operating your . . .

NEW 1948 PACKARD

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PACKARD MOTOR CAR COMPANY
DETROIT 32, MICHIGAN

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Packard service

Authorized Packard Dealers are best qualified to take care of regular maintenance or any service work that may be required because they have had specialized instruction and experience on Packard cars. They use Packard Precision Built Parts and special tools and equipment. Packard mechanics have the benefit of continuous training in up-to-date servicing methods by means of regular publications, training schools and special bulletins supplied exclusively to them by the Packard Factory.

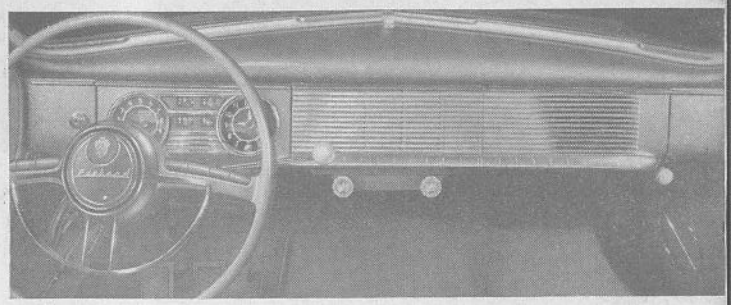
Packard Dealers are interested in keeping Packard owners well satisfied with their cars at the lowest maintenance cost possible.

manufacturer's warranty

Packard Motor Car Company has warranted that for a period of ninety days from the date of original delivery to the purchaser of each new Packard car or before such car has been driven 4,000 miles, whichever event shall first occur, it will replace, free of charge, any part or parts thereof, including all equipment or trade accessories, except tires, supplied by it as standard equipment, claimed within that period to be defective and found by the Company upon examination to be so, provided such part or parts are returned to the Company within that period for credit or replacement. Such free replacement does not include transportation charges to or from the Packard Factory.

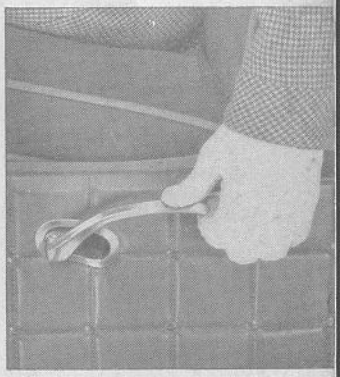
This warranty shall not apply to any vehicle which shall have been repaired or altered outside of an Authorized Packard Service Station in any way so as in the judgment of the Manufacturer to affect its stability or reliability, nor which has been subject to misuse, neglect, or accident.

controls



Much of the pleasure of driving is derived from the comfort of the driver and the ease with which his car can be operated. The Packard instruments and controls are so grouped that all are in plain view and readily accessible to the driver.

front seat adjustment

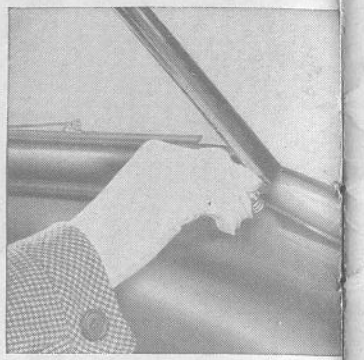


The position of the front seat may be adjusted by lifting the lever on the left-hand side of the front seat base and sliding the seat forward or backward. When a comfortable position is found, the seat is locked in position by releasing the lever.

rear view mirror

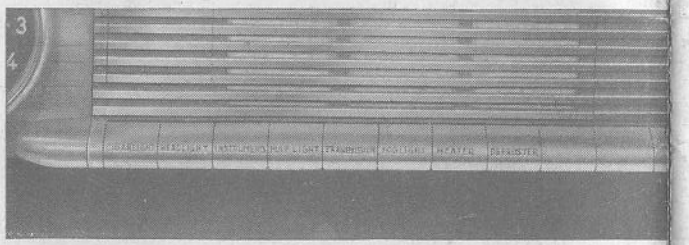
The rear view mirror may be adjusted to assure full rear vision. By rotating the mirror one-half turn it may be raised or lowered to suit the height of the driver.

windshield wiper



The windshield wipers are controlled by a knob located on the upper part of the instrument panel directly below the windshield center strip. Turning the knob clockwise starts the windshield wipers and the speed is increased by continuing to turn it clockwise until full speed is reached.

the console-key instrument panel

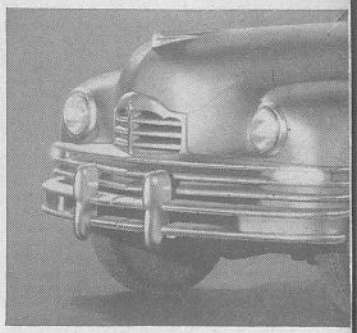


For ease of operation all of the push-button type light and accessory control switches are grouped in the Console-Key Instrument Panel under the radio grille.

headlights and parking lights

The "Sealed Beam" headlights used on Packard cars provide two separate beams:

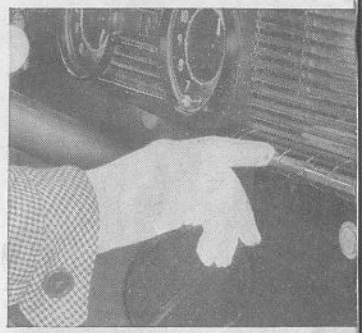
1. A country (upper) beam, which illuminates the road evenly for a considerable distance ahead of the car. This beam is for use on the open highway when



no other vehicles are approaching.

2. A traffic (lower) beam, which is low enough to prevent glare in the eyes of oncoming drivers. This beam should be used on city streets or heavily traveled highways and whenever passing an approaching vehicle.

Parking lights are turned on by pressing the headlight switch knob once. The headlights are lighted by pressing the headlight switch knob a second time. Thus, pressing the headlight switch knob once lights the parking lights; twice, lights the headlights; three times, extinguishes all lights.

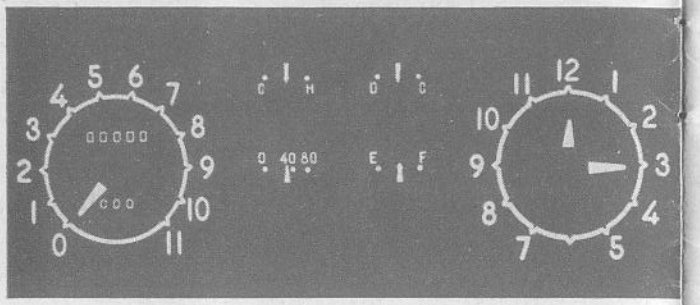


With the headlights on, select the country or traffic beam as traffic and road conditions demand, by depressing the foot switch at the left of the clutch pedal. An indicator light, located above the headlight switch, tells the driver when any light is on. The left-hand indicator light, located below the speedometer, is lighted when the country beam is in use to warn the driver to switch to the traffic beam when another car approaches. Never pass an approaching car with this warning light burning.

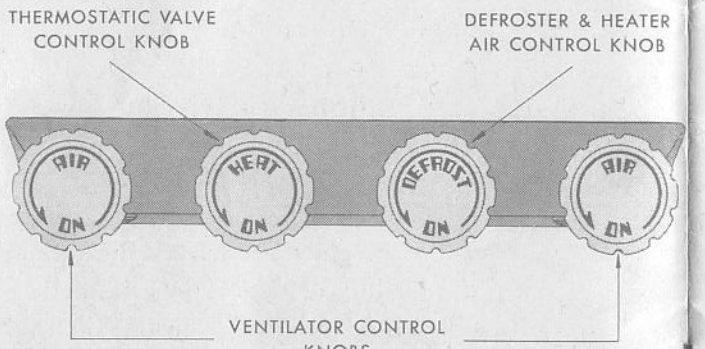
the flite-glo instrument panel lighting

Illumination of the Flite-Glo instruments is by means of "black light". This type of illumination prevents annoying glare and reflection since only the figures and hands are visible.

The Flite-Glo instrument panel lighting is controlled by a switch marked "Instruments" on the Console-Key Instrument Panel. When the headlights or parking lights are on, the instruments may be made to glow or be turned off by pressing the instrument panel light switch knob.



fresh air heater



Winter Use

Turn both AIR ventilator knobs to the fully closed position.

Turn DEFROST knob counter-clockwise to the fully on position. In this position the heater outlet is shut off and all of the heater air is directed through the defroster openings against the windshield.

Turn the HEAT knob on.

Press the Console Key Board HEATER switch once. In this position the heater fan is running at maximum speed; pressing the switch a second time reduces the fan speed. Pressing the switch a third time stop the fan motor.

When the engine reaches normal operating temperature turn the DEFROST knob clockwise to select the minimum amount of defroster air necessary to keep the windshield clear. This also directs the air downward into the car.

Regulate the HEAT knob until the desired car temperature is obtained. The knob may be left in this position throughout the winter unless a higher or lower temperature is desired, as the selected temperature will be automatically maintained by thermostatic action.

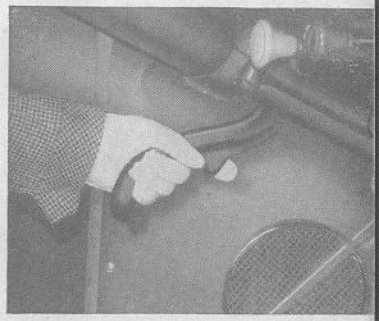
Summer Use

The fresh air heater may be used to supplement the ventilating system by providing cool air ventilation while parked or driving at low speed. Turn the DEFROST knob and the HEAT knob to the off position and then operate the heater fan at full speed.

fog light switch

When a car is equipped with fog lights, these are controlled by pressing the fog light switch knob, which lights the tail lights as well as the fog lights. By this arrangement the car may be driven without the use of headlights or parking lights.

parking brake



The parking brake lever is located under the left-hand end of the instrument panel within easy reach of the driver.

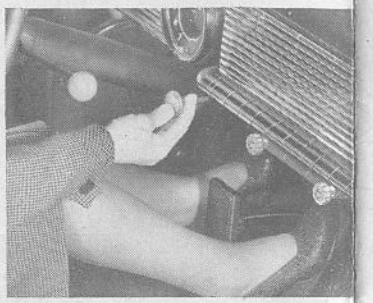
the overdrive

The Overdrive, which is supplied as extra equipment, reduces the number of revolutions of the engine at any given car speed as compared with conventional high

gear. This reduction in engine speed provides greater economy, quietness, and smoothness, all of which contribute to greater driving pleasure.

operation of the overdrive

Engagement and Lockout



The Overdrive is made operative or locked out by means of a control knob located under the edge of the instrument panel at the right of the steering column. The Overdrive may be made operative while driving at any speed by depressing the clutch pedal and pushing the control knob in as far as possible.

To lock out the Overdrive, depress the clutch pedal fully and pull out the lockout knob. This may be done at any speed less than 60 miles per hour but should not be undertaken except when the car is in motion.

The shifting in and out of Overdrive while driving is controlled by means of the accelerator pedal.

To bring the Overdrive into operation, the car is started and the gears shifted in the normal way. When the car speed has reached the Overdrive engaging speed (approximately 22 miles per hour), it will be indicated by the illumination of a signal light below the speedometer. The Overdrive may now be engaged by momentarily lifting the foot from the accelerator pedal, then returning it and resuming normal driving. The car will remain in Overdrive as long as the car speed is maintained above approximately 17 miles per hour. When the car speed drops below approximately 17 miles per hour, the Overdrive will automatically shift back into conventional high gear.

Kickdown

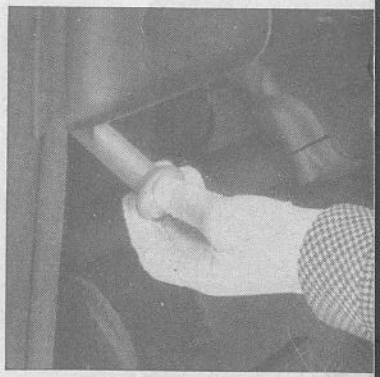
If, when operating in Overdrive, it is desired to shift back into conventional high gear to obtain quick acceleration for passing another vehicle, it may be done by pushing the accelerator pedal firmly to the floor board. Then, when the foot is momentarily lifted from the accelerator, Overdrive will automatically come into operation again.

the electromatic clutch

The Electromatic Clutch, which is supplied as special equipment on Overdrive equipped cars, automatically accomplishes the engagement and disengagement of the clutch. The car is started, gears shifted, and the accelerator pedal used in the usual way but without touching the clutch pedal. Even when stopping, it is not necessary to touch the clutch pedal.

To lock out the Electromatic Clutch and restore the normal use of the clutch pedal, press the switch knob on the instrument panel marked "TRANSMISSION". When it is desired to return to Electromatic operation, push the switch knob a second time.

hood lock



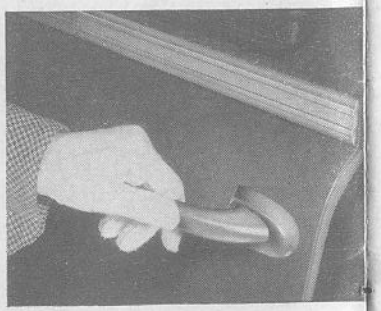
The hood latches are operated by remote control levers located at each side of the front compartment just below the instrument panel. An additional safety catch must be released from outside the car before the hood can be raised. To raise the hood on either side, push the remote control lever on that side forward as far as possible to the unlocked position. Then raise the hood about

one inch and insert the fingers through the opening at a point about two feet ahead of the rear edge of the hood and press the safety catch in toward the engine. The hood is held in the raised position by a prop, located on the forward side of the dash, which may be raised and the end engaged in the opening provided on the underside of the hood.

caution

Do not raise either side of the hood if the latch on the opposite side has been released. Always lock the hood on *both sides* before operating the car.

door locks

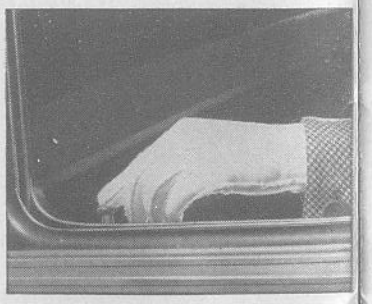


It is not necessary to turn the outside door handles when opening the doors. Simply pull the handle outward and the door latch will be released.

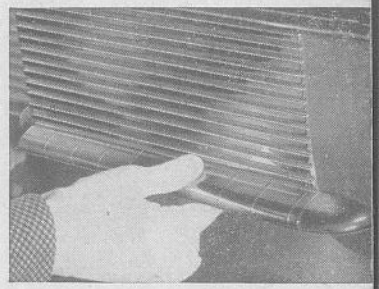
The doors may be locked from inside the car by pushing the lock buttons downward. Either the right or left door may be locked or unlocked from the outside with the ignition key regardless of the position of the lock button.

Should a lock button be accidentally put in the lock position while the door is open, it will snap to the unlocked position when the door is closed. This feature eliminates the possibility of accidentally locking the keys in the car.

Never leave your car unlocked when unattended.

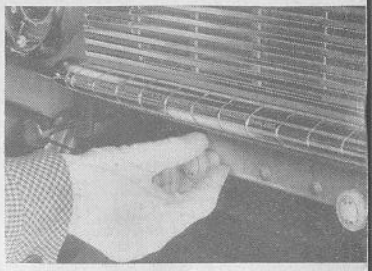


glove box

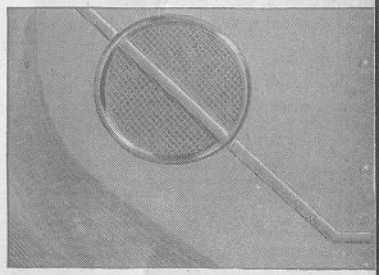


A conveniently located compartment in the right-hand side of the instrument panel is opened by pressing the latch concealed under the lower edge of the door or by turning the latch handle, if so equipped.

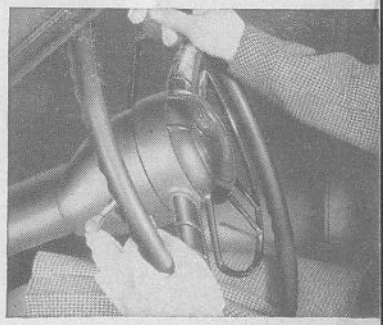
the comfort-aire ventilating system



A built-in ventilating system provides a flow of fresh air into both sides of the front compartment through grilles located in the panels forward of the doors. This flow of fresh air is varied by means of control knobs located under the center of the Console Key Instrument Panel. Turning the control knobs to the left opens the ventilators, while turning in the opposite direction closes off the supply of fresh air. By regulating these knobs the flow of air from either side may be controlled as desired.



steering direction signal

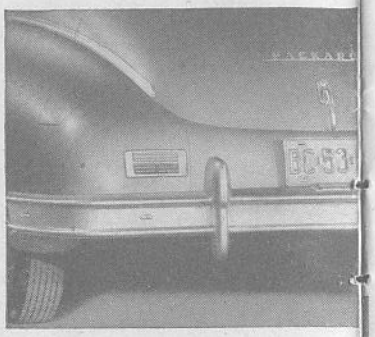


Direction signal lights, both front and rear, are controlled by a lever on the left side of the steering column directly below the steering wheel.

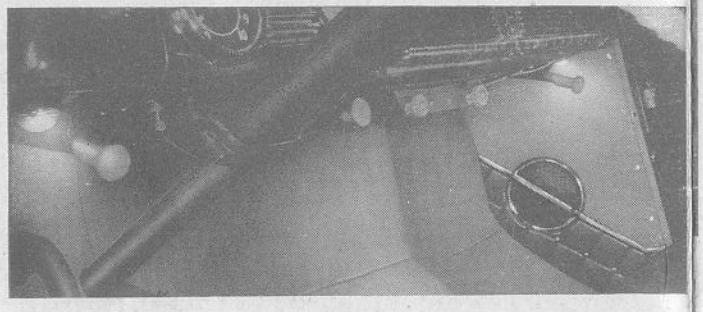
To signal your intention to turn, move the lever in the direction the steering wheel will be rotated when making the turn. The signal lever will automatically return to the off

position when the wheels are returned to straight ahead after completing the turn.

Movement of the signal lever illuminates a signal beam below the speedometer indicating that the direction signal is operating.



courtesy lights



Courtesy lights, mounted under each end of the instrument panel, are turned on to illuminate the floor in the front compartment when either front door is opened and extinguished when the door is closed.

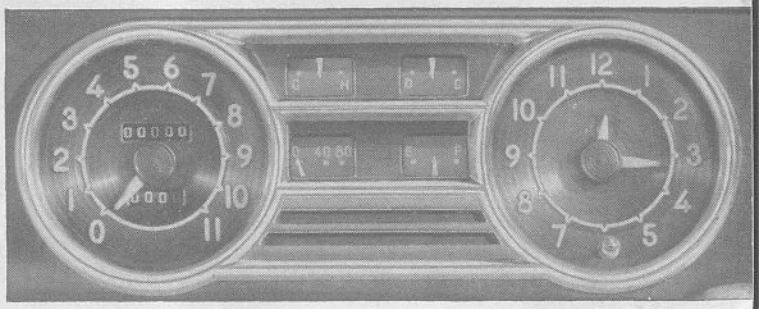
Pressing the map light switch knob lights both courtesy lights. Pressing the switch knob a second time extinguishes the lights.

When either rear door is opened, the rear compartment quarter lights, or dome light, are turned on and are extinguished when the door is closed.

rear compartment light

Rear compartments of all models are lighted by means of either a dome light or rear quarter lights. These lights are controlled by means of a switch conveniently mounted on the door center pillar.

instruments



temperature indicator

This instrument shows the temperature of the cooling liquid in the engine. The pointer should register at about the center mark except on long, hard drives in summer weather, when it may register nearer to the "Hot" side. This condition need not cause alarm as the pressure type system will normally prevent boiling or water losses at temperatures up to 225°F.

When the ignition switch is turned off the pointer will come to rest on the hot side of the indicator. To check the temperature when the engine is not running, turn the ignition switch on, then wait until the indicator hand stops moving.

gasoline gauge

The gasoline gauge indicates the quantity of fuel in the tank only when the ignition is turned on. When the ignition is turned off, the pointer drops beyond the "Empty" mark. To check the fuel level in the gasoline tank when the engine is not running, turn the ignition switch on and wait until the pointer stops moving.

oil pressure gauge

The oil pressure gauge should always show pressure while the engine is running. If it does not, stop the engine at once and investigate the cause. Since this gauge is electrically operated, a short time will elapse between the starting of the engine and the registration of full pressure on the gauge.

battery charge indicator

The battery charge indicator shows whether the battery is being charged or discharged. The generator is fitted with a regulator which reduces the amount of charge to fit the requirements of the battery. When the battery is fully charged, the indicator will read nearly zero.

speedometer

When the speedometer is equipped with a trip mileage recorder, it may be set back to zero, to record the length of a trip by means of a knob located under the edge of the instrument panel directly below the speedometer. The knob should be pulled down and turned in a clockwise direction to set the trip mileage at zero.

starting the engine

The Packard engine has been designed to give quick, easy starting even in the coldest weather if the following instructions are followed.

When starting the engine always depress the clutch pedal and hold in this position until the engine has started. This will relieve the starting motor of the load imposed by turning the transmission gears This load is especially high in cold weather when the transmission grease has become thickened.

Turn the ignition switch on and then slowly depress the accelerator pedal just far enough to engage the starter. As soon as the engine starts, release the accelerator pedal. Do not allow the engine to race even momentarily.

caution

When starting a cold engine, do not press the accelerator pedal beyond the point at which the starter is engaged. The throttle linkage is so designed that the choke is opened when the accelerator pedal is pressed to the floor.

Should excessive choking or flooding result from any cause, depress the accelerator pedal slowly to the floor (thus opening the choke) and hold in this position until the engine starts.

the right gasoline

The Packard engine provides all the benefits of modern high compression design and will operate efficiently on the so-called "regular" grades of gasoline. An increase in performance will be attained by the use of premium fuels such as "Ethyl" gasoline, if the engine is especially tuned and the ignition advanced to take advantage of the high antiknock quality of these fuels.

the gasoline tank filler cap and signal

The gasoline tank filler cap is located under the hinged lid in the left rear fender. The gasoline tank is fitted with a filling signal which whistles while the tank is being filled and stops when the tank is within one gallon of being full. To prevent overflowing, instruct the attendant to fill only while the whistle blows.

the break-in period

The manner in which any new car is driven for the first 250 miles has a pronounced effect upon its subsequent operation and this applies to the brakes, gears, rear axle, and other units, as well as to the engine

The best procedure is to refrain from even momentary wide-open throttle operation. Unless emergency demands it, do not fully open the throttle for acceleration or hill climbing, and limit speed to 50 miles per hour until at least 250 miles have been driven. Observance of this advice will pay big dividends in ultimate satisfaction.

lubrication

authorized lubrication

Lubrication can be done most satisfactorily by Authorized Packard Service Stations. They have specialized equipment and use only correct lubricants.

Packard Dealers will be glad to explain the Packard Lubrication-Inspection Plan. It will save you money and be helpful in maintaining the long life and excellent performance built into your Packard. It assures you the right lubricant at every required point, in the right amount, at the right time.

engine oil recommendations

The use of good engine oil of the correct viscosity is of great importance in obtaining maximum performance, economy, and satisfaction from your car.

Different types of engine oil are made to meet various requirements of everyday driving, as follows:

Regular Type

This term designates engine oil generally suitable for use in internal combustion engines under moderate operating conditions.

Premium Type

This term designates engine oil having the oxidation stability and bearing corrosion preventive properties necessary to make it generally suitable for use in internal combustion engines where operating conditions are more severe than regular duty.

Both types of oil are furnished in several grades.

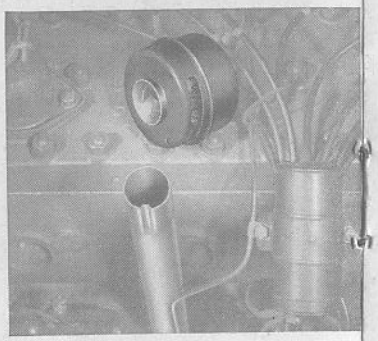
oil additives

"Break-in" oils or compounds are unnecessary. They should not be used under any circumstances unless the supplier can furnish satisfactory proof that the compound contains no harmful ingredients.

oil selection by grade

During the first 1000 miles, use the oil that was in the crankcase when the car was delivered. When it is necessary to add oil during this period, use nothing heavier than 10-W oil in winter and S.A.E. 20 or 20-W in summer.

After the first 1000 miles, oil should be selected to give the best protection for climatic and driving conditions.



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

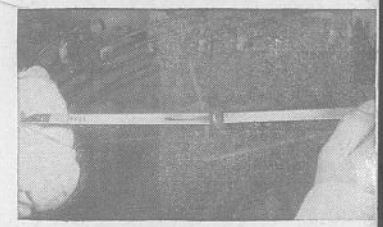
When the engine crankcase is being refilled, the engine oil should be selected, not on the basis of atmospheric temperature existing at the time of the change, but on the anticipated minimum temperature for the period during which the oil is to be used. Unless the selection is made on this basis, difficulty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

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

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

During summer weather, the use of S.A.E. 20 engine oil will permit better all-around performance of the engine than will heavier bodied oils. S.A.E. 30 oil should be used if it is expected that the average daylight temperature will be 90°F or above, or if the car is regularly driven at high speeds.

maintaining oil level



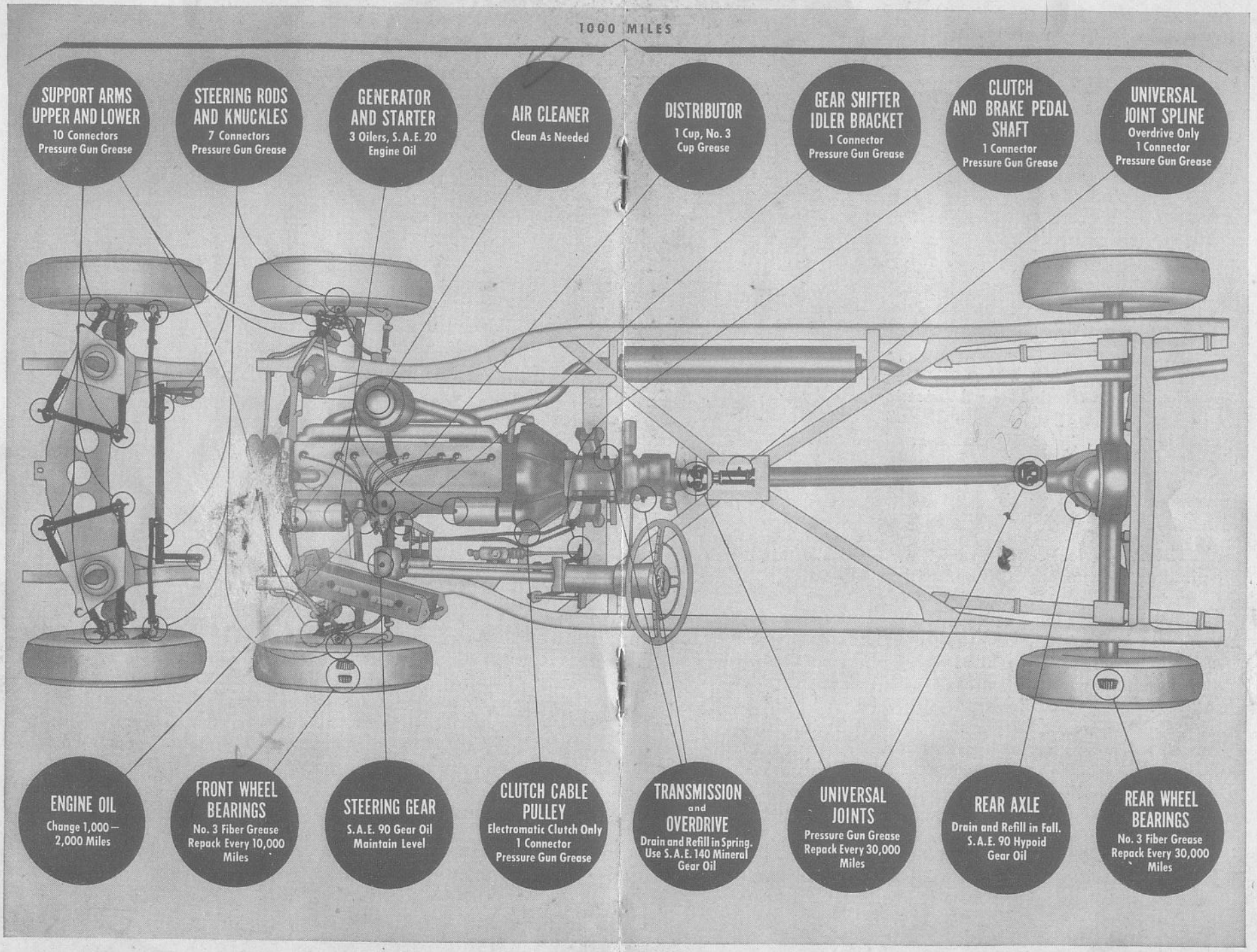
Check the oil level every time gasoline is purchased and add oil as necessary. Two level marks are stamped on the oil stick. The oil level should always be maintained between these two marks. Never permit the oil level to get below the lower mark. Add only enough oil to bring the level up to the full mark. Always be sure to have the right amount before starting on a long drive.

changing crankcase oil

Under normal driving conditions, draining the crankcase and refilling with fresh oil every 1000 to 2000 miles is recommended.

Under adverse driving conditions, it may become necessary to drain the crankcase oil more frequently. These conditions are as follows:

1. Driving through dust storms or on extremely dusty roads. This may contaminate the engine oil with dust in spite of the engine air cleaners.
2. Cold weather. Frequent starts and short runs durins cold weather may contaminate the oil with water due to condensation inside the crankcase.
3. Hard driving. Hard driving and heat tend to thicken oil and this may interfere with easy starting in cold weather.


SUPPORT ARMS UPPER AND LOWER
10 Connectors Pressure Gun Grease
STEERING RODS AND KNUCKLES
7 Connectors Pressure Gun Grease
GENERATOR AND STARTER
3 Oilers, S. A. E. 20 Engine Oil
AIR CLEANER
Clean As Needed
DISTRIBUTOR
1 Cup, No. 3 Cup Grease
GEAR SHIFTER IDLER BRACKET
1 Connector Pressure Gun Grease
CLUTCH AND BRAKE PEDAL SHAFT
1 Connector Pressure Gun Grease
UNIVERSAL JOINT SPLINE
Overdrive Only
1 Connector Pressure Gun Grease
ENGINE OIL
Change 1,000—2,000 Miles
FRONT WHEEL BEARINGS
No. 3 Fiber Grease Repack Every 10,000 Miles
STEERING GEAR
S. A. E. 90 Gear Oil Maintain Level
CLUTCH CABLE PULLEY
Electromatic Clutch Only
1 Connector Pressure Gun Grease
TRANSMISSION and OVERDRIVE
Drain and Refill in Spring. Use S. A. E. 140 Mineral Gear Oil
UNIVERSAL JOINTS
Pressure Gun Grease Repack Every 30,000 Miles
REAR AXLE
Drain and Refill in Fall. S. A. E. 90 Hypoid Gear Oil
REAR WHEEL BEARINGS
No. 3 Fiber Grease Repack Every 30,000 Miles

air cleaners

Whenever the crankcase oil is changed, the mesh in the oil filler cap, which serves as the air intake for the crankcase ventilating system, should be cleaned in gasoline and *dipped in engine oil.*

The carburetor air cleaner should also be cleaned and re-oiled. With the heavy duty oil bath type cleaner, empty the oil reservoir, clean, and refill with approximately one pint of S.A.E. 50 engine oil in summer; S.A.E. 30 in winter, every 5000 miles or oftener if driving conditions warrant.

chassis lubrication

Detailed instructions for lubrication are listed and illustrated in the "Lubrication Chart." All chassis lubricating points require attention every 1000 miles.

lubricants

The rear axle is equipped with a hypoid gear and pinion and is to be lubricated with S.A.E. 90 Hypoid Lubricant.

The lubricant level should be inspected every 1000 miles and Hypoid Lubricant added if required. The axle should be drained and refilled with fresh Hypoid Lubricant each fall with the approach of cold weather.

S.A.E. 80 Hypoid Lubricant should be used in those localities where the temperature drops to 10 degrees or more below zero for long periods of time.

The transmission and overdrive should be drained and refilled each spring with a high grade straight mineral gear oil of S.A.E. 140 viscosity. If difficulty in shifting gear is experienced during cold weather, use S.A.E. 90, or S.A.E. 80 if extremely cold.

Do not use EP or any other compounded lubricant in the transmission and overdrive at any time.

The lubricant level should be inspected every 1000 miles and lubricant added as required. The transmission and overdrive should be drained and refilled with fresh summer lubricant each spring.

The steering gear should be filled at all times with a lubricant of S.A.E. 90 viscosity.

rear springs

The rear springs of your car should never be lubricated either by packing or spraying.

Rubber and composition inserts are installed between the spring leaves to control spring action, and both these materials are adversely affected by oil or grease. Should rear springs develop a squeak, do not have them lubricated. Consult a Packard Dealer for correction.

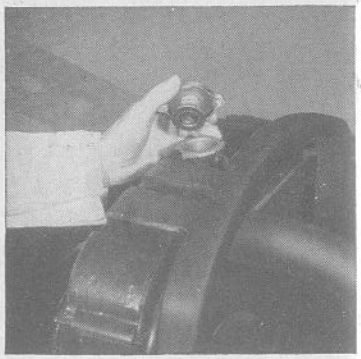
seasonal & periodic operations

Following are several items of lubrication and maintenance regularly required which are emphasized here for your convenience:

Front wheel bearings	Repack every 10,000 miles
Rear wheel bearings	Repack at 30,000 miles
Universal joints	Repack at 30,000 miles
Oil filter (where used)	Renew cartridge 8,000 to 10,000 miles
Brakes	Check fluid level every 6,000 miles
Cooling system	Flush twice a year—spring and fall
Gasoline lines and strainers	Clean out twice a year—spring and fall
Engine oil pan	Remove and clean once a year
Tires	Cross switch the wheels and tires as illustrated on page 32 every 2,000 to 5,000 miles to equalize tread wear and increase tire life.

the cooling system

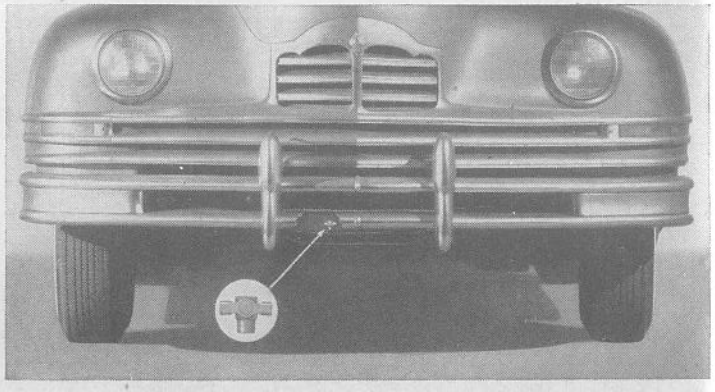
A pressure type cooling system is used to assure the most efficient cooling possible. This pressure is made possible by the use of a pressure type radiator cap which seals the cooling system completely. The pressure maintained in the system raises the boiling point of the cooling solution from 212°F to 227°F. This increase in boiling point reduces the danger of boiling and consequent loss of cooling solution regardless of operating conditions.

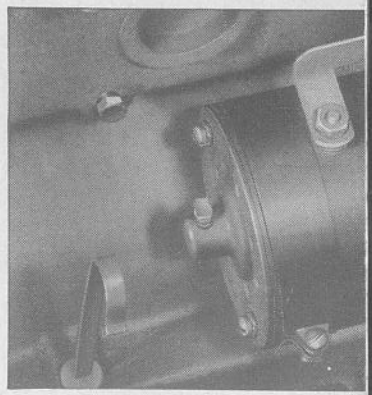


caution

When removing the radiator cap, loosen it to the first notch and allow the pressure in the radiator to be released before completely removing the cap.

draining the cooling system





Before draining the cooling system the engine should be run until the cooling solution is thoroughly warmed up. Then remove the radiator cap and open the drain cock, located on the right side of the radiator under the front bumper, and remove the plug from the left side of the cylinder block near the starter. This will permit complete draining of the engine. When the car is equipped with an underseat heater, one of the hose connections at the heater must be removed to completely drain the system.

regular care

The radiator level should be maintained at about one inch below the bottom of the filler neck. If more water is added it will flow out of the radiator vent after the engine has become warm.

cooling system rust inhibitor

One-half pint of Packard Rust Preventive, a special chemical that retards the formation of rust and scale, should be added to the cooling system whenever the system is drained and refilled with water.

anti-freeze

Among the anti-freeze compounds that have been found satisfactory are those made from ethylene glycol (permanent type), denatured ethyl alcohol (ethanol), and methyl or wood alcohol (methanol) prepared by reputable manufacturers and treated by them to reduce the rust forming properties of water.

No inhibitor or treatment should be added to an anti-freeze that already contains an inhibitor.

Kerosene or other oils, or solutions containing calcium chloride, magnesium chloride, sodium silicate, or other inorganic salts, honey, glucose, or sugar are not satisfactory for use in the cooling system.

Before installing anti-freeze solution, the cooling system should be inspected and serviced for winter operation.

The system should be thoroughly cleaned and all loose scale and iron rust removed. Cylinder head nuts should be tightened, or the gaskets replaced if necessary. This will avoid the possibility of anti-freeze solutions leaking into the engine, or exhaust gas blowing into the cooling system. Anti-freeze, or water, mixed with engine oil may form sludge, which will interfere with lubrication, and in some cases, may form varnish-like deposits which will cause gumming and sticking of the moving parts.

The water pump seal and radiator hoses must be leak-tight, not only to avoid loss of liquid, but to prevent air from being drawn into the cooling system. Aeration of the cooling liquid causes foaming and promotes oxidation which may result in serious corrosion.

After the anti-freeze solution has been installed, the entire system, including the hose connections, cylinder head gasket and pump, should be inspected regularly to insure that no leaks have developed.

The use of the pressure radiator cap on Packard cars serves to raise the boiling point of the anti-freeze solution and reduce the probability of loss through evaporation or boiling.

A hydrometer test will indicate whether anti-freeze or water, or both, should be added to bring the solution to the proper level and to maintain the desired freezing point.

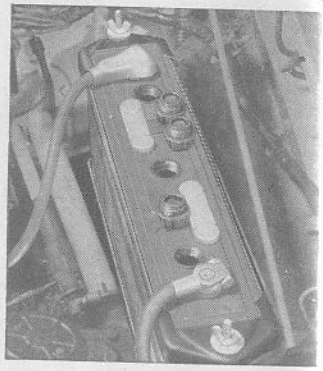
anti-freeze chart

See the specifications on page 41 for cooling system capacity. If heater and defroster are installed, add 2 quarts to the capacity given in the chart.

Cooling System Capacity	For Protection Down to	Add Qt. Ethylene Glycol	Add Qt. Alcohol
18 qt.	0°F	6	7
	−10°F	7	8
	−20°F	8	9
20 qt.	0°F	7	7
	−10°F	8	9
	−20°F	9	10
22 qt.	0°F	8	8
	−10°F	9	10
	−20°F	10	11

electrical system

battery care



The life of a battery is dependent upon the care it receives. The water level should be checked every 1000 to 2000 miles of average operation. When it is necessary to replenish the water, use only distilled water.

When filling the battery the electrolyte should not be allowed to overflow since it may cause damage to the battery. Battery electrolyte is very corrosive and may damage any parts with which it comes in contact. When electrolyte is spilled or corrosion appears on the battery terminals or parts adjacent to the battery, the affected parts should be washed with a solution of bicarbonate of soda and then rinsed. The soda will neutralize the effect of the electrolyte and prevent further corrosion.

lighting system

The only services required by "Sealed Beam" headlights are wiping off lenses, checking aim periodically, and replacing the unit in cases of burnt out filaments or damage.

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

aiming headlights

We recommend taking the car to an Authorized Packard Service Station every six months to have the aim of the headlights checked and corrected if necessary.

Headlight aiming is done best with precision equipment, although a properly marked aiming screen is satisfactory.

light bulb chart

Location	Candle-Power	Mazda No.
Courtesy Lights	6	82
Glove Box Light	2	55
Headlights	30-40	—
Indicator Light Bulbs	Watt	
Headlight High Beam	1	51
Headlight Switch Position	1	51
Overdrive	2	55
Direction Signal	1	51
Instrument Lights	2	55
License Light	3	63
Parking Light	3	63
Parking & Direction Signal Light	3-21	1154
Reading Lights	1 or 2	82
Stop and Tail Light	21-3	1158

fuse chart

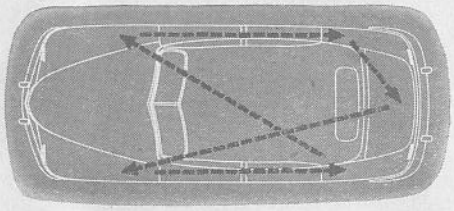
Circuit	Location	Cap. Amps	No.
Clock	In cable at rear of clock	2	SFE-2
Direction Sig. Flasher	In cable above speedometer	9	SFE-9
Radio	In cable on left side of radio	14	SFE-14
Overdrive	In cable between starter to steering column	30	SFE-30
Heater	In cable under clock	30	SFE-30
Head & Tail Lights	Circuit Breaker		

wheels and tires

Maintaining correct tire pressure at all times is most important if maximum tire life is to be obtained. Tires should be checked every week or ten days and inflated to the pressure specified on page 42. When touring or driving several hundred miles a day, check the tire pressure every day or two. Reinstall the tire valve caps. They provide an essential service in keeping dirt out and in sealing the valve opening, thus preventing loss of air pressure.

cross switching tires

Cross switching tires at regular intervals of from 2000 to 5000 miles greatly increases their useful life by subjecting them equally to the various types of wear.



The Packard recommended system is illustrated in the sketch.

tire warranty

All tires supplied as original equipment carry the following tire manufacturer's warranty:

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

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

changing wheels

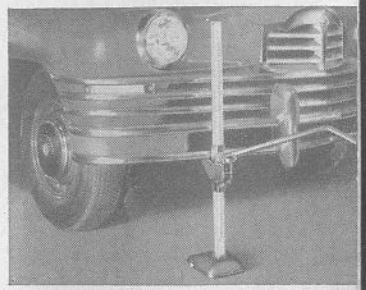
Emergency wheel changing in case of a flat tire is most easily accomplished by observing the following procedure exactly:

If a rear wheel is to be changed, and the car is fitted with wheel shields, the shield is removed by removing the screw at the rear of the shield using the spark plug wrench furnished in the tool kit. The shield will then drop down at the rear and can be swung clear of the fender.

Make sure the hand brake is set.

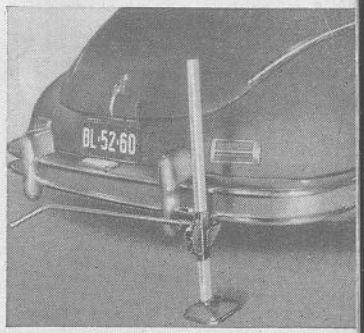
Remove the hub cap, using flattened end of combination wheel wrench and jack handle as a pry.

Loosen the wheel mounting bolts not more than a turn or two.



Assemble the jack to its base and place the jack under the bumper bar directly in front of or behind the tire to be changed. Place the locating pin on the lifting pad of the jack in the hole located in the lower edge of the bumper bar. Be sure the jack bar is in a vertical position before attempting to lift the car.

Raise the car to a height just sufficient to remove the wheel.



Remove the wheel retaining bolts and lift off the wheel and tire.

Install the spare wheel by reversing the foregoing operations.

To install the wheel shield, engage the projecting lugs in the fender at the lower front corner of the shield into their respective holes in the shield. Swing the shield upward into place over the remaining lugs. Install the retaining screw at the rear of the shield and tighten with the spark plug wrench.

cleaning the car

painted surfaces

washing

Fine dust may be safely removed by dusting with a soft, clean, cloth but "scrubbing" a dirty car with dry cloths is almost certain to scratch polished surfaces.

Clean the car by washing with plenty of cold or lukewarm water. Soak the dirt off as much as possible and rinse sponges frequently to remove grit and dirt. Dry with a clean chamois. Avoid washing the car in the sun or at any time when the lacquered surfaces are hot. Never use hot water.

In sections where salt, calcium chloride, or similar chemicals are used on the roads, frequent washing of the car is necessary to preserve the finish. Where cars are to be exposed to freezing temperatures immediately after washing, all water must be removed from the lock cylinders and the edges of the doors and adjustable windows to prevent sticking due to the formation of ice.

polishing

A high luster can be restored by a thorough treatment with Packard Blue Coral or any other properly formulated body polish. The presence of color on the rubbing cloths simply indicates the removal of chalked or dead surface pigment loosened by exposure.

Any lacquered surface upon which alcohol solutions have been spilled should immediately be flushed with water.

glass

Plate glass although hard can quite easily be scratched. Cleaning a dirty windshield when dry by operation of the wiper blade or with dry cloths is apt to cause minute surface scratches that will increase eye strain. Wet or moisten glass before cleaning.

chromium plating

Among the more common elements that attack chromium plating are: sulphur dioxide present in the air, especially in large industrial centers; calcium chloride used on city streets to melt ice and on dirt roads to prevent dust; also the salt air of coastal territories. When plating is scratched or scuffed to the base metal, ordinary moisture becomes a damaging agent. Rust, originating at the root of a scratch, will continue to spread underneath the plating unless attended to when it first appears.

First, go over all plated surfaces with a clean cloth moistened with Packard Chromium Cleaner or kerosene, follow this with a clean cloth wet with clear water, and then rub dry with a soft clean cloth. The rough treatment given car bumpers is apt to damage the plating. Should rust appear, use a mild scouring compound to remove every trace of rust and prevent further oxidation by applying a coat of wax, varnish, or clear lacquer over the damaged area.

upholstery

Where the use of cleaning fluid is indicated, use Packard Fabric Cleaner or a cleaning fluid in which carbon tetrachloride is the principal ingredient. To avoid rings, work from the outside toward the center.

battery acid

Battery acid will destroy upholstery if allowed to remain. Neutralize the acid as soon as possible by pouring enough household ammonia water directly on the spot to saturate the fabric as far as the acid extends. Give the ammonia water a full minute to neutralize the acid and then sponge the fabric with a wet cloth. Use cold water.

blood stains

Rub with a clean cloth wet with cold water.

candy or fruit

Stains should be rubbed with a clean cloth wet with very hot water. If chocolate is present in the candy stain, use lukewarm water. After drying, sponge with a clean cloth wet with cleaning fluid.

gum

Moisten with cleaning fluid; remove with a dull knife.

ice cream

Rub with a clean cloth wet with very hot water. If this is not satisfactory, use a cloth wet with warm soap suds and rinse with a cloth wet with cold water. After drying, sponge with cleaning fluid.

lipstick

Pour cleaning fluid directly on spot and immediately hold a clean blotter on stain. Repeat until clean.

shoe polish

For black or tan polish, use a cloth wet with cleaning fluid. If white polish cannot be brushed off, wet with cold water, allow it to dry, and then brush off.

grease or oil

Small spots should be rubbed with a cloth wet with cleaning fluid. Pour cleaning fluid on large spots and blot with clean blotters.

tar

Moisten with cleaning fluid and remove with a dull knife. Sponge with cloth wet with cleaning fluid.

paints and lacquers

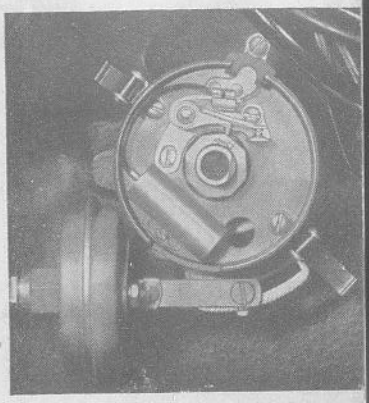
Rub with a cloth wet with turpentine and then sponge with a cloth wet with cold water.

water spots

Sponge the entire panel with a cloth dampened with cold water; then sponge the spots with a cloth moistened with cleaning fluid.

minor service operations

distributor points



If the ignition system is to operate properly, the distributor points must make good contact and have a certain specified gap when open.

The contact points should be either bright or a light grey in color. When the points are blackened, they may in an emergency be cleaned with a fine point file and reset to the proper gap. The car

should then be taken to the service station to determine whether the points have been seriously burned and that the gap is properly set.

To inspect the points, remove the distributor cap by unsnapping the two retaining springs and lifting out the distributor rotor. The points may now be examined by separating them with the fingers. Do not bend the breaker arm.

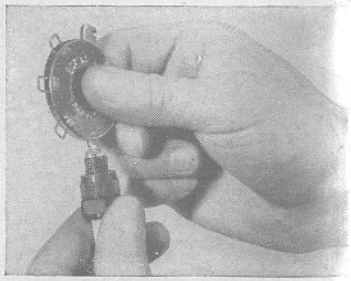
To adjust the points, place the shift lever in high gear position and, while watching the distributor points, move the car until one of the high points on the cam is directly under the fiber cam follower on the breaker arm. The points are now at their greatest opening.

It should now be possible to insert a piece of 0.015 inch feeler stock between the points. A slight drag should be felt as the feeler is moved between the points. If no drag is felt or the points grip the feeler tightly, loosen the lock screw holding the base of the stationary point and turn the screw in the slotted hole in the base. When a slight drag is felt on the feeler, retighten the lock screw, and recheck the point gap with the feeler.

spark plugs

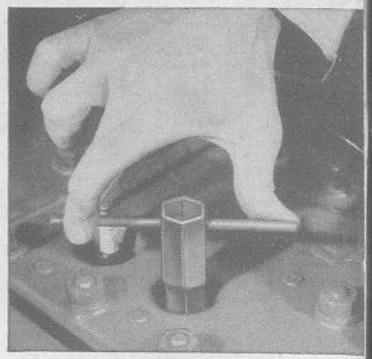
The porcelain portion of the plugs should be wiped off occasionally to prevent the accumulation of dust and dirt. Dirty porcelains may attract moisture on damp days which will cause hard starting and poor performance.

Each spring and fall the plugs should be removed, the electrodes cleaned, and the point gap checked with a wire type spark plug feeler



gauge. If the gap is more than 0.030 inch or less than 0.025 inch, it should be corrected by bending the ground electrode (the electrode which is fastened to the outer shell of the plug). Never bend or pry against the center electrode as the porcelain may be broken.

When installing the plugs use the wrench furnished and tighten snugly with the fingers. Avoid overtightening.



fan belt

To assure proper cooling circulation by the water pump and battery charging by the generator, the fan belt must be correctly adjusted at all times.

The correct adjustment will permit the belt to be flexed ¼ inch between the fan pulley and the generator pulley by the pressure of a thumb.

If the belt is loose, it should be tightened by loosening the adjusting strap screw on the generator and prying the generator outward until the proper tension is obtained, then tightening the adjusting strap screw.

Do not overtighten the belt. Overtightening may result in damage to the water pump and generator bearing.

air cleaners

The carburetor air cleaner should be washed and re-oiled every 1000 to 2000 miles.

Remove the cover and lift out the cleaner element. Wash by immersing in clean gasoline and shake until dry. Re-oil with clean engine oil by means of an oil can. Allow surplus oil to drain off and reinstall.

When the car is equipped with a heavy duty oil bath cleaner, empty the oil reservoir, wash out and refill with approximately one pint of S.A.E. 50 engine oil in summer and S.A.E 30 in winter every 5000 miles or oftener if driving conditions warrant.

The combination crankcase oil filler cap and air cleaner should be cleaned and re-oiled at each oil change. Clean the cap by immersion in gasoline, shake dry, and dip in clean engine oil. Allow surplus oil to drain off and reinstall.

clutch pedal adjustment

If the clutch pedal does not have free play (the distance the pedal travels before the resistance of the clutch is felt), there is danger of the clutch slipping and eventually being damaged.

Loosen the adjustment lock nut on the rod between the clutch relay lever and the throwout lever, which extends out of the flywheel housing on the left side of the car. Turn the acorn-shaped nut clockwise (when viewed from the rear) until the correct clutch pedal free play, as given in the specifications on page 42, is obtained.

specifications

model	eight . . .	super eight . .	custom eight
over-all length	204 5/8"	204 5/8"	212 5/8"
7 Pass.		225 5/8"	233 5/8"
max. width	77 3/8"	77 3/8"	77 3/8"
wheelbase	120"	120"	127"
7 Pass.		141"	149"
height—loaded	64"	64"	64"

weight—Consult the dealer who sold you the car, or the Motor Vehicle Commissioner of your state.

engine

Type	8 Cyl. "L" Head	8 Cyl. "L" Head	8 Cyl. "L" Head
Bore	3 1/2"	3 1/2"	3 1/2"
Stroke	3 3/4"	4 1/4"	4 5/8"
Comp. Ratio	7.00 to 1	7.00 to 1	7.00 to 1
Brake Horsepower	130 @ 3600 rpm	145 @ 3600 rpm	160 @ 3600 rpm
Oil Pressure	40 lb	40 lb	50 lb
Oil Capacity	6 qt	6 qt	7 qt
Water Capacity	18 qt	20 qt	20 qt
Heater Capacity	2 qt	2 qt	2 qt
Thermostat Rating			
Standard	145°	145°	145°
High Reading	160°	160°	160°
Fuel Tank	17 gal	20 gal	20 gal
Valve Clearance			
Intake	0.007"	0.007"	Hydraulic
Exhaust	0.010"	0.010"	Hydraulic

electrical

Battery	15 Plate—100 hr.	15 Plate—100 hr.	17 Plate—120 hr.
Generator	35 Amp. Shunt	35 Amp. Shunt	35 Amp. Shunt
Regulator	Voltage & Current Control	Voltage & Current Control	Voltage & Current Control
Breaker Gap	0.013"—0.018"	0.013"—0.018"	0.013"—0.018"
Spark Plugs	10 mm	10 mm	10 mm
Spark Plug Gap	0.025"—0.030"	0.025"—0.030"	0.025"—0.030"
Ignition Timing	6° btdc	6° btdc	6° btdc
Headlights	Sealed Beam	Sealed Beam	Sealed Beam

model	eight	super eight	custom eight
clutch			
Type	Dry Disc 10″	Dry Disc 10½″	Dry Disc 11″
Clutch Pedal Free Play	1¼″ - 1½″	1¼″ - 1½″	1¼″ - 1½″
transmission			
Type	Selective Silent Synchronized	Selective Silent Synchronized	Selective Silent Synchronized
Oil Capacity	2 pt	2 pt	2 pt
Overdrive Capacity	1¼ pt	1¼ pt	1¼ pt
Total Capacity	3¼ pt	3¼ pt	3¼ pt
rear axle			
Type	Hypoid	Hypoid	Hypoid
Oil Capacity	4 pt	4 pt	6 pt
7 Pass		6 pt	6 pt.
Ratio			
Standard	3.9 to 1	3.9 to 1	3.92 to 1
Overdrive	4.1 to 1	4.1 to 1	4.09 to 1
suspension			
Type	Independent Parallelogram	Independent Parallelogram	Independent Parallelogram
Front Springs	Coil	Coil	Coil
Shocks			
Front	Two-Way Direct Acting	Two-Way Direct Acting	Two-Way Direct Acting
Rear			
steering			
Gear Make	Gemmer	Gemmer	Gemmer
Ratio	26.2 to 1	26.2 to 1	26.2 to 1
Gear Oil	S.A.E. 90	S.A.E. 90	S.A.E. 90
Turning Radius	22 ft	22 ft	22½ ft
King Pin Angle	5° 50′	5° 50′	5° 50′
Caster Angle	−1°±½°	−1°±½°	−2°±½°
Camber Angle	0°±½°	0°±½°	0°±½°
Toe-In	0+1.16″−0	0+1/16″−0	0+1/16″−0
Tire Size	16 x 6.50	15 x 7.00	15 x 7.00
Tire Pressure	28 lb	26 lb	26 lb

taxicab

over-all length	204⅝″
max. width	77⅜″
wheelbase	120″

engine	
Type	6 Cyl. "L" Head
Bore	3½″
Stroke	4¼″
Compression Ratio	7.00 to 1
Brake Horsepower	105 @ 3600 rpm
Oil Pressure	40 lb
Oil Capacity	5 qt
Water Capacity	14 qt
Thermostat Rating	
Standard	145°
High Reading	160°
Fuel Tank	17 gal
Valve Clearance	
Intake	0.007″
Exhaust	0.010″
electrical	
Battery	15 Plate—100 hr.
Generator	40 Amp. Shunt
Regulator	Voltage & Current Control
Breaker Gap	0.018″—0.022″
Spark Plugs	10 mm
Spark Plug Gap	0.025″—0.030″
Ignition Timing	6° btdc
Headlights	Sealed Beam

clutch

Type	Dry Disc 11″
Clutch Pedal Free Play	1¼″—1½″

transmission

Type	Selective Silent Synchronized
Oil Capacity	2 pt

rear axle

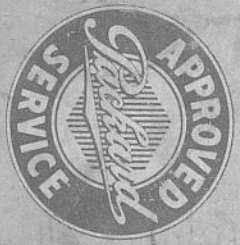
Type	Hypoid
Oil Capacity	4 pt
Ratio	4.55 to 1

suspension

Type	Independent Parallelogram
Front Springs	Coil
Shocks	
Front	Two-Way
Rear	Direct Acting

steering

Gear Make	Gemmer
Ratio	26.2 to 1
Gear Oil	S.A.E. 90
Turning Radius	22 ft
King Pin Angle	5° 50′
Caster Angle	—1° ± ½°
Camber Angle	0° ± ½°
Toe-In	0 + 1/16″ — 0
Tire Size	16 x 6.50
Tire Pressure	28 lb



PACKARD MOTOR CAR COMPANY

DETROIT 32, MICHIGAN