OWNER'S INFORMATION

PACKARD EIGHT

14TH SERIES

THE PACKARD 8 AND SUPER EIGHT
SERIES 1400 - 1401 - 1402 - 1403 - 1404 - 1405

We want you to get the most from your Packard — and you will if you follow these instructions carefully

"A Friendly Service"

Service Department

PACKARD MOTOR CAR COMPANY

DETROIT

3rd Edition 4-36

Printed in U. S. A.

PACKARD 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.

LOCK YOUR CAR

Locking is part of parking. Lock whenever you park. The greater the number of cars stolen the higher the insurance rate you pay.

OWNER'S RESPONSIBILITY

Much of the pleasure and satisfaction to be obtained from your car depends upon correct driving and regularity in lubrication and adjustments.

The car should receive regular inspections and lubrication. To insure the protection of your investment, this work should be done at a Packard Service Station, where trained men can be depended upon to use the proper lubricants at every point requiring attention.

Motor oil should be changed at the end of the first five hundred miles and thereafter at two thousand mile intervals.

Oil should be added to the crankcase as required to keep it up to level.

Tire pressure should be checked each week.

Add distilled water to the battery as required. "Hi-Level" batteries require attention only three times per year.

Check the water in the cooling system regularly. As this motor is equipped with an aluminum head, it is advisable to add eight ounces of soluble oil to the cooling system as a corrosion inhibitor.

When (G. P. A.) glycerine or ethylene glycol (Prestone) anti-freeze is used, it is not necessary to add soluble oil as a quantity of this inhibitor is already combined in the solution.

Owners and drivers are urgently requested to read the Instruction Book. The careful observance of a few simple rules is both wise and necessary.

SERVICE TO PACKARD OWNERS

BY DISTRIBUTERS AND DEALERS

It is intended that every owner of a Packard motor car shall receive fair and satisfactory treatment. Should any owner not receive it, the Company will appreciate being advised.

The original purchaser of a new Packard car will be entitled to the following services:

1. *Parts and Labor:* For 90 days after the original delivery of such motor car to the owner, provided the car has not been driven to exceed 4,000 miles, any parts, including all standard equipment, except tires, that may be adjudged by Packard Motor Car Company to be defective under its warranty will be replaced or repaired by any Packard dealer or distributer in the United States and Canada without charge to the owner for material or labor.

2. *Adjustment:* The owner is entitled during this period to receive three inspections and necessary adjustments of his new car, at the Service Station of the Dealer selling the car, provided such adjustments are not made necessary by accident, neglect or misuse.

3. *Inspections:* Throughout the life of the car the owner is entitled to have it tested and inspected without charge every 30 days or 1,000 miles by an authorized Packard Service Station, provided such inspection requires no removal or dismantling of parts or units.

4. *Owner's Service Card:* At the time of delivery the owner is provided with an Owner's Service Card which will introduce him to any authorized Packard Service Station and entitle him to receive service in accordance with this policy. The owner should carry the card with him at all times so he can present it when necessary.

5. *Tourist Privileges:* When touring, the owner is entitled, upon presentation of the Owner's Service Card, to all of the benefits of this policy during the warranty period at any authorized Packard Service Station in the United States and Canada, provided the date of delivery and name of the dealer from whom the car was purchased are stamped on the plate provided for that purpose on the front face of the dash.

6. *Change of Residence:* In case the owner changes his residence from one location to another before the warranty period has expired, the Packard Service Station serving the locality into which the owner moves will, upon presentation of the Owner's

Service Card, render any no-charge service to which the owner may be entitled.

7. *Service Charges:* Every authorized Packard Service Station is provided with a Manual containing the correct charges for service work. In order that maintenance costs may be kept as low as possible, these rates are based on careful studies of the shortest times for doing the service operations consistent with proper workmanship. Guaranteed Packard Parts are sold through authorized Packard Service Stations in the United States at the published list.

CAPACITY INFORMATION

	1400	1401	1402	1403	1404	1405
Cooling, gals.	5	5	5	5½	5½	5½
Gasoline, gals.	25	25	25	25	25	25
Crankcase, qts.	8	8	8	9½	9½	9½
Transmission, pts.	4½	4½	4½	4½	4½	4½
Rear Axle, pts.	6	6	6	6	6	6
Steering Gear, pts.	¾	¾	¾	¾	¾	¾

NUMBER INFORMATION

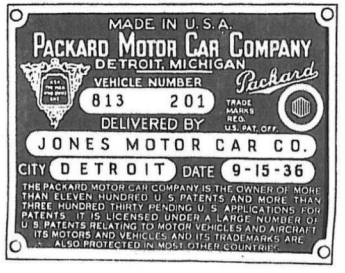
Motor Number—Stamped on left forward side of crankcase.

Vehicle Number—Stamped on plate on front face of dash.

Body Serial Number—Embossed in front face of dash.

The Motor Number is the principal identifying number and should be used in ordering parts.

The Vehicle Number is stamped on the plate before the car leaves the factory, but the delivery date, the name of the Distributer or Dealer making the delivery, and the city, are stamped on the plate at the time of delivery.



The delivery date is of particular importance to the owner because it establishes the age of the car for insurance purposes. Be sure that the delivery date is stamped on your car.

The Body Serial Number is a thief-proof number and is used only as an identifying number when some of the other numbers on the car are defaced or altered. This is an additional protective measure given to Packard owners.

LICENSE DATA

Series No.	Road Clearance	Wheelbase	Bore and Stroke	H. P. N. A. C. C. Rating
1400	8¼″	127″	3 3/16″ x 5″	32.5
1401	8¼″	134″	3 3/16″ x 5″	32.5
1402	8¼″	139″	3 3/16″ x 5″	32.5
1403	7⅞″	132″	3½″ x 5″	39.2
1404	7⅞″	139″	3½″ x 5″	39.2
1405	7⅞″	144″	3½″ x 5″	39.2

NO. OF CYLINDERS 8—SIZE OF TIRES 7.00 x 17

SHIPPING WEIGHTS

Body Type	No. of Pass.	14th Series Shipping Weights 1400	1401	1402	1403	1404	1405
Sedan	5	4815	4975	....	5080	....	....
Sedan—Formal		....	5030	....	....	5215	....
Sedan—Club		....	4820	....	....	5100	....
Coupe	5	....	4760	....	....	5010	....
Coupe	2-4	....	4720	....	....	4935	....
Coupe—Convertible		....	4725	....	....	5040	....
Phaeton	5	....	4880	....	....	5080	....
Phaeton—Sport		....	5005	....	....	5200	....
Victoria		....	4830	....	....	5100	....
Sedan	5	....	....	4955	....	....	5300
Limousine	7	....	....	5045	....	....	5380
Sedan—Convertible		....	....	5140	....	....	5390
Touring	7	....	....	5060	....	....	5200
Cabriolet	7	....	....	....	....	5300	....
Town Car	7	....	....	....	....	....	5525
Chassis		3580	3625	3655	3690	3745	3775

If weight of car ready for the road is desired, add 230 lbs. for models 1400, 1401 and 1402, and 240 lbs. for models 1403, 1404 and 1405, to cover water, gasoline and spare tire.

OPERATION

LOCKS

Each car is equipped with two sets of locks and two complete sets of keys are provided. One set unlocks the doors and ignition, the other set the instrument board compartment door, the tire compartment and golf compartment.

The lock number is stamped on each key and is omitted from the lock in order to protect the car against theft. A record of the key number should be made by the owner so that in case both keys are lost a duplicate may be obtained from a Packard Service Station.

All doors on closed cars can be locked from the inside in order to protect the occupants of the car. This is accomplished by moving the inside door handle a short distance in the reverse direction from which it is moved to open the door.

STARTING THE MOTOR

The carburetor is equipped with an automatic choke control which will provide easy starting even in the coldest weather. The following procedure for starting should be adhered to:

1. When motor is cold, open hand throttle halfway.
2. Turn on the ignition switch.
3. Close hand throttle as soon as motor starts.

4. When motor is hot, additional throttle opening should be provided by holding the accelerator pedal all the way down. Do not pump accelerator when starting a hot engine.

5. Depress the clutch pedal which relieves the starter motor of the effort required to turn the gears in the transmission.

6. Press the starter button located below the instrument board panel.

NOTE—In case the motor should fail to keep running after two or three successive starts and a highly rich mixture is apparent, hold the accelerator pedal all the way down until the motor starts. Do not race a motor, particularly when cold.

The automatic choke control eliminates the hand operated choke. It is positive in its action and automatically controls the amount of choke that is necessary to keep the motor running smoothly until an efficient operating temperature has been reached.

CAUTION—The exhaust fumes of all gasoline motors contain a deadly poisonous gas known as carbon monoxide. Never run the motor in a closed garage. You may be overcome by the gas. Open the garage doors before you start the motor.

LUBRICATION

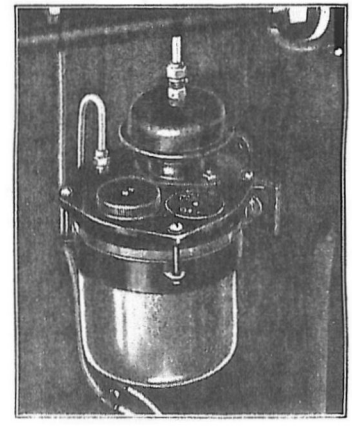
Do not use cheap or little known lubricants. High-grade lubricants are the most economical in the long run. It is always safest to buy lubricants from a concern with an established reputation, their experience and responsibility being the best insurance.

The motor crankcase should be kept filled with the best grade of oil. This should be checked whenever gasoline or water is added. Crankcase should be drained and filled with new oil approximately every 2,000 miles. As an alternative the oil may be changed once a month as this will take care of the variation in mileage during the different seasons of the year.

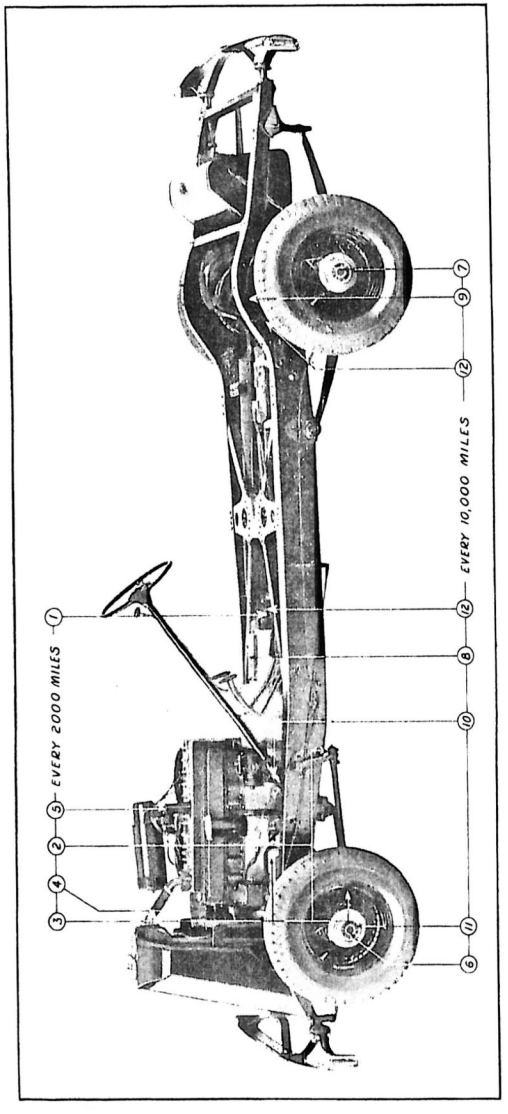
The chassis lubricator distributes oil to the following bearings:

8 Spring shackle bolts.
5 Spring bolts.
2 Brake cross shaft bearings.
1 Clutch throwout bearing.
2 Clutch and brake pedal bearings.
1 Clutch lever bearing.

This device is entirely automatic in its action. It requires refilling at approximately 2,000 miles.



Use only Packard Chassis Lubricator Oil



SCHEDULE OF LUBRICATION

Oiling Operation Number	Points to Lubricate	Lubricant	Explanation
	2,000 MILES		
1	Universal joint spline	Pressure gun lubricant	1 connector
2	Steering drag link	Pressure gun lubricant	2 connectors
3	Steering cross tube	Pressure gun lubricant	2 connectors
4	Water pump	S. A. E. 30	1 oiler
5	Distributor	Cup grease	1 grease cup

Every 2,000 miles a few drops of light oil should be supplied to generator, horn, clevis pins, door hinges and locks and brake connections.

CHASSIS LUBRICATOR TANK

Refill approximately 2,000 miles; use Packard Chassis Lubricator Oil

	10,000 MILES		
6	Front wheel bearings	No. 3 fibre grease	Pack
7	Rear wheel bearings	No. 3 cup grease	Pack
8	Transmission—Summer Winter	S. A. E. 160 S. A. E. 90	Drain and refill Drain and refill
9	Rear axle	See note "A"	Drain and refill
10	Steering gear—Summer case Winter	S. A. E. 160 S. A. E. 90	Drain and refill Drain and refill
11	Steering knuckle pins	Pressure gun lubricant	2 plugs
12	Universal joint journals	Pressure gun lubricant	2 connectors

Lubricate speedometer cable. At 10,000 miles lubricate breaker cam in distributor with vaseline.

"A" Rear axle gears require special lubricants. See Packard dealer for approved list.

The amount of oil in the reservoir should be checked occasionally so as not to allow the tank to become empty.

Fill oiler on water pump.

Apply three or four drops of very light oil through the oilers of the generator and horn. Fill grease cup, on the side of the distributor. Remove head, wipe clean inside.

TRANSMISSION GEAR LUBRICANT

Use a good transmission fluid mineral gear oil. It is advisable to use the S. A. E. numbers in selecting the transmission lubricant. Especially is it necessary to use Winter grade when low temperatures are encountered to insure proper lubrication and satisfactory gear shift operation.

SUMMER	WINTER
S. A. E. 160	S. A. E. 90

REAR AXLE GEARS AND DIFFERENTIAL LUBRICANT

It is very important to use the proper lubricant in the rear axle. Unsuitable oil may ruin the gears and bearings. Secure from any Packard dealer list of approved lubricants.

Rear axle lubricants must be changed yearly at the approach of cold weather.

STEERING GEAR LUBRICANT

Same as transmission.

UNIVERSAL JOINT LUBRICANT

A lubricator connector is located in the center of each universal joint cross and in the slip yoke. Lubricate with pressure gun.

STEERING KNUCKLE PIN LUBRICANT

Pressure gun lubricant. Remove two plugs and insert fittings temporarily. Use HAND GUN WITH LIGHT PRESSURE.

MOTOR LUBRICANTS

A high-grade, well-refined cylinder oil supplied by a reputable oil company should be used in the crankcase. To insure accuracy it should be ordered by S. A. E. Number (Society of Automotive Engineers).

The correct body or viscosity of oil is very necessary in order to get the best operation of your car. It is important in the winter time to choose an oil suited for the lowest temperature expected to be encountered to insure starting your car. Too heavy an oil will prevent starting; whereas, too thin an oil will only cause slightly higher oil consumption. Engine wear will not be more rapid with thin oil than with heavy oil.

Adhere to the following table, and, if there is any question, use the next lighter grade:

Below Minus 10°F—S. A. E. 10-W plus 10% kerosene.

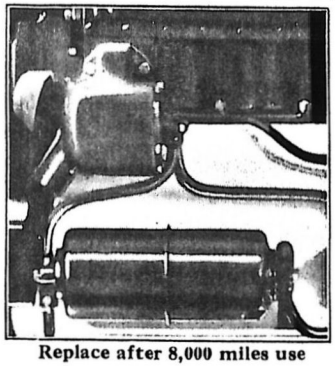
Minus 10°F to plus	45°F	S. A. E. 10-W
Plus 10°F to	85°F	S. A. E. 20-W
Plus 25°F to	85°F	S. A. E. 20 or 20-W
Plus 40°F and over		S. A. E. 30
Plus 90°F and over		S. A. E. 40

CAUTION—It is impossible for us to test all of the so-called "break-in" oils, but we know that some of them break down and show an acid reaction that is definitely injurious to bearings—especially the copper-lead alloys. The Packard lubrication system is entirely adequate and additional lubrication is not necessary.

A bayonet type oil gauge is located on the left side of the motor.

Oil should be added as required to keep the supply up to the proper level.

OIL FILTER



Replace after 8,000 miles use

An oil filter which is attached to the lower left side of the motor removes from the oil carbon and dirt particles that are too small to be caught by the pump strainer, thus preventing wear that would result from dirty oil.

It will not separate unburned fuel and acids which form in the crankcase oil due to natural service; therefore, instructions regarding the draining of the crankcase oil should be followed carefully.

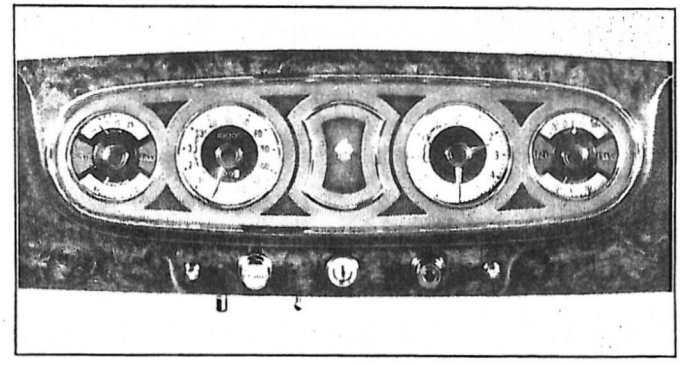
The filter cartridge should be replaced about every 8,000 miles. New units will be installed by any Packard Service Station at a nominal cost.

NOTE: The oil pump strainer screen should be thoroughly cleaned at least once a year.

OIL TEMPERATURE REGULATOR

An oil temperature regulator is attached to the left side of the cylinder block at the water inlet. This consists of a cellular core encased in a cast iron housing through which the motor lubricating oil circulates while the cooling water passes through the intervening spaces. Thus, the regulator warms the oil for winter starting and cools the oil for summer driving.

INSTRUMENT PANEL AND CONTROLS



LIGHT SWITCHES

The light switch is operated by a lever on the hub of the steering wheel. It has four positions. The first is "parking and tail lights;" the second "city driving;" the third "country passing;" and the fourth "country driving."

The lights in the instrument board are lighted in all four positions of the light switch but may also be controlled by a knob under the lower edge of the instrument board. Turning this knob will provide any degree of instrument illumination desired, ranging from dark to brilliant. The instruments at each end of the panel are provided with headlight indicators which indicate the position of the light switch.

The front compartment light is operated by a switch under the lower edge of the board at the right.

Bulb Sizes—7-Volt

	C. P.		C. P.
Headlamp	32-32	Dome	6
Parking	3	Pilot	1
Stop	15	Tail—reading—courtesy	3

CIRCUIT PROTECTOR

A thermostatic relay mounted on the steering post bracket behind the instrument board protects the chassis wiring circuit and a 20 ampere fuse attached to this relay protects the cigar lighters and body wiring circuits. A short in the chassis wiring will cause the lights to blink as a warning signal, while a short in the body circuit will blow the fuse.

GASOLINE GAUGE AND CRANKCASE OIL GAUGE

The amount of gasoline in the tank is indicated by the gauge on the instrument board whenever the ignition switch is turned on.

An oil gauge of the bayonet type is located on the left side of the motor adjacent to the oil filler.

On a standard car the ignition can be turned on and gasoline gauge cut in by rotating the key to either the right or left. On a car equipped with automatic starting the key should be turned clockwise to cut in the starter and turn on the ignition. If you desire to ascertain the quantity of gasoline in the tank when the motor is not running, turn key counterclockwise.

The key can only be removed from the switch in the "off" or vertical position.

OIL PRESSURE GAUGE

The oil pressure gauge on the instrument board shows the pressure under which the motor oil is being forced to all bearings.

The gauge will usually show in the neighborhood of 25 to 55 lbs. pressure at normal driving speeds

with a pressure of 2 lbs. or more when the motor is idling and the oil is warm.

When the motor is cold the pressure will be higher until the oil becomes heated. The pressure will always vary with the temperature of the oil.

After the car has had considerable mileage the bearing clearances will naturally increase and the average oil pressure will be less. This does not indicate that the bearings are not receiving the proper amount of oil, for, as a matter of fact, they are actually getting more oil than in the case of a new and closely fitted motor.

Fluctuations of the oil gauge usually indicate that the motor is running out of oil and the crankcase supply should immediately be checked.

AMMETER

The ammeter shows the amount of current which the generator is delivering to the battery, or the discharge of the battery in case the motor is not running or when the current consumption is greater than the generator output.

The generator is equipped with an automatic control which reduces the output when the battery becomes fully charged. The fluctuation of the ammeter needle simply indicates that the control is operating to reduce the charging rate. This is not an indication of trouble.

If the ammeter does not show a charge, under normal running conditions, the electrical system should be checked as soon as possible, because the battery will soon become discharged and the gen-

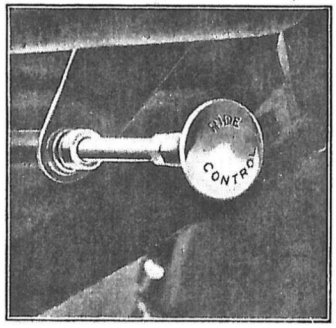
erator and other parts of the system may suffer serious injury.

STEERING GEAR ADJUSTMENT

The steering gear can be raised or lowered 1″ from the center position. This operation can be performed in a few minutes by any Packard Service Station.

RIDE CONTROL

The shock absorbers can be instantly adjusted to procure any desired riding result by a control located at the left of the steering column.



Three adjustments are available

Pulling the control all the way out softens the shock absorber action and produces a ride that is ideal for slow speed on pavements. Pushing it all the way in stiffens the action and controls the spring movements to produce the best riding results over rough roads or at high speeds.

The control can also be set at the intermediate point and a moderate shock absorber resistance is then obtained. This is the position best adapted to most driving conditions.

BRAKES

The brakes are operated by a vacuum cylinder which is controlled by the brake pedal. The brakes

can also be operated by the hand brake lever for standing or parking.

Apply the brakes gradually, for the car will stop more smoothly and will be under better control if a moderate brake application is used. The life of the brakes will also be increased if severe applications are avoided except in emergencies.

CLUTCH

Do not ride the clutch pedal—that is, do not rest the foot on the pedal in normal driving. This may cause unintentional slippage of the clutch and cause it to wear rapidly.

It will be noted that the clutch pedal is held 1″ away from the toe board by a very slight spring pressure, and that it is necessary to depress the pedal at least 1½″ before the actual pressure of the clutch springs is encountered. If the clutch facings wear, the clutch pedal approaches the floor board, and it is very important that the free play mentioned above be restored.

If the toe board prevents the clutch from engaging fully it will slip badly, and in a short time will not function at all. The rod operated by the lower end of the clutch pedal contains a turnbuckle. Lengthening the rod moves the pedal away from the toe-board to provide the necessary clearance.

TRANSMISSION

The transmission provides three quiet forward speeds and one reverse speed.

The car should be started in first gear. After this the shift may be made to second and then to high, or, if preferred, direct from first into high.

Starting in second speed imposes unnecessary wear on the clutch and does not provide as easy and rapid acceleration as when first gear is used.

A gear synchronizing mechanism provides the following sure and easy shifts:

First to Second	First to High
Second to High	High to Second

The first speed is not synchronized, because a shift into this gear is only made when the car is moving very slowly or when it is standing still.

The operation of the gear shift lever is conventional, except that there need be no pause in the neutral position nor a rapid movement to complete the shift. Instead, the shift may be made with one smooth continuous movement. When descending a grade it may become desirable to shift from high to second in order to use the motor as a brake. When making such a shift the clutch should be engaged slowly after the shift in order to bring the motor speed up to the car speed without imposing a sudden load on the clutch and other parts.

VENTILATION

All closed cars are equipped with an improved ventilating system.

In the front compartment the forward door glass pivots vertically and the rear section can be lowered flush with the window moulding.

The rear side windows are also mounted on vertical pivots and the air currents can be regulated as desired, the amount of ventilation being governed by the angularity of the pivoted windows.

In addition, a generous sized ventilator is provided in the top of the cowl.

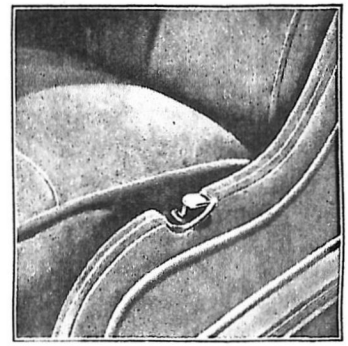
The cowl ventilator is operated by a convenient handle and may be opened when desired in order to assist in ventilating the front compartment. This ventilator opening is screened to prevent the entrance of insects.

The windshield is of the fixed type, as satisfactory ventilation of the front compartment is provided by the cowl ventilator and swinging windows in the front door.

SEAT ADJUSTMENT

The driver's seat is adjustable on all body models with the exception of the chauffeur-driven Sedan-Limousine.

The seat has a total adjustment of 4 inches. Releasing the latch by means of the control button located at the left side permits sliding the seat forward or backward to the most comfortable position. To lock in position simply release latch control button.



GENERAL CARE

ANTI-FREEZE SOLUTIONS

Methyl alcohol, denatured alcohol, ethylene glycol and radiator glycerine are the most widely used and we believe the only satisfactory anti-freeze agents so far available. The following table shows the freezing point of each when combined with water in various proportions by volume:

Pure Methyl Alcohol	Denatured Alcohol	Ethylene Glycol	Radiator Glycerine	Freezing Point
13%	17%	16%	37%	20° Above Zero
20%	26%	25%	55%	10° Above Zero
27%	34%	33%	70%	Zero
32%	40%	39%	81%	10° Below Zero
37%	46%	44%	92%	20° Below Zero
40%	53%	48%	100%	30° Below Zero

Alcohol solutions have a comparatively low boiling point and are therefore subject to evaporation, but they have the advantage that their use does not promote spark knock. Eight ounces of soluble oil added to alcohol solutions acts as a corrosion inhibitor and is beneficial to water pump packings. Care should be exercised when alcohol is used because it is injurious to lacquer finish.

The use of ethylene glycol (Prestone) or radiator glycerine (G.P.A.) will be accompanied by increased tendency to spark knock, but their high boiling point eliminates loss by evaporation. This is especially advantageous where water temperature control thermostats are set for high temperature opening as is often the case where hot water car heaters are installed. Because ethylene glycol or

glycerine are somewhat more difficult to confine extra precaution must be taken to see that all parts of the cooling system are effectively sealed. It is advisable to shellac the inside of the water hoses to prevent leaks at these points. Ethylene glycol (Prestone) and radiator glycerine (G.P.A.) contain soluble oil and therefore no additional oil need be added.

Do not use a solution of calcium chloride or any alkaline solution, as these are injurious to the metal parts, and are liable to clog the cooling system if the water of the solution is inadvertently allowed to be reduced through evaporation.

RADIATOR PROTECTION

It is advisable to flush out the cooling system in the Spring and Fall to remove loose particles of rust and sediment that may have collected.

As this motor is equipped with an aluminum cylinder head, it is advisable to add about eight ounces of soluble oil to the cooling system as a corrosion inhibitor with water.

BATTERY

This car is equipped with an improved Hi-Level battery which requires attention only three times per year and which when fully charged registers 1250 gravity on the hydrometer.

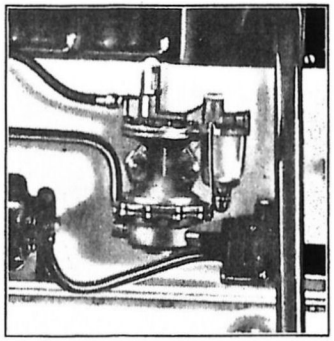
During cold weather all batteries lose a considerable percentage of their efficiency, cars are driven shorter distances with more frequent stops and the use of the lights is greatly increased. All of these things increase the load on the battery and increase the possibility of its becoming exhausted.

The operator of the car can help the situation by doing all that he can to conserve the battery charge. The lights should be used as economically as possible, and the motor should be kept in such condition that it will start readily.

Failure of the motor to start promptly in cold weather means that the operator has not been properly instructed as to the starting procedure, that the battery is not properly charged or that the motor adjustments are not correct. In any case it will be advisable for the operator to consult a Packard Service Station to determine the reason.

GASOLINE FILTER

A filter and sediment trap is incorporated in the fuel pump which is mounted on the left side of the crankcase. It consists of a glass bowl which may be removed by turning down the knurled nut at the bottom of the bowl which holds it in place. An occasional inspection of the bowl will indicate whether it contains water or dirt, and if this is found to be the case the bowl should be removed and emptied.



AIR CLEANER

The purpose of the air cleaner mounted on the carburetor is to prevent the entrance of dust particles which tend greatly to increase the wear of the cylinders, pistons and piston rings.

At intervals of 2,000 miles the cleaner should be removed, the filter washed out in gasoline, dried and dipped in No. 50 motor oil, excess oil drained, and replaced. This operation can be quickly performed by any Packard Service Station.

The mileage interval after which this operation is advisable will vary with the character of the driving.

Where dust conditions are severe, it may be necessary to wash and re-oil the filter element as often as every 250 miles. If the car is operated entirely on hard roads where little or no dust is present, the intervals between cleaning may be extended.

TIRE PRESSURE

Under average operating conditions a tire pressure of 33 lbs. for Standard Eight—35 lbs. for Super Eight will be most satisfactory. Lower pressures will cause the car to ride more easily, but will increase tire wear and will make the steering harder and more susceptible to road shock.

CHANGING WHEELS

Place the jack under the axle as close to wheel to be removed as is convenient and raise the wheel clear of the ground.

Remove the cap screws at the wheel hub and lift the wheel from the hub. The wire wheel hub cap is removed by prying it off with a screwdriver.

To mount wheel, insert pilot end of wheel wrench through the upper hole in the wheel and into upper screw hole in wheel hub flange, thus using the wheel wrench as a lever to lift wheel into place and properly locate the screw holes. At least two screws should be partially screwed in before withdrawing wrench.

Screws should be tightened down uniformly, and, instead of working in rotation, it is best to tighten first one screw and then the one opposite.

The hub screws should be lubricated slightly when applying a wheel to prevent rust and damage to the threads.

Removing the spare tire from de luxe equipped cars is accomplished by first removing the hub cap plate. The spacer, by which the wheel is attached to the support arm, is disconnected with the wheel. The two cap screws which hold the spacer to the arm are removed by using the special wrench provided for this purpose.

After taking the wheel and tire out of the fender well, the spacer is removed from the wheel and is attached to the wheel which is to be placed on the carrier. A dowel will assist in locating the holes for replacing the cap screws.

TOOLS

An assortment of tools sufficient for all ordinary needs is included in the car equipment.

CARE OF BODY AND FINISH

WASHING AND POLISHING

It is essential to use clean sponges, loosening and softening dirt and mud with water before rubbing off. Lacquer, which is polished to give it a bright lustre, will scratch, and precautions must be taken not to destroy the smooth surface.

The car after exposure may lose some of its lustre and become dull or have a spotted appearance. The lustre may be restored by polishing with a good grade of polish such as Packard Body Polish.

The polishing of a lacquer finish at regular intervals is absolutely essential if the finish is to retain its full lustre and beauty.

The directions for the use of polish given on the bottle should be followed. Care should be taken not to rub too hard or too long over stripes as they are applied over the lacquer and may be rubbed off if care is not taken.

The washing and polishing operations may show traces of color remaining on the cloth. This should cause no alarm as it is a perfectly natural condition with all lacquers and simply represents a slight weathering which does not noticeably affect the life of the finish.

Lacquer finishes are resistant to acid and alkali materials, but alcohol anti-freeze solutions will spot lacquers if spilled upon the finish and allowed to remain. If immediately wiped off, no trouble will result.

When grease or oil is found on the lacquer surfaces it may be removed with Packard Body Polish applied with a clean cloth. The polish should be applied only to the grease spots and then removed with another clean cloth.

If an enclosed body is exposed to low temperature shortly after having been washed, the water banked up at the lower edges of the windows may freeze and prevent their being operated. This will not

occur if the windows are opened slightly for a short period to enable the water to drain away.

Wash the underparts of the car with cold or lukewarm running water, soaking mud off as much as possible. Grease and oil on the underparts of chassis, exclusive of wheels and on the motor, can be removed by washing with gasoline or kerosene and drying with a clean cloth.

Running boards can best be cleaned with soap and water. Thoroughly rinse after cleaning.

CARE OF UPHOLSTERY

The upholstery material in closed cars will become soiled if it is not given the proper care. It is desirable at least once a month, or more often if necessary, to clean the upholstery with a vacuum cleaner and a whisk broom.

If the material becomes spotted, Packard Fabric Cleaner should be used to remove the spots.

Leather upholstery may be washed with pure soap and water, rinsing off the soap and drying with a moist chamois. Never use gasoline on leather.

CARE OF TOPS

Dust on the outside of tops should be removed with a damp sponge. The inside or cloth side should be dusted with a whisk broom or stiff brush. Never fold an open car top while it is damp.

Ordinary top dressings and gasoline are generally injurious to the top as they eventually cause the material to harden.

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