

# OPERATING HINTS

*for the* 1940

# LA SALLE



# OPERATING HINTS

*for the*

## LA SALLE V-8

*Series 40-50, 52*



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GENERAL MOTORS CORP.

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We are anxious that you secure the best of service from your car, and we will welcome any inquiries regarding the car or its operation and maintenance. In writing on matters pertaining to your car, always give the engine number (See page 16 for location of engine number). Please address correspondence to

Service Department  
CADILLAC MOTOR CAR DIVISION  
General Motors Corp.  
Detroit, Michigan

# *Everyday Care*

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**The Right Gasoline**—The LaSalle V-8 engine provides all the benefits of modern, high-compression design, which means that it will operate most efficiently with high octane fuel.

As adjusted at the factory, it will perform satisfactorily with 72-octane fuel, which is the rating of most of the so-called "regular" grades of gasoline marketed in the United States. Fuels with octane ratings of less than 72 will usually cause the engine to "knock" or "ping" unless the spark is retarded.

Some car owners may prefer to use premium grades, of which "Ethyl" gasoline is the best known. These fuels have octane ratings well above 72 and, if used with an advanced spark setting, will permit the engine to develop more power.

**Raising the Hood**—is accomplished by tilting the radiator ornament back. This releases both the regular and the safety catch. Counterbalancing springs hold the hood in its raised position. When lowering the hood, make sure the catch is fastened securely.

## **The Break-In Period**

Strictly speaking, your LaSalle car does not require a break-in period, for it is never necessary to drive at speeds below a specified maximum. We nevertheless urge that you drive at moderate speeds during the first 500 miles, even though it is only to accustom yourself to the handling of the car.

One definite precaution must be observed during this period. When driving a new car at speeds over 40 miles per hour, let up on the accelerator for ten or twelve seconds at frequent intervals. The important thing is not miles per hour, but avoiding continuous high speed.

**Engine Oil Level**—In checking the engine oil level between oil changes, there is only one safe rule: Check the oil level every time gasoline is purchased and add oil as required. Oil will not be required every time, but it is better to check the level unnecessarily a dozen times than to miss the one time that more oil is needed.

The mileage intervals for changing engine oil and the correct grade to use depend upon the season of the year and the type of driving, as explained on page 11.

The combination oil filler cap and plunger type gauge is on the left side of the crankcase. Add oil whenever the level is down to the 6-quart mark, but add only enough to bring the level up to the 7-quart mark.

**Cooling Liquid Level**—The radiator filler cap is located under the hood for convenience in checking liquid level when checking the oil. The level should be checked at least once every week or ten days, (except on long tours, when it should be checked daily) and kept to within one inch of the top of the filler neck.

**Caution**—When removing the filler cap from a hot engine, rotate the cap toward the left until the stop is reached. This is the vented position, which allows steam to escape. Keep in this position until the pressure in the system has been relieved, then turn again to the left to remove. Turn the cap all the way to the right when reinstalling.

**Tire Pressure**—The tire pressure is the fourth item requiring frequent attention. All tires, including spares, should be checked every week or ten days,\* and maintained at the correct pressure of 24 pounds.

Check the pressure when the tires are cold, preferably in the morning, and never after a fast run. Heat developed on fast runs or from hot pavements increases the pressures and they decrease again when the tires cool.

Always unlock the rear compartment lid or the fender-well tire covers, and have the attendant check the spare tire while he is checking the others.

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\*When touring and covering several hundred miles a day, check the tire pressure every day or two.

# *Instruments and Controls*

Comfort and convenience for the driver contribute to greater safety, as well as to more enjoyable driving. The LaSalle driver's compartment has been designed with this in mind.

The seat adjustment is easily made by lifting the catch on the left front of the seat base and sliding the seat backward or forward to the most comfortable position. On long trips, changing the adjustment occasionally will be found helpful in avoiding fatigue.

The rear view mirror has a universal mounting which permits adjusting it to any angle required for maximum vision. Furthermore, the mirror is mounted so that a half-turn raises or lowers it to suit the height of the driver.

The transmission control lever on the steering column is operated in the conventional manner. Lift the knob and move rearward to engage low gear, or forward to engage reverse; depress the knob and move it forward or rearward to engage second and high gears respectively.

The hand brake lever is located under the instrument panel at the extreme left, where it is convenient to the driver's left hand and yet completely out of the way.



The gasoline gauge is operated electrically. It indicates the quantity of fuel in the tank only when the ignition is turned on. When the ignition is turned off, the pointer drops beyond the "empty" mark.



In place of an *ammeter*, a battery charge or discharge indicator is used. This gauge should indicate "charge" as soon as the car is running 15 to 20 miles an hour. If it fails to do so, or if it shows a discharge when the engine is not running and no electrical equipment is in use, the cause should be investigated immediately.

*The oil pressure gauge* should always show pressure while the engine is running. If it does not, stop the engine at once and investigate the cause.

*The temperature indicator*, which shows the temperature of the fluid in the cylinder blocks, is operated electrically and functions only when the ignition is turned on.

The needle should register within the normal range except on long, hard drives in summer weather, when it may register hot. This condition need not cause alarm, as the pressure-operated overflow will normally prevent water losses at temperatures up to 229°F.

When the engine does run hot on long drives, it is important to check the oil and water levels frequently. Observe the precaution given on page 4 when checking the water level.

If the indicator should show "hot" during short runs under normal driving conditions, the cause should be investigated.

*The speedometer trip mileage indicator* can be quickly reset to zero by pushing the reset knob in and turning it backward. All of the figures will be returned to zero within one complete revolution of the dial.

*The clock* is electrically driven and fully automatic in operation. Interruptions in the current will naturally cause the clock to stop. After the current has been reconnected it is necessary merely to reset the hands, as the resetting mechanism will again put the clock in operation. The resetting knob and the regulating knob are inside the glove compartment on the back of the clock.

**Headlamp Controls**—The new "Sealed Beam" headlamps used on LaSalle provide two separate beams:

1. A country (upper) beam, which illuminates the road evenly for a considerable distance ahead of the car, for use on the open highway when no other vehicles are approaching.
2. A traffic (lower) beam, which is low enough on the left side to avoid glare in the eyes of oncoming drivers, for use on heavily traveled highways and whenever meeting other vehicles.



The headlamps are lighted by pulling the light switch on the instrument panel to the second or last position, and selecting the country or the traffic beam as traffic and road conditions demand by depressing the foot switch near the clutch pedal.

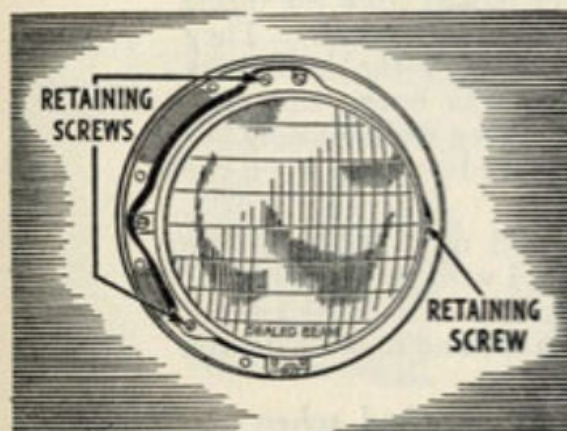
A red beam indicator in the speedometer face lights up whenever the country beam is in use to warn the driver to switch to the traffic beam when another car approaches. *Never pass an approaching car with this red light burning.*

The first position of the light switch turns on the parking lamps.

**Replacing Headlamps**—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 physical dimensions.

No dust or moisture can get inside the "Sealed Beam" headlamp unit because 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 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:

1. Remove headlamp door rim.
2. Remove the three screws holding the retaining ring.
3. Remove retaining ring by rotating to the left, allowing the reflector unit to be removed.
4. Remove the connecting plug from the reflector unit.
5. Install a new unit by reversing above operations.
6. Re-aim headlamps.



**Instrument Lamps**—Two types of lighting are available in the driving compartment—the



dials of all instruments are glow-lighted, while momentary lighting of the ignition switch is provided by the lock lamp.

The switch for these lamps is mounted on the instrument board flange just to the right of the steering column. Turned to the right, it lights the instrument lamps, but only if the headlamps are also turned on. Turning this switch further to the right decreases the brilliance of the lamps. When the switch is turned to the left, the instrument lamps and lock lamp are both lighted, regardless of the headlamps.

**The Directional Signal** control lever is just below the steering wheel on the left-hand side. In the *up* position, a right turn is indicated; in the *down* position, a left turn.

The signal is made by the flashing of 21 c. p. bulbs in the fender lamp and the rear lamp on one side of the car. An indicator in the control flashes while the signal is in operation, to remind the driver to switch off the signal after completing the turn.

**Locks and Keys**—Maximum protection is provided by the LaSalle system of locks and keys. Two sets of two keys each are furnished with the car. The octagonal handled key operates the front doors and the ignition switch. The round-handled key operates the compartment locks.

As a protection against unauthorized persons securing keys, the key numbers do not appear either on the keys or the face of the locks, but on small metal inserts fastened in the keys. Mark these key numbers on your Certificate of Title or Bill of Sale, as soon as you take delivery of the car, and have your dealer knock these number inserts out of the keys and destroy them.

**Door Locks**—The doors can all be locked from the inside by pushing down the small lock button (or lever). They can also be locked from the outside with the button by depressing the button while the door is open, and then holding the door handle all the way down while closing the door. The button snaps to the unlocked position when the door is closed in the usual fashion.

The front doors can be locked and unlocked with the driver's key. They can also be locked with the lock button and when so locked, the key will unlock them. Be careful not to lock the keys in the car when locking doors with the lock button.

**Lock your car. Never leave it unlocked when unattended.**

# Cadillac-LaSalle Service

**Authorized Service Stations**—We urge you to take your La Salle car to Authorized Service Stations for any service work that it may require, as Authorized Service Stations are qualified to take care of this work in a manner that cannot be duplicated elsewhere.

They have the obvious advantages of specialized experience on La Salle cars, of the use of genuine La Salle parts, and of adequate tools and equipment. Their workmen, too, secure the benefits of continuous training on up-to-date LaSalle servicing methods by means of regular publications and special bulletins supplied exclusively to them by the Cadillac factory.

Furthermore, keeping La Salle owners well satisfied with their cars will pay dividends in future car sales to Authorized Dealers. For this reason alone, no one else will have as great an interest in keeping your car performing at its best.

**Owner Service Policy**—When you took delivery of your car, you received from our distributor or dealer an "Owner Service Policy Certificate," which we ask you to read carefully at this time, if you have not already done so.

You will note from your certificate that you are entitled to a number of privileges, including: Free inspection and adjustments during the first 90 days or 4,000 miles of ownership, replacement without charge of any parts adjudged by this company to be defective under its Warranty, and free

inspections at any time, provided no disassembly of parts is required.

You are also entitled, when touring, to the same consideration from any Authorized Service Station as you would receive from the service station of the dealer who sold the car, by merely presenting your Identification Card. This card was also presented to





you by the dealer when you took delivery of the car. Sign this card as soon as it is received and always carry it when touring, in the pocket provided for it on the cowl.

**Manufacturer's Warranty**—All La Salle cars are sold subject to the following Manufacturer's Warranty:

"Warrant each new passenger automobile manufactured by us, to be free from defects in material and workmanship under normal use and service, our obligation under this Warranty being limited to making good at our factory any part or parts thereof, including all equipment or trade accessories (except tires) supplied by the car manufacturer, which shall, within ninety (90) days after making 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 us with transportation charges prepaid, and which our examination shall disclose to our satisfaction to have been thus defective; this Warranty being expressly in lieu of all other Warranties expressed or implied and of all other obligations or liabilities on our part, and we neither assume nor authorize any other person to assume for us any liability in connection with the sale of our vehicles."

"This Warranty shall not apply to any vehicle which shall have been repaired or altered outside of an Authorized Cadillac-LaSalle 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."

**Tire Warranty**—All tires supplied as original equipment carry the following tire manufacturer's warranty:

"Every tire of our manufacture, bearing our name and serial number, is guaranteed by us to be free from defects in workmanship and material, without limit as to time or mileage, and to give satisfactory service under normal operating conditions.

"If our examination shows that any tire has failed under the terms of this guarantee, we will either repair the tire or make an allowance on the purchase of a new tire."

**Battery Warranty**—"A Delco battery, Model 17 K 2 W, is used in your car. It is guaranteed for 90 days or 4,000 miles, whichever first occurs, but if you will have it registered immediately with a Delco Battery Service Station, you can obtain an Adjustment Policy Service Certificate which protects you for 21 months or 21,000 miles. Your Cadillac-La Salle Dealer will be glad to assist you with this important matter."



# Lubrication

In order that your LaSalle car may deliver throughout its life the performance built into it, we urge you to protect your investment by having the car lubricated regularly as recommended.

**Authorized Lubrication**—Lubrication operations can be performed most satisfactorily by your Authorized Cadillac-LaSalle Service Station. In addition to having specialized equipment, they also have correct lubricants, complete instructions, and experience on LaSalle cars.

When a lubrication operation is performed at an Authorized Service Station, the number of the next lubrication and the mileage at which it is due will be posted on the crest-shaped plate on the left front door pillar. When this mileage appears on the speedometer, the car can be taken to any Authorized Service Station and, by asking for "schedule lubrication," the car will receive the exact lubrication required.

## Engine Oil Recommendations

During the first 1,000 miles, use the oil that was in the crankcase when the car was delivered. When it is necessary to add oil during this period, use nothing heavier than 10-W oil in winter or 20-W in summer. Change the oil at the end of 1,000 miles.

**NOTE:** "Break-in" oils or compounds are entirely unnecessary. They should not be used under any circumstances

unless the supplier can furnish satisfactory proof that the compound contains no harmful ingredients.

After the first 1,000 miles, the crankcase oil should be selected to give the best performance under your individual climatic and driving conditions.



**During cold weather**, an oil should be used that will permit easy starting at the lowest atmospheric temperature that is likely to be encountered.

When the engine crankcase is being refilled, the engine oil should be selected, not on the basis of the atmospheric temperature existing at the time of the change, but on the anticipated **minimum** temperature for the **entire** period during which the oil is to be used. Unless the selection is made on this basis, difficulty in starting will be experienced at each sudden drop in temperature.

The viscosity grades of engine oil for use in your LaSalle car at the various cold weather temperatures are given in the chart below:

If you anticipate that the minimum atmospheric temperature will be:	Use the grade indicated:
Not lower than 32°F. above zero	20-W or SAE-20
As low as 10°F. above zero	20-W
As low as 10°F. below zero	10-W
Below 10°F. below zero	10-W plus 10% kerosene

NOTE: 10-W oil plus 10% kerosene is recommended only for those territories where the temperature falls below 10°F. below zero for long periods.

**During summer weather**, use of 20-W or SAE-20 engine oil will permit better all-round performance of the engine than will the heavy body oils. SAE-30 oil may be used if it is expected that the average prevailing daylight temperature will be 90°F. or above, or if the car is regularly driven at high speeds.

**Maintaining Oil Level**—Check the oil level every time gasoline is purchased and add oil as necessary. The oil gauge rod is marked in quarts; add oil whenever the level falls below the 6-quart mark, but do not add above the 7-quart mark. Always be sure to have the right amount before starting on a long drive.

**Changing Crankcase Oil**—Under normal driving conditions, draining the crankcase and replacing with fresh oil every 2,000 to 3,000 miles is recommended.



Under adverse driving conditions, it may become necessary to drain the crankcase oil more frequently. These conditions would include:

Driving through dust storms or on extremely dusty roads may contaminate the engine oil in spite of the engine air cleaners.

During cold weather, frequent starts and short runs may contaminate the oil with water condensation inside the crankcase.

Hard driving tends to thicken oils and this may interfere with easy starting in cold weather.

Drain the crankcase only after the engine has been heated to normal operating temperature. The benefit of draining is, to a large extent, lost if the crankcase is drained when the engine is cold, as some suspended foreign matter will cling to the sides of the oil pan and will not drain out readily with slower moving cold oil.

Whenever the crankcase oil is changed, the copper gauze in the air intake for the crankcase ventilating system should be cleaned in gasoline and dipped in engine oil. The carburetor air cleaner should also be cleaned and re-oiled.

### **Chassis Lubrication**

Detailed instructions for the lubrication of your LaSalle car are listed and illustrated in the "Lubrication Chart."\* The chassis requires attention every 1,000 miles, and all chassis lubricating points should be given attention at these times. In addition, the transmission and rear axle lubricant should be drained and replaced every 6,000 miles.

**Lubricants**—The rear axle of your car is equipped with a hypoid gear and pinion, and it must be lubricated all-year-round with SAE-90 Passenger Car Duty Hypoid Lubricant.

The lubricant level should be inspected every 1,000 miles and Hypoid Lubricant added if required. The axle should be drained, flushed out, and refilled with fresh Hypoid Lubricant every 6,000 miles, regardless of season.

**NOTE:** SAE-80 Passenger Car Duty Hypoid Lubricant should be used in localities where the temperature drops below 10° below zero for long periods.

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\*Not supplied with this booklet, but available to owners on request.



The transmission is to be lubricated all-year-round with SAE-90 or SAE-90 EP gear oil. The SAE-90 Hypoid Lubricant recommended for the rear axle may be used also in the transmission.

The lubricant level should be inspected every 1,000 miles and lubricant added as required. Every 6,000 miles, the transmission case should be drained, flushed and refilled with fresh lubricant.

The steering gear, water pump, wheel bearings, and grease gun connections each require a specific type of lubricant. Only operators familiar with these requirements and having the right materials should be permitted to lubricate the car.

**Other Operations**—In addition to lubrication operations, there are several items of maintenance regularly required which are listed here for your convenience:

- Shock absorbers... Check fluid level every 6,000 miles
- Brakes..... Check fluid level every 6,000 miles
- Cooling system.... Flush twice a year—Spring and Fall
- Gasoline lines and  
strainers..... Clean out twice a year—Spring and Fall
- Engine oil pan.... Remove and clean once a year
- Tires..... Interchange, left to right and front to  
rear, every 4,000 miles.

#### **Lubricant Capacities:**

Engine crankcase.....	7 qts.
Transmission.....	2½ pts.
Rear axle.....	5 pts.
Cooling system.....	25 qts.
Gasoline tank.....	22 gallons

**Cooling System Inhibitor**—Cadillac Cooling System Inhibitor, a chemical that retards the formation of rust and scale, should be added whenever the system is drained and refilled. Cadillac Cooling System Inhibitor is recommended, not alone because of its effective action, but also because it can be used safely with any recommended anti-freeze.

**Anti-Freeze**—Anti-freeze solutions that can be safely used are of two types: The volatile types such as denatured alcohol and methanol or the non-volatile types such as distilled glycerine and ethylene glycol (Prestone).

If you prefer to use alcohol or methanol solutions, it is important that the solution be tested at frequent intervals, and that sufficient anti-freeze be added to replace any lost



by evaporation; otherwise there is a danger of damage by freezing. When using these solutions, it is also important to avoid spilling any on the car finish, or if any is spilled, to flush off immediately with a large quantity of water.

Distilled glycerine and ethylene glycol are more expensive in first cost but, as they are not lost by evaporation, only water needs to be added. Solution lost through leaking or foaming must, of course, be replaced and on this account it is especially important to make sure that the system is leak-proof before adding this type of anti-freeze.

Glycerine and ethylene glycol should be used in accordance with instructions and in the proportions recommended by the anti-freeze manufacturer. Ordinarily, they should not be mixed with other solutions.

Whenever anti-freeze is to be installed, check over the entire cooling system. Replace any worn hoses and tighten all hose connections. Inspect water pump, fan belt, and radiator shutters and thermostat for proper operation. Clean cooling system thoroughly to remove all rust and scale.

When glycerine or ethylene glycol are to be installed, one special precaution must be taken. The cylinder heads must be tightened thoroughly to prevent any possibility of the cooling liquid getting into the engine crankcase. If necessary, install new cylinder head gaskets and tighten thoroughly.

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

**Use of Hydrometer**—In using a hydrometer to determine the freezing point of a solution, allowance must be made for the temperature of the solution at the time it is being tested. On this account, most anti-freeze hydrometers are fitted with a thermometer and temperature chart. Only this type of anti-freeze tester should be used.

Alcohol and methanol solutions have, for all practical purposes, the same specific gravity and they may be tested with the same hydrometer and mixed in the same solution.

Cadillac Cooling System Inhibitor does not affect the reading of an anti-freeze hydrometer.

**The Underseat Heater** is automatically protected from freezing in cold weather if the cooling system contains anti-freeze and the shut-off valves are open. Draining will not provide protection, as the location of the heater does not permit complete draining unless air pressure is applied.

# *License Data*

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## **Engine Number**

Series 40-50.....	3300001 and up
Series 40-52.....	4000001 and up

The engine number, which is also the serial number, is stamped on the car in two places: On the crankcase behind the left cylinder block, parallel to the dash, and on the frame sidebar, near the steering gear. It contains figures only, and no letters. It can be read from the left side upon lifting the hood.

The engine number is to be used in license and insurance applications, and in general reference to the car.

	Series 40-50 & 52
Type of Engine.....	V-8
Bore and Stroke.....	79½ x 4½ in.
Piston Displacement.....	322 cu. in.
Taxable Horsepower.....	36.43
Wheelbase.....	123 in.

**Weights:** Consult the distributor or dealer who sold you the car, or the Motor Vehicle Commissioner of your State. Weights of all LaSalle body styles are regularly supplied to these authorities.

Series 40-52  
1934-4-45