CADILLAC

OPERATOR'S MANUAL

1930

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EDITION NO. 370-1

In ordering a duplicate of this Manual, specify the above number or the engine number of the car.

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CHAPTER I

CADILLAC SERVICE

THE owner of a Cadillac car has purchased not simply a fine piece of machinery, ingeniously designed and carefully built—he has purchased a pleasant and dependable mode of transportation. The car itself is only one factor in securing this transportation—the other factor is Cadillac Service, which is built upon *a standard policy, clearly defined to the car owner and guaranteeing him efficient service everywhere at standard prices under factory regulation.*

Cadillac-La Salle Service Stations

Cadillac Service extends wherever Cadillac and La Salle cars are sold. Service stations conducted by Cadillac distributors and dealers are designated as "Authorized Cadillac-La Salle Service Stations" and are identified by the exclusive sign illustrated on this page. Wherever this sign is displayed, the owner will find an organization prepared to service Cadillac cars. This means proper equipment, factory trained personnel, a stock of genuine replacement parts and standardized policies and methods.

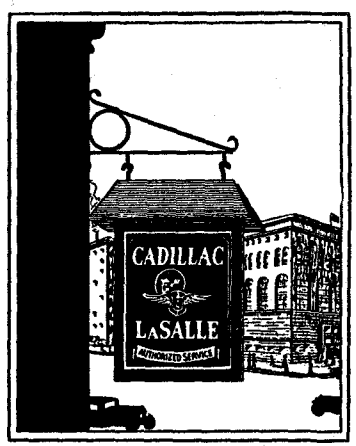


Fig. 1. Authorized Cadillac-La Salle service stations display this sign at the service entrance.

The car owner's first and most frequent contact with Cadillac Service will naturally be in the service station of the

distributor or dealer who sold him the car and who therefore has the greatest interest at stake in assuring him satisfaction. Nevertheless, he may feel perfectly free to use his car for extended travel without depriving himself of the service benefits to which he is entitled at his local service station. He will find other Authorized Cadillac-La Salle Service Stations able and willing to render the same service.

Service Card

As a means of introduction at other Authorized Cadillac-La Salle Service Stations, every purchaser of a Cadillac car is given credentials in the form of a Service Card. This card is mailed to him by the Cadillac factory immediately after the delivery of the car is reported by the distributor or dealer. It is supplied in a celluloid case, and is intended to be carried in a holder on the car.

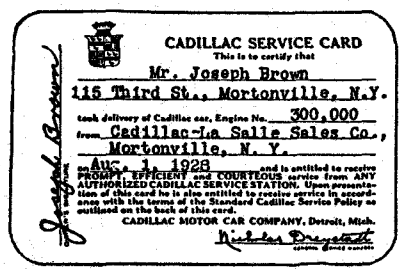

CADILLAC SERVICE CARD
This is to certify that
Mr. Joseph Brown
115 Third St., Mortonville, N.Y.
took delivery of Cadillac car, Engine No. 300,000
from Cadillac-La Salle Sales Co.,
Mortonville, N. Y.
on Aug. 1, 1928 and is entitled to receive PROMPT, EFFICIENT and COURTEOUS service from ANY AUTHORIZED CADILLAC SERVICE STATION. Upon presentation of this card he is also entitled to receive service in accordance with the terms of the Standard Cadillac Service Policy as outlined on the back of this card.
CADILLAC MOTOR CAR COMPANY, Detroit, Mich.

Fig. 2. The Service Card, when properly signed, identifies a Cadillac owner at any authorized Cadillac-La Salle service station.

Upon presentation of this Service Card to any Authorized Cadillac-La Salle Service Station, the car owner is entitled to uniform standard service in accordance with the Cadillac Owner Service Policy. This Policy is explained in detail in a certificate issued to each owner and mailed to him with his Service Card. Briefly, it entitles the owner to:

1. All adjustments, free of all charges, that may be required within 90 days after the original delivery date (as shown on the card), provided the mileage of the car does not exceed 3000

and the adjustments are not made necessary by accident, abuse or neglect. This includes everything except lubrication, washing and storing.

2. Free replacement of any part which has proved to the Cadillac Motor Car Company's satisfaction to be defective in material or workmanship within one year after the delivery date, provided the mileage of the car does not exceed 12,000 and that the replacement was not made necessary by accident, abuse or neglect. This includes material and labor.

The Service Card is not transferable, and the no-charge service set forth above is effective only while the car is in the hands of its original owner.

Service Charges

Service work other than that described above is performed by Authorized Cadillac-La Salle Service Stations on a flat-rate basis. When a car enters the service station, it is promptly inspected by a tester, who then quotes the owner an exact price for the work he finds necessary. The owner authorizes the work at this price, and when he receives his bill, this is the price he pays.

Charges prevailing at Authorized Cadillac-La Salle Service Stations are based on standard schedules furnished by the Cadillac Motor Car Company. These schedules call for methods and tools approved by the same engineers who designed and built the car, assuring the highest quality of work at the lowest possible price. Standard Price Schedules are open to inspection by owners at any Authorized Cadillac-La Salle Service Station.

Repair Parts

Genuine Cadillac parts, manufactured to the same rigid specifications as the parts entering into the original assembly of the car, are carried in stock by Authorized Cadillac-La Salle Service Stations. They are sold at uniform prices throughout

the United States, and are not subject to the addition of handling, excise or other supplementary charges. Printed price lists, published by the Cadillac Motor Car Company, are open to inspection by owners at any authorized Cadillac distributor's or dealer's establishment.

The Owner's Obligation

All of these service facilities are placed at the disposal of the Cadillac owner, in order that his car may be a continuous source of satisfaction and utility. This result cannot be guaranteed, however, unless the owner fulfills certain definite obligations himself, as follows:

1. To drive the car at moderate speeds for the first 500 miles.

2. To operate the car in accordance with the instructions contained in this manual.

3. To check the engine oil level every 100 to 150 miles, and add oil as often as necessary to keep the indicator at "full."

4. To check the tire pressure at least every week, and keep it up to the recommended pressure—45 pounds in front and 40 pounds in rear—on cars driven at high speeds, 50 pounds in front.

5. To add distilled water to the storage battery every 1000 miles, and in warm weather every 500 miles, or at least every two weeks.

6. To have the car lubricated every 1000 miles, or once a month, in accordance with the lubrication schedule on page 28.

7. To take the car to an Authorized Service Station for inspection every 1000 miles, or at least once a month.

Lubrication

The first five items above are details which do not necessarily warrant a visit to the service station. For lubrication, however, the owner is urged to patronize Authorized Cadillac-La Salle

Service Stations, because they are prepared to furnish this service in a manner that cannot be duplicated elsewhere. Only approved lubricants are used, the specifications of which have been worked out by Cadillac engineers to give the best possible results. Workmen who specialize on Cadillac cars know exactly where lubrication points are located and how much lubricant to apply. The charge for this lubrication service is only about half a cent a mile, which includes the cost of the lubricants.

Inspection

Preventive service is a fundamental principle of Cadillac Service. "Preventive service" is the practice of inspecting the car at regular intervals and making those adjustments that need attention before the need becomes an emergency. Inspections should be made every 1000 miles, in order to insure transportation satisfaction. Authorized Cadillac-La Salle Service Stations will make such inspections without charge, provided no dismantling of units is necessary.

The Cadillac owner is urged to take full advantage of this, not only while the car is new, but throughout its entire life.

Preventive service rendered every 1,000 miles or once a month by an Authorized Cadillac-La Salle Service Station, is the surest guarantee of long life and complete motoring satisfaction at the least possible expense.

CHAPTER II

OPERATION

ONE of the first things the driver of a new car should do is to familiarize himself with the various controls described in the following chapter.

Locks

Each car is equipped with two each of two different keys. The handles of one set of keys are hexagonal in shape: these keys unlock the combination ignition switch and transmission lock, the lock on the front door, the spare wheel carrier and the battery box. The keys in the other set have oval handles: these keys unlock the rear doors of chauffeur driven cars, the rear decks of roadsters and coupes, and the various package compartments.

The lock number is stamped on each key, but not upon the face of the lock. The owner should make a record of the key numbers as soon as he takes delivery of his car, so that in the event both keys are lost, a duplicate key can easily be obtained from a Cadillac distributor or dealer.

The right front door can be locked from the inside to prevent intruders from forcing their way into the car. This can be accomplished simply by turning the key to the locked position on the outside before entering the car. The door will then be locked from the outside, although it can be opened from the inside in the usual manner.

Ignition Switch Lock

The lock in the center of the instrument panel controls both the ignition switch and the transmission lock. When the key is turned, the cylinder of the lock will slide out about half an

inch, turning on the ignition and unlocking the transmission by means of a cable connection to the shifter shafts. To shut off the ignition and lock the transmission, turn the key to the locked position and push the lock cylinder all the way in. The car can be locked when the transmission is in neutral or in reverse. Do not attempt to shut off the ignition when the transmission is in any forward gear. Be sure to **remove the key** before leaving the car.

Gasoline Gauge

The gasoline gauge, marked "Fuel," is the small dial on the extreme left. This gauge indicates in gallons the quantity of fuel in the tank at the rear of the car, and is operated electrically by current taken from the ignition circuit. To read from the gauge the quantity of fuel in the tank, the ignition **must be turned on.**

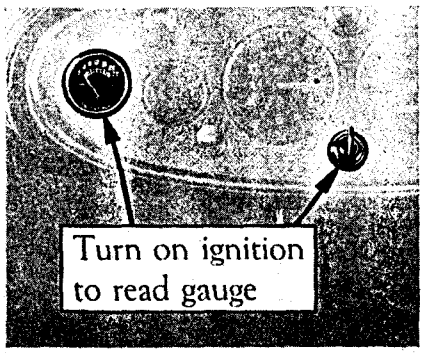


Fig. 3. The gasoline gauge is operated electrically by current from the ignition circuit.

Thottle Control

The throttles of the two carburetors are controlled by a hand lever and a foot pedal or accelerator. The normal position of the hand lever for driving the car is all the way up, to "CLOSE". In this position the throttles of the carburetors are open just enough to permit the engine to run at idling speed after it is warm. For starting, however, the lever should be moved approximately one-fourth the way down, and should be left in this position until the engine is warm enough to permit the lever to be returned to the idling position without stalling the engine. (Also see Chapter on "Cold Weather Operation.")

Carburetor Choke Control

Correct use of the choke control is essential not only to quick starting of the engine, but also to the life of the engine. The button must be pulled our far enough in starting to provide an explosive mixture quickly so that the battery is not unnecessarily discharged by useless cranking. The button must also be left out far enough during the warming-up period so that the engine will run without missing and "popping back."

On the other hand, it should not be pulled out any further or left out any longer than is necessary to accomplish these results, because some of the excess liquid gasoline in the enriched mixture does not burn and may wash off the oil on the cylinder walls, interfering with proper lubrication of the pistons. Push the button all the way in as soon as this can be done without causing "popping back."

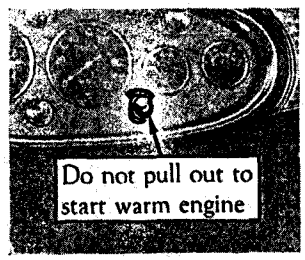


Fig. 4. The choke button must be held out while the starter is cranking the engine.

If the engine still retains heat from previous running, the choke control should not be used without first attempting to start the engine on the normal mixture. If the choke button is pulled out for starting a hot engine the mixture may be made so rich that starting will be impossible.

The choke button is not a priming device. It has no effect whatever on the fuel or the fuel mixture unless the engine is being cranked or is running under its own power. To have any effect, the button must be pulled out and kept partly out during the cranking operation.

Spark Control

Correct timing of the ignition in relation to the positions of the pistons is controlled automatically by the timer-distributor, which provides for all ordinary advancing and retarding of the spark.

A hand control is also provided. This is the button at the left on the instrument panel. This button should be pushed all the way in (full advance) for starting and for all ordinary driving. The button can be pulled partly out to retard the spark in case of "ping" caused by carbon, heavy pulling, the use of regular (not anti-knock) gasoline, or in case there should ever be occasion to crank the engine by hand.

The Cadillac V-12 engine is a high compression engine and it will perform most satisfactorily when an anti-knock fuel is used. Regular gasoline can be used, although this may necessitate driving with the spark slightly retarded to avoid "ping." The spark should be retarded just to the point where the engine "pings" slightly on rapid acceleration. This slight amount of spark knock is absolutely harmless to the engine and is an indication to the driver that the spark is set at the point that will give maximum power and economy.

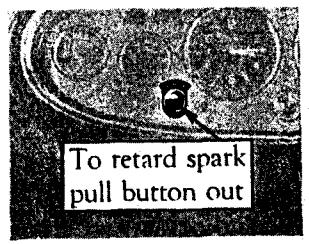


Fig. 5. Drive with spark control as far advanced as possible.

Carbon deposit, which accumulates with use in all engines, also causes spark knock and in time may require retarding the spark. Regardless of the kind of fuel or the presence of carbon, the correct setting of the spark control at any time is at the point where the engine "pings" slightly on rapid acceleration.

Starter Pedal

The starter pedal is at the right of the accelerator. Pushing this pedal forward brings into action the electric motor that cranks the engine for starting. Do not push the starter pedal when the engine is running.

The starter pedal is only one of the controls that must be manipulated to start the engine. Unless there is an explosive mixture in the cylinders and a spark to ignite it, it is useless to crank the engine. The starter pedal should not be operated, therefore, until the necessary preliminary steps have been taken. The following, in their proper order, are the various steps that must be performed when starting the engine:

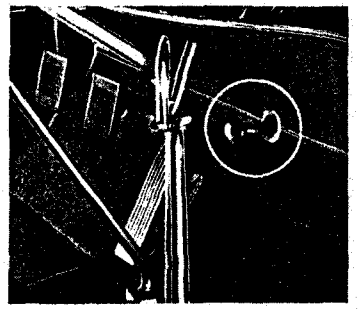


Fig. 6. The starter pedal is only one of the controls that must be used to start the engine.

1. Place the throttle lever about one - fourth the way down from the "CLOSE" position.

2. See that the spark control button is all the way in

3. Make sure that the transmission control lever is in neutral.

4. Turn on the ignition.

5. Unless the engine is still warm, pull out the choke button. If the engine is still warm, do not pull back the choke button unless the engine fails to start on the normal mixture.

6. To start the engine, push the starter pedal forward, releasing it as soon as the engine starts. If the engine does not start readily, do not run the battery down by continuing to crank the engine, but look for the trouble and correct it. (See below for probable causes for the engine failing to start.)

7. Push the choke button in part way as soon as the engine

starts, and all the way in as soon as the engine is warm enough to permit it.

8. Note whether pressure is indicated on the oil pressure gauge and stop the engine at once if no pressure is indicated.

9. Move the throttle lever up to the "CLOSE" position as soon as the engine is warm enough to permit it.

In cold weather, disengage the clutch during the cranking operation. This relieves the starter of the necessity of turning the transmission gears, which are immersed in lubricant. The additional load is small in warm weather when the lubricant is thin, but in cold weather the power required to turn the gears through the thickened lubricant adds unnecessarily to the load on the starter and the battery.

What To Do If The Engine Fails To Start

If the engine does not start readily, release the starter pedal and look for the cause.

The ignition may not be turned on.

There may be no gasoline in the tank in the rear of the car.

There may be no gasoline in the vacuum tank on the dash. If the fuel supply should give out on the road, so that the vacuum tank on the dash becomes empty, it will be necessary after refilling the tank to add gasoline to the vacuum tank.

The carburetors may be flooded by unnecessary use of the choke when the engine is warm. To get rid of the surplus gasoline in the cylinders open the throttle wide, and, with the ignition turned off, hold the starter pedal down for 10 to 15 seconds. Then return the throttle lever to the usual position for starting, turn on the ignition and try once more to start the engine.

Oil Pressure Gauge

The small dial at the left of the clock is the oil pressure gauge. This gauge does *not* indicate the *quantity* of oil in the engine. It indicates only the *pressure* under which the oil is forced to the engine bearings.

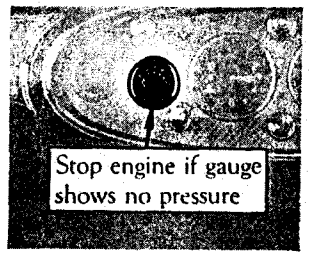


Fig. 7. The oil gauge does not indicate quantity; it only shows the pressure under which oil is forced to the engine bearings.

When the engine is not running, the pointer on the oil pressure gauge should remain at zero, but as soon as the engine is started and as long as it runs, the gauge should show pressure. If no pressure is indicated when the engine is running, stop the engine at once and determine the cause. Serious damage may be done if the engine is run without oil pressure.

Ammeter

The ammeter shows how much current the generator is furnishing the battery when the motor is running and how much the lights and ignition are drawing from the battery when the generator is not charging. It does not register the current drawn by the starting motor when starting the engine nor the total output of the generator when the lights are on.

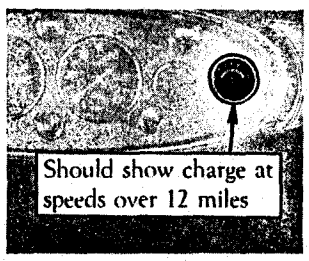


Fig. 8. The ammeter indicates the amount of electrical current flowing to or from the battery.

The ammeter should indicate on the "Charge" side most of the time, otherwise, more current will be taken out of the battery than is put into it and the battery will eventually become fully discharged.

Ordinarily, when no lights

are in use, the ammeter should show "Charge" as soon as the car is running ten or twelve miles per hour in high gear. If the ammeter should show "Discharge" with all lights off, either when the engine is not running or when the car is running more than twelve miles per hour, the cause should be investigated.

Clutch Pedal

The clutch has two uses: First, to enable the car to be started gradually and without jerk or jar; second, to permit shifting of the transmission gears. The operation of the clutch is discussed below in connection with the transmission control. Further comment is unnecessary at this point, except the following suggestions to the driver:

Do not drive with the foot resting on the clutch pedal. The Cadillac clutch operates so easily that even the weight of the driver's foot may unintentionally cause the clutch to slip.

Do not form the practice of disengaging the clutch whenever the brakes are applied. Most occasions for use of the brakes require only slowing down without stopping or even shifting gears. A skilled driver will not touch the clutch pedal until the car is just about to stop or until he is about to shift to a lower gear. It is a mistaken idea that applying the brakes with the clutch engaged is more severe on the brake lining. The opposite is actually the case, proof of which is in the fact that in coasting down grades, the resistance of the engine is used to assist the brakes in controlling the car speed.

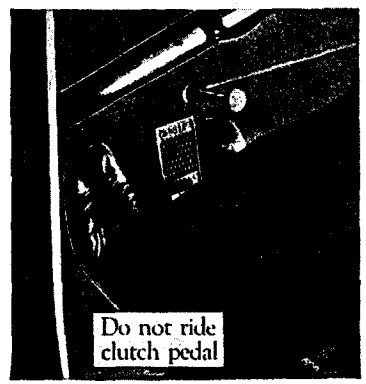


Fig. 9. A good driver uses the clutch pedal only when shifting gears or about to stop.

It will be observed in oper-

ating the clutch pedal that the pedal offers almost no resistance until it has been moved about one inch. It is at this point that it actually begins to disengage the clutch. It is important that the pedal have this "lost motion." If the full pressure of the clutch springs is felt just as soon as the control pedal is moved, the control rod should be readjusted. Failure to make this adjustment will result in the clutch slipping.

Transmission Control

The operation of the Cadillac Syncro-mesh transmission is, in general, the same as the operation of the conventional selective sliding-gear type of transmission. The positions of the control lever for the various speed combinations are the same and the directions in which the control lever is moved are the same. It is also necessary to disengage the clutch before moving the control lever, the same as with the conventional transmission.

The only difference is in the manner of moving the control lever. With the conventional transmission, it is customary when shifting to a higher gear to hesitate momentarily in neutral and then move the lever quickly to its new position. With the Cadillac Syncro-mesh transmission there is no necessity either for the hesitation in neutral or for the rapid movement of the lever during the latter part of the shift. Instead, the movement of the control lever should be one smooth, continuous movement.

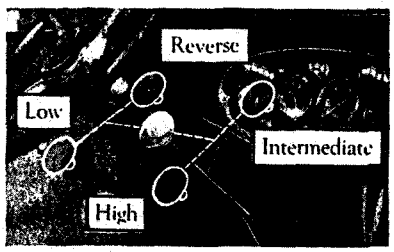


Fig. 10. The control lever positions are the same as for the conventional type of transmission.

The synchronizing principle applies to all shifts into intermediate or high; in other words, to the following shifts:

Low to intermediate
Intermediate to high
High to intermediate

There is no synchronizing mechanism for low or reverse gears because shifts into these gears are usually made when the car is standing still. When shifting from neutral to low or reverse, therefore, it may be necessary to await an instant after disengaging the clutch, to give the gears a chance to stop "spinning." Do not attempt to shift from intermediate to low unless the car is standing still or moving very slowly.

If, when descending a grade at high speed, it becomes desirable to shift from high to intermediate in order to use the engine as a brake, re-engage the clutch slowly after making the shift. This will bring the engine up to speed gradually and avoid the sudden load that would otherwise be imposed upon the clutch.

Coasting

In coasting down grades, it is recommended that the transmission be left in gear and the clutch engaged. With the throttle in the idling position, the car is thus made to drive the engine, the resistance of which assists the brakes and saves wear on the brake lining. It must be remembered that the brakes are subjected to much more severe use on grades than on the level, because gravity acts continuously, whereas on the level, the brakes need absorb only the momentum of the car.

Ordinarily, the resistance offered by the engine, when the transmission is in high, supplemented by moderate use of the brakes, is sufficient to control the speed of the car. On steep grades, however, the transmission control should be shifted to intermediate.

Do not turn off the ignition when coasting with the car driving the engine. Contrary to a common impression, this does not appreciably increase the resistance, and is likely to cause damage to the engine. Even with the throttle closed, some fuel is admitted to the cylinders, and if this is not burned, it condenses on the cylinder walls and washes away the oil which lubricates the pistons.

Brakes

The foot brakes are internal brakes of the shoe type, applied on all four wheels through a mechanical linkage.

When applying the brakes while driving on wet asphalt streets or slippery roads more care should be exercised and more time should be allowed for stopping the car than is necessary on dry pavements. The brakes should be applied gently while the *clutch is still engaged*. The clutch should not be released until the car has almost stopped.

Do not attempt sudden stops. Cadillac four-wheel brakes minimize the possibility of skidding under slippery conditions, but their effectiveness should not induce anyone to drive less carefully.

As the brake lining wears, the pedal must be pushed farther down to apply the brakes. Do not wait until the pedal goes all the way to the floor board before having the brakes readjusted. Readjustment is recommended as soon as the pedal must be pushed down to within one inch of the floor board. A temporary adjustment of the brakes is explained on page 46.

For parking, the brakes are operated by the hand lever at the right of the transmission control lever.

Lighting Switch

The lighting switch control is at the upper end of the steering column in the center of the steering wheel. The lever has four

positions; "PARKING," "OFF," "DOWN" and "UP." Turning the lever to "PARKING" turns on the front parking lamps and the two rear lamps. Turning the lever to "DOWN" turns on the headlamp lower beams and the two rear lamps, while turning the lever to "UP" turns on the headlamp upper beams and the two rear lamps.

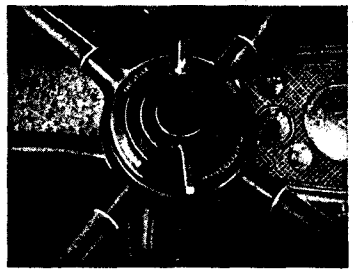


Fig. 11. The lighting switch control is at the hub of the steering wheel.

The instrument lamps are controlled by the upper button at the extreme left of the instrument panel.

The lamp bulbs which are used are as follows:

Lamp	Voltage	Candle-Power
Headlamps	6–8	21 (Two Filament) Mazda No. 1110
Rear Lamps		
Stop Light	6–8	15 Mazda No. 87
Tail Light	6–8	3 Mazda No. 63
Parking lamps	6–8	
Instrument lamps	6–8	
Closed car lamps	6–8	

Danger of Running Engine in Closed Garage

Every person having to do with the operation or care of a motor car should be warned of the danger that attends running the engine while the car is in a small closed garage.

Carbon monoxide, a deadly poisonous gas, is present in the exhaust of all internal combustion engines. Most people are already familiar with carbon monoxide in the form of illuminating gas, or in the gas produced by furnaces and stoves when insufficient air is supplied to give complete combustion. But

illuminating gas and coal gas have an unpleasant odor, which serves as a warning, whereas carbon monoxide, as produced in the internal combustion engine, is colorless, tasteless and almost odorless, so that the victim may be overcome before he is aware of the danger. When the engine exhausts into the open air, the carbon monoxide is so diluted that it has no effect. It is when the engine is run for a time in a closed room that the proportion of carbon monoxide in the air may increase to the point at which continued breathing of it would be fatal. The United States Public Health Service advises that the average automobile engine warming up in a single car garage will give off enough carbon monoxide in three minutes to endanger life.

Proper precaution must be taken in cold weather when the natural tendency is to keep the garage doors and windows closed. The practice of letting the engine warm up in a closed garage before opening the doors is unsafe. The risk is made greater by the fact that the enriching of the mixture by manipulation of the carburetor choke increases the amount of carbon monoxide formed.

CHAPTER III

EQUIPMENT

In addition to the controls and instruments used in driving, the car is equipped with various devices which are for the convenience and comfort of the occupants, and are used only as occasion demands. It is suggested that the driver anticipate his use of such equipment by becoming familiar at once with the directions contained in this chapter.

Windshield and Ventilation

Cadillac closed cars are equipped with a one-piece slanting windshield that can be moved up and down by means of the handle just above the windshield (Fig. 12). For the ventilation under the cowl, the windshield should be raised not more than one inch, so that the lower edge of the glass is still below the ledge over the instrument board. With the windshield in this position air is deflected into the driving compartment through an opening in the cowl just forward of the instrument board. If desired, the windshield can be raised above the level of the ledge over the instrument board, so that air can enter the car directly.

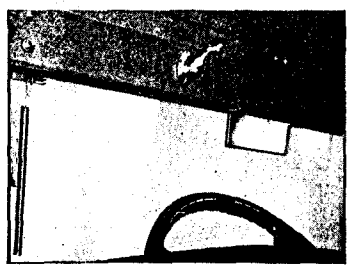


Fig. 12. The straight type windshield is controlled by the handle above the windshield.

Cowl ventilators are also provided on the closed cars to supplement the ventilation provided by the windshield. These venti-

lators are at the sides of the cowl compartment and open toward the rear, serving as outlets for the air entering under the windshield.

In warm weather, satisfactory ventilation in the front compartment cannot be expected unless the hood doors are open. Ordinarily, these should be opened at the beginning of warm weather and left open for the season. The temperature in the front compartment can thereafter be controlled by the windshield and ventilators.

Windshield Cleaner

The windshield cleaner consists of two wiper blades, operated by the suction or vacuum in the intake manifold on the engine. The cleaner is controlled by the lower button at the extreme left-hand end of the instrument board. This button, when pulled half way out, will cause one blade to work on each half of the windshield, cleaning the entire glass. Pulling the button all the way out will cause both blades to operate on the left hand half of the windshield, cleaning only the part in front of the driver.

Adjustable Seat

The front seat is adjustable on all Cadillac closed cars, except those that are intended to be chauffeur-driven. Except on the five passenger coupe, the entire front seat can be moved forward or backward. This adjustment is controlled by a handle on the center of the seat base, just above the floorboards. As the front seat on the five-passenger coupe is divided, only the driver's half of the seat is adjustable.

Cigar Lighter

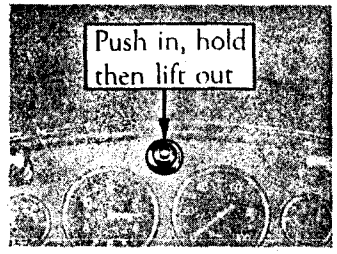


Fig. 13. The cigar lighter on the instrument panel is of the "pass around" type.

Cordless lighters are provided on the instrument panel and with the smoking sets of the various body styles. These lighters have a green translucent button through which the glow of the heating element may be seen when the lighter is ready for use. To use the lighter on the panel, press it all the way into its socket and hold it there until the glow is seen; then lift it out. The current to the lighter in the smoking sets is turned on by pressing the button beside the lighter.

Tools

The tools are carried under the front seat. When putting tools in their compartment be sure they are placed so that they do not interfere with the front seat adjusting mechanism.

The standard tool equipment is listed below:

Hammer	Pliers
Monkey wrench	Hub cap wrench
Large screw-driver	Brace wrench (wood and disc wheels)
Small screw-driver	Jack handle
Crescent adjustable wrench	Jack
Oil can	Tool bag
Spark plug wrench	Lubrication chart
Starting crank	Operator's Manual

Tires

Inflation Pressure

For normal driving, the front tires should be inflated to a pressure of 45 lbs. and the rear tires to 40 lbs. **Important**—On cars driven at high speeds, the front tires should be inflated to 50 lbs.

The tires should be checked at least weekly, and the pressure should never be permitted to drop more than 5 lbs.

Spare Wheel Carrier

To remove a spare wheel from the carrier, unlock the lock and take it out, using the key as a handle. It may be necessary to hold on to the lock while turning the key. Then unscrew the clamping screw underneath the lock, after which the large dust shield can be removed and the wheel taken off the carrier.

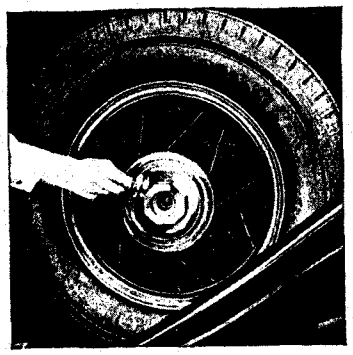


Fig. 14. To remove a spare wheel, unlock the lock, and remove the screw and the dummy hub cap.

To reinstall a spare wheel, mount it on the carrier, place the large dust shield in position and tighten the clamping screw. Then snap the lock back into place.

These instructions apply both to spare wheel carriers on the rear of the car and to carriers in the front fenders.

Spare Tire Carrier (Standard Wood Wheels)

To remove the spare tire from the carrier, unlock the lock and remove it, using the key as a handle. It may be necessary to hold on to the lock while turning the key. Unscrew the clamping screw with the brace wrench furnished in the tool equipment and remove the rim clamp, taking care not to lose the clamping screw. Remove the tire with rim, by pulling it out at the bottom and then lifting it off the carrier.

Fig. 15. To remove a spare tire, unlock the lock, remove the screw and take off the clamp.

To place a tire and rim on the carrier, reverse the above order. After tightening the clamping screw, unlock the lock and put it into place.

Changing Tires

If an inflated tire is always carried on the spare rim or wheel, the driver will seldom or never have to disassemble a tire from the rim. In case of tire trouble, it is then merely necessary to remove the rim or wheel with the flat tire and then install the spare in its place. Illustrated directions for performing this work on wire and on standard wood wheels are given on pages 26 and 27. Disc and demountable wood wheels are changed in the same manner as wire wheels except that the hub caps should not be removed.

Tire Balancing Marks

The tires are balanced to offset the weight of the valve stem. If a tire is removed, it must be re-installed in its original position with respect to the rim; otherwise the tire and wheel will be unbalanced.

A small red square is accordingly branded in the rubber on the side of each tire. This mark must always be in line with the valve stem.

Fig. 16a. Remove the hub cap with the wrench in the tool kit. Hub caps are marked with arrows showing the direction in which they screw on and off.

Fig. 16b. Jack up the axle until the weight of the car is off of the wheel, but with the tire still dragging. Loosen the cap screws around the wheel hub by turning them in a counter-clockwise direction with the wrench. Then jack the wheel up further, remove the cap screws and take the wheel off of the hub.

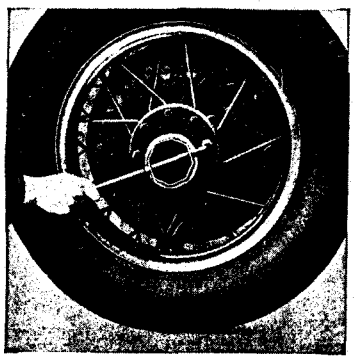


Fig. 16c. To mount a wheel simply set it up on the hub and start the cap screws by hand. Then tighten the screws with the wrench, but do not tighten them in rotation. After tightening one screw, tighten the screw directly opposite.

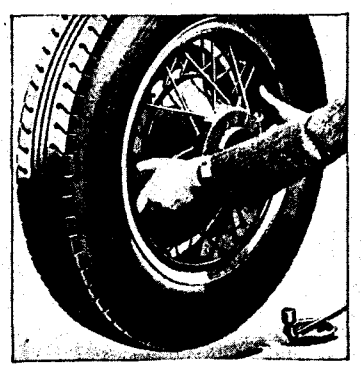


Fig. 16. Changing Wire Wheels

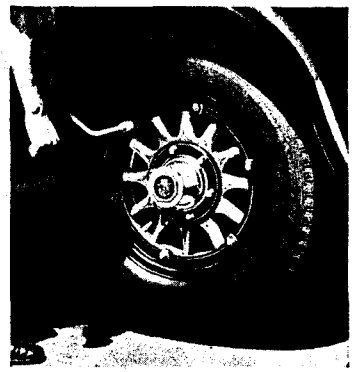


Fig. 17a. Jack up the wheel until the tire clears the ground. Remove the dust cap and clamping nut from the valve stem. Remove the six rim clamps, unscrewing them with the brace wrench supplied in the tool kit.

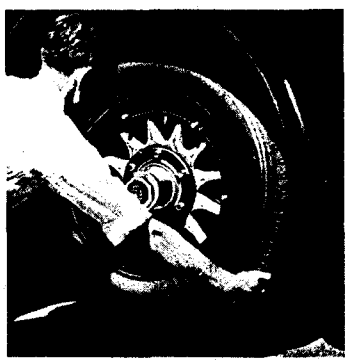


Fig. 17b. Rotate the wheel until the valve stem is at the top, and pull the bottom of the rim away from the wheel.

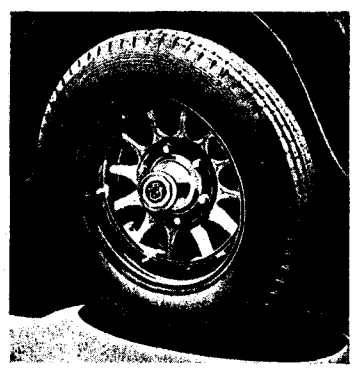
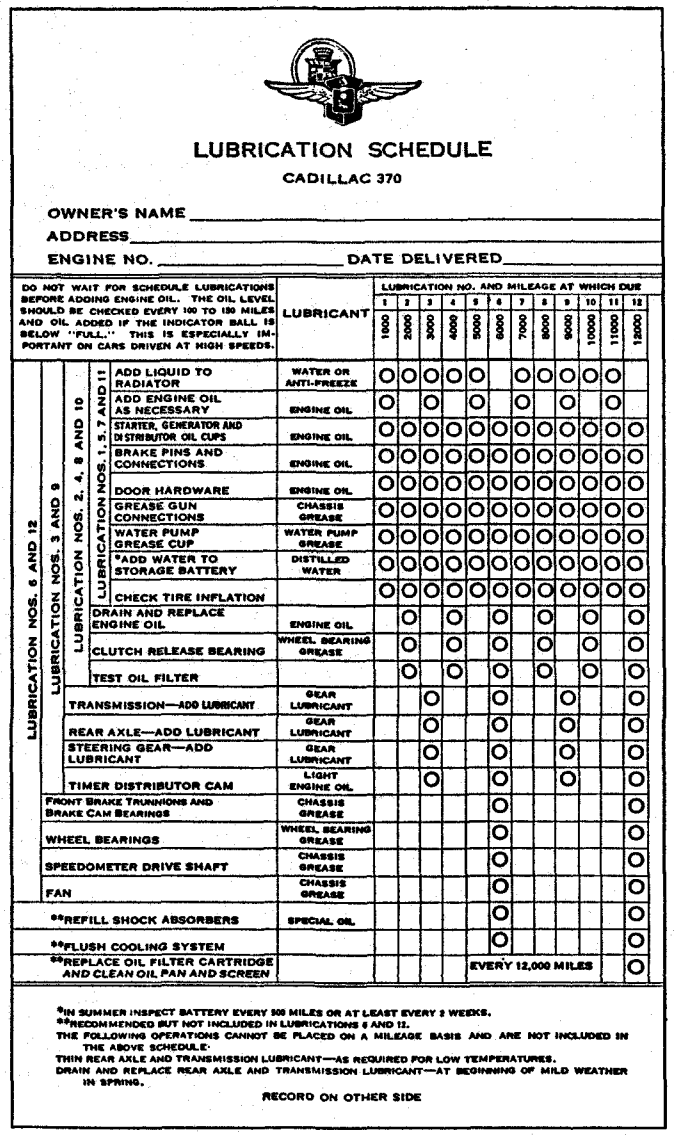


Fig. 17c. Then rotate the wheel until the valve stem approaches the bottom, when the rim and tire will roll free from the wheel and can be removed without lifting.

To mount a rim, rotate the wheel until the hole for the valve stem is in the position shown in the last illustration. Insert the valve stem and rotate the wheel, which will carry the rim with it, until the valve stem is at the top. Then push the lower part of the rim into place. Install the rim clamps over the rim and turn the nuts partly down. Go over the nuts again and tighten them firmly. Install the valve stem clamping nut and the dust cap. Be sure the clamping nut is tight.

Fig. 17. Changing Rims (Standard Wood Wheels)



LUBRICATION SCHEDULE

CADILLAC 370

OWNER'S NAME _____

ADDRESS _____

ENGINE NO. _____ DATE DELIVERED _____

DO NOT WAIT FOR SCHEDULE LUBRICATIONS BEFORE ADDING ENGINE OIL. THE OIL LEVEL SHOULD BE CHECKED EVERY 100 TO 150 MILES AND OIL ADDED IF THE INDICATOR BALL IS BELOW "FULL." THIS IS ESPECIALLY IMPORTANT ON CARS DRIVEN AT HIGH SPEEDS.			LUBRICANT	LUBRICATION NO. AND MILEAGE AT WHICH DUE											
				1	2	3	4	5	6	7	8	9	10	11	12
				1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000
LUBRICATION NOS. 6 AND 12	LUBRICATION NOS. 3 AND 9	LUBRICATION NOS. 2, 4, 8 AND 10	LUBRICATION NOS. 1, 5, 7 AND 11	ADD LIQUID TO RADIATOR	WATER OR ANTI-FREEZE	O	O	O	O	O		O	O	O	O	O	
				ADD ENGINE OIL AS NECESSARY	ENGINE OIL	O		O		O		O		O		O	
				STARTER, GENERATOR AND DISTRIBUTOR OIL CUPS	ENGINE OIL	O	O	O	O	O	O	O	O	O	O	O	O
				BRAKE PINS AND CONNECTIONS	ENGINE OIL	O	O	O	O	O	O	O	O	O	O	O	O
				DOOR HARDWARE	ENGINE OIL	O	O	O	O	O	O	O	O	O	O	O	O
				GREASE GUN CONNECTIONS	CHASSIS GREASE	O	O	O	O	O	O	O	O	O	O	O	O
				WATER PUMP GREASE CUP	WATER PUMP GREASE	O	O	O	O	O	O	O	O	O	O	O	O
				*ADD WATER TO STORAGE BATTERY	DISTILLED WATER	O	O	O	O	O	O	O	O	O	O	O	O
				CHECK TIRE INFLATION		O	O	O	O	O	O	O	O	O	O	O	O
				DRAIN AND REPLACE ENGINE OIL	ENGINE OIL		O		O		O		O		O		O
				CLUTCH RELEASE BEARING	WHEEL BEARING GREASE		O		O		O		O		O		O
				TEST OIL FILTER			O		O		O		O		O		O
			TRANSMISSION—ADD LUBRICANT		GEAR LUBRICANT			O			O			O			O
			REAR AXLE—ADD LUBRICANT		GEAR LUBRICANT			O			O			O			O
			STEERING GEAR—ADD LUBRICANT		GEAR LUBRICANT			O			O			O			O
			TIMER DISTRIBUTOR CAM		LIGHT ENGINE OIL			O			O			O			O
		FRONT BRAKE TRUNNIONS AND BRAKE CAM BEARINGS			CHASSIS GREASE					O							O
		WHEEL BEARINGS			WHEEL BEARING GREASE					O							O
		SPEEDOMETER DRIVE SHAFT			CHASSIS GREASE					O							O
		FAN			CHASSIS GREASE					O							O
	**REFILL SHOCK ABSORBERS				SPECIAL OIL					O							O
	**FLUSH COOLING SYSTEM									O							O
	**REPLACE OIL FILTER CARTRIDGE AND CLEAN OIL PAN AND SCREEN								EVERY 12,000 MILES								O

*IN SUMMER INSPECT BATTERY EVERY 500 MILES OR AT LEAST EVERY 2 WEEKS.
**RECOMMENDED BUT NOT INCLUDED IN LUBRICATIONS 6 AND 12.
THE FOLLOWING OPERATIONS CANNOT BE PLACED ON A MILEAGE BASIS AND ARE NOT INCLUDED IN THE ABOVE SCHEDULE:
THIN REAR AXLE AND TRANSMISSION LUBRICANT—AS REQUIRED FOR LOW TEMPERATURES.
DRAIN AND REPLACE REAR AXLE AND TRANSMISSION LUBRICANT—AT BEGINNING OF MILD WEATHER IN SPRING.

RECORD ON OTHER SIDE

Fig. 18. This is a fac-simile of the Cadillac Lubrication Schedule and Record Card. Provision is made on the back of the card for recording when and where the car is lubricated. A copy of this card can be obtained on request from Cadillac distributors and dealers.

CHAPTER IV

LUBRICATION

Lubrication Schedule

SYSTEMATIC lubrication, at regular mileage intervals, is the only kind that is effective. On page 28 is a complete lubrication schedule, which, if faithfully followed, will insure correct lubrication for each wearing surface.

The unit of the schedule is 12,000 miles, which is divided into twelve 1000-mile intervals. Corresponding to these is a series of twelve consecutive groups of lubricating operations. When the car has traveled 1000 miles, the points enumerated under Lubrication No. 1 should receive attention. At 2000 miles, Lubrication No. 2 is due, and so on until at 12000 miles, Lubrication No. 12 should be performed. At 13000 miles, the schedule begins again with Lubrication No. 1.

It will be noticed from the schedule that there are actually only four different lubrication operations, but that they are numbered according to the various times that they come due.

Two frosted spaces on the glass of the speedometer provide a record for schedule lubrication. Authorized Cadillac-La Salle service stations, after performing each schedule operation, post the number of the next operation due and the mileage at which it is due. When the mileage recorded by the speedometer is the same as the mileage marked on the notice, the car may be taken to any authorized Cadillac-La Salle service station, and without further ordering other than specifying "schedule lubrication," the car will receive the exact lubrication necessary.

Although the schedule is expressed in terms of miles, it is intended that the car be lubricated once each month if the mileage traveled is less than 1000 since the last lubrication

operation was performed. This lubrication work can be done while the car is in the service station for its regular monthly or 1000-mile inspection.

Lubrication Chart

The lubrication chart (18 x 24 inches in size) which accompanies this manual gives complete detailed instructions for lubricating the car. All of the points which require lubrication are designated on this chart, together with the kind of lubricant to be used, the method of applying it and the frequency with which it should be applied.

The operations are grouped on the chart in the same manner as on the schedule shown in Fig. 18. If the car is lubricated at an "Authorized Station," this schedule will be followed; if not, whoever does the lubrication should follow the schedule and chart exactly.

Lubricants

The selection of proper lubricants should be one of the first concerns of the owner in his attention to the lubrication of the car. The lubricants must not only be of high quality, but their viscosity and other characteristics must be suited to the car.

The owner is urged to consult the distributor or dealer from whom he purchased his car in regard to the names of lubricants which have been tested and approved for use in the Cadillac car.

Engine Oil

The chart of engine oil recommendations given on page 31 indicates the proper grades of oil to be used for average driving and for prolonged high speed driving.

Gear Lubricant

Lubricant conforming to the specifications for Gear Lubricant must be used in the transmission, rear axle and steering gear.

It is particularly important that only recommended lubricants be used in the transmission. Oil or soap greases will *not* perform satisfactorily.

Lubricants conforming to these specifications may be used without thinning during all weather, except winter weather below temperatures of 20° above zero. Below this temperature, thinning with kerosene is necessary, in order to secure easier gear shifting and proper lubrication of gears and bearings.

ENGINE OIL RECOMMENDATIONS

<table>
<tr><td rowspan="2">TYPE OF SERVICE</td><td>SUMMER</td><td colspan="2">WINTER</td></tr>
<tr><td>All Temperatures Above 32° F.</td><td>Between 32° and 15° Above</td><td>Below 15° Above Zero</td></tr>
<tr><td>AVERAGE DRIVING (No prolonged high speed driving)</td><td rowspan="2">S. A. E. visc. 40 or 50</td><td>S. A. E. visc. 20</td><td>S. A. E. visc. 10</td></tr>
<tr><td colspan="2">These oils are not suitable for prolonged high speed driving and if used under such conditions the oil level must be closely watched, as the rate of consumption will be higher than with heavier oils.</td></tr>
<tr><td>PROLONGED HIGH SPEED DRIVING</td><td colspan="3">CADILLAC APPROVED "HEAVY DUTY" OILS—SUMMER AND WINTER
These oils have an S. A. E. viscosity of 50-60, and are required to meet certain specifications as to volatility in order to demonstrate their fitness for prolonged high speed driving. To make certain of using an oil approved for this service, consult your Cadillac distributor or dealer.
NOTE: Approved heavy duty oils vary in their suitability for winter use. If an approved heavy duty oil with sufficiently low cold viscosity is not available and if the car is not kept in a heated garage, the lighter oils specified above for average driving must be used to avoid hard starting. In this case, be sure to watch the oil level closely as cautioned above.</td></tr>
</table>

*The system used in this table to designate body or viscosity is the one recently developed by the Society of Automotive Engineers and adopted by all oil companies. It takes the place of the old indefinite method of describing oils as "Light," "Medium," "Heavy," etc. Oil should be called for by these numbers. If a filling station attendant does not know the S. A. E. numbers of his oils, the following grades can be substituted in emergency: S. A. E. 10, Extra Light; S. A. E. 20, Light; S. A. E. 40, Heavy; S. A. E. 50-60, Extra Heavy.

Chassis Grease

Lubricant conforming to the specifications for Chassis Grease is recommended for all chassis points fitted with grease gun connections. Do not use ordinary cup grease, as such greases are not effective enough to lubricate satisfactorily over the 1000-mile interval.

Wheel Bearing Grease

Greases approved under the specifications for Wheel Bearing Grease are suitable for lubricating the wheel bearings and the clutch release bearing.

This grease is not recommended for chassis lubrication, as Chassis Grease is much more effective. Furthermore, Chassis Grease or ordinary cup grease should not be used in the wheel bearings as such lubricants do not have a sufficiently high melting point to render satisfactory service.

Water Pump Grease

A water-resistant calcium soap grease is recommended for use in the water pump grease cup. Only greases that meet the specifications for Water Pump Grease should be used; other greases will be dissolved into the cooling system liquid.

The owner of a Cadillac car is urged to have his car put on schedule lubrication at an authorized Cadillac-La Salle service station; in this way he is assured of having the proper lubricants used for all lubricating points at the proper mileage intervals.

Engine Lubrication

The supply of oil is carried in the cast aluminum oil pan that covers the bottom of the crankcase. The oil is circulated by a gear pump inside of the crankcase. The pump is driven by a vertical shaft, which is, in turn, driven by a spiral gear on the

camshaft. The oil circulated by the pump lubricates the main and connecting rod bearings, the camshaft bearings, the cylinder walls, pistons and piston pins, the front end chains and the valve mechanism.

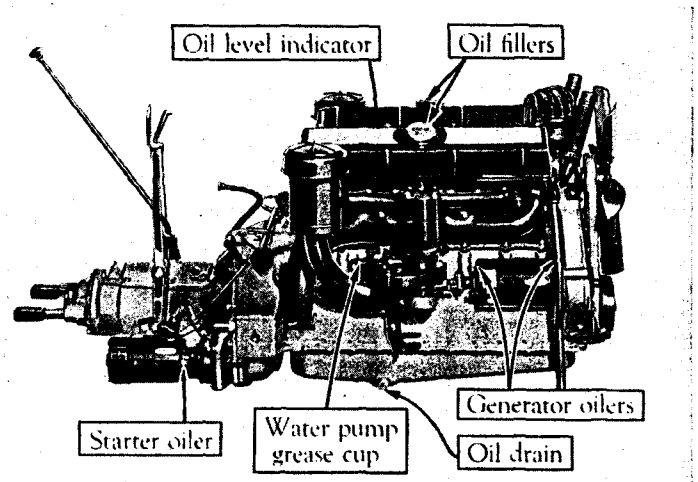


Fig. 19. Showing the location of the oil fillers, oil level indicator, oil pan drain plug and other lubrication features.

There are a few points on the engine that are not taken care of in the pressure system. These are the starter, generator and distributor oil cups, the fan and the water pump. Lubricating instructions for these points are given in the lubrication chart.

Oil Level

The normal capacity of the oil pan is nine quarts, which fills it to the level of the screen in the pan. When the oil pan contains this amount, the oil level indicator on the left-hand side of the engine (Fig. 19) shows "Full." As the oil level descends, the indicator drops to "Fill." Oil should be added as soon as the indicator ball has dropped to "Fill." If the indicator

drops down to the flange of the crankcase, under no circumstances should the engine be run until oil has been added.

The mileage interval at which oil must be added depends upon individual circumstances. It is recommended that the oil level indicator be checked every one hundred to one hundred and fifty miles, although it is improbable that oil will be required as frequently as this.

Crankcase Ventilating System and Oil Filter

Cadillac V-12 engines are equipped with a crankcase ventilating system, which prevents contamination of the lubricating oil from seepage vapors; and an oil filter, which removes any dirt or solid matter from the oil.

The crankcase ventilating system is entirely automatic and functions throughout the life of the car without requiring any attention from the owner. The oil filter, however, gradually becomes filled with the solid matter taken from the oil until it becomes so clogged that it ceases to function.

As oil for lubrication of the overhead valve mechanism is taken direct from the oil filter, it is extremely important to replace the filter cartridge before it becomes so clogged that it will not readily pass oil. It is therefore recommended that the filter be tested every 2000-miles so that the cartridge can be replaced as soon as this is necessary. This test can be made by simply removing one of the oil filler covers and noting whether or not oil is dripping from the rocker arm bushings while the engine is running at idling speed. If oil does not drip from the bushings, the cartridge must be replaced.

The lubrication schedule as followed by authorized Cadillac-La Salle service stations provides for this test as part of the regular 2000 mile lubrication. Filter cartridges should be replaced at least every 12,000 miles. Replacement cartridges can be obtained from Cadillac distributors and dealers.

The oil pan and screen should be removed and cleaned with kerosene or gasoline whenever the oil filter cartridge is replaced.

Replacing Engine Oil

Although the crankcase ventilating system and the oil filter described in the preceding section greatly prolong the useful life of the oil, it is recommended that the oil be drained and replaced with fresh oil every 2000 miles.

To drain the oil, simply remove the drain plug (Fig. 19). Be sure to reinstall the drain plug before putting in the fresh oil. Nine quarts of oil are required to bring the oil level indicator ball to "Full."

CHAPTER V

COLD WEATHER OPERATION

SATISFACTORY operation of the car in freezing weather depends upon having the car prepared for cold weather and in giving it the special attention which is required at that time. In this chapter has been grouped all the information relating to care and operation of the car during cold weather. It should be reviewed just prior to the beginning of the winter season.

Preparing for Cold Weather

Anti-Freezing Solutions

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

Denatured alcohol solutions are, at present, the most generally used anti-freezing solutions. Denatured alcohol is widely distributed, affords protection against freezing, and is not injurious to the materials used in the cooling system.

There are two principal objections to denatured alcohol. Alcohol is lost by evaporation, especially on heavy runs, and unless the solution is tested periodically and sufficient alcohol added to replace the loss by evaporation, the engine or radiator, or both, are likely to be damaged by freezing.

The car finish is damaged by contact with the alcohol solution or vapors from the solution. Any alcohol accidentally spilled on the finish should be flushed off immediately with a large quantity of water.

The following table gives the freezing temperature and specific gravity of solutions of denatured alcohol and water:

Lowest Temperature Expected	Per cent by Volume	Specific Gravity (at 60° F.)	Qts. Alcohol required to make 6½ gals. solution
10° F.	30	.9668	8
0° F.	38	.9567	10
—10° F.	45	.9475	11¾
—20° F.	51	.9350	13½
—30° F.	57	.9260	15

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, except that any solution lost mechanically, 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 pump packing. 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. The pump packing must be kept tight to prevent air from being drawn into the cooling system in order to avoid foaming and other difficulties which may result when air is present.

Glycerine or ethylene glycol should be used in accordance with the instructions and in the proportions recommended by the anti-freeze manufacturer.

In using a hydrometer to determine the temperature at which a solution will freeze, the test must be made at the temperature at which the hydrometer is calibrated. If the solution is warmer or colder, it must be brought to this temperature or correction must be made for the difference in temperature, otherwise large errors may result. In some cases these errors may be as large as 30 degrees Fahrenheit.

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.

Capacity of Cooling System

The capacity of the cooling system is 6½ gallons when filled to the level of the overflow pipe. The cooling system may be filled to this level since the overflow pipe is connected to a condenser tank which operates automatically to prevent excessive loss of the cooling liquid.

It is important that there are no leaks in the cooling system and that the radiator cap is turned down so that it is air tight, to insure proper operation of the condenser.

Winter Lubrication

Lubrication of the car requires special attention in winter, not only to insure proper lubrication of the moving parts, but to secure the same ease of operation in starting, steering and shifting gears as during warm weather.

The chart of engine oil recommendations on page 31 gives the proper grade of oil to be used for cold weather driving. It will be noted that lighter oils can be used for cold weather providing

no prolonged high speed driving is done. For prolonged high speed driving, "Heavy duty" oils must be used. Authorized Cadillac-La Salle Service Stations are prepared with full information on winter lubrication.

The lubricant in the transmission and rear axle should be thinned with kerosene as soon as the weather is so cold that the transmission gears are hard to shift. If a sufficient amount of kerosene is added to provide for the lowest winter temperature expected, it will not be necessary to add kerosene again thereafter during the winter. Ten per cent (a little over half a pint) of kerosene will take care of temperatures down to ten below zero.

Storage Battery

The electrical system of an automobile has much more to do in winter than in summer. The engine is harder to crank and must usually be cranked longer before it starts. The lights are also used to much greater extent than during the long days of summer. All this means that the battery must be ready for increased demands.

It is therefore a good plan in preparing for the winter season to see that the battery is fully charged, that the battery connections are clean and tight, and that the charging rate is sufficient to take care of the requirements of the system.

Gasoline System

The carburetors on the Cadillac engine have automatic compensation for temperature. Nevertheless it is a good plan to have the carburetor adjustment checked when cold weather arrives. This inspection should give special attention to the carburetor choke control to make sure that the enriching device is fully effective at each carburetor when the choke button is operated.

In warm weather, a small amount of water in the gasoline has little or no effect on the running of the engine. In freezing weather, however, even a small amount of water may freeze and stop the entire flow of fuel to the carburetors. One of the things to be done in preparing for winter weather, therefore, is to clean the gasoline filter and the sediment chambers in the gasoline system.

Starting the Engine

Choke Button

The first difference between starting the engine in cold weather and starting the engine in warm weather is in the greater use of the choke necessary in cold weather. Gasoline does not vaporize as readily at low temperatures, and in order to supply the cylinders with a gaseous mixture rich enough to be ignited, the proportion of liquid gasoline to air must be increased.

At the same time, it is important not to apply the choke more than is necessary. The unvaporized gasoline collects on the cylinder walls and works down past the pistons, washing off the lubricant as it goes. Although dilution of the oil supply with this unburned gasoline is minimized by the crankcase ventilating system, it is best to avoid an excess of liquid gasoline in the combustion chambers by careful and judicious use of the choke.

The following rule should govern the use of the choke in winter weather: Pull the choke back just as far as it is necessary to start the engine, but as soon as the engine starts, return the button as far as possible without causing the engine to stop or slow down. Then push the button all the way in as soon as the engine is warm enough to permit doing so.

Priming the Carburetors

In extremely cold weather, if the engine does not start after cranking for a few seconds with the choke button fully applied, release the starter pedal. Then prime the carburetors by opening and closing the throttle once or twice rather rapidly with the accelerator. Opening and closing the throttle operates a throttle pump on each carburetor and raises the level of the gasoline in the carburetors. The carburetors should never be primed in warm weather and should not be primed unnecessarily in cold weather. Excessive priming is likely to make starting difficult rather than easy.

Position of Throttle Hand Lever

The correct position of the throttle hand lever for starting in cold weather is the same as for starting under other conditions, that is, about one-fourth the way down from the idling position. In warm weather, however, the lever may be returned to the idling position almost as soon as the engine is started. In cold weather the throttle must be left slightly open until the engine becomes warm.

Position of Spark Control

It is the practice of some drivers to move the spark control button all the way to "retard" whenever starting the engine. This is the correct position if the engine is to be cranked by hand, but if the engine is to be cranked with the starter, the spark button should be left in the fully advanced position.

Use of Starter

In extremely cold weather, when the car has been standing long enough to become thoroughly chilled, it is a good plan to disengage the clutch during the cranking operation. If this is

not done, the starter is called upon to turn the jackshaft gears in the transmission in addition to cranking the engine. At ordinary temperatures, the additional energy required is negligible, but in extremely cold weather, the lubricant in the transmission offers sufficient resistance to rotation of the transmission gears to increase considerably the demand upon the battery and to retard the cranking speed.

Use of Accelerator before Engine is Warm

In cold weather, after the engine has been started and before it has run long enough to become warm, the engine cannot deliver its normal power, and it should not be called upon to do so. In accelerating the engine to start the car and in accelerating the car after the transmission is in gear, do not open the throttle suddenly or too far. To do so is not only to invite "popping back" in the carburetors, but to increase the amount of excess unvaporized gasoline in the combustion chambers, both of which results are undesirable.

CHAPTER VI

GENERAL CARE

No attempt has been made to include in this manual directions for making adjustments or repairs to the car. Most Cadillac owners prefer to depend for such work on authorized Cadillac-La Salle service stations, as these stations can invariably perform the work more conveniently and economically.

Every owner should, however, know how to perform the few simple operations of general care described in this chapter. These operations are not difficult enough to necessitate a visit to the service station, although this work can also be done in the service station, if desired.

Storage Battery

The storage battery is carried in a compartment in the right-hand front fender. This compartment is enclosed by a metal cover held down by four screws.

The battery is filled with an acid solution from which the water slowly evaporates, and fresh distilled water must be added to each of the three cells at regular intervals to bring the level up to the bottom of the filling tubes. Distilled water should be added at least every 1000 miles, and in warm weather, every 500 miles, or at least every two weeks. If distilled water is not available, melted artificial ice or rain water caught in an earthenware receptacle may be used. Hydrant water or water that has been in contact with metallic surfaces will cause trouble if used. Acid must never be added to the battery.

After adding water to the storage battery in freezing weather, the car should immediately be run far enough to mix the water and acid solution thoroughly. If the car is parked immediately after adding water, the water is likely to stay on top of the acid solution and may freeze, causing extensive damage.

As the storage battery is charged and discharged, the solution reacts chemically with the plates of the battery, the specific gravity of the solution changing as the reaction proceeds. The state of charge of the battery is thus indicated by the specific gravity of the solution. As the battery is charged, the specific gravity of the solution increases, reaching 1.270 to 1.285 when the battery is fully charged. The specific gravity of the solution decreases as the battery is discharged. A fully discharged battery has a specific gravity of 1.150 to 1.165.

A hydrometer is the instrument used to measure the specific gravity of a solution. A hydrometer syringe is a hydrometer especially designed for convenience in testing the specific gravity of the acid solution in the storage battery. A hydrometer syringe can be obtained at any battery service station. Be sure and get a reliable instrument, for cheap ones may be in error as much as 25 or 30 points.

The specific gravity of the acid solution should never be tested immediately after adding distilled water. If the solution is below the plates, so that it cannot be reached with the syringe, add the necessary amount of water, then drive the car for a few hours before taking the hydrometer reading.

Cooling System

The cooling system should be kept filled with 6½ gallons of water, except in freezing weather, when a suitable anti-freezing solution, such as those described on page 36, must be used.

The drain valve for the cooling system is in the water inlet elbow at the bottom of the water pump on the right side of the crankcase.

The cooling system should be drained and flushed every 6000 miles. If possible, this should be done at a Cadillac service station, or where there are facilities for reversing the flow of water through the radiator. If this is not possible, use the following method:

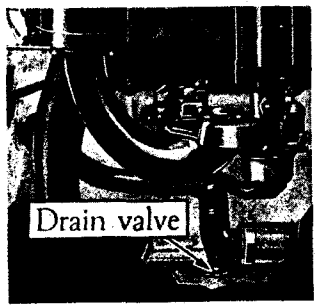


Fig. 20. The entire cooling system can be drained by opening this one valve.

Run the engine until the opening of the radiator shutters indicates that the engine is warm. Stop the engine and immediately open the drain valve.

After the liquid has drained off, refill the cooling system with hot water and repeat the operation described above. If, in draining the second time, the water is very dirty, it may be advisable to repeat the flushing operation a third time, placing one or two handfuls of sal-soda in through the radiator filler. The sal-soda must not be permitted to get on the finish of the hood or radiator. If sal-soda is used, the cooling system must be drained and flushed again before refilling for use.

Gasoline Filter

A gasoline filter (Fig. 21) is provided in the gasoline line between the vacuum tank and the carburetors. The filter has a glass bowl through which the accumulation of water and sediment can be easily seen. The bowl should be removed and the

gauze screen should be cleaned as soon as any accumulation appears in the bowl. This can be done as follows:

First shut off the gasoline by turning clockwise the small T-handle valves at each side of the filter. Then unscrew the thumb nut under the bowl, after which the yoke supporting the bowl can be swung to one side and the bowl can be removed. If the screen does not come off with the bowl, it can be removed by pulling it straight down.

In putting back the bowl, make sure that it seats properly against the cork gasket in the top of the filter before tightening the thumb screw. Do not forget to turn the gasoline on by opening both valves.

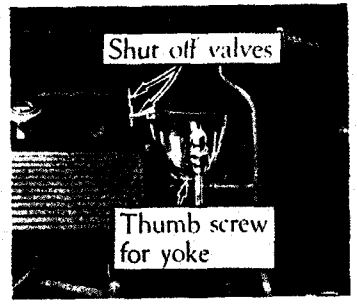


Fig. 21. The gasoline filter should be removed and cleansed regularly.

There is also a strainer in the vacuum tank at the point where the gasoline enters the inner chamber. This strainer should be removed and cleaned occasionally. It is accessible after disconnecting the feed pipe and unscrewing the inlet elbow.

Temporary Brake Adjustment

It is recommended that all adjustments of the brakes be done at an authorized Cadillac-La Salle service station. In an emergency, however, the following temporary adjustment can be made by the driver.

Each brake is fitted with an adjusting nut on the cam lever, as shown in Fig. 22. To tighten the brake adjustment turn all

four adjusting nuts half a turn clockwise. These adjusting nuts lock each sixth of a turn.

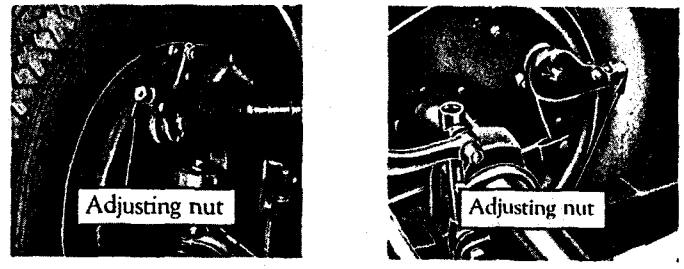


Fig. 22. A temporary brake adjustment can be secured by turning the adjusting nut on each brake clockwise one-half turn. The front brake is shown above at the left, the rear brake at the right.

Body

Care of Finish

The lacquer finish of Cadillac bodies can be kept new and lustrous with the simplest care. The car should merely be wiped off every few days with a soft dry cloth. An occasional polishing with some recognized lacquer polish (for sale by all Cadillac distributors and dealers) will prove beneficial.

If the finish receives this attention at regular intervals, it will not need to be washed, except when it has accumulated a considerable amount of mud or dust. When washing the car, use plenty of clean cold water. Do not use hot water, and do not wash the hood while it is hot, as this will in time destroy the luster. Do not use soap.

If a hose is used in washing, do not use a nozzle, but let the water flow gently from the hose and flush off the dirt gradually. A soft wool sponge can be used to advantage in removing dirt.

After the washing is completed, squeeze the sponge as dry as possible and pick up all water from crevices. Then thoroughly

wet a clean soft chamois, wring it as dry as possible and dry the finish. The finish can then be rubbed with a clean soft cloth to bring out the luster.

Care of the Top

Ordinary dust can be removed from the top with a soft dry cloth. Grease spots, stains and dirt film can be removed by washing with a mild, neutral soap. Rinse thoroughly with clear water to remove all traces of the soap, then dry with a chamois or cloth. Gasoline, naphtha, kerosene and fabric cleaners should not be used for cleaning the top, as such preparations are likely to dull the luster and damage the fabric, causing leaks.

Cleaning Upholstery

To keep the upholstery in closed cars in the best condition, it should be cleaned thoroughly at least once a month with a whisk broom and vacuum cleaner. Dirt and grit accumulating in the fabric wear it out faster than use.

Spots on the upholstery may be cleaned with any good dry cleaner. When the cleaner has thoroughly evaporated, apply a hot flatiron wrapped in a wet cloth. Steaming the fabric and rubbing lightly against the nap will raise the nap on plush fabrics to its normal position.

Door Hardware

Many owners who give careful attention to lubrication of the chassis do not give the same attention to the lubrication of door locks and hinges. If the door hardware is to operate properly, it must be lubricated regularly. Directions for this lubrication are included in the lubrication chart, and these directions should be followed as faithfully as the rest of the chart.

CHAPTER VII

STORING CAR

IF THE car is not to be used for a period of several months, it should be protected from deterioration during the period when it is not in use by carefully preparing it for storage.

Engine

To prepare the engine for storage, proceed as follows: Run the engine until opening of the radiator shutters indicates that the engine is warm. This may be done by driving on the road or by running the engine idle. In the latter case, care should be taken that there is sufficient ventilation to avoid personal injury from carbon monoxide poisoning. (See page 19). After the engine is warm, place the car where it is to be stored and stop the engine.

Remove the spark plugs. Inject two or three tablespoonfuls of engine oil into each spark plug hole, and before replacing the plugs, crank the engine three or four revolutions with the ignition switched off. This will tend to distribute the oil over the cylinder walls. The engine should not be started again after injecting the oil. If it is started, it will be necessary to repeat the treatment.

Drain the cooling system.

Storage Battery

If the car is to be stored during the winter, the storage battery should have special treatment in order to protect it against freezing.

Shortly before the car is used for the last time, distilled water should be added to bring the level of the solution up to the

bottom of the filling tubes. (See page 43.) After the water added has had an opportunity to mix thoroughly with the acid solution by running the car or engine, the specific gravity should be tested with a hydrometer. If the specific gravity of the solution is above 1.270, there will be no danger of the acid solution freezing. If, however, the specific gravity is below 1.270, the battery should be removed and charged. Unless the battery is fully charged, or nearly so, it is probable that the acid solution will freeze and cause extensive damage.

The battery ground connection should in all cases be disconnected during storage, as a slight leak in the wiring will discharge the battery and lower the specific gravity to the point where the solution may freeze.

If possible, the storage battery should be removed and charged from an outside source every two months during the storage period.

Tires

During the storage of the car, it is best to remove the tires from the rims and to keep the casings and tubes in a fairly warm atmosphere away from the light. The tubes should be inflated slightly after the tires have been removed.

If it is not convenient to remove the tires from the car, and the car is stored in a light place, cover the tires to protect them from strong light, which has a deteriorating effect on rubber.

The weight of the car should not be allowed to rest on tires during the storage period. If tires are not removed, the car should be blocked up, so that no weight is borne by the tires. The tires should also be partly deflated.

Body and Top

A cover should be placed over the entire car to protect it from dust. In storing an open car, the top should be up.

Taking Car out of Storage

In putting into use again a car that has been stored, it is advisable, unless the storage battery has been removed and charged at periodic intervals, to remove the battery from the car and give it a fifty-hour charge at a four-ampere rate. If the battery has received periodic charges, or if the specific gravity is above 1.200, simply add distilled water to the proper level and connect the leads. If there is a greenish deposit on the terminals of the battery, remove this with a solution of bicarbonate of soda (common cooking soda) and water. Do not allow any of this solution to get into the battery.

Before starting the engine, drain the oil from the oil pan and remove and clean the oil pan and screen. After reinstalling the oil pan, add eight quarts of fresh engine oil. Fill the cooling system, being sure to use anti-freezing solution in freezing weather. Remove the spark plugs and inject two or three tablespoonfuls of engine oil into each cylinder. Reinstall the spark plugs and, with the ignition switched off, crank the engine a few seconds with the starter to distribute the oil over the cylinder walls.

Start the engine in the usual manner. As soon as the engine starts, push the choke button as far forward as possible without causing the engine to stop or slow down materially, and then open the throttle until the ammeter reads approximately 10 with all lights switched off. Release the choke button entirely as soon as the engine is warm enough to permit it.

CHAPTER VIII

SPECIFICATIONS AND LICENSE DATA

Type of engine	12 cyl. V-type
Diameter of cylinder bore	3⅛ in.
Length of stroke	4 in.
Piston displacement	368 cu. in.
Horsepower (N. A. C. C. rating)	46.9
Engine number	See below
Capacity of gasoline tank	21 gals.
Capacity of engine lubricating system	9 qts.
Capacity of cooling system	6½ gals.
Capacity of transmission	3 qts.
Capacity of rear axle	3 qts.
Wheelbase	140-143 in.
Tires, standard wood wheels	7.00 x 19
Tires, demountable wheels	7.50-18
Spark plug setting	.025-.028 in.
Contact point setting	.018-.024 in.
Generator charging rate, maximum	15-20 amps. cold 8-10 amps. hot

Engine and Unit Assembly Numbers

Each Cadillac car, when shipped, carries an engine number, which is also a serial number. This is the number to be used in filling out license and insurance applications and in general reference of the car. The engine number is stamped on the right hand side of the crankcase just below the water inlet.

The various units, such as the transmission, steering gear, etc., also carry unit assembly numbers. These are located as described below. It is important in ordering parts to give, not only the

engine number of the car, but also the unit assembly number of the unit to which the part belongs.

Transmission number—on the upper left-hand edge of the flange by which the transmission is bolted to the crankcase.

Steering gear number—on the steering gear housing next to the grease plug.

Generator number—on the right-hand side of the generator.

Starting motor number—on the right-hand side of the starter, just below the switch.

Front axle number—on the upper surface of the right-hand spring pad, just outside of the car spring.

Rear axle number—on the rear surface of the axle housing just to the right of the cover plate.

Chassis (frame) number—on the flange of the first channel cross-member, next to the left front engine support.

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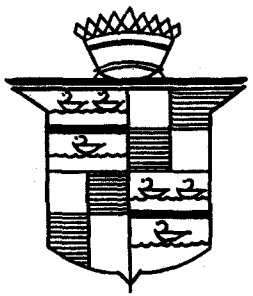
Multi-cylinder Performance proves itself one of the most fundamental of Cadillac's many contributions to motoring luxury



A new principle in fine car motoring

REPEATEDLY during the past thirty years, Cadillac has pioneered momentous improvements in automotive engineering + + Every one of these has meant increased luxury in motoring—greater convenience, more dependable performance, improved handling ease, freedom from continual adjustments, more complete comfort. Always, they have helped to make motoring more satisfying, more thoroughly delightful + + Most of them have been widely adopted throughout the industry. Many of them are now standard features in all price classes + + And now Cadillac has presented multi-cylinder performance—a new principle in fine-car motoring + + This new principle—first made available to motorists with the Cadillac V-16, and now offered in both the V-16 and V-12—adds qualities of smoothness, silence, and easy speed that greatly increase the luxury of motoring; and that no conventional engine type can possibly attain + + The brilliant success already

achieved by the Cadillac V-16 and V-12 is directly attributable to this triumphant principle. For here is a fundamentally new kind of motoring—performance more distinguished and more truly elegant than motor car travel has ever been before + + As one who prizes the finest things, you will certainly want to examine Cadillac's multi-cylinder cars without further delay + + They embody now, in its finest interpretation, the engineering principle toward which future progress throughout the industry will assuredly trend. They are richly styled and appointed in full harmony with their advanced mechanical excellence. They inaugurate a new era in fine-car motoring.

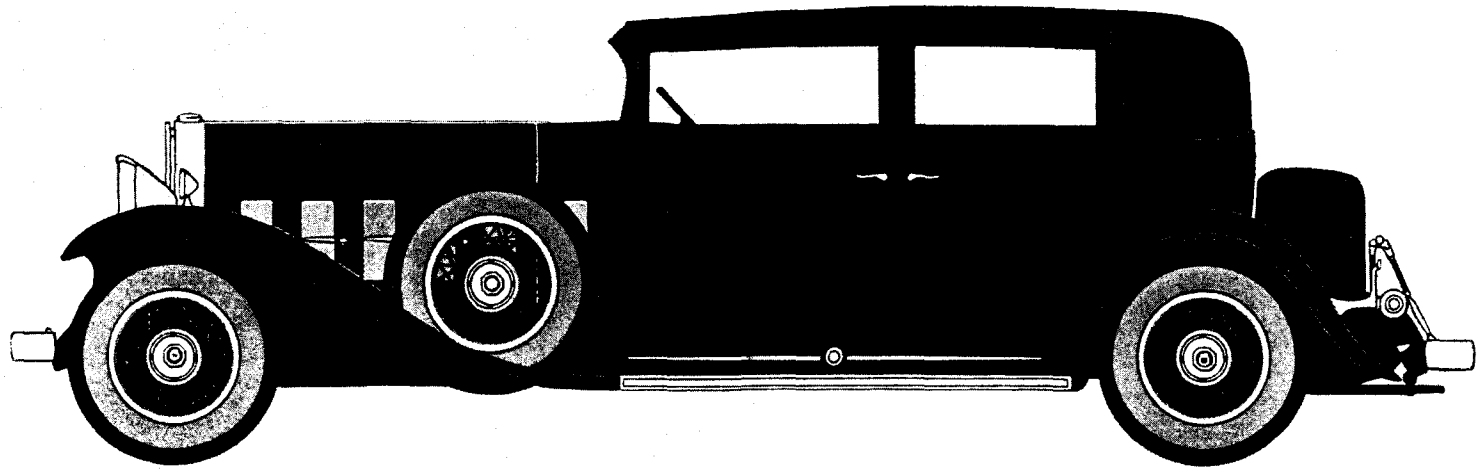
Pictured on the following pages are several distinguished body types in which the Cadillac V-12 and V-16 are available. All prices quoted are f. o. b. Detroit and are for standard equipment.

The Cadillac V-12

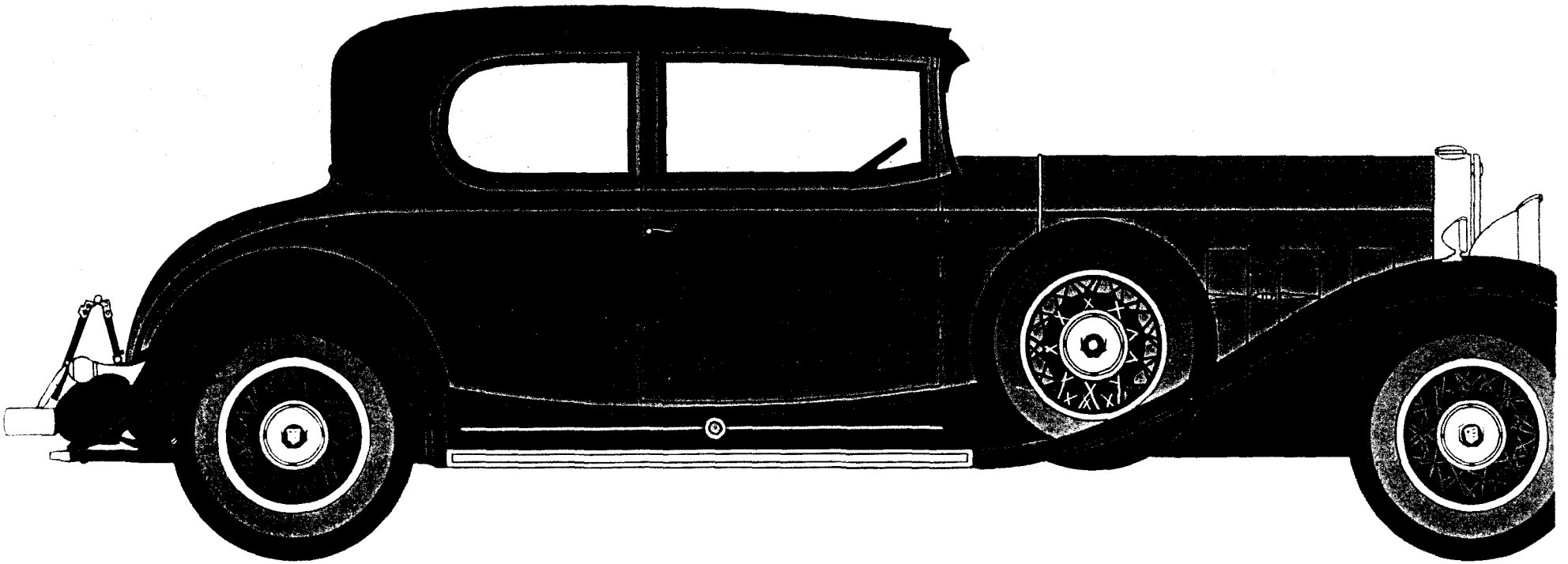
MODERN DESIGN, as evidenced in the Cadillac V-12 and V-16, is strong assurance of enduring value in a motor car. Undoubtedly, the fine-car power plant of the future is the multi-cylinder engine. The Cadillac V-12 and V-16, therefore, are the wisest motor car investments on the market today. Not only are they solidly built to familiar Cadillac standards in every part, but also they are powered by multi-cylinder engines—the engine type of the future—for really distinctive performance and for sustained value.

IN COACHCRAFT, no less than in mechanical excellence, the Cadillac V-12 and V-16 are notable for genuine distinction. Motordom has paid outspoken tribute to their beauty. They are long and graceful in line, rich in finish and appointment, and highly personalized. All body types of the V-16 are designed and produced by Fleetwood—individually built in a truly custom atmosphere by master creators of motor car fashions. All interiors of the V-12 are also done in the Fleetwood shops, whether Fisher or Fleetwood fashioned the bodies.

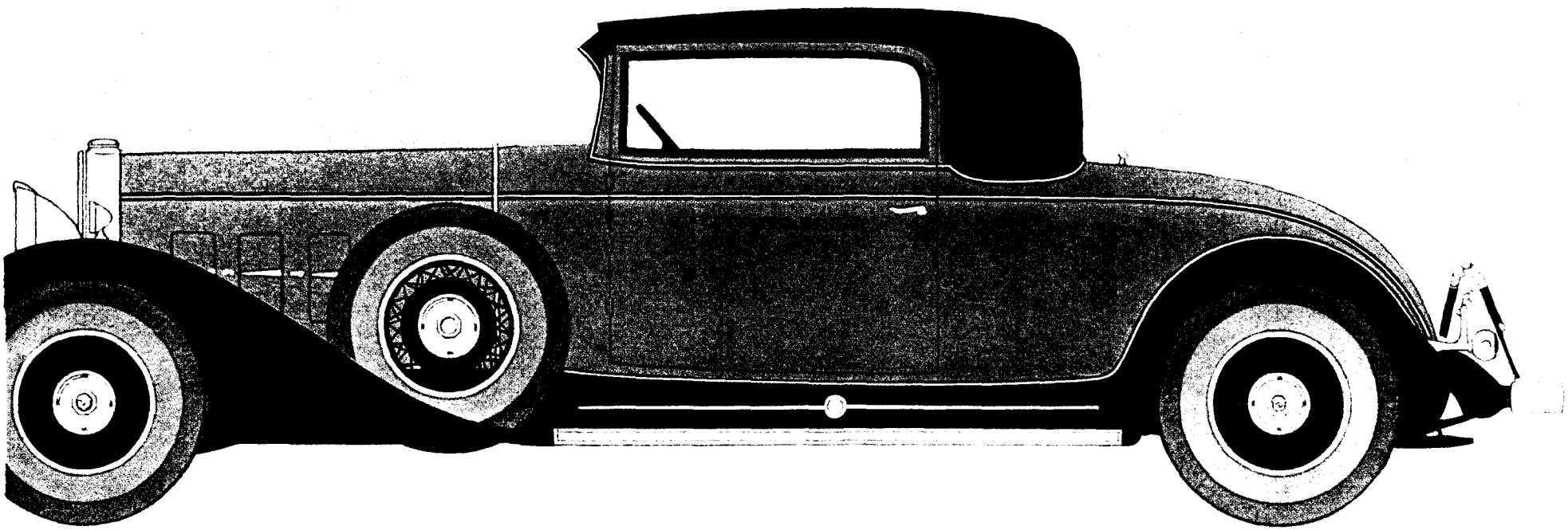
A line of richly beautiful motor cars which, foremost in their price range, supply the remarkable performance characteristics of a multi-cylinder engine—the one new thing in motoring.



CADILLAC V-12, *Five-passenger Town Sedan*, $3945



CADILLAC V-12, *Five-passenger Coupe*, $3895



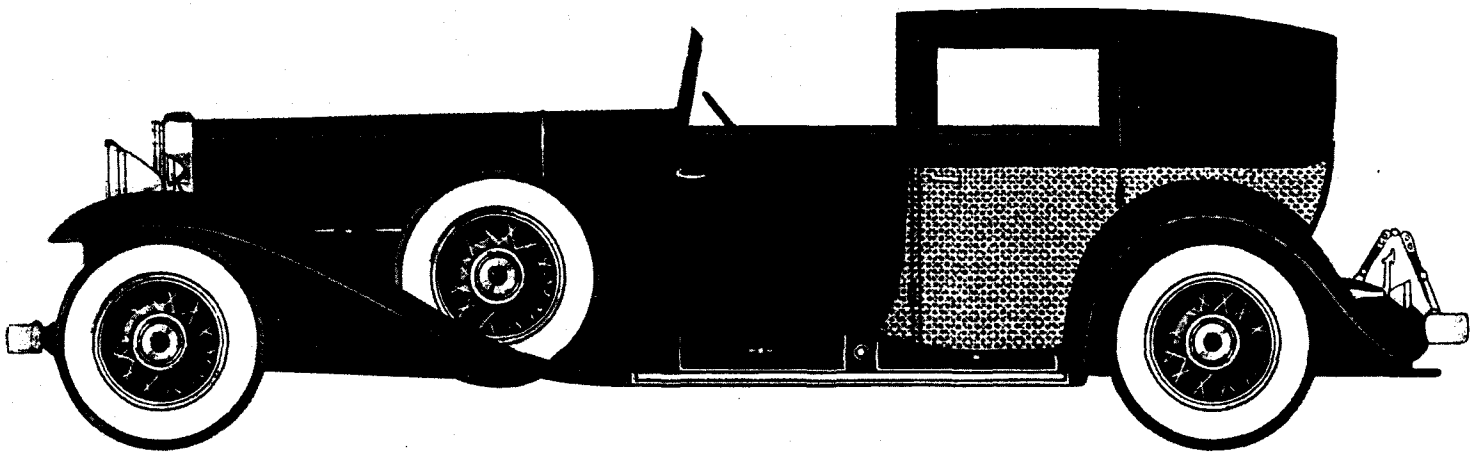
CADILLAC V-12, *Two-passenger Coupe*, $3795

The Cadillac V-16

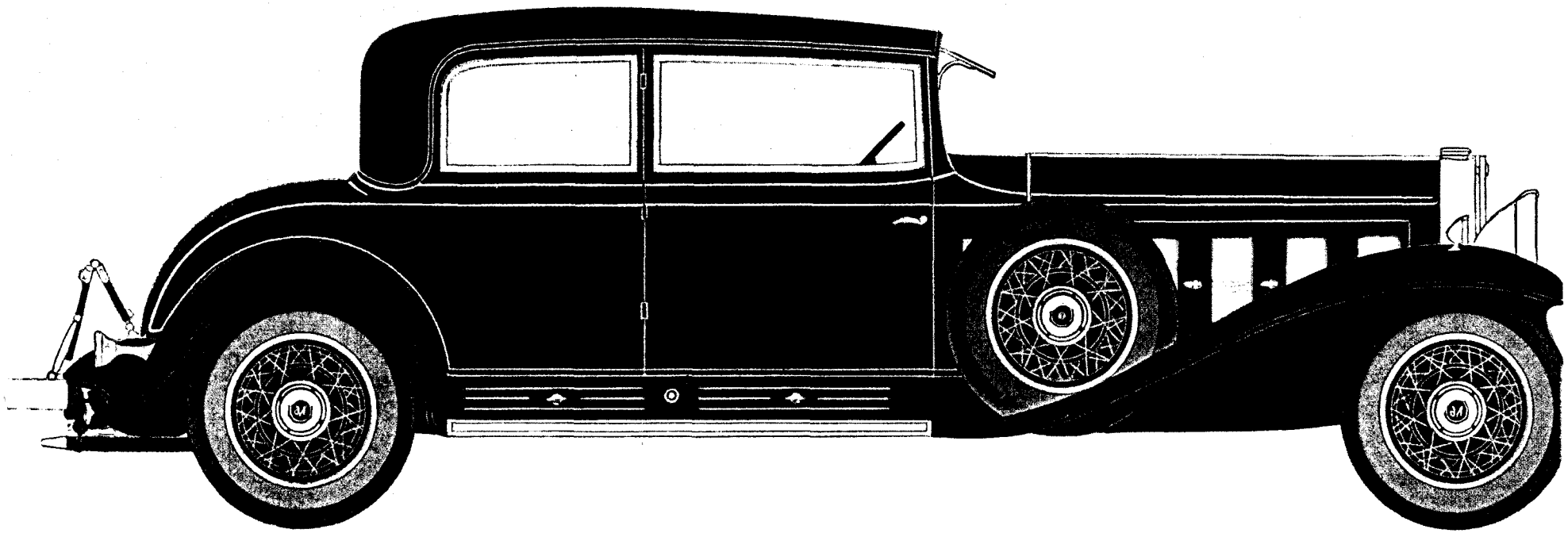
ALL of the distinctive engineering features for which Cadillac is world-famous are retained in the Cadillac V-12 and V-16 to assure complete luxury in transportation. These cars have the Syncro-Mesh transmission, fully harmonized steering, safety-mechanical brakes, all in their highest development. The braking system is especially powerful. Since these cars easily attain and maintain unusually high rates of speed, their braking efficiency is supplemented at high speeds by a vacuum assister which automatically multiplies the pressure on the pedal.

NOTHING can contribute more to your enjoyment of a motor car month by month than expert and courteous attention to its maintenance needs. In the case of the Cadillac V-12 and V-16 this attention is given systematically by an organization which has specialized for a generation in fine-car service exclusively. Cadillac service is already world-famous for liberal policies and painstaking workmanship. And today, it is more fully organized than ever for the convenience and satisfaction of Cadillac owners. The Cadillac Standard Service Contract, particularly, is a happy way of settling the whole matter of service in advance.

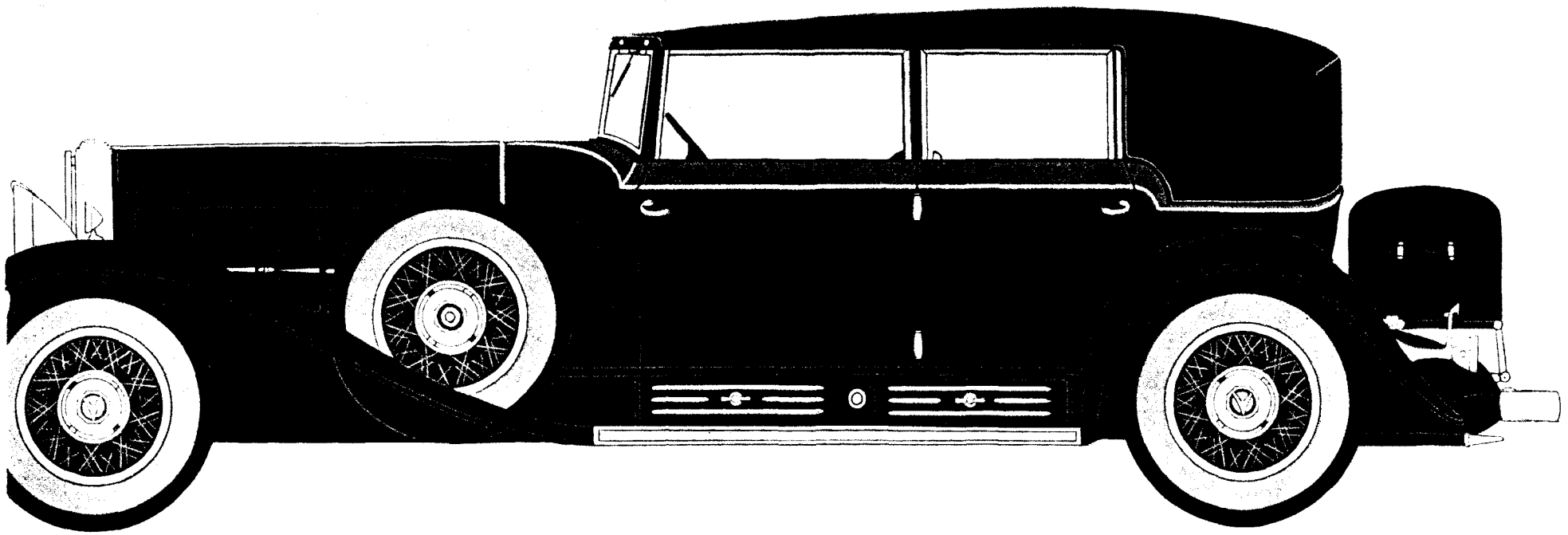
Motordom's finest achievement in beauty, luxury, and brilliant performance. This is the most highly personalized of all motor cars—a car unmatched in every aspect of fine motoring.



CADILLAC V-16, STYLE No. 4264B, *Town Brougham*, $9700

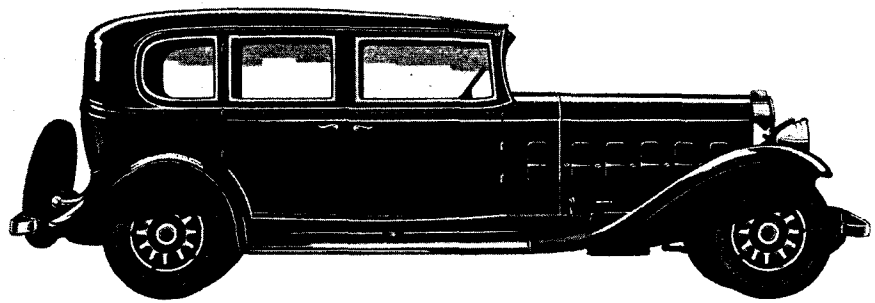


CADILLAC V-16, STYLE NO. 4381, *Five-passenger Coupe*, $5950

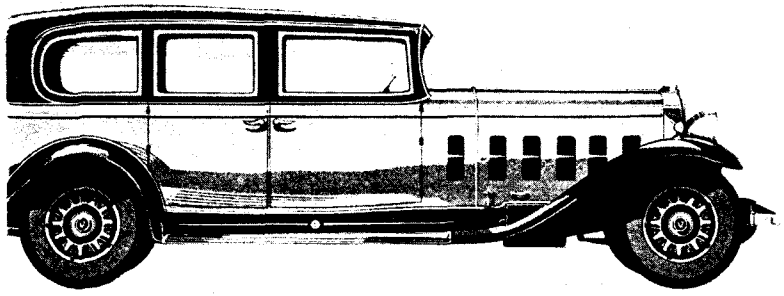


CADILLAC V-16, STYLE NO. 4380, *All-Weather Phaeton*, $5750

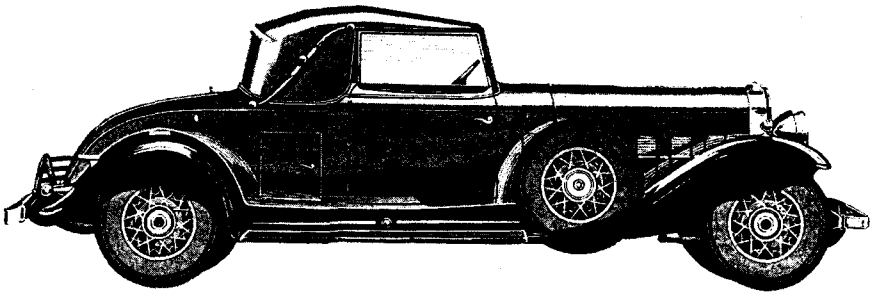
THE prospective purchaser of a Cadillac V-12 or V-16 does not find his choice confined to a few standard models or a limited number of conventional colors. For the Cadillac V-12 is available in eleven distinctive body styles—the Cadillac V-16 in thirty-one. Individual custom creations, specially built, can also be obtained for the V-16 chassis. In addition, Cadillac offers in the V-12 and the V-16 an amazingly wide range of color combinations to the buyer who wishes to gratify his individual preferences + + Illustrated on the opposite page are seven more body styles that Fleetwood and Fisher Body artists have created for the Cadillac V-12. Whichever style you select, the charm of its authoritative styling will prove quite matchless in combination with Cadillac's luxurious comfort and spirited performance.



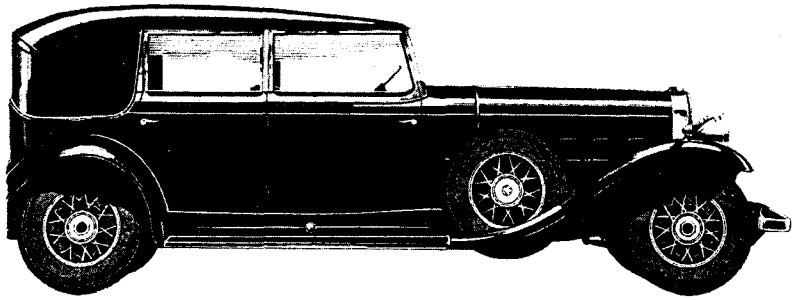
CADILLAC V-12, *Five-passenger Sedan*, $3895



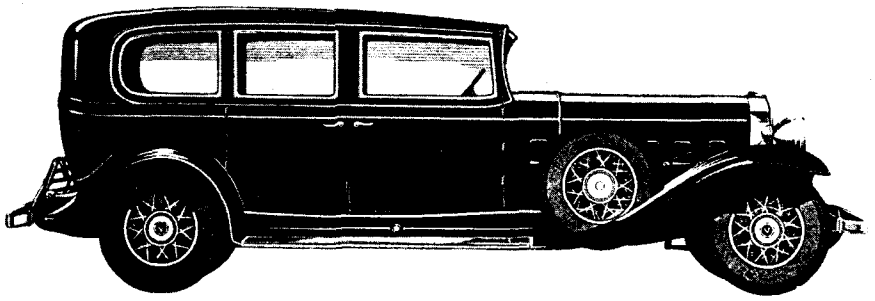
CADILLAC V-12, *Seven-passenger Sedan*, $4195



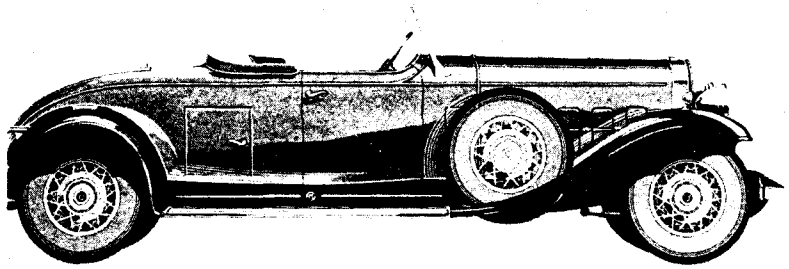
CADILLAC V-12, *Two-passenger Convertible Coupe*, $4045



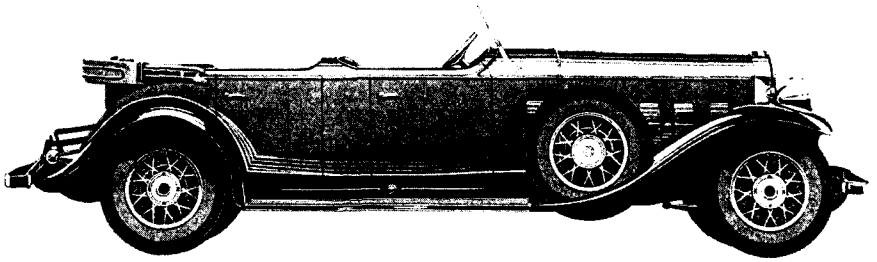
CADILLAC V-12, *Five-passenger All-Weather Phaeton*, $4895



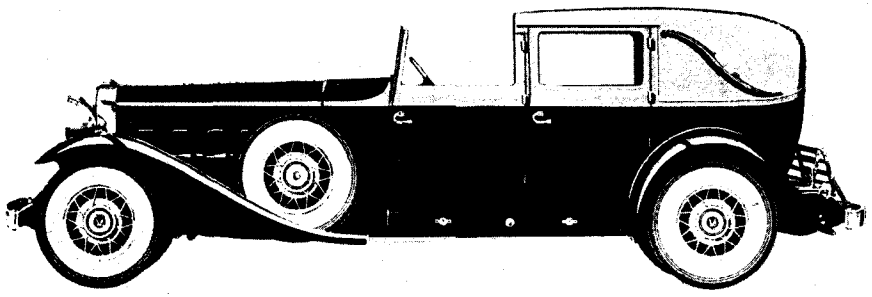
CADILLAC V-12, *Seven-passenger Imperial*, $4345



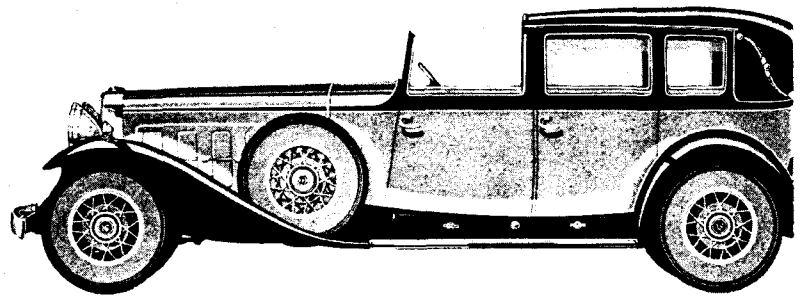
CADILLAC V-12, *Two-passenger Roadster*, $3945



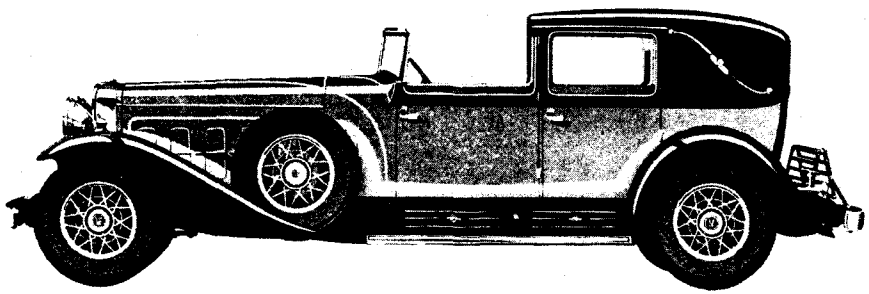
CADILLAC V-12, *Five-passenger Phaeton*, $4045



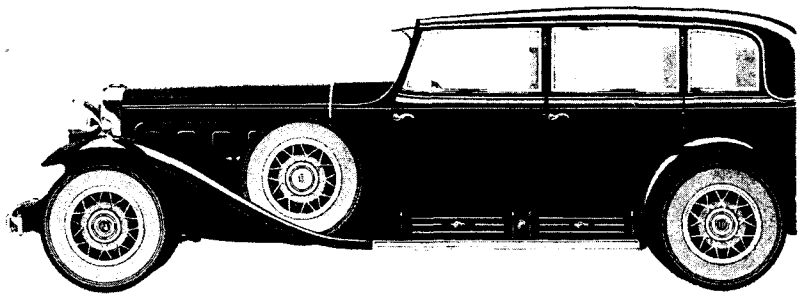
CADILLAC V-16, STYLE NO. 4225, *Town Cabriolet*, $8750



CADILLAC V-16, STYLE NO. 4220, *Town Cabriolet*, $8750

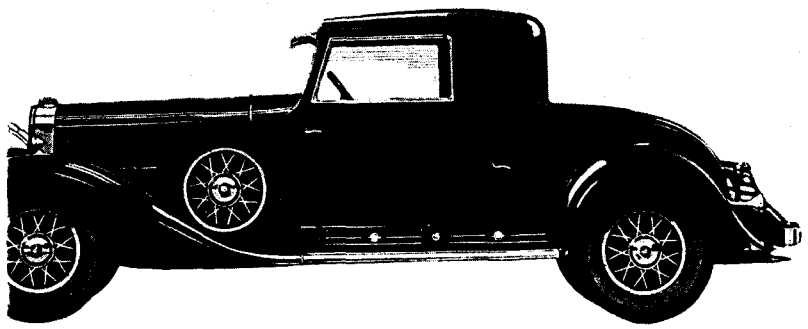


CADILLAC V-16, STYLE NO. 4312, *Town Cabriolet*, $6525

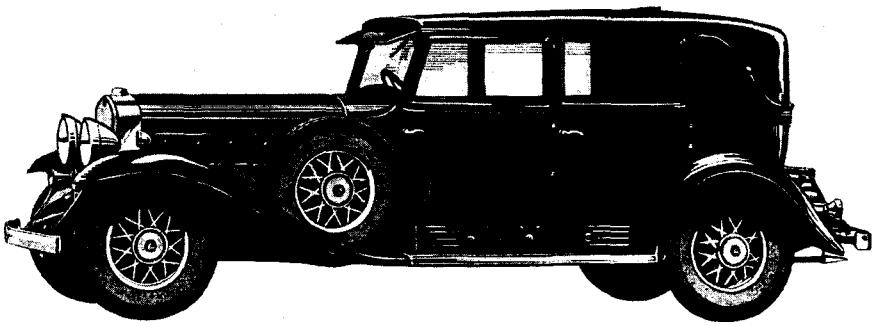


CADILLAC V-16, STYLE NO. 4130, *Five-passenger Imperial* $7300

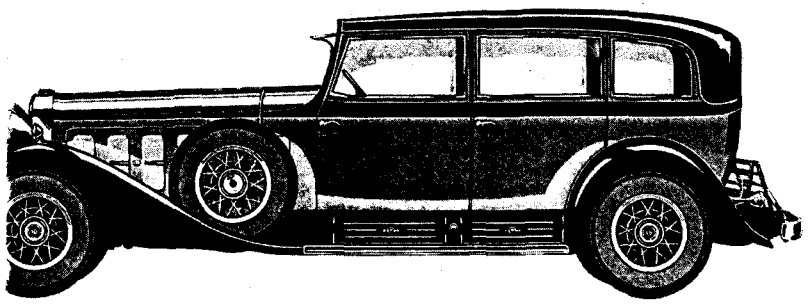
THE Master Craftsmanship of Fleetwood—perhaps the most famous name in custom body circles—is found in every one of the Cadillac V-16 body styles. Thus, in selecting the body style that suits your requirements, you are certain of obtaining a custom creation that is appropriate to the mechanical perfection of the V-16 chassis.



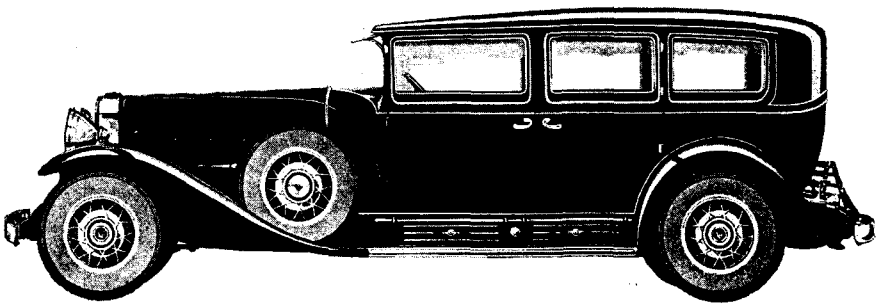
CADILLAC V-16, STYLE NO. 4476, *Two-passenger Coupe*, $5800



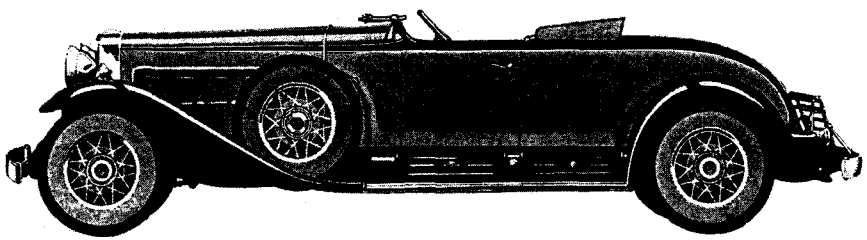
CADILLAC V-16, STYLE NO. 4155-S, *Five-passenger Sedan Cabriolet*, $7125



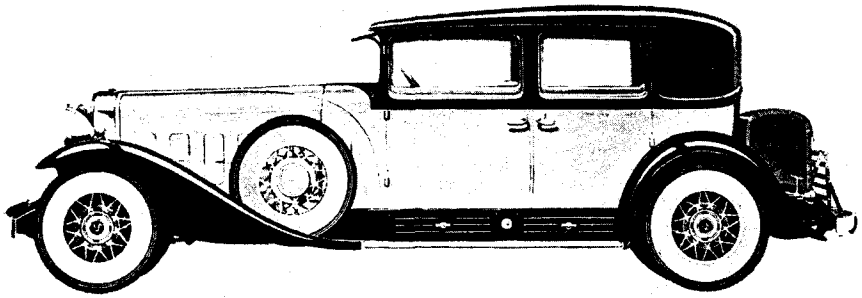
CADILLAC V-16, STYLE NO. 4175, *Seven-passenger Imperial*, $7525



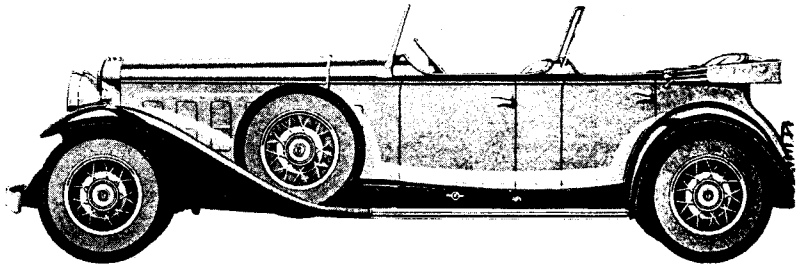
CADILLAC V-16, STYLE NO. 4375, *Seven-passenger Imperial*, $6525



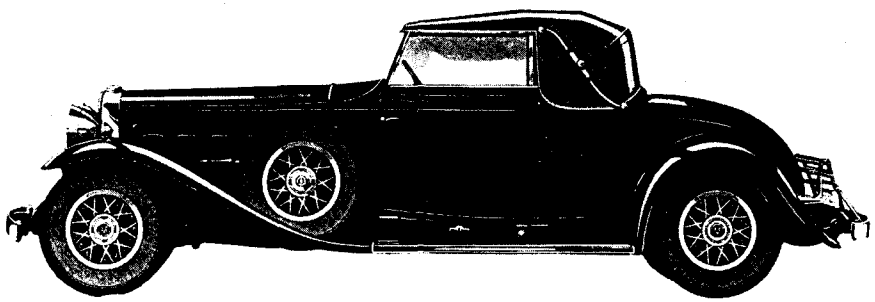
CADILLAC V-16, STYLE NO. 4302, *Two-passenger Roadster*, $5350



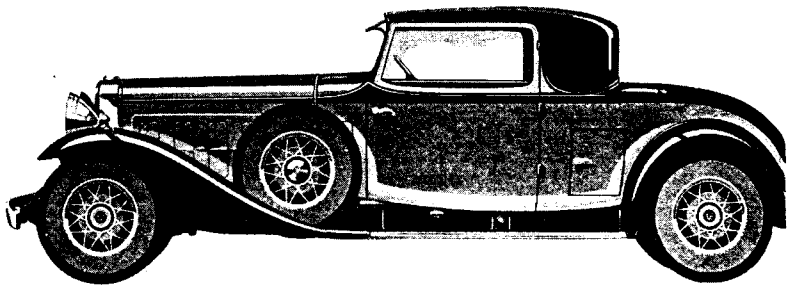
CADILLAC V-16, STYLE NO. 4361-S, *Five-passenger Club Sedan*, $5950



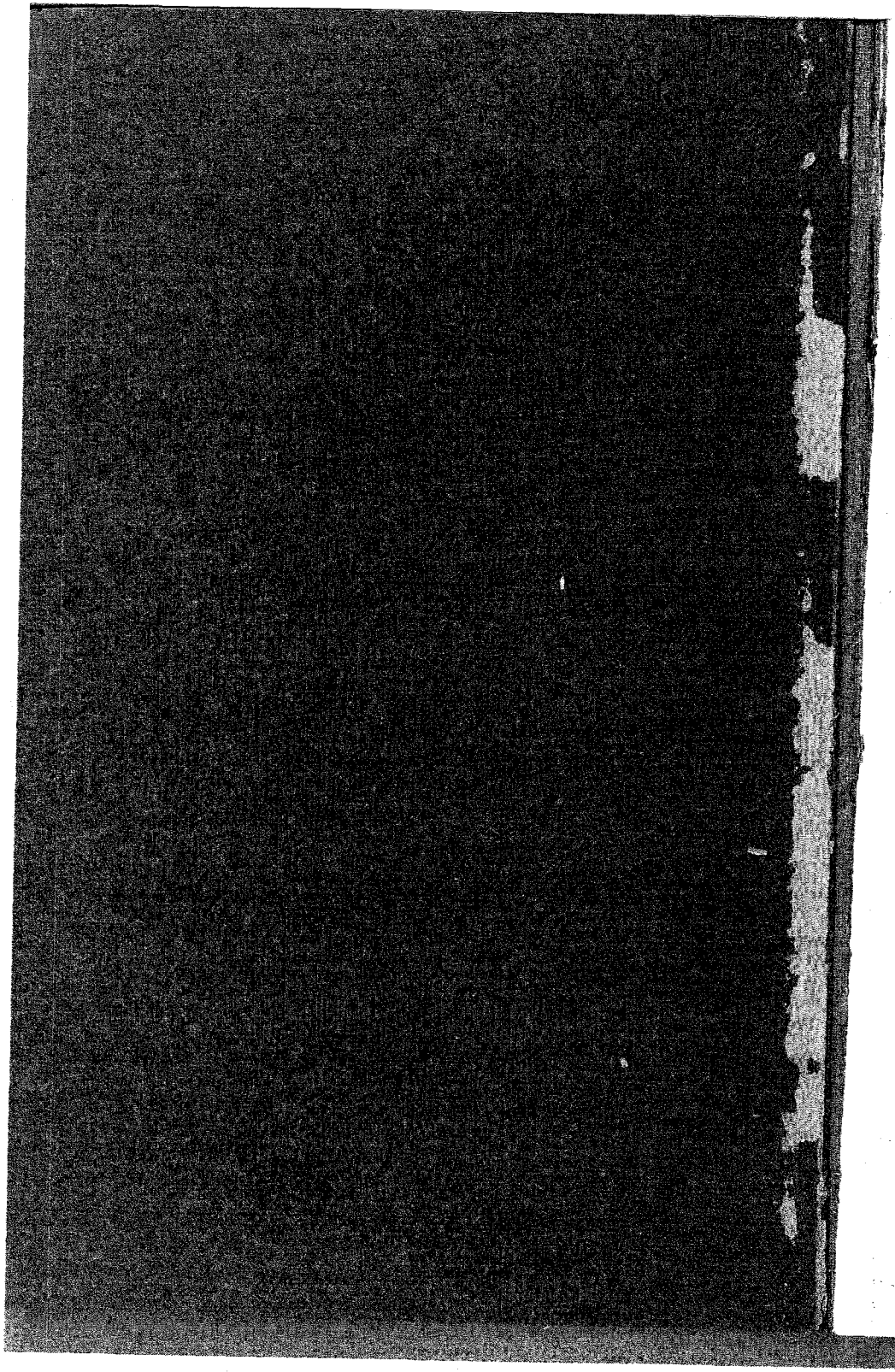
CADILLAC V-16, STYLE NO. 4260, *Five-passenger Phaeton*, $6500



CADILLAC V-16, STYLE NO. 4235, *Two-passenger Convertible Coupe*, $6900



CADILLAC V-16, STYLE NO. 4276, *Two-passenger Coupe*, $6850



THE BOOK OF FLEETWOOD

FLEETWOOD

A handbook of Fleetwood bodies for Cadillac and LaSalle retail salesmen

1929-1930
CADILLAC MOTOR CAR COMPANY
DETROIT, MICHIGAN

Regular finish, upholstery, and equipment

ALL Fleetwood bodies are finished in Duco. *Any color combination* may be had at no extra charge. This is one of the strong sales appeals of Fleetwood.

In order that body styles may be kept in stock, certain color combinations have been selected as "stock" or regular. These are in the conservative shades which experience proves are most acceptable. These combinations will be used throughout the 1929-1930 season on the enclosed drive types and transformable types.

1—Duco Cromwell blue lower panels, hood, and window reveals.
Black upper panels and moulding.
Gold stripe.

2—Duco Mulberry maroon lower panels, hood, and window reveals.
Black upper panels and moulding.
Gold stripe.

3—Duco Alpinstock green lower panels, hood, and window reveals.
Black upper panels and moulding.
Cream stripe.

4—Duco Sable lower panels, hood, and window reveals.
Black upper panels and moulding.
Old ivory stripe.

All fenders and chassis black.

In addition, Fleetwood bodies in a variety of rich colors, lighter in shade, will be brought through periodically for stock. Bulletins will announce these.

Colors available on open types, All-Weather types, and Sedanette types will be announced periodically.

UPHOLSTERY

EIGHT rich exclusive Fleetwood Doeskin Suede broadcloths by Wiese in subdued colorings harmonizing with any exterior color.

Exclusive Fleetwood Wiese broadcloths:

Weise 2969	Green Gray
Weise 2970	Maroon Taupe
Weise 2971	Tan
Weise 2972	Silver Gray
Weise 2973	Blue Gray
Weise 2994	Tan Taupe
Wiese 3288	Dark Gray
Wiese 3363	Dark Taupe

Optional in all enclosed drive and transformable types.

Three special Venetian mohairs of short nap.

Exclusive Fleetwood Venetian mohairs:

108-T	Green
109-T	Gray
110-T	Taupe

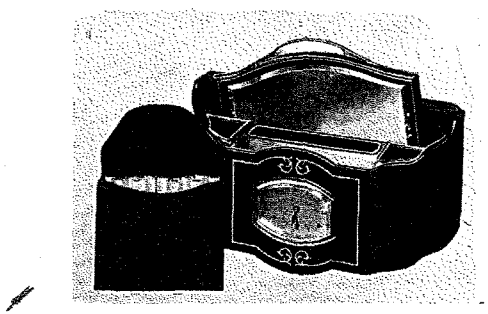
Optional in all enclosed drive and transformable types.

The first two blend well with complementary body colors, Taupe, because of its neutral shade, going well with any color.

Fifteen special exclusive Fleetwood Aero leathers by Radel. These are lightweight, soft, pliable, and luxurious, four being specified for stock with the balance optional without extra charge, with a reasonable added time allowance.

Special Radel Aero leathers:

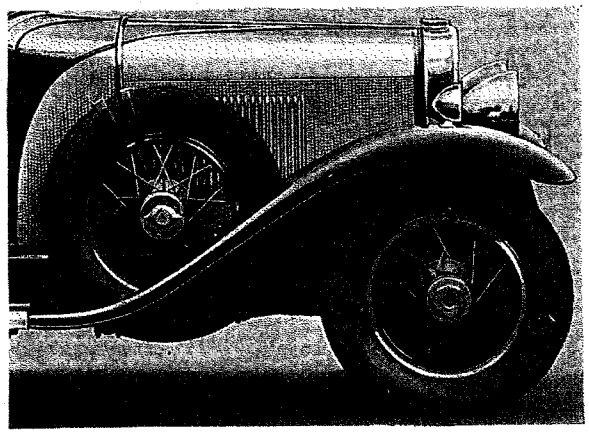
5885	Silver Gray
451	Pearl Gray
2646	Blue Gray
5897	Green Blue
68	Blue (Standard)
6016	Dark Blue
9205	Deep Maroon
5875	Rich Maroon
4339	Green (Standard)



Vanity cases are designed exclusively for Fleetwood bodies and contain 8-day clock, mirror, leather cigarette case, and two ash receivers

6019 - - - - - - - - - - - - - Soft Green
6012 - - - - - - - - - - - - - Dark Green
9128 - - - - - - - - - - - - - Light Brown
9131 - - - - - - - - - - - - - Dark Brown
743 - - - - - - - - - - - - - Tan (Standard)
2645 - - - - - - - - - - - - - Black (Standard)

Optional in All-Weather Phaeton, Sedanette, and open types.



This picture shows a hood with damaskeen finish, a unique and attractive treatment

Six weatherproof Bedford cords by Wiese. The corded fabrics are used for seats with plain material to match for head linings. The waterproof feature of these materials makes them especially desirable for All-Weather types.

Special waterproof Wiese Bedford cords:

Wiese 2659-F, 2759-F - - - - - - - Green Gray
Wiese 2661-F, 2761-F - - - - - - - Brown Gray

Wiese 2662-F, 2762-F - - - - - - - - - Gray
Wiese 2663-F, 2763-F - - - - - - - - Blue Gray
Wiese 2665-F, 2765-F - - - - - - - Maroon Taupe
Wiese 2666-F, 2766-F - - - - - - - - Tan Taupe

Optional in All-Weather Phaeton and Sedanette types.

With the wide variety offered in the regular exclusive Fleetwood upholstery materials, we recommend that cloths be selected from Wiese collection No. 61 *only when absolutely necessary*, as there will be delays involved in securing curtains and other trimming materials to match. These delays are avoided in the case of the regular Fleetwood materials.

Enclosed drive types and transformable types.

Eight exclusive Fleetwood Wiese broadcloths—optional.
Three exclusive Venetian mohairs—optional.
Any material in current Wiese Collection No. 61—optional.

All-Weather and Sedanette types:

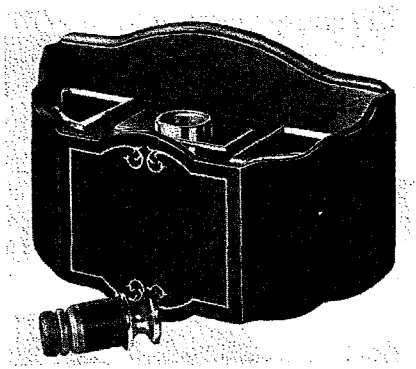
Fifteen Fleetwood Radel Aero leathers—optional.
Six weatherproof Fleetwood Wiese Bedford cords—optional.

Open types:

Fifteen Fleetwood Radel Aero leathers—optional.

(In the case of All-Weather Phaetons, Sedanettes, and open types, four of the exclusive Fleetwood Radel Aero leathers in the sample book will be specified for stock. The balance are optional with reasonable added time allowance.)

The distributing organization has already been furnished with samples of the three exclusive Fleetwood Venetian mohairs available. The distributing organization will be furnished with sample books of the eight exclusive Fleetwood Wiese doeskins, the six special weatherproof Wiese Bedford cords and the fifteen exclusive Fleetwood Radel Aero leathers as soon as such books are available.



Smoker's set has inlaid case, with removable cordless lighter, and two ash receivers

EQUIPMENT

Equipment common to all body styles of each type (Sedans, Town Cabriolets, etc.) is found on pages 18 to 24. Equipment exclusive to each individual body style is listed on the page facing the illustration of that body style.

Wiring for radio installation is included in all body styles except 3902, 4002, 4060, 4057.

BODY STYLE OPTIONS

The four Town Car models—Fleetwick, Fleetmont, Fleetcrest, and Fleetbourne—can be had with collapsible rear quarters. Fleetwick, Fleetmont and Fleetcrest in stock, Fleetbourne to order.

Extra charges are:

Style 3912-C	$750
Style 3920-C	800
Style 3923-C	750
Style 3991-C	800

The same feature can be had on all Sedans and Imperials for the following extra charges:

Style 3975-C	$800
Style 3975-SC	800
Style 3930-SC	800
Style 3930-C	800
Style 3955-SC	750
Style 3955-C	750

Note: Prices apply *only before* metal has been built on wood frame. If collapsible rear quarter is wanted on body already "in metal," individual price quotation is necessary. Delivery time—4 weeks additional.

Back windows—Special size or shape	$125
Quarter windows—Special size or shape	250
Leather quarters—Sedans and Imperials—Non-collapsible leather quarters with landau bows, quarter windows retained. Three weeks additional time	250

Without quarter window (3975 or 3975-S only) three weeks' additional time - - $300

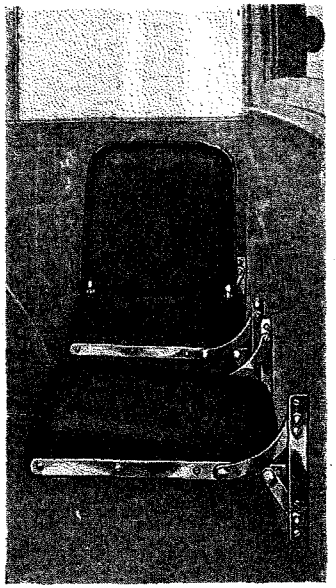
Plain motor hood without raised panel (*See page 86*) - 250

Sedanettes and Sedanette Cabriolet in special leather top material—Tan, grained to look like Burbank cloth - - - - - - - - - - - - 175

Opera seats—Instead of forward facing, in 3975, 3975-S, 3920, 3925, 3991 - - - - - - - 125

Concealed in 3912—lazyback omitted on left seat - - - - - - - - - - - - 200

In Five-Passenger Sedans - - - - - - - 128



The Fleetwood "opera" seats, although designed for occasional use only, are remarkably comfortable. They are attached to the interior partition and fold up out of the way when not in use. As is shown, one seat faces the rear, the other with back, faces sideways. Seats are adjustable as to height

Sliding glass division—In Imperials and Town Cars with standard auxiliary seats - - - $150

With concealed auxiliary seats - - - - - 250

More head room—Providing 52½ inches - - - 650

Roof baggage rail—(Roof strengthening; painted or chromium rail) - - - - - - - - - 425

Omitting glass division with stationary Sedan front seat—All-Weather Phaetons - - - - - - 200

Glass division, Sedanettes and Sedanette Cabriolets—between front and rear compartments - - 200

Transformable driver's roof solid—Permanent - - 275

Detachable—with flexible extra roof curtain 350

Full flush glass division for 3975 (Same as standard in five-Passenger Imperials Styles 3930, 3955) 150

Wheels—Wood is standard. Regular extra charges on Fisher Body cars apply on Fleetwoods for any special wheel equipment.

Note: Prices apply *only* on cars *not yet built up* at Fleetwood factories.

No credit or allowance on regular equipment omitted.

COLOR OPTIONS

Color book—The Fleetwood Company has issued a color book containing samples of suggested colors which can be specified for cars in addition to the four colors shown on page 101.

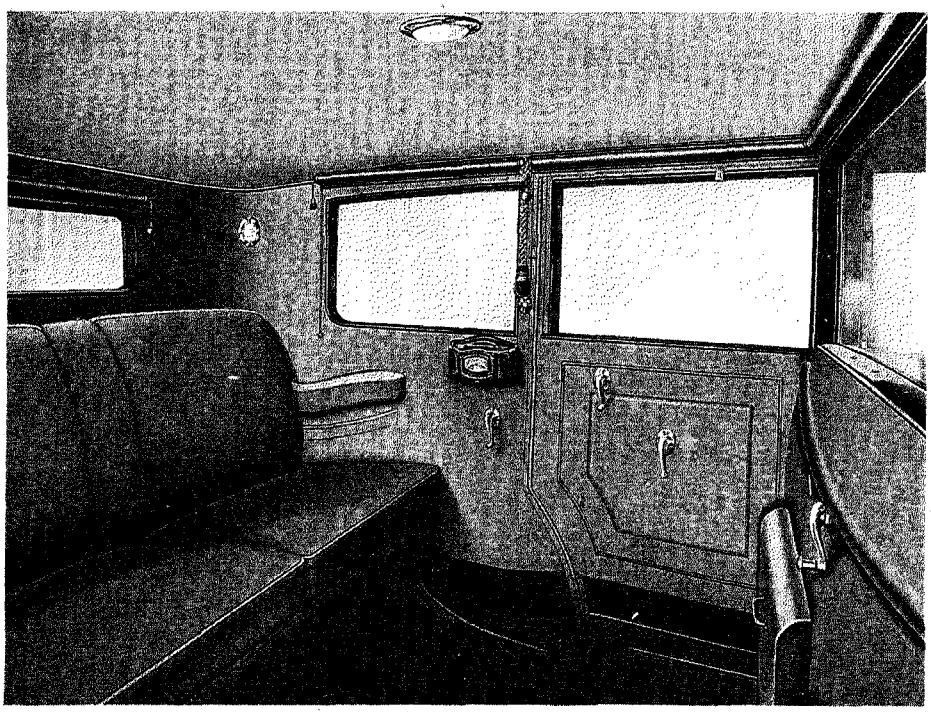
Upper and lower panels—Any color. (Includes striping.) No charge.

Fenders—Special colors at regular extra charges.

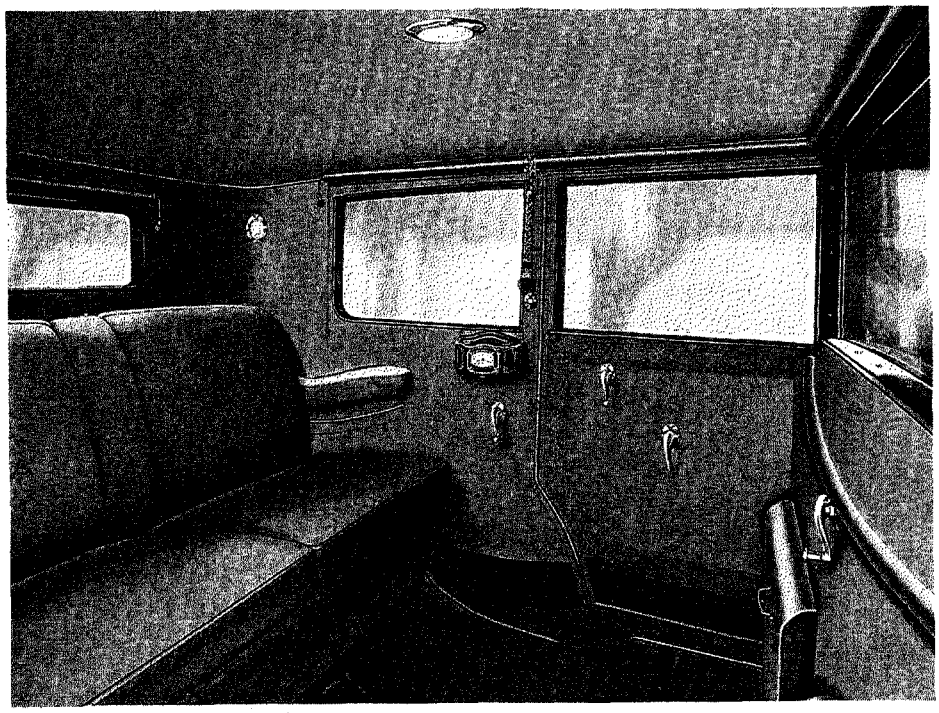
Colored leather quarters—For Cabriolets or Town Cars, Sedan and Imperial Cabriolet types; to match upper panels - - - - - - No Charge

Damaskeen hoods—Engine turned finish - - - $265

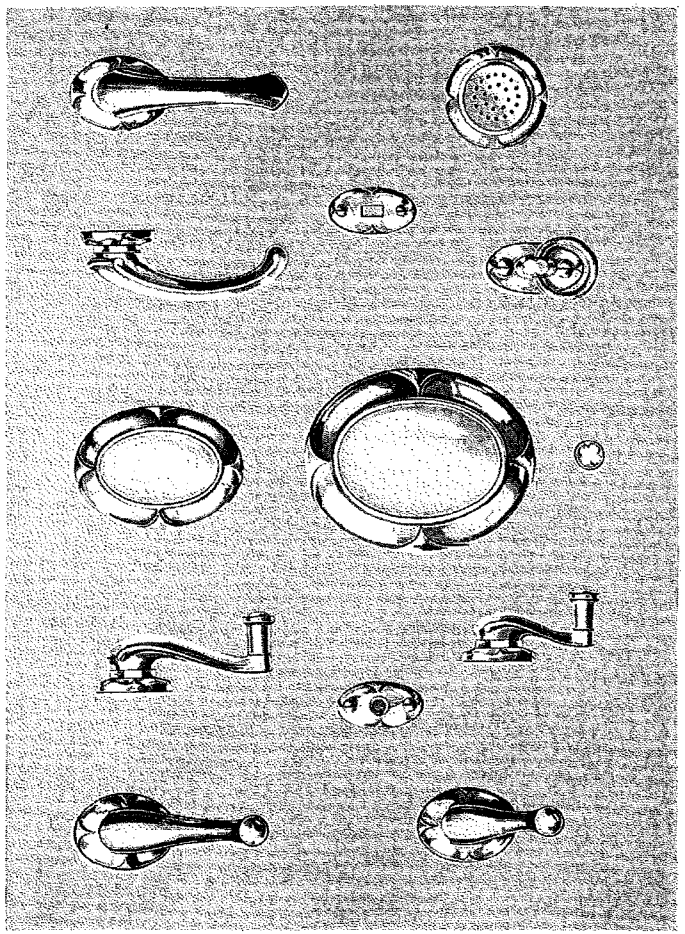
Varnish—Seven weeks additional for varnish finish, all body styles. No guarantee - - - 250



An interior view of one of the bodies. Note the general air of distinction, luxury, and roominess, the deep sprung seats with center and side arm rests upholstered in unobtrusive shades of broadcloth; also the side pockets and exclusive Fleetwood design of hardware



This picture shows one of the distinctive effects which may be achieved when a body is finished to individual requirements. In this case, the purchaser desired an outstanding and individual interior and specified Wiese broadcloth upholstery, embroidered in medallion effect with needlepoint work—the result being one of rare beauty



Hardware is created specially for the Fleetwood line, of beautiful design with chromium plated finish

UPHOLSTERY OPTIONS

See upholstery section, page 102.

Style—Tufted, pleated, etc., if ordered before body goes to Trim Department - - - - - - No Charge

Special materials—Not included in Fleetwood broadcloths, mohairs, Bedford cords, Aero leathers or Wiese book, No. 61 - - - - - $100

Needlepoint medallions, with broadlace on doors and divisions - - - - - - - - - 300

Leather—Transformables, Sedanettes, and enclosed drive types, front and rear cushions, balance broadcloth - - - - - - - - - - - No Charge

Seat cushions and up to belt - - - - - $ 50

Entire interior, front and rear - - - - - 150

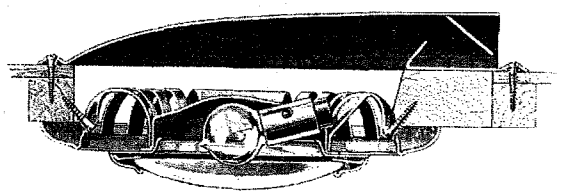
Colored, for All-Weather Phaetons, Sedanettes and open types (other than four standard colors) in Aero leather book, four weeks' additional time) - - - No Charge

Cushions—Any height, slope, or depth; provided orders are received before body goes into trim and standard seat box can be used - - No Charge

Lap robes—Monogrammed, crushed plush backing - - - - - - - - - - - - $ 80 (Up)

Pockets—Flush type not possible. Envelope type attached on all doors - - - - - - - - $ 75

Down pillow—Not standard, if desired - - - 18



The handsome Fleetwood ventilating dome light not only illuminates the interior at night but ventilates the ceiling whenever the car is in motion

EQUIPMENT OPTIONS

Foot rail—Carpet-covered, to replace hassocks. (Must be ordered before body leaves factory) No charge

Mats—Rubber for front compartment all types - $ 18

Linoleum—Metal bound, front floor boards, all types - - - - - - - - - - - - - - 32

Extra carpet—For rear or front compartment - 25

Hardware—Colored to match upholstery - - 25

Other finishes - - - - - $ 25 (Up)

Special design - - - - - On Quotation

Vanity and smoking sets—For All-Weather and Sedanette types, attached to division

Vanity - - - - - - - - - - - $ 55

Smoking - - - - - - - - - - 26

Special finish - - - - - - On Quotation

Inside moldings—To match vanity cases in special finish - - - - - - - - - - $ 35 (Up)

Robe rails—Bar and cord type can be interchanged after delivery without damage to upholstery. (Bar type cannot be used with opera seats.)

Bar type Ducoed to match upholstery. (Must be ordered before body leaves factory. No charge

Cord type to match upholstery. (Must be ordered before body leaves factory. - No charge

Ash receivers—Flush type for front doors where not standard - - - - - - - - - - - - $ 15

Division clock—French walnut case - - - - - 40

NOTE: All of the above extra charges are *list*, subject to special discount applying on extra charges covering special features on Fleetwood line.

Service

FLEETWOOD bodies are built with maximum care and close inspection in every detail of their construction to the end that the maximum of service and comfort will be rendered to every owner.

In addition to this careful manufacturing policy, service facilities have been arranged with the Fisher Body Corporation in order that all Fleetwood owners may have Fleetwood body service available in their respective communities. In addition to the parts depots in the factories at Detroit and Fleetwood, which service the East, Central West, and South, Fisher Body Corporation has a parts depot at Oakland, California, to service the Pacific coast country.

These facilities reduce the time element in correspondence and transportation to secure equipment necessary to restore the body to use.

There are also seven Service Headquarters located in New York, Detroit, Atlanta, Kansas City, Dallas, Minneapolis, and Oakland, from which points Fisher men operate, these men being thoroughly familiar with Fleetwood bodies and competent to properly make any repairs or adjustments.