegetable oil soft soap to the inside and outside edges of the tire casing will make the assembly easier.



Fig. 33

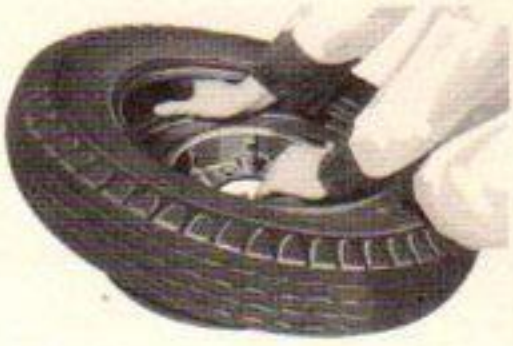


Fig. 34

Mounting the Tire

Inflate the tube until it is barely rounded out and insert it in the casing, placing the valve next to the red dot or balance mark on the casing. See that the valve is straight and centrally located between the edges of the tire.

Lay the wheel on the ground with the valve hole toward you. Holding the tire with the valve toward you, lay it on the wheel and push a section of the lower edge of the tire, next to the valve, down into the well of the tire (Figure 33).

Push the valve stem through the valve hole in the wheel rim. Check to see that the tube is not caught between the rim and the edge of the tire and then force the remainder of the lower edge of the tire over the rim flange.

With the tire irons, force the top edge of the tire over the rim flange, working it over a small section at a time (Figure 34).

Inflate the tire to a low pressure—7 to 10 pounds. Bounce the wheel to settle the tire, making sure it is even all around the flange. Then inflate to the correct pressure.

TIRE WEAR

The tires on your car will give many thousands of miles of wear if they receive reasonable care and attention.

There are many causes of excessive or uneven tire wear. Improper inflation is the most common of tire abuses. Air pressure in the tires should be checked weekly, regardless

of how they may look. Under inflation causes excessive wear on the sides of the tire tread; and over inflation causes excessive wear in the center of the tread.

Incorrect front wheel alignment, or wheels which are out of balance, will cause uneven spots on the tire tread. If this condition appears, we recommend that you have your car checked by your Chevrolet dealer, who has the necessary special tools and equipment to perform this inspection operation.

Scraping tires against the curb will break the rubber and weaken the sidewalls of the tire casing.

Severe application of the brakes, causing the wheels to slide, will wear flat spots on the tread.

Spinning the rear wheels when putting the car in motion causes excessive tire wear.

BRAKES

The service brakes are applied by means of hydraulic pressure from the main cylinder to each wheel cylinder. The emergency brake or hand brake is mechanically operated through a series of linkage and cables that actuate the rear brake shoes.

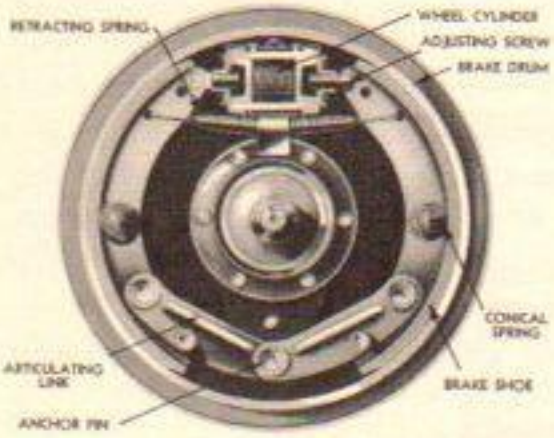


Fig. 35—Brake Mechanism at Front Wheel

Depressing the brake foot pedal applies the four wheel service brakes. The hand brake lever provides a means of holding the car when parked or getting under way on a steep up-grade.

The pressure applied to the brake pedal forces the piston toward the valve seat, creating hydraulic pressure which causes the pistons in the wheel cylinders to move outward, bringing the brake linings into contact with the wheel drums. When the pedal is released the force of the brake shoe springs releases the brakes.

Do not under any circumstances use other than "GM" hydraulic brake fluid, as it is the highest quality of brake fluid obtainable and its use will assure the long efficient life of all brake parts. The fluid level in the main cylinder should be checked periodically by your Chevrolet dealer.

These brakes have been designed and developed to give consistent and efficient service with long life under all conditions, and in order that they may do so, it is advisable that you follow these suggestions:

1. Avoid sudden stopping, as this puts unnecessary strain on the car.

2. Delay in adjusting brakes creates unnecessary repair bills.

3. When slowing down do not de-clutch your engine until the last moment, as the compression of the engine, on closed throttle, materially helps to slow down and stabilize the car when stopping.

4. Re-line brakes only with genuine "GM" linings, as this lining has been especially developed for this particular brake. Your Chevrolet dealer for a reasonable price will exchange the old brake shoes for new shoes with new linings precision ground to fit the brake drum.

5. Be sure that only genuine "GM" hydraulic brake fluid is used in the system, as possible damage to the hydraulic brake parts may result through the use of inferior brake fluids.

For all normal adjustments, it is necessary only to compensate for brake-lining wear. Your Chevrolet dealer has competent trained mechanics and the necessary equipment to render this service at a moderate cost. The necessity for brake adjustment is indicated when the brake pedal goes practically to the floor pan when the brakes are applied.

CARBURETOR

The carburetors are carefully tested and adjusted to the engine before leaving the factory. Too often adjustments are made to the carburetor when, in reality, something else is causing uneven running or the engine has not thoroughly warmed up.

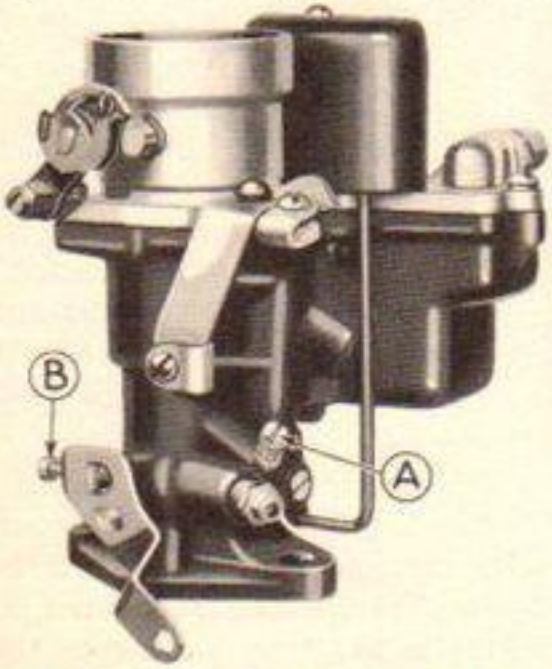


Fig. 36—Carburetor Adjustment

There are two adjustments on the carburetor, one for idling mixture and the other for idling speed. These adjustments should be made together.

To adjust the idling mixture, proceed as follows: Open the idle adjusting screw, "A," Fig. 36, from 1 to 2 turns. Let engine idle. Try turning screw both ways from this position until the best results are obtained.

To adjust for idling speed, proceed as follows: With the hand throttle on the instrument panel closed, set the

throttle lever stop screw, "B," Fig. 36, so that the engine runs at approximately 400 revolutions per minute. If the engine runs too fast, back the screw out; if too slow, turn it in until the proper speed is obtained.

The lever which operates the accelerating pump plunger arm is provided with three adjustments or settings (Fig. 37). Medium stroke is the correct setting for ordinary temperatures and standard gasoline. Short stroke is for use in extremely hot climates, at high altitudes, or with high test fuel. The long stroke is for use in extremely cold climates.



Fig. 37—Accelerating Pump Plunger Arm

1—Long Stroke

2—Medium Stroke

3—Short Stroke

To set this pump arm lever, it is necessary to remove the cover from the top of the accelerating pump. When this cover is removed, the countershaft that operates the accelerating pump should be lubricated by filling the cover screw hole with graphite grease.

AIR CLEANER AND INTAKE SILENCER

The air taken into the carburetor to mix with the fuel is thoroughly cleaned in passing through the combined air cleaner and flame arrester mounted on the top of the carburetor at the air intake (Fig. 38).



Fig. 38—Air Cleaner

Cleaning of the air is accomplished by a pad of copper gauze, through which the incoming air passes, depositing the particles of dust, dirt and grit on the oil covered edges. This metallic gauze pad also quenches any flame that may be caused by backfire through the carburetor.

Under ordinary conditions, where the car is driven on pavement or surfaced roads, the air cleaner should be removed every 2,000 miles and the dirt that has collected on the copper mesh cleaned out. This is done by removing the top cover and felt pad from the air cleaner, and slushing the

copper mesh in gasoline and then letting it drain and dry. After it is thoroughly cleaned and dry the copper mesh should be dipped in engine oil and again drained, after which it is assembled to the air cleaner.

Under extreme conditions, when the car is operating on gravel or dusty roads all the time, this cleaning operation must be done at more frequent intervals.

For service and special equipment, a heavy duty air cleaner is available, designed for direct attachment to downdraft carburetors. This cleaner is suitable for operating in extremely dusty conditions, and is quickly interchanged with the air cleaner installed as standard equipment, and will not affect the power and economy in any way. Oil of not less than S.A.E. 50 viscosity MUST be used in summer and lighter grades in winter and the level must be maintained. One pint of this oil will fill the cleaner to its proper level.

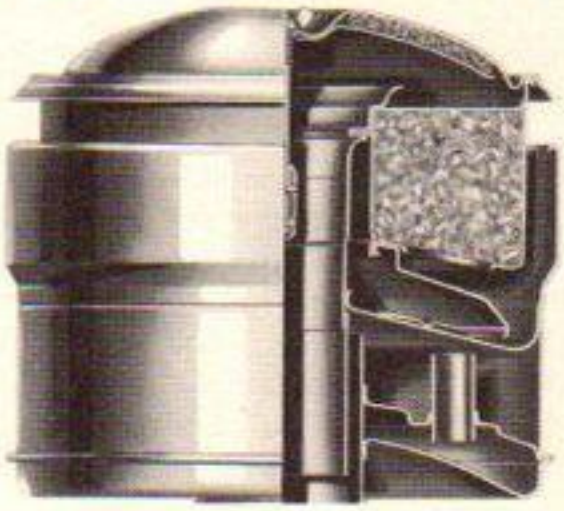


Fig. 39—Heavy Duty Air Cleaner

Servicing of this cleaner, an important operation, must be performed as follows:

Remove the air cleaner from the carburetor. Remove the wing nut from the top and remove the cover. Remove the filter element assembly. *Caution: Do not pry this part loose if it sticks. It must be removed by hand because you may damage the filter element flange, which must lie flat against the body to insure a tight seat at this point to prevent air leaks when the cover is assembled.*

Empty the oil out of the cleaner and clean out all accumulated dirt. Wash body with clean gasoline and wipe dry. Wash filter element by slushing up and down in clean gasoline. Dry thoroughly, either with an air hose or by letting it stand until dry. Fill the body of the cleaner with one pint of oil of not less than S.A.E. 50 viscosity in summer and lighter grades in winter. It is not necessary to re-oil the filter element as this is done automatically when the car is driven.

Reassemble the filter element to the body of the cleaner, being sure that the flange is set flat against the top flange of the body. Reassemble the cover, making sure that the

gasket is clean and in good condition over its entire surface, so that a tight seat is obtained. Put on wing nut.

Reassemble the cleaner to the carburetor. The cleaner must be put on tight and set down so that the felt pad rests against the carburetor to assure a good seat. Tighten clamp.

The periods at which this procedure must be followed will vary greatly according to the particular conditions under which the car is operating. Experience will tell what this period may be.

COOLING SYSTEM

The function of the cooling system is to keep the engine at its most efficient operating temperature under all driving conditions.

Chevrolet's cooling system is unusually effective, because Chevrolet's engine design provides large water passages around the cylinder walls, spark plugs and exhaust valves. Because the flow of water is not restricted at any point, the engine does not develop any "hot spots." The thermostat, located in the water outlet housing, should not be removed during the summer.

The water pump circulates the water in the cooling system. It is a self-contained unit, of the self-adjusting, centrifugal

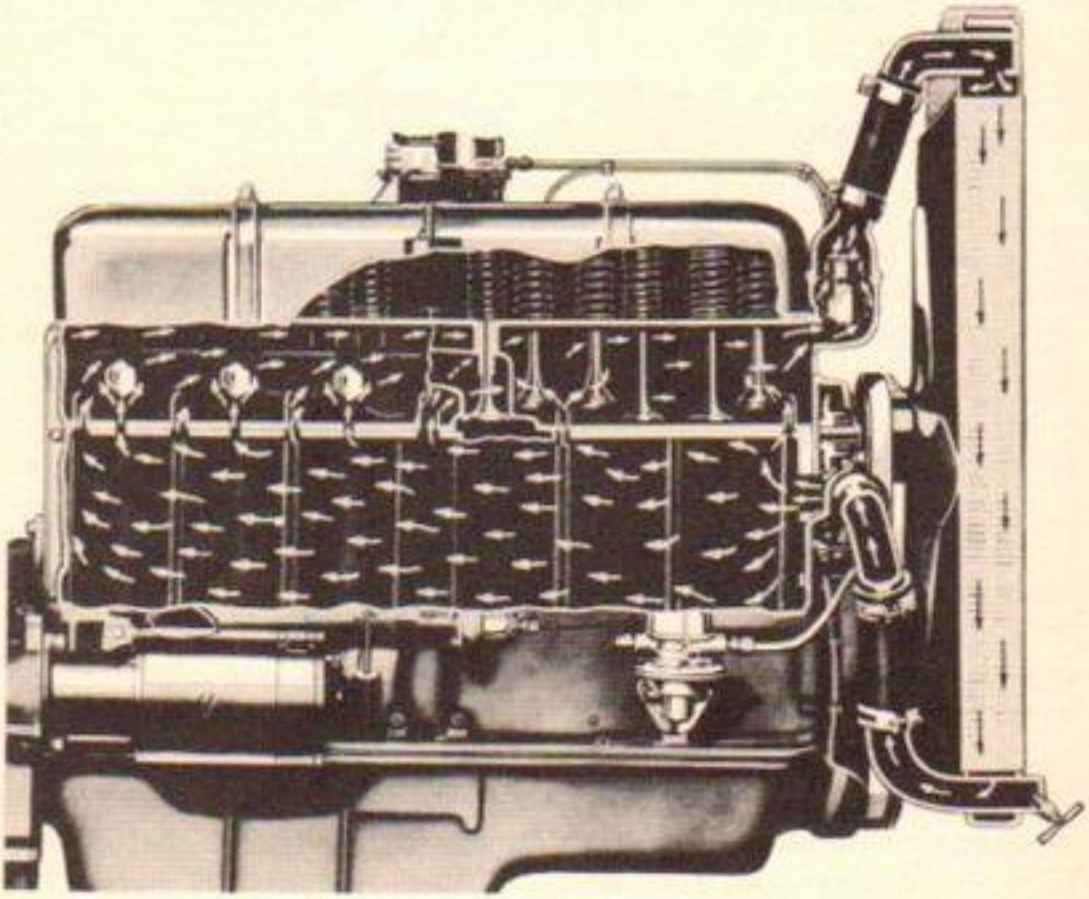


Fig. 40—Water Flow Through Engine

type, with a capacity sufficient to take care of the cooling needs of the engine. This water pump does not require any lubrication.

Intelligent care and the proper servicing of the cooling system are necessary to maintain its maximum efficiency.

The entire circulating system should be thoroughly flushed out at regular intervals. This can be accomplished with any of the several types of radiator flushers available. It will be found that the systems employing the reverse method of flushing will prove most efficient.

When draining the cooling system, open the drain cock at the bottom of the radiator and also the drain cock at the lower left side of the cylinder block.

ANTI-FREEZING SOLUTIONS

In selecting anti-freezing solutions for winter operation, the local conditions and the type of service must be considered. The following information is given to enable the individual owner to select the anti-freezing solution best suited to meet his own conditions.

The available commercial materials for preparing anti-freezing solutions for automobile radiators are denatured alcohol, methanol (synthetic wood alcohol), distilled glycerine, and ethylene glycol.

DENATURED ALCOHOL, METHANOL, AND "GM"

Denatured alcohol and methanol solutions are, at present, the most generally used anti-freezing solutions and are not injurious to the materials used in the cooling system.

There are two principal objections to denatured alcohol and methanol. These materials are lost by evaporation, especially on heavy runs, and unless the solution in the radiator is tested periodically and sufficient anti-freeze added to replace the loss by evaporation, the motor or radiator, or both, are likely to be damaged by freezing. The car finish is damaged by contact with denatured alcohol or methanol solutions or vapors, and any of the fluid accidentally spilled on the finish should be flushed off immediately with a large quantity of water.

Methanol, for anti-freeze purposes, is sold in the United States in the correct concentration to give the same protection against freezing as denatured alcohol.

Directions for preparing anti-freezing solutions from denatured alcohol 94% (188° proof), methanol (anti-freeze grade), and "GM," are as follows:

Comparative Protection Chart

To protect a 14-quart Cooling System	20° F. Qts.	10° F. Qts.	0° F. Qts.	—10° F. Qts.	—20° F. Qts.
Requires of Genuine GM Anti-Freeze	2	3¼	4¼	5¼	5¾
Requires of Alcohol	2¾	4¼	5¼	6	7
Requires of Anti-Freeze Methanols	2½	4	5¼	6	7

GLYCERINE AND ETHYLENE GLYCOL

Distilled glycerine and ethylene glycol solutions are, in first cost, more expensive than alcohol but, as they are not lost by evaporation, only water need be added to replace evaporation losses. Any solution lost mechanically, such as by leakage, foaming, etc., must be replaced by additional new anti-freezing solution. These solutions, under ordinary conditions, are not injurious to the car finish.

The principal objections to glycerine and ethylene glycol are the tendency of these solutions to loosen the scale and iron rust which forms in the water passages of the cylinder block and head, and the difficulty of securing and maintaining tight leakproof connections. It is absolutely necessary to thoroughly clean and flush the entire cooling system before glycerine or ethylene glycol is used. It is also necessary to tighten or replace the cylinder head gaskets and hose connections. The cylinder head gaskets must be kept tight to prevent the solution from leaking into the crankcase, where it might cause gumming and sticking of the moving parts.

Ethylene glycol sold in the United States for anti-freezing purposes and radiator glycerine, produced under the formula approved by the Glycerine Producer's Association, are chemically treated to overcome the principal difficulties mentioned in the above paragraph, and under normal operating conditions, with tight hose connections and cylinder head gaskets, should be satisfactory for use in cooling system.

Radiator glycerine or ethylene glycol should be used in accordance with the instructions, and in proportions recommended, by the manufacturer.

TESTING SOLUTIONS

In using a hydrometer to determine the temperature at which the solution will freeze, the test must be made at the temperature for which the hydrometer is calibrated. If the solution is warmer or colder, it must be brought to this temperature or large errors may result. In some cases these errors may be as large as 30 degrees Fahrenheit. Freezing point hydrometers are not interchangeable, and different floats are required for denatured alcohol, methanol, glycerine and ethylene glycol.

OTHER ANTI-FREEZING SOLUTIONS

Salt solutions, such as calcium or magnesium chloride, sodium silicate, etc., honey, glucose and sugar solutions and oils are not satisfactory for use in automobile radiators.

ELECTRICAL SYSTEM

The electrical system used on Chevrolet Passenger Cars is called the double-unit system with ground return, and consists of the following units: Generator, voltage and current regulator, starting motor, distributor, ignition coil, wiring harness, storage battery, ammeter, gasoline gauge, two horns, ignition lock, lighting, and foot control switch.

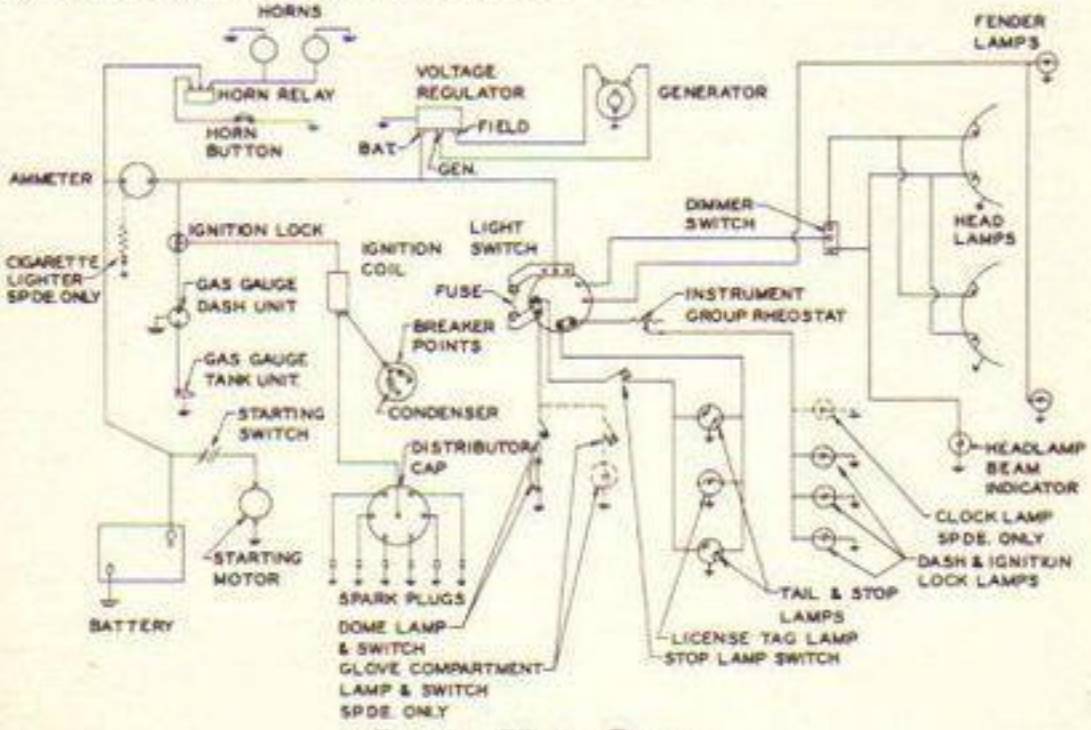


Fig. 41—Wiring Diagram

BATTERY

The storage battery may be considered a tank or reservoir in which energy from the generator is stored until it is required.

It is located on the right side of the engine compartment just ahead of the dash.



Fig. 42—Battery Location

Keep all cells of the battery filled with distilled water to a level of not more than ¼ inch above the top of the plates. In warm weather it makes no difference when water is added but in freezing weather it should be added just before using the car. The reason is that water will remain on top of the solution until it is mixed with it, by action of the battery. If not mixed with the solution, it would freeze almost as quickly as outside of the battery. Water will be required more frequently in summer than in winter. It is a good plan to add water at least once a week in summer and every two weeks in winter. When long daylight runs are made, water must be added still more frequently. Keep all battery terminals clean and tight.

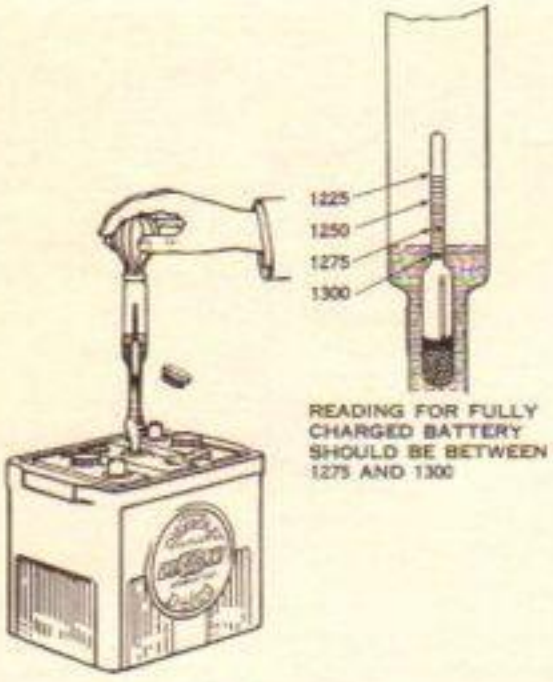


Fig. 43—Hydrometer

Electrolyte (sulphuric acid and water) attacks most all materials except rubber. Therefore, if this acid is accidentally spilled upon fabrics or seat cushions, ordinary household ammonia or common baking soda and water, if applied immediately, will counteract the effect.

A discharged battery will freeze at a little below the freezing point of water (32 degrees F.).

A fully charged battery will not freeze, even at temperatures as low as 30° below zero; therefore, keep the battery fully charged. Your Chevrolet Dealer will gladly perform this service for you on a no-charge basis. Register your battery with him.

"SEALED BEAM" HEADLAMPS

Chevrolet provides a new headlighting system known as "Sealed Beam" (Fig. 44) in which the light source, the reflector, the lens and the gasket are all assembled in one securely sealed unit. When the filament burns out or the lens breaks, the entire unit is replaced with a new one, thereby assuring maximum lighting efficiency throughout the entire life of the car.

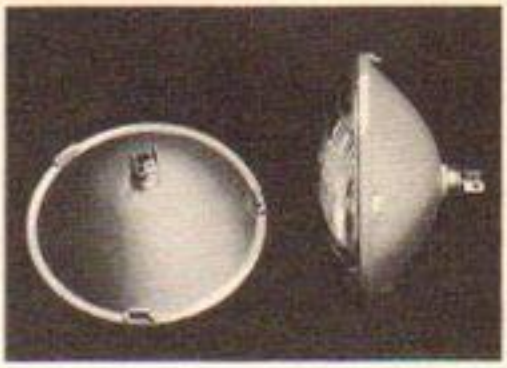


Fig. 44—Sealed Beam Headlamp

This lighting system represents the coordinated effort of the automobile and headlamp manufacturers. It conforms to the standards of the Society of Automotive Engineers and has the endorsement and approval of the American Association of Motor Vehicle Administrators, Automobile Manufacturers' Association and organizations interested in National Safety.

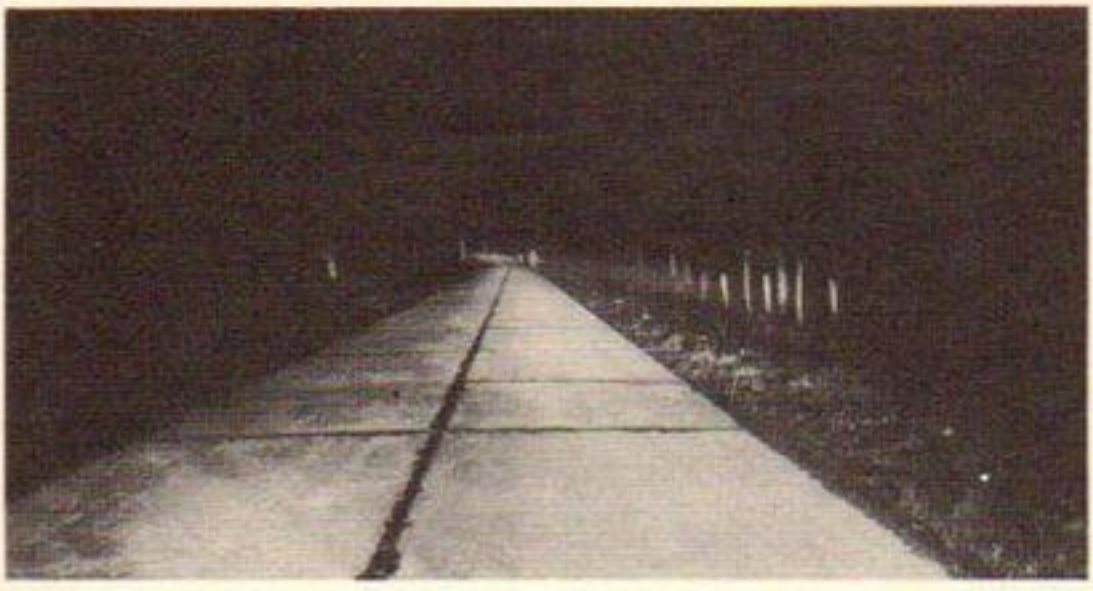


Fig. 45—Country (Upper) Beam

"Sealed Beam" headlamps provide two separate and distinct beams, giving considerably more light than has been produced in the past:

1. A country (upper) beam (Fig. 45) is designed to illuminate the road evenly for considerable distance ahead of the car. This beam is for use on the open highway when no other vehicles are approaching.

2. A traffic (lower) beam (Fig. 46) is also provided and is low enough on the left side to prevent glare in the eyes of the oncoming drivers. It is intended for use on heavily traveled

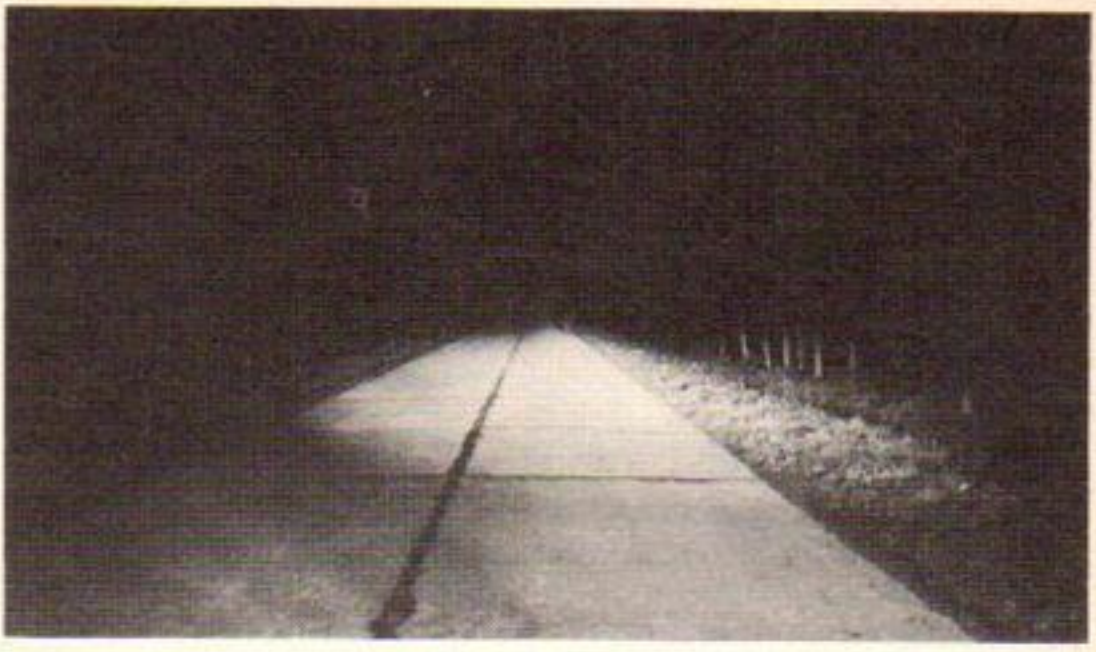


Fig. 46—Traffic (Lower) Beam

highways and should alway be used when meeting other vehicles. This beam is designed so that it does not throw any dazzling light into the eyes of the approaching driver under any condition of car loading. At the same time the distribution of light is such that the right side of the road is illuminated as far ahead as is practicable without causing glare on curves.

Chevrolet's "Sealed Beam" headlamps have been designed to insure the motorist of maximum safety and comfort for night driving, but to obtain this safety for himself and for others the motorist must be willing and anxious to use his headlighting equipment in the manner intended. Good drivers are always courteous.

The operation of the headlights is a simple one, allowing the motorist to use either the country (upper) or the traffic (lower) beam as traffic and road conditions demand by the use of a conveniently located foot switch. By pulling the light button on the instrument board to the second or last position, either the country (upper) or traffic (lower) headlamp beams are obtained alternately by operating the foot switch. (Fig. 47).

When the country (upper) beams are lighted a red pilot

bulb in the instrument cluster will be illuminated, making it convenient for the driver to determine when this beam is in use. *Never pass an approaching car with the red light burning.* Always use the traffic (lower) beam when meeting.

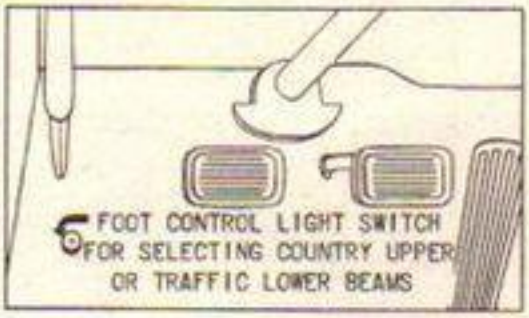


Fig. 47—Foot Control Switch

By pulling the light button to the first position the parking lamps on the fenders, license plate lights and both tail lights are lighted. The parking lamps consume a very small amount of current, thus minimizing the current consumed while the car is parked.

REPLACING HEADLIGHTS

Two types of "Sealed Beam" headlamp units are available. One of these types is made entirely of hard glass and the other is a composite unit consisting of a metal reflector and a glass lens. Both are completely interchangeable from the standpoint of electrical connections, beam patterns and physicial dimensions.

No dust or moisture can get inside the "Sealed Beam" headlamp unit beause the reflector and lens are sealed together permanently. This feature eliminates cleaning except for wiping off the outside of the lens and provides proper focusing and maximum light efficiency during the life of the car. The reflector



Fig. 48—Remove Headlamp Door Rim

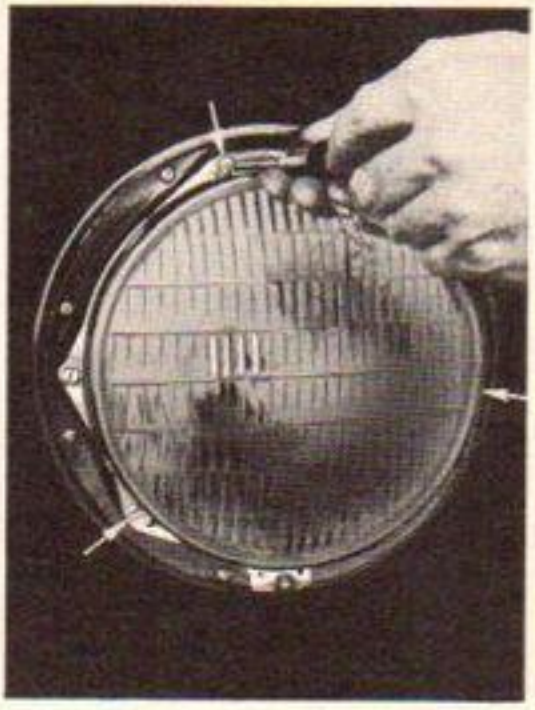


Fig. 49—Loosen Retaining Ring Screws

units in both the right- and left-hand headlamps are identical and are so designed that they cannot be installed improperly, nor can the electrical connections be attached in any but the right way. This feature makes replacement of a unit extremely simple, as follows:

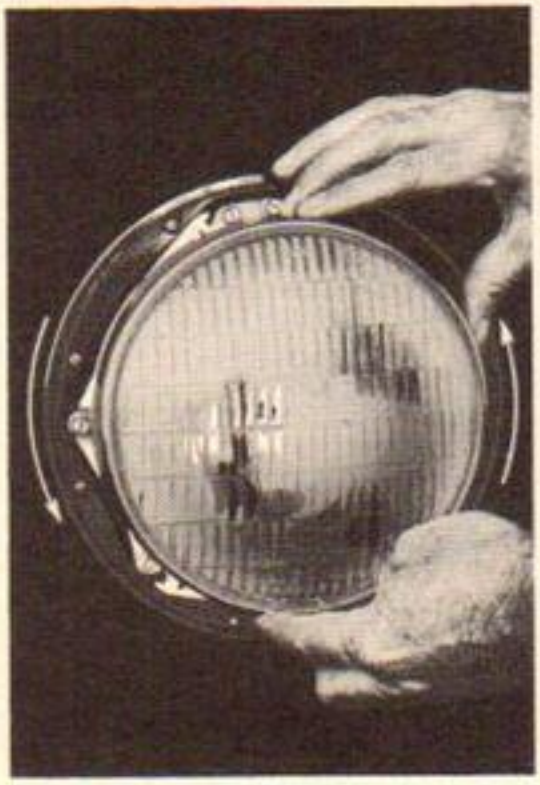


Fig. 50—Remove Retaining Ring



Fig. 51—Remove Reflector Plug

1. Remove headlamp door rim. (See Fig. 48).
2. Loosen but do not remove the three screws holding the retaining ring. (See Fig. 49.) (Do not disturb the aiming screws at the top and on the left side of the unit.)
3. Remove retaining ring by rotating to the left, allowing the reflector unit to be removed. (See Fig. 50.)
4. Remove the reflector plug from the reflector unit. (See Fig. 51.)
5. Install a new unit by reversing above operations.

CARE OF THE FINISH

CHROME PLATED PARTS

The chrome plated parts on your car are plated under rigid conditions of control and to definite thicknesses of plate, to provide the ultimate in protection of the parts against corrosion.

However, salt and calcium chloride are used to clean streets of snow and ice in winter, and are also applied to dirt and gravel roads to lay dust. These compounds, if splashed or thrown on the plated surfaces of your car and allowed to remain for any length of time, are destructive to this finish because they cause a chemical reaction which eats through the surface and opens it to rust. Sea-coast locations and the corrosive atmospheres of some localities also are hazardous to chrome plate.

If rust spots appear on the chrome plated surfaces, their appearance can be improved by cleaning the affected spots with a scouring powder of a type which would be used for cleaning porcelain. After this has been done a thin film of oil or wax should be applied.

PAINTED, ENAMELED AND LACQUERED PORTIONS OF THE CAR

Your car is finished with the latest and best materials and with reasonable care the finish should last for the life of your car.

STRONG SUNLIGHT—Strong sunlight is the most damaging element to these finishes. Continued exposure gradually causes the dulling of the surface. It is obvious that parking a car in the shade is a good thing to do, but since this is not always practical, the car should be polished occasionally with a good polish, which will be recommended on your request by your car dealer.

DIRT AND ROAD FILM—Keeping a car clean is good from every standpoint. Frequent dusting and washing pay good dividends in the maintenance of car appearance and value. When washing a car, it is well to use a sponge and plenty of water, being careful not to scratch the finish with dirt or gravel which may be on the car. Dry to a high luster with a clean chamois.

TAR—Tar is often used on roads and occasionally gets splashed on the car. When fresh, it can usually be removed with gasoline. If it is allowed to remain on the car for any time, it is well to use a commercial tar remover, which can be purchased from your dealer.

BUG SPOTS—Bug spots on the finished parts of the car can be washed off very easily by using a solution made up with two quarts of water in which ½ pound of baking soda (bicarbonate of soda) has been dissolved. Flush the washed parts with clean water.

CARE OF THE UPHOLSTERY

Too much emphasis cannot be placed upon the importance of keeping automobile upholstery clean and attractive at all times. It wears longer and affords greater comfort and enjoyment. It keeps hands and clothes from getting soiled and prevents the spread of infectious germs.

To keep automobile upholstery clean and attractive is relatively simple. Some fabrics, especially modern mohair velvets, are, of course, more easily cleaned than others.

Care should be taken in the use of cleaning solvents to minimize the amount of "finish" that may be removed from the materials and to lessen the possibility of leaving cleaning rings. If cleaning rings should form, the entire panel or seat should be gone over with the cleaning solvent, so that the appearance becomes uniform. It will also help if the cleaning solvents are first applied just outside the spots and then rubbed with a circular motion towards the center. This will drive the spots to a head, rather than spread them.

GENERAL INSTRUCTIONS FOR THE REMOVAL OF DUST

Dust and dirt particles that fall on the surface of automobile upholstery should be removed every few weeks—more often with constant, hard driving. This can be done readily with a whisk broom, carpet beater, or vacuum cleaner. For general cleaning and dusting, the seats should be removed. In so doing, dirt along the sides and rear of the seats falls to the bottom and can easily be wiped off. If beaten, the cushion should be held upside down, so that the dust will fall away from it. Blows should be light.

WASHING

Mohair velvet is the only automobile upholstery that can be completely washed safely with soap and water. Use lukewarm water and a neutral soap. The suds should be good and frothy, not watery, and applied in moderate quantities with a damp cloth, sponge, or soft brush. Rub with the pile, not against it. Soapsuds should be removed with a clean, damp cloth or sponge. Then wipe the surface several times with a dry cloth. While the material is still damp, brush it lightly with a whisk broom or brush of medium stiffness. Permit air to circulate freely over the wet upholstery. When it is dry, brush again, against the pile.

STEAMING

The surface of mohair velvet can readily be freshened by steaming. Spread a damp cloth over the surface and touch a hot flatiron to it lightly. The steam that is thereby driven down in the fibres will restore them to the erect position. Another method is to apply a steaming hot towel or cloth to the surface of the upholstery. Leave the towel or cloth in place for ten minutes or so. It may be necessary to repeat the process a few times. While still damp, the upholstery should be brushed lightly with a whisk broom or brush of medium stiffness. When thoroughly dry, the material should again be brushed. Brush against the pile. After this treatment, the upholstery will look fresh and new.

SPOTS

It is essential that stains be removed from upholstery as soon as possible after they have been made. If they are allowed to remain on the fabric for some time, they often become oxidized, and removal is difficult, if not impossible.

GENERAL INSTRUCTIONS FOR THE REMOVAL OF STAINS FROM AUTOMOBILE UPHOLSTERY

1. Use clean cloths at all times, and be sure a clean portion of the cloth is used throughout any operation.
2. A neutral (non-alkaline) soap is recommended in cases calling for soapsuds.
3. The use of hot water is to be avoided in removing stains, except where absolutely necessary. If it must be used, extreme care should be exercised, and it should be wiped off immediately, before it has a chance to run.
4. Do not use as a cleaning solvent any gasoline which is colored or which contains tetraethyl lead.
5. Do not use bleaches or reducing agents, such as the following, inasmuch as their use tends to weaken the fabric and change or bleach the color of the goods:

Chloride of lime	Potassium permanganate
Javelle water	Chlorine or chlorine water
Hydrogen peroxide	Sulphurous acid (sulphur dioxide)
Sodium hydrosulphite	Sodium thiosulphate (photographers' hypo)

6. Carbon tetrachloride is non-inflammable. Most other types of cleaning solvents are inflammable, and care must be exercised in handling them.
7. Do not permit cleaning solvents to come in contact with the skin on the upper arms or the body. Such contacts sometimes produce local irritation, which is unpleasant, if not serious.
8. Do not breathe the fumes of cleaning solvents, since they are usually poisonous in large quantities.
9. Keep oxalic acid out of reach of children and away from the mouth. It is a deadly poison.
10. Water spots may form on the fabric, if water has been used in the removal of the stain. These can be removed as outlined under "Water Spots."
11. All brushing of mohair velvets should be against the pile or lengthwise of the goods.
12. In removing grease spots, start just outside the spot and rub towards it with a circular motion. This will lessen the possibility of cleaning rings.
13. The direct application of cleaning materials or other reagents to the fabric should, wherever possible, be avoided. Better success will be experienced by first applying the reagent to a clean cloth or brush which is used for removing the spot from the area in question.

BATTERY ACIDS

Apply ordinary household ammonia water by means of a brush or cloth to the spot, so that it will be well saturated. Permit the ammonia water to remain on the spot about a minute, so that it will have ample time to neutralize the acid. Rinse the spot by rubbing with a clean cloth thoroughly wet with cold water.

It is imperative that the spot be treated as quickly as possible. If so much as a day elapses between the time the acid was spilled on the cloth and the time of its treatment with ammonia, a hole will probably have formed in the material.

BLOOD

Rub the stain with a clean cloth wet with cold water until no more of the stain will come out. Care must be taken so that clean portions of cloth are being used for rubbing the stain.

This treatment should remove all of the stain. If not, then apply a little household ammonia water to the stain, by means of a cloth or brush. After a lapse of about one minute, continue to rub the stain with a clean wet cloth. Nothing further can be done to remove the stain if this treatment has not been effective.

Hot water or soap and water must not be used on blood stains, as their use will set the stain, thereby making its removal practically impossible.

CANDY

Candy stains other than chocolate can be removed by rubbing with a cloth wet with very hot water. If not then completely removed, sponging the stain (after drying) with a cloth wet with carbon tetrachloride will usually remove it.

Candy stains resulting from cream and fruit-filled chocolates can be removed better by rubbing with a cloth soaked in lukewarm soapsuds, together with scraping, while wet, with a dull knife. This treatment is subsequently followed with a rinsing by rubbing the spot with a cloth wet with cold water.

Stains resulting from chocolate can be removed better by rubbing the stain with a cloth wet with lukewarm water. After the spot is dry, sponge with a cloth wet with carbon tetrachloride.

CHEWING GUM

Moisten the gum with carbon tetrachloride and work the gum off the fabric with a dull knife, while still moist.

FRUITS

Fruit stains of practically all kinds can be removed by treatment with very hot water. Wet the stain well by applying a little hot water (boiling if possible) to the spot. Scrape all pulp, if any, off the fabric with a dull knife. Then rub vigorously with a cloth wet with very hot water. If this treatment does not suffice, sponging after drying with a clean rag wet with carbon tetrachloride is the only further treatment recommended.

Soap and water are not recommended, as they will more than likely set the stain and thereby cause a permanent discoloration of greater magnitude than the original stain. Drying the cloth by means of heat (such as by the use of an iron) is also not recommended for the same reason.

GREASE AND OIL

If a considerable quantity of grease has been spilled on the material, as much as possible should be removed by scraping with a dull knife or spatula before any further treatment is attempted.

Grease and oil stains may be removed by sponging and rubbing with a clean cloth wet with any one of several solvents, such as carbon tetrachloride, benzene, ether, or motor gasoline (free from tetraethyl lead). In general, carbon tetrachloride is the best grease remover. To lessen the possibility of grease rings, start just outside the spot and rub toward it with a circular motion. Care should be taken to use a clean portion of cloth to rub the stain. Several cloths may be necessary.

If, after repeated treatments with the solvent, a dirty stain remains, due to particles of dirt contained in the grease, rub the spot with a clean rag saturated with lukewarm suds, then rinse off the soap by sponging with a clean cloth wet with cold water.

ICE CREAM

The same procedure is recommended for the removal of ice cream stains as for removing fruit stains.

If the stain is persistent, rubbing the spot with a cloth wet with warm soapsuds may be used to some advantage after the initial treatment with hot water. This soap treatment should be followed by a rinsing, by rubbing with a clean cloth wet with cold water. After drying, a sponging with carbon tetrachloride will clear up the last traces of the stain, by removing fatty or oily matter.

INK (WRITING)

The composition of writing inks varies: therefore, it is impossible to find agents which are equally effective in removing all ink spots. In general, no ink spot can be completely removed from velvets and flat fabrics without injuring the goods. The following methods are recommended and are listed according to their relative efficiency:

1. Gartside's Iron Rust Soap, manufactured by the Gartside's Iron Rust Soap Company, Philadelphia, and on sale throughout the United States.

   Rub the soap into the stain with the fingers. Let stand about a minute and wipe off with dry cloth. Repeat the process until the wiping cloth no longer shows a stain. Then rinse by rubbing spot with cloth wet with cold water.

2. Ink Eradicator No. 1 Solution (Solution No. 2 cannot be used, since it changes the color of fabrics), sold at most drug stores. Apply No. 1 Solution to the spot with glass dropper and then blot with blotting paper. Repeat process until a clean portion of blotting paper shows no stain. Then rinse by rubbing with clean cloth wet with cold water.
3. Saturated solution of oxalic acid. Use as outlined in 2.
4. Two per cent solution of sodium acid fluoride (sodium bifluoride). Use same as 2.

IRON RUST

Rub the spot with a clean cloth saturated with warm soapsuds; rinse by rubbing with a cloth wet with cold water. After the fabric has dried, treat the remaining stain as if it were an ink spot, using methods outlined for the removal of ink spots.

LIPSTICK

Apply a little carbon tetrachloride to the stain by means of a saturated cloth and immediately press a blotter firmly on the spot. Repeat this procedure, using new sections of blotting paper until the blotter no longer shows stain.

LIQUOR AND WINE

Treat liquor and wine stains exactly the same as fruit stains.

MILDEW

Fresh mildew stains can be removed by rubbing vigorously with a cloth soaked in warm soapsuds, followed with rinsing by rubbing with a cloth wet with cold water.

Old mildew growths can also be removed with the above soap and water treatment, but the discoloration caused by the growth probably cannot be removed. The only treatment recommended for removing discoloration caused by old mildew growths is an oxalic acid treatment. Pour enough 10 per cent oxalic acid solution on cloth to completely cover stain. Allow to stand a minute. Then remove acid by alternate blotting with dry blotting paper and pouring cold or hot water on stain.

SHOE POLISH AND DRESSINGS

Allow the polish to become dry. Then brush the spot vigorously with a brush. This will probably be all the treatment that is necessary. If not, then moisten the spot with cold water, and after it has again dried repeat the brushing operation.

This method applies particularly to types of white shoe dressings which contain only starch or dextrine or some water-soluble material. In cases where water-insoluble materials are used in white shoe dressings, the methods of treatment will vary. If the vehicle is wax, as in the case of black and tan dressings, rub the stain with a cloth wet with carbon tetrachloride until removed. Use a clean portion of the cloth for each rubbing operation.

TAR

Moisten the spot slightly with carbon tetrachloride, benzene, or gasoline (not ethyl) and then remove as much of the tar as possible with a dull knife. Follow this operation by rubbing the spot with a cloth wet with any one of the aforementioned solvents until it is removed.

URINE

Sponge the stain with a clean cloth wet with lukewarm soapsuds and then rinse well by rubbing the stain with a clean cloth wet with cold water. Then apply to the spot, using a saturated cloth, a mixture composed of one part household ammonia water and five parts water. Allow to remain for a minute. Then rinse by rubbing with clean wet cloth.

WATER SPOTS

Sponge the entire panel showing the stain with a clean cloth wet with cold water. Allow to dry and sponge the spot with a cloth wet with carbon tetrachloride.

GENERAL LUBRICATION

Your Chevrolet dealer is equipped to render complete Chevrolet Specialized Lubrication Service. We recommend that you take advantage of his modern equipment and trained men.

Lubricants are much cheaper than repair bills, and should be applied regularly if you are to obtain a maximum of useful service from your car. It is, consequently, important that the proper grade of lubricants be used in accord with a definite schedule.

ENGINE LUBRICATION

Proper selection of the oil to be used will add much to the performance, reliability, economy and long life of your engine.

It is imperative that the recommended light oils be used in the engine during the "breaking-in" period.

Light oils assure a better "breaking-in" of the engine, as they assure ease of starting the engine, prompt flow of a sufficient quantity of oil to the bearings, less friction between moving parts, less wear of moving parts, etc.

OIL GAUGE

When starting a cold engine, it will be noted that the oil gauge on the instrument panel will register a high oil pressure. As the engine warms up, the pressure will drop until it reaches a point where changes to higher speeds will raise the pressure very little, if at all.

If the oil pressure registers abnormally high after the engine is thoroughly warmed up, an inspection should be made to ascertain if the oil lines and passages are plugged up.

LUBRICATION—FIRST 500 MILES

The crankcase of the engine, as delivered to you, is filled with S.A.E. 10-W oil.

Use this oil during the first 500 miles.

At the end of the first 500 miles, drain the crankcase—when hot—and refill to the proper level with the recommended oil.

LUBRICATION—AFTER 500 MILES

After the first 500 miles the crankcase oil should be selected to give the best performance under your individual climatic and driving conditions.

FALL—WINTER—SPRING

During the colder months of the year, an oil which will permit easy starting at the lowest atmospheric temperature likely to be encountered should be used. When the crankcase is drained and refilled, the crankcase oil should be selected not on the basis of the existing temperature at the time of the change, but on the lowest temperature anticipated for the period during which the oil is to be used.

Unless the crankcase oil is selected on the basis of viscosity or fluidity at the anticipated temperature, difficulty in starting will be experienced at each sudden drop in temperature.

The viscosity grade of crankcase oil will, therefore, depend upon the climatic conditions under which your car is operated. The grades best suited for use in your engine at the various temperatures are shown in the following tables:

If you anticipate that the lowest atmospheric temperature will be	use the grade indicated
Not lower than 32° F.	20-W or S.A.E. 20
As low as plus 10° F.	20-W
As low as minus 10° F.	10-W
Below minus 10° F.	10-W plus 10% Kerosene

10-W oil plus 10% kerosene is recommended only for those territories where the temperature falls below 10 degrees below zero for protracted periods.

Fig. 52 shows the data in the above table as it would appear on a thermometer—the lowest temperature at which the indicated grades of oil will permit easy starting.

Note: When in doubt, use the lighter grade of oil.

We recommend the use of 20-W rather than S.A.E. 20 if you anticipate temperatures to drop to freezing.

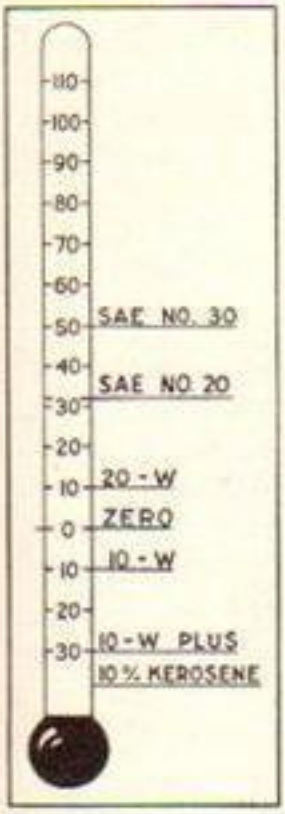


Fig. 52—Thermometer Indicates Lowest Easy Starting Temperature

SUMMER

The use of 20-W or S.A.E. 20 oils during the Summer months will permit better all-around performance than will the heavier body oils, with no appreciable increase in oil consumption.

If S.A.E. 20 or 20-W oil is not available, S.A.E. 30 oil may be used if it is expected that the average prevailing daylight temperature will consistently be above 90° F.

MAINTAINING OIL LEVEL

The Oil Gauge Rod (Fig. 53) is marked "Full" or "Add Oil."

These notations have broad arrows pointing to the level lines.

The oil level should be maintained between these two lines; neither going over the "Full" line nor under the "Add Oil" line.

Check the oil level frequently and add oil when necessary. Always be sure the crankcase is full before starting on a long drive.



Fig. 53—Oil Gauge Rod in Pan

WHEN TO CHANGE CRANKCASE OIL

Some oils have been greatly improved, driving conditions have changed, and improvements in engines, such as the crankcase ventilating system, have greatly lengthened the life of good lubricating oils. However, to insure continuation of best performance, low maintenance cost and long engine life, it is necessary to change the crankcase oil whenever it becomes contaminated with harmful foreign materials. Under normal driving conditions draining the crankcase and replacing with fresh oil every 2000 to 3000 miles is recommended. Under the adverse driving conditions described in the following paragraphs, it may become necessary to drain the crankcase oil more frequently.

Driving over dusty roads or through dust storms introduces abrasive material into the engine. Carburetor air cleaners decrease the amount of dust that enters the crankcase. The frequence of draining depends upon severity of dust conditions and no definite draining periods can be recommended.

Short runs in cold weather, such as city driving, do not permit thorough warming up of the engine and water may accumulate in the crankcase from condensation of moisture produced by the burning of the fuel. Water in the crankcase may freeze and interfere with proper oil circulation. It also promotes rusting and may cause clogging of oil screens and passages. Under normal driving conditions this water is removed by the crankcase ventilator. But if water accumulates it should be removed by draining the crankcase as frequently as may be required.

It is always advisable to let the engine reach normal operating temperature before draining the crankcase. The benefit of draining is, to a large extent, lost if the crankcase is drained when the engine is cold as some of the suspended foreign material will cling to the sides of the oil pan and will not drain out readily with the slow moving oil.

CRANKCASE DILUTION

Probably the most serious phase of engine oil deterioration is that of crankcase dilution, which is the thinning of the oil by fuel vapors leaking by the pistons and rings and mixing with the oil.

Leakage of fuel, or fuel vapors, into the oil pan mostly occurs during the warming-up period, when the fuel is not thoroughly vaporized and burned.

Automatic Control Devices to Minimize Crankcase Dilution

Your Chevrolet engine is equipped with automatic devices which aid greatly in minimizing the danger of crankcase dilution.

Rapid warming up of the engine is aided by the thermostatic water temperature control, which automatically prevents circulation of the water in the cooling system until it reaches a pre-determined temperature.

Thermostatic heat control on the exhaust manifold, during the warming-up period, automatically directs the hot exhaust gases against the center of the intake manifold, greatly aiding the proper vaporization of the fuel.

The down-draft carburetor is an aid to easy starting, thereby minimizing the use of the choke. Sparing use of the choke reduces danger of raw, or unvaporized, fuel entering the combustion chamber and leaking into the oil reservoir.

An efficient crankcase ventilating system drives off fuel vapors and aids in the evaporation of the raw fuel and water which may find its way into the oil reservoir.

Control by Car Owner Under Abnormal Conditions

Ordinarily these automatic control devices will minimize, or eliminate, the danger of crankcase dilution.

However, there are abnormal conditions of service when the car owner must aid in the control of crankcase dilution.

Short runs in cold weather, such as city driving, do not permit the thorough warming up of the engine or the efficient operation of automatic control devices. It is recommended that the oil be changed more often when the car is subject to this type of operation.

Poor mechanical condition of the engine, such as scored cylinders, poor ring fit, "sloppy" or loose pistons, faulty valves and poor ignition will increase crankcase dilution. Keep your car in good mechanical condition.

Poor fuels which contain portions hard to ignite and slow to burn will increase crankcase dilution. Use good fuel.

WATER IN CRANKCASE

Serious lubrication troubles may result in cold weather by an accumulation of water in the oil pan. This condition is as a rule little understood by the car owner. To demonstrate the chief cause of water in the oil pan, hold a piece of cold metal near the end of the exhaust pipe of the engine and note the rapid condensation and collection of drops of water on it. The exhaust gases are charged with water vapor and the moment these gases strike a cold surface, they will condense, forming drops of water.

A slight amount of these gases pass the pistons and rings, even under the most favorable conditions, and cause the formation of water in the oil pan, in a greater or less degree, until the engine becomes warm. When the engine becomes thoroughly warm, the crankcase will no longer act as a condenser and all of these gases will pass out through the crankcase ventilator system.

Short runs in cold weather, such as city driving, will aggravate this condition.

CORROSION

Practically all present-day engine fuel contains a small amount of sulphur which, in the state in which it is found, is harmless; but this sulphur on burning, forms certain gases, a small portion of which is likely to leak past the pistons and rings and, reacting with water, when present in the crankcase, form corrosive acids. The more sulphur in the fuel, the greater the danger from this type of corrosion. This is a condition which we cannot wholly avoid, but it may be reduced to a minimum by proper care of the engine.

As long as the gases and the internal walls of the crankcase are hot enough to keep water vapor from condensing, no harm will result; but when an engine is run in low temperatures, moisture will collect and unite with the gases formed by combustion; thus, acid will be formed and is likely to cause serious etching or pitting. This etching, pitting or corrosion, when using fuel containing considerable sulphur, manifests itself in excessively rapid wear on piston pins, camshaft bearings and other moving parts of the engine, oftentimes causing the owner to blame the car manufacturer or the lubricating oil when in reality the trouble may be traced to the character of fuel used, or a condition of the engine, such as excessive blow-bys or improper carburetor adjustment.

S. A. E. VISCOSITY NUMBERS

The viscosity of a lubricant is simply a measure of its body or fluidity. The oils with the lower S.A.E. numbers are lighter and flow more readily than do the oils with the higher numbers.

The S.A.E. viscosity numbers constitute a classification of lubricants in terms of viscosity or fluidity, but with no reference to any other characteristics or properties.

The refiner or marketer supplying the oil is responsible for the quality of its product. His reputation is your best indication of quality.

The S.A.E. viscosity numbers have been adopted by practically all oil companies, and no difficulty should be experienced in obtaining the proper grade of lubricant to meet seasonal requirements.

CRANKCASE OIL CLASSIFICATIONS

Viscosity Number	Seconds Viscosity (Sayboldt Universal) 0° F. Min.	0° F. Max.	130° F. Min.	130° F. Max.
10-W (*)	5,000	10,000	...	...
20-W (**)	10,000	40,000	...	...
S.A.E. 20	.....	.....	120	185
S.A.E. 30	.....	.....	185	255

*Sub-zero pour test.

**Zero pour test.

WATER PUMP LUBRICATION

The permanently sealed ball bearing water pump does not require lubrication by the car owner.

CARBURETOR ACCELERATING PUMP LUBRICATION

It is important that the carburetor accelerating pump countershaft be lubricated every 5,000 miles. To lubricate this shaft, remove the screw attaching the dust cover and fill the threaded hole with graphite grease.

STARTING MOTOR LUBRICATION

Every 1,000 miles put a few drops of light oil, or engine oil, in the oil cup.

GENERATOR LUBRICATION

Every 1,000 miles put a few drops of a light oil, or engine oil, in the 2 oil cups.

DISTRIBUTOR LUBRICATION

The distributor is equipped with a grease cup. Fill this cup with a soft, smooth cup grease and turn down every 1,000 miles.

TRANSMISSION LUBRICATION

The transmission of your car, as you receive it, is filled with SAE 90 Transmission Lubricant, suitable for "year-around" service.

During the Summer months, if S.A.E. 90 Transmission Lubricant is not available, engine crankcase oil S.A.E. 40 or S.A.E. 50—and lubricants other than transmission lubricants, meeting the viscosity and channelling requirements of S.A.E. 90 Transmission Lubricant—may be used.

When extremely low temperatures are encountered for protracted periods during the Winter months, S.A.E. 80 Transmission Lubricant, or S.A.E. 90 to which has been added 10% to 20% kerosene, may be used.

It is recommended that the lubricant in the transmission be drained twice a year, or approximately 6,000 to 10,000 miles. It is a good plan to wash out the transmission with a light oil to remove foreign substances, such as grit or dirt. To do this, remove the drain plug at the bottom of the transmission case and allow the oil to drain off, after which flush out the case thoroughly, and refill with the oil recommended above.

The lubricant level should be checked periodically and lubricant added if required.

UNIVERSAL JOINT

The universal joint receives its lubrication from the transmission.

REAR AXLE LUBRICATION

Passenger Car Duty Hypoid Lubricant

Use in Passenger Car Rear Axles.
Use in ½ Ton Commercial Model Rear Axles.
Use in ¾ Ton Commercial Model Rear Axles.

Truck Duty Hypoid Lubricant

Use in 1½ Ton Truck Hypoid Rear Axle Models.

Note—Truck Duty Hypoid Lubricant may be used in the ½-Ton Commercial and ¾ Ton Commercial Models for complete refills of the housings.

Mineral Oil Lubricant

Use in 2-Speed Rear Axle Models.

The lubrication requirements of Passenger Car Hypoid Axles differ somewhat from Heavy Duty Hypoid or Spiral Bevel Truck Axles. The Passenger Car operates under the most severe lubrication conditions at high speed while the Truck operates under the most severe lubrication conditions at low speed in low gear under heavy load. Therefore, it is important to use the proper type of lubricant as specified in the above table.

Passenger Car Duty Hypoid Lubricant

The type of Passenger Car Hypoid Rear Axle Lubricant which has been used by Chevrolet during the past three years is satisfactory for your 1940 Passenger Car, the ½ Ton and ¾ Ton Commercial Models, but cannot be used in the 1½ Ton Truck Models equipped with Hypoid Rear Axles.

These lubricants, together with other types also satisfactory for the Passenger Car Hypoid Axle, have heretofore been referred to as "Hypoid Lubricants," but to differentiate them from the type required for the 1½ Ton Truck Rear Axle will now be designated as "Passenger Car Duty Hypoid Lubricants."

Truck Duty Hypoid Lubricant

This lubricant differs from the type of Hypoid Lubricant

(Continued on Page 54)

1940 MASTER DE LUXE LUBRICATION POINTS

LEGEND

○ Lubricate every 1,000 miles * Lubricate every 2,000 miles
⊕ Lubricate every 5,000 miles ● Lubricate every 10,000 miles

1. LOWER CONTROL SHAFT—FRONT—Lubricate with chassis lubricant.
2. LOWER CONTROL SHAFT—REAR—Lubricate with chassis lubricant.
3. LOWER CONTROL ARM—Lubricate with chassis lubricant.
4. UPPER CONTROL ARM—FRONT AND REAR—Lubricate with chassis lubricant.
5. FRONT WHEEL BEARING—Clean and repack with high melting point front wheel bearing grease.
6. KING PIN—Lubricate with chassis lubricant.
7. FRONT SHOCK ABSORBERS—Keep filled with genuine shock insulating fluid.
8. TIE ROD—Lubricate with chassis lubricant.
9. STEERING GEAR—See recommendations under "Steering Gear Lubrication", Page 57.
10. AIR CLEANER—Remove and clean with gasoline—dip screen in engine oil—keep felt pad dry.
11. TRANSMISSION—See recommendations under "Transmission Lubrication", Page 50.
12. REAR SHOCK ABSORBERS—Keep filled with genuine shock insulating fluid.
13. DIFFERENTIAL—See recommendations under "Rear Axle Lubrication", Page 51.
14. REAR SPRING SHACKLE—Lubricate with chassis lubricant.
15. WATER PUMP—Requires no lubrication.
16. GENERATOR—Lubricate with two or three drops of light engine oil.
17. DISTRIBUTOR—Fill and turn down grease cup—use soft smooth cup grease.
18. STARTING MOTOR—Lubricate with two or three drops light engine oil.
19. ACCELERATOR PUMP SHAFT—Remove cover and fill screw hole with graphite grease.
20. BRAKE AND CLUTCH PEDALS—See recommendations under "Brake and Clutch Pedal Lubrication", Page 55.

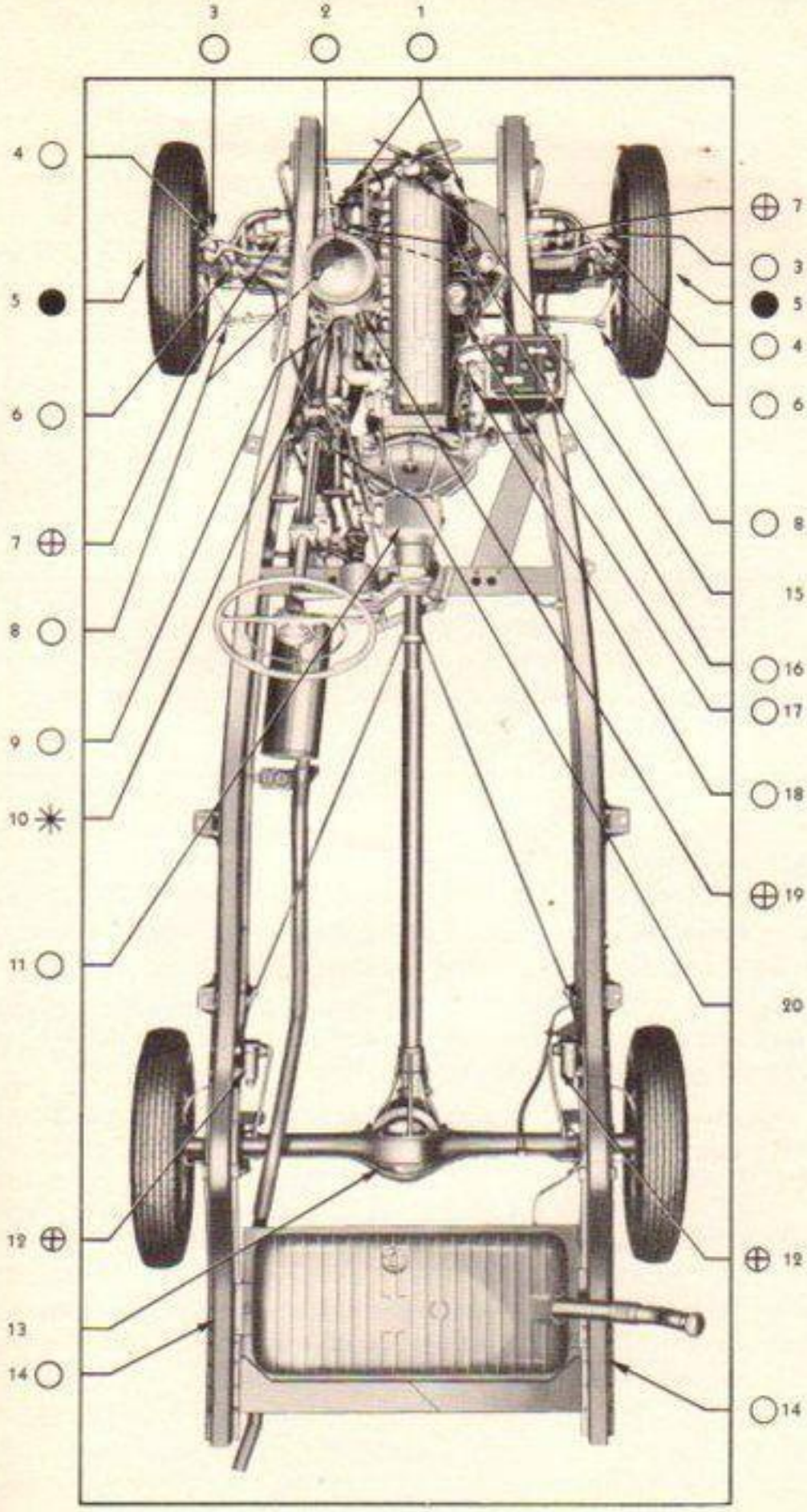


Fig. 54—De Luxe Models

which has been in almost universal use during the past years in Passenger Cars in that it is compounded to provide satisfactory lubrication at low speed in low gear under severe operating conditions. To differentiate this lubricant from the types of "Passenger Car Duty Hypoid Lubricants" that cannot be used in the 1½ Ton Truck Hypoid Rear Axle Models, it is designated as "Truck Duty Hypoid Lubricant."

Mineral Oil Lubricant

"Straight" Mineral Gear Oil is required for the 1½ Ton Models equipped with 2-Speed Spiral Bevel Rear Axles. This lubricant is not suitable for Hypoid Gears and cannot be used in Passenger Cars or Truck Models equipped with Hypoid Axles.

> *Caution*—Mild types of Extreme Pressure Lubricants employed for certain designs of Spiral Bevel Gear Rear Axles and Transmissions cannot be employed for use in Hypoid Rear Axles.

The Rear Axle of your car, which is equipped with a Hypoid Gear and Pinion, is filled, as you receive it, with "SAE 90 PASSENGER CAR DUTY HYPOID LUBRICANT" suitable for "year-around" service at any speeds and loads to which the car may be subjected.

It is recommended that the Passenger Car Duty Hypoid Lubricant be used for refills and for any additions periodically required to keep up the lubricant level.

When extremely low temperatures are encountered for protracted periods during the winter months, "SAE 80 PASSENGER CAR DUTY HYPOID LUBRICANT" may be used. If "SAE 80 PASSENGER CAR DUTY HYPOID LUBRICANT" is not available, "SAE 90 PASSENGER CAR DUTY HYPOID LUBRICANT" may be thinned to the "SAE 80" body, or viscosity, by making a mixture composed of one part 10-W Engine Oil and two parts of the "SAE 90 PASSENGER CAR DUTY HYPOID LUBRICANT."

Caution—It is extremely important that the Engine Oil and the Hypoid Lubricant be thoroughly mixed outside the Axle Housing just prior to putting into the Housing.

While seasonal changes of the lubricant are not required,

it is recommended that you have the Housing drained and refilled with "SAE 90 PASSENGER CAR DUTY HYPOID LUBRICANT" at least twice a year, or every 6,000 to 10,000 miles under severe service conditions.

CAUTION—Use a light flushing oil to flush out the Axle Housing when draining. Do not use water, steam, kerosene, gasoline, alcohol, etc.

The lubricant level should be checked periodically and lubricant added if required.

BRAKE AND CLUTCH PEDAL LUBRICATION

The pedals, lubricated at the factory, should not require further lubrication. However, should the pedals operate "stickily," remove the plug and fill the reservoir with chassis lubricant.

CAUTION—Be very careful not to get any lubricant on the nearby rubber parts.

FRONT WHEEL LUBRICATION

It is necessary to remove the front wheels to lubricate the ball bearings. The bearing assemblies should be cleaned, and packed with a high melting point front wheel bearing grease. Do not pack the hub between the inner and outer bearing assemblies, or the hub cap, as this excessive lubrication results in the grease working out into the brake drum and linings.

In mounting the front wheels, great care must be taken to properly adjust the bearings, an operation that requires mechanical skill, as follows:

1. Using an 8" wrench (never larger) and applying a steady force with one hand, pull up the adjusting nut as tightly as possible. At the same time rotate the wheel to be sure that all parts are correctly seated.
2. Back off the adjusting nut one-half castellation or one-twelfth turn.
3. If the slot in the nut and the cotter pin hole line up, insert the cotter pin. If not, back the nut off until the slot and the hole are in line and then insert the cotter pin.

With the bearing inner cup an easy-push fit on the spindle and the nut a free-running fit on the spindle threads, this will give an adjustment toward the tight side, which will allow for settling and working-in of the parts in service.

Front wheel bearings should never be set up on the loose side, as such an adjustment does not bring the balls and races into proper contact.

It is well to note that the slight friction of a new snugly fitting felt retainer assembly will temporarily produce a slight drag on the wheel, but this is easily recognized and need not be confused with adjustment of the bearing. Spin the wheel, making sure that all parts are in correct position, then clinch cotter pin securely.

REAR WHEEL LUBRICATION

The rear wheel bearings are lubricated from the rear axle.

SPRING SHACKLES

The spring shackles are equipped with pressure gun fittings, and should be lubricated with the lubricant recommended under "Chassis Lubrication", below.

CAUTION—Rubber bushings are used at the front of each rear spring, and on the spring seats. These bushings must not be lubricated or sprayed with oil.

SHOCK ABSORBERS

The shock absorbers should be kept filled with a low viscosity (light body) shock absorber fluid that has a pour test not higher than 30° below zero. The same fluid is used both summer and winter.

The shock absorber fluid should have a viscosity of from 70 to 80 seconds at 100° F. (Sayboldt Universal) and should not exceed 975 to 1,000 seconds at 20° F. This type of fluid is carried by all Chevrolet dealers.

Do not, under any circumstances, use a shock absorber fluid heavier in viscosity, or body, than that recommended above. Heavy fluids are detrimental to the proper functioning of the unit.

CHASSIS LUBRICATION

For chassis lubrication, consult the lubrication chart, Fig. 54, which shows the points to be lubricated and how often the lubricant should be applied.

The term "chassis lubricant" as used in this manual, describes a semi-fluid lubricant designed for application by

commercial pressure gun equipment. It is composed of mineral oil (usually 300 to 500 seconds Saybolt Universal Viscosity at 100° F.) combined with approximately 8% soap, or soaps, which are insoluble in water.

HYDRAULIC BRAKE FLUID

Your Chevrolet dealer has the proper hydraulic brake fluid for the brake system of your car.

STEERING GEAR LUBRICATION

The steering gear is filled at the factory with a special all-season gear lubricant. Seasonal change of this lubricant is unnecessary and the housing need not be drained. Whenever required, additions should be made using a lubricant which, at low temperatures, is fluid and will not "channel" or cause hard steering and which will provide satisfactory lubrication under extreme summer conditions.

A pipe plug is installed at this point to prevent over-lubrication, which might result in forcing the lubricant up the steering gear tube to the horn button and steering wheel.

VACUUM POWER GEARSHIFT MECHANISM

This mechanism, lubricated at the factory, is well protected and should not require further lubrication under 15,000 miles. However, should the shifting become "sticky" the protecting boot should be inspected for leaks, at which time the levers should be lubricated with a graphite grease and the boot properly assembled.

REAR SPRING LUBRICATION

The De Luxe rear springs are enclosed in metal covers. The spring leaves are coated and the covers are filled with a special graphite grease at the time the springs are assembled.

Should the car owner find it necessary to lubricate the spring leaves, or refill the spring covers, a soft, smooth, cup grease, to which 8% to 10% graphite has been added, should be used.

SAFETY BUILT IN YOUR CAR

Your Chevrolet has been designed and built to give you many thousands of miles of driving pleasure and comfort.

The body is of all steel construction, well insulated against heat and sound. The interior appointments have been made to assure comfort and safety. The adjustable front seat, safety

glass, controlled ventilation, and recessed control knobs on the instrument panel are examples of this safety in design.

The headlights are controlled by the left foot when changing from the upper to the lower beam, which leaves the right foot and both hands free to control the car. Always use the low beam when approaching and passing another car.

The hydraulic brakes are the safest and most dependable system of brakes ever used. They always exert equal brake pressure on all four wheels.

The hand brake lever, under the instrument panel to the left of the steering wheel, is easily reached.

HIGHWAY SAFETY

One of the most important aspects of motoring these days is motoring safety. Safety campaigns are constantly being held in the major cities. Many states now have compulsory inspection laws. Various commissions have been appointed to study the problem and make further recommendations to legislative bodies.

The primary responsibility for traffic safety lies with the motor car driver.

The most competent driver always keeps in mind the other fellow. Always signal the other driver to let him know when you are going to stop, make a turn, or pull away from the curb. Proper signaling will do away with one of the most dangerous traffic hazards—the sudden, unexpected move.

The State Highway Departments, Automobile Clubs, and car manufacturers work together in designating highways through various types of road markers to make driving safer.

You, the driver, should always obey these markers. Extra care should be used at night—particularly when driving over strange roads. Be constantly alert and drive courteously.

DOWNHILL—When driving down a steep grade, it is advisable to shift into second gear and sometimes into first gear. This will allow the motor to act as a brake on the car and will not only assist materially in keeping the car under control, but also reduce the wear on brake shoe facings and brake drums.

UPHILL—When driving up a steep grade, it is advisable to shift into second gear. This will avoid placing undue strain on the motor and clutch and is also more economical on the gasoline.

Overtaking or passing a car on a hill or curve is dangerous as you cannot see another car approaching.

STARTING ON A HILL—When it is necessary to start your car on a hill, you will find it much easier if, before starting, you set the hand brake lever to keep the car from rolling backward. Put the shifting lever in first speed, gradually release the clutch, press down the accelerator, and when the car starts to move forward, or the engine starts to labor, slowly release the hand brake lever.

CURVES—When approaching a curve, do not cross over the center of the road to pass a car ahead of you. Before entering a curve, slow down to a safe speed and make the turn into the curve at the extreme right side.

SLIPPERY ROADS—When starting on ice or slippery pavement, it is safer to have the shifting lever in either second or high gear to reduce the tendency of the rear wheels to spin. In starting in deep snow, always use first speed and accelerate the engine slowly.

TIRE BLOW-OUTS—Do not jam on the brakes. Hold the car as steady as possible until it slows down to a moderate speed and then gradually apply the brakes.

SKIDDING—If your car starts to skid, do not jam on the brakes. Turn the front wheels in the direction of the skid and at the same time take your foot off the accelerator gradually.

SAND AND GRAVEL—When approaching a sandy or gravel road, always use extra caution until you know the condition of the road. Driving into loose sand or gravel at a fast speed is dangerous, as a sudden shifting of the gravel may cause you to lose control of the steering.

We suggest that whenever and wherever you drive, you do so with the car completely under control, at all times, and practice the three "C's" of safety—

CARE

COURTESY

COMMON SENSE

GENERAL INFORMATION

CHEVROLET STANDARD WARRANTY

It is expressly agreed that there are no warranties, expressed or implied, made by the Dealer or the Manufacturer on Chevrolet motor vehicles, chassis or parts furnished hereunder except as follows:

"The Manufacturer warrants each new motor vehicle (including original equipment placed thereon by the manufacturer except tires), chassis or part manufactured by it to be free from defects in material or workmanship under normal use and service, its obligation under this warranty being limited to making good at its factory any part or parts thereof which shall, within ninety (90) days after delivery of such vehicle to the original purchaser or before such vehicle has been driven 4,000 miles, whichever event shall first occur, be returned to it with transportation charges prepaid and which its examination shall disclose to its satisfaction to have been thus defective. This warranty being expressly in lieu of all other warranties, expressed or implied, and all other obligations or liabilities on its part, and it neither assumes nor authorizes any other person to assume for it any other liability in connection with the sale of its vehicles. This warranty shall not apply to any vehicle which shall have been altered by anyone other than the manufacturer, or repaired outside of an authorized Chevrolet Service Station in any way so as, in the judgment of the manufacturer, to affect its stability or reliability, nor which has been subject to misuse, negligence or accident."

The Dealer agrees to install any part or parts furnished under the Manufacturer's warranty on the motor vehicle without charge to the owner of such motor vehicle.

This warranty does not apply to second-hand cars or cars not mentioned above.

POLICY

The Dealer also agrees to promptly perform and fulfill all terms and conditions of the Owner Service Policy.

REPAIR PARTS

Genuine Chevrolet parts manufactured to the same rigid specifications as the parts used in the original assembly of the car, are carried in stock by Authorized Chevrolet Service Stations.

Use only Genuine Chevrolet parts for replacement purposes, because they are better and cheaper. They are sold at uniform prices throughout the United States. Printed price lists published by the Chevrolet Motor Division are open to the inspection of owners at any Authorized Chevrolet Dealer's establishment.

SERVICE CHARGES

Charges prevailing at Authorized Chevrolet Service Stations are based on Flat Rate schedules furnished by the Chevrolet Motor Division. These Flat Rates are based on the use of methods and tools approved by the Chevrolet Motor Division, assuring the highest quality of work at the lowest possible price consistent with this quality.

Protect your investment by having your replacement repair and maintenance work done by an Authorized Chevrolet Service Station, which has all the necessary tools and the factory-trained men.

GENUINE CHEVROLET ACCESSORIES

The materials used in the manufacture of these accessories are of the highest and finest quality.

These accessories will appeal to every discriminating Chevrolet buyer. They offer him the opportunity to show his individuality in the selection of added touches of refinement and luxury for his car.

They are carried in stock by all Chevrolet Dealers.

DATA

Car Serial Number:
Stamped on plate on right front side of body under hood.

Engine Number:
Stamped on boss on right center side of engine block to the right of ignition distributor.

Wheelbase	113"
Tire Sizes	6.00 x 16"
Tire Pressures	26 lbs. Front 28 lbs. Rear
Engine:	
Number of cylinders	6
Bore	3½"
Stroke	3¾"
Horsepower (A.M.A.)	29.4
Piston Displacement	216.5 Cu. In.

Engine Adjustments:

Spark Plug Type	AC 44
Spark Plug Gap	.037"—.040"
Breaker Point Gap	.018"—.024"

Initial Ignition Setting:
Distributor points should break when steel ball on flywheel is opposite pointer on flywheel housing.

Octane Selector:
The octane selector should be set for the grade of fuel being used to produce a slight "ping" at acceleration.

Carburetor Idle Adjustment	1 to 2 turns open
Intake Valve Clearance	.006" to .008"—hot
Exhaust Valve Clearance	.013" to .015"—hot

Air Cleaner: Remove at least once every 2000 miles and thoroughly wash out filter element in gasoline and dip in fresh engine oil. This should be done more frequently when operation is over dusty roads.

Unit Capacities:

Crankcase—Oil Capacity—Re-fill	5 qts.
Transmission—Lubricant Capacity	1½ pts.
Rear Axle—Hypoid Lubricant Capacity	3½ pts.
Cooling System—Fluid Capacity (2 drain cocks)	14 qts.
Gasoline Tank Capacity	16 gals.

(Business Coupe and Sedan Delivery 18 gals.)

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