



OPERATION and CARE
OF YOUR

1947

PACKARD CLIPPER

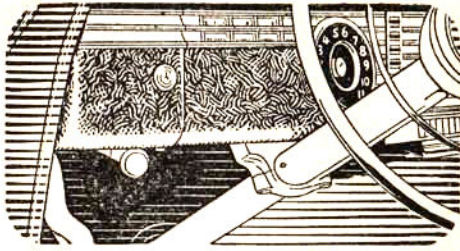
1947 PACKARD CLIPPER

We are anxious that you secure the best of service from your Packard car, and welcome your inquiries regarding the car, its operation or maintenance. In writing about your car, please give the engine number. See page 24 for number location.

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PACKARD MOTOR CAR COMPANY
DETROIT, MICHIGAN



Everyday Care

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 having 72-74 octane ratings. Premium grades of fuel such as "Ethyl" gasoline having an octane rating of 80 or above, may be used. An increase in performance may be expected only if the engine is specially tuned and the ignition advanced to take advantage of the high anti-knock quality of these gasolines.

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

The Right Lubrication—In order that your Packard car may deliver throughout its life the performance built into it, we urge you to protect your investment by having the car lubricated regularly as recommended. See Page 9 for engine recommendation.

Engine Oil Level—In checking the engine oil level between oil changes, there is only one safe rule: Check the oil level every time gasoline is purchased and add oil as required. Even though additional oil will not be required each time, it is better to check the level unnecessarily several times than to risk damaging the engine by missing the one time that more oil is needed.

The mileage intervals for engine oil changes and the correct grade to use depends upon the season of the year and the type of driving, as explained on pages 9 and 10.

The combination oil filler cap and air cleaner and the bayonet type oil level measuring rod are on the left side of the crankcase. Add oil when the level is more than $\frac{1}{4}$ " below the "Full" mark. Add only enough to bring the level up to the mark.

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

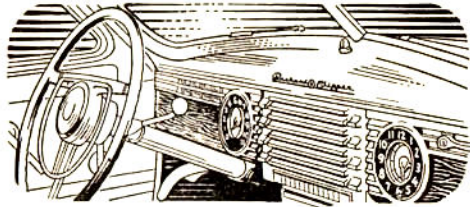
CAUTION—When removing the filler cap from a hot engine, rotate the cap toward the left until the stop is reached. This is the vented position, which allows pressure to escape. Keep in this position until the pressure in the system has been relieved, then turn again to the left to remove. Turn the cap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

Whenever the cooling system is drained and refilled in warm weather, rust preventive should be added and in cold weather anti-freeze should be used. Solutions for these purposes are discussed on page 15.

Battery Care—Overfilling the battery with water may cause the electrolyte to overflow and damage the battery and adjacent parts. The battery in your car has a device which prevents overfilling unless it is filled too often. The water level should be checked every 1000 miles of average operation.

Tire Pressure—All tires, including spares, should be checked every week or ten days and maintained at the correct pressures as specified on page 24. When touring and covering several hundred miles a day, check the tire pressure every day or two.

Always unlock the rear compartment lid and have the attendant check the spare tire while he is checking the others. Also remind the attendant to reinstall the tire valve caps, which provide an essential service in keeping dirt out and in sealing the valve opening, thus preventing loss of air pressure.



Controls—Instruments

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

The seat position is changed by lifting the lever on the left side of the front seat base and sliding the seat backward or forward to the most comfortable position. Changing the seat position occasionally on long trips will be found helpful in avoiding fatigue.

The rear view mirror may be adjusted to any angle required to permit maximum rear vision. A half-turn raises or lowers it to suit the height of the driver.

The two-speed windshield wiper is controlled by a knob on the instrument panel behind the windshield center strip. Turning the knob clockwise to the first position starts the wiper operating at full speed. Turning it further to the second position will cause the wiper to operate at slow speed.

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

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

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

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

The parking lights are turned on by pulling the headlight switch to the first position.

The instrument panel light switch regulates the illumination of the instrument panel in three steps when the headlight switch is on. All the way in bright, first position dim, second position light out.

The map reading light switch, when pulled out turns on the front compartment map reading light.

The temperature indicator shows the temperature of the cooling liquid in the engine. The needle should register at about the center mark except on long, hard drives in summer weather, when it may register "Hot." This condition need not cause alarm, as the pressure-operated overflow will normally prevent water losses at temperatures up to 225°F.

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

The battery charge indicator is not an ammeter and shows only 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.

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. Normal reading should be 30 to 40 on the Six and Eight; 40 to 50 on the Super-8.

The direction signal lights supplied as standard equipment on some models and as special equipment on other models are controlled by a lever on the left side of the steering post.

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.

Lubrication

Movement of the signal lever illuminates an arrow in the face of the speedometer to indicate the direction of turn being signaled. If an arrow is not illuminated when the lever is moved it indicates that the direction signal is not operating.

The Econo-Drive, which is supplied as extra equipment, is controlled by the foot accelerator.

To bring the Econo-Drive into operation, the car is started and the gears shifted in the normal way. When the car speed has reached the Econo-Drive engaging speed (approximately 22 miles per hour) it will be indicated by the illumination of a green signal light on the right of the speedometer face. The Econo-Drive 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 Econo-Drive as long as the car speed is maintained above approximately 17 miles per hour.

If when operating in Econo-Drive 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 all the way down hard. Then when the foot is momentarily lifted from the accelerator, Econo-Drive will automatically come into operation again.

To lock out the Econo-Drive, 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 Electromatic Clutch, which is supplied as special equipment, 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, pull out the switch knob on the instrument board marked "ELECTROMATIC". When it is desired to return to Electromatic operation, push in the switch knob.

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

Your Packard Dealer will be glad to explain the Packard Lubrication-Inspection Plan. It will save you money and be helpful in maintaining the quality and excellent performance built into your Packard.

Your use of the Lubrication-Inspection Plan encourages regular attention which always means longer car life. It avoids harmful lubrication—some assemblies are damaged by overlubrication. 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 the various requirements of speed, temperature, and load encountered in everyday driving.

The definitions of these types of oil are as follows:

Regular Oil

Oils of this type are generally suitable for use in automobile engines under moderate operating conditions.

Premium Oil

This term is used to designate an oil having proven oxidation stability and bearing-corrosion preventive properties. Oils of this type are generally suitable for use in automobile engines when operating conditions are such that regular oils do not give satisfactory service due to oxidation and sludging. These conditions include the heat occasioned by the sustained high speeds of highway driving, and the heavy loads encountered when driving over hilly or mountainous terrain.

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. Change the oil at the end of 1000 miles.

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

After the first 1000 miles, the crankcase oil should be selected to give the best protection under your individual climatic and driving conditions.

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

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

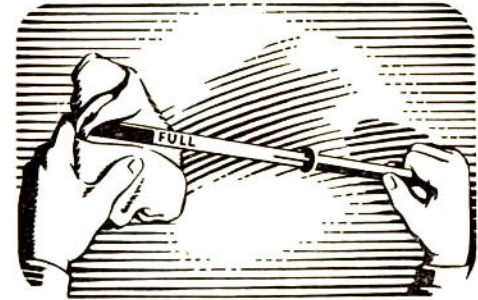
The viscosity grades of engine oil for use in your Packard car at the various cold weather temperatures are given in the chart below:

If you anticipate that the minimum atmospheric temperature will be:

	Use the grade indicated:
Not lower than 32°F. above zero	S.A.E. 30
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, use of S.A.E. 30 engine oil will permit better all-around performance of the engine than will the heavy body oils. S.A.E. 40 oil may 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. The oil measuring rod is marked "Full"; add oil whenever the level falls $\frac{1}{4}$ " below the full mark but do not add above 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 replacing 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:

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

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

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

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 S.A.E. 50 engine oil in summer, S.A.E. 30 in winter.

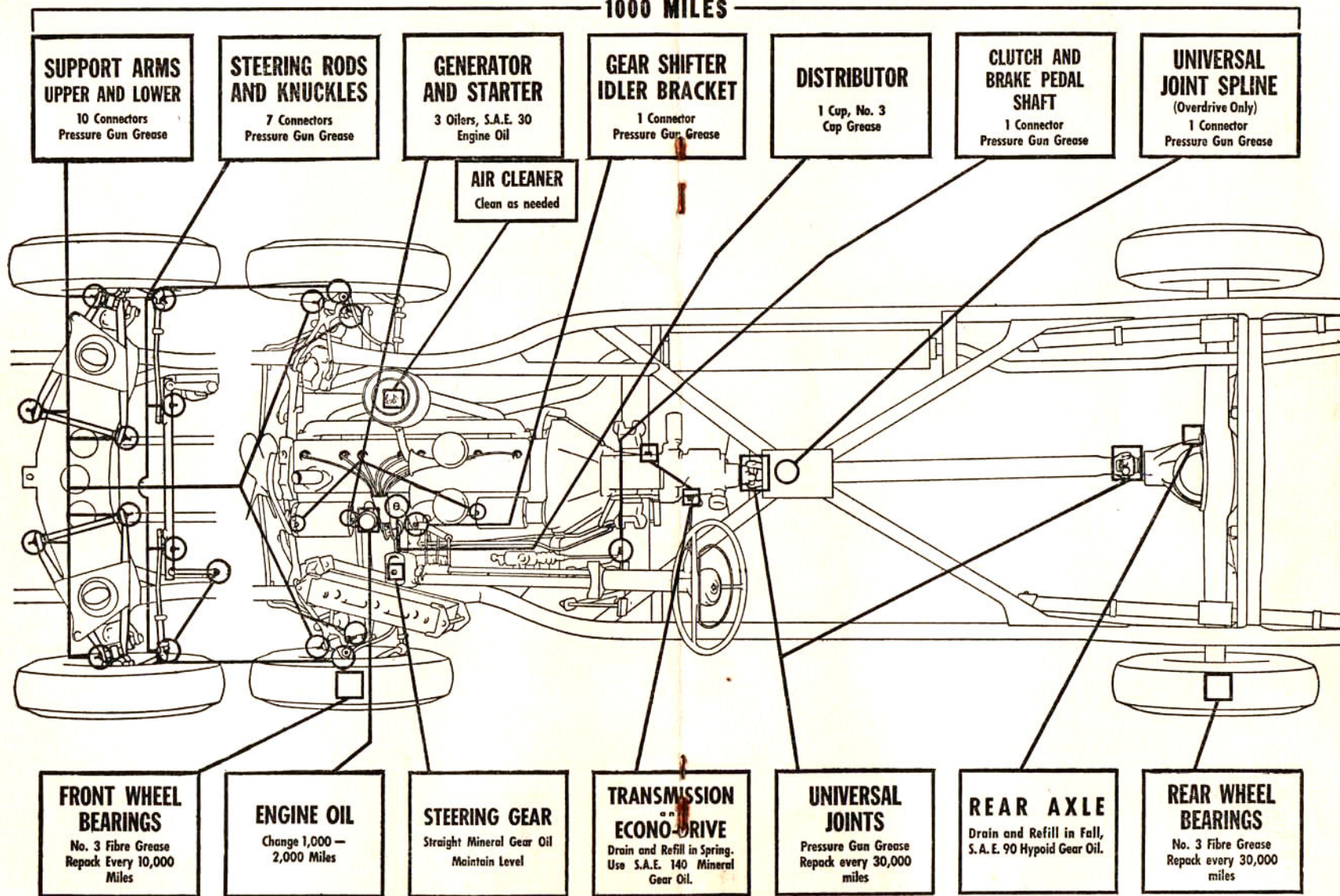
Chassis Lubrication

Detailed instructions for the lubrication of your Packard car are listed and illustrated in the "Lubrication Chart." The chassis requires attention every 1000 miles, and all chassis lubricating points should be given attention at these times.

Lubricants—The rear axle of your car is equipped with a hypoid gear and pinion, and it must 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 with the approach of cold weather each fall.

1000 MILES



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

The transmission and Econo-Drive should be lubricated with a high grade straight mineral gear oil of S.A.E. 140 viscosity in warm weather. 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 at any time.

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

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

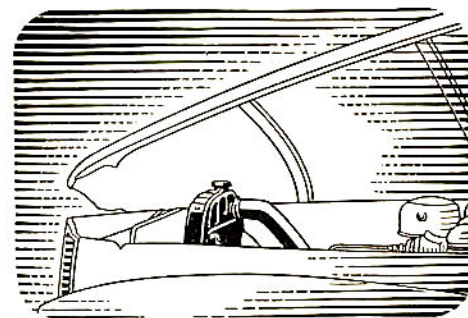
Rear Springs—The rear springs of your car must never be lubricated either by packing or spraying.

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 your rear springs develop a squeak do not have them lubricated. Consult your local Packard Dealer for correction.

Other Operations

There are several additional items of lubrication and maintenance regularly required which are listed here for your convenience:

- Front wheels. Repack every 10,000 miles
- Rear wheels. Repack at 30,000 miles
- Universal joints. Repack at 30,000 miles
- Oil filter. 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 17 every 2,000 to
5,000 miles to equalize tread wear and
increase tire life.



Cooling System

The attention required by the cooling system consists of keeping it filled to the correct level, one inch below the top of the filler neck, with the proper fluid, keeping all connections tight to insure a leak-proof system, and cleaning the system thoroughly at regular intervals.

When draining the cooling system for cleaning or other purposes, first run the engine until it is warm, then stop it and open the two drain plugs. One drain plug is located on the left side of the cylinder block near the starter and one on the front face of the lower radiator tank. Both must be open to drain the engine completely.

A pressure type cooling system is used on all models, and when removing the filler cap, loosen just sufficiently to relieve the pressure before completely removing the cap.

Cooling System Rust Inhibitor—When your car was delivered to you, the cooling system contained one-half pint of Packard Rust Preventive, a special chemical that retards the formation of rust and scale. A fresh supply of this inhibitor should be added whenever the system is drained and refilled with water.

Anti-Freeze—When installing anti-freeze solutions, the quantity should be determined by the anti-freeze manufacturer's recommendation based on the cooling system capacity. Refer to page 24 for capacities.

Among the anti-freeze compounds that have been found satisfactory are those made from ethylene glycol such as "Prestone" anti-freeze, 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 gaskets should be tightened, or replaced if necessary, to 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.

Anti-freeze, or water, or both may be lost from the cooling system through leaks, evaporation, boiling, foaming, or expansion.

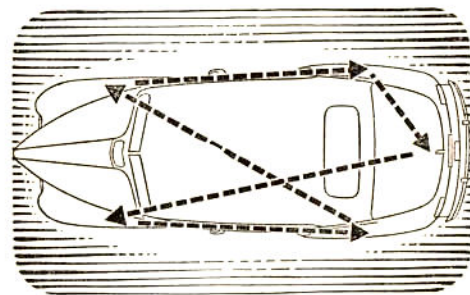
The use of the pressure radiator cap on Packard cars serves to raise the boiling point of the anti-freeze solution and reduce the probability of loss through evaporation or boiling.

Loss by expansion is a result of overfilling. In the average cooling system, the anti-freeze solution expands approximately 2 pints on heating from 30° to 160°F., and a corresponding space should be left when adding liquid to the radiator.

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.

Wheels and Tires

Maintaining correct tire pressure at all times is most important if maximum tire life is to be obtained. Standard tire sizes and correct inflation pressures are listed in the table on page 24. Testing should be done in accordance with the recommendations given on page 5.



Interchanging Tires—Cross switching tires at regular intervals of from 2,000 to 5,000 miles greatly increases their useful life by subjecting them equally to the various types of wear.

The Packard recommended system is illustrated in the above sketch. Ask your Packard Serviceman about putting your tires on this schedule.

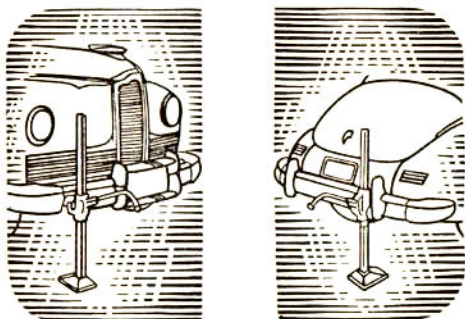
Changing Wheels—Emergency wheel changing in case of a flat tire is most easily accomplished by observing the following procedure exactly:

If a rear wheel is to be changed, and the car is fitted with wheel shields, the shield is removed by reaching up under the shield at the rear, grasping the handle of the tightening lever and pushing the handle inward to clear the flange and then down and forward. The shield will then drop outward at the top and can be lifted clear of the fender brackets at each end.

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 nuts not more than a turn or two.



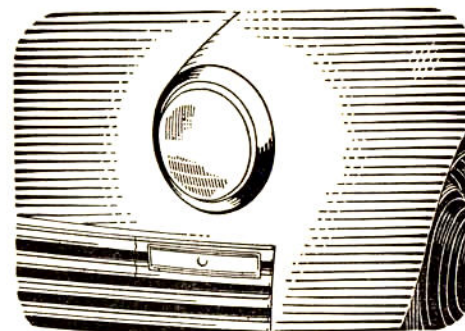
Assemble the jack to its base and place the jack under the bumper bar directly in front of or behind the tire to be changed. Be sure the jack bar is in a vertical position before attempting to lift the car.

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

Installing the spare wheel is performed by reversing the foregoing operations.

To install the wheel shield, engage the projecting lugs at the lower corners of the shield into their respective fender brackets, and making sure the tightening lever handle points straight down, push the upper part of the shield in place. Then move the handle of the tightening lever back and up, locking it behind the lower flange of the shield.

Changing a front wheel is performed in the same manner except no wheel shields are used.



Headlight Care

The only services required by "Sealed Beam" headlights include 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 Bulbs	Candlepower	Maxda	Per Car	Contact
Headlight.....	40-30 watts	Sealed Beam	2	Three
Dome Light.....	6	82	1	Double
Stop & Tail Light.....	21-3	1154	2	Double
License Plate Light.....	3	63	2	Single
Courtesy Light.....	6	82	2	Single
Glove Compartment Light....	1	51	1	Single
Clock Light.....	1	51	1	Single
Map Light.....	2	55	1	Single
Speedometer Light.....	1	51	1	Single
Instrument Board Panel Light..	2	55	2	Single
Headlight Beam Indicator Light	1	51	1	Single
Parking & Direction Signal....	21-3	1154	2	Double
Direction Signal Indicator....	2	55	2	Single
Direction Signal Rear Light...	21	1129	2	Single

Cleaning The Car

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. All body striping is applied on top of the lacquer and requires careful treatment. Prolonged, vigorous rubbing will damage or even remove it.

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 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 Acids—These 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 rinse 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 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 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.



Packard Service

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

They have the obvious advantages of specialized instruction and experience on Packard cars, of the use of Packard Guaranteed Precision Built Parts, and of adequate tools and equipment. Their workmen, too, secure the benefits of continuous training on up-to-date servicing methods by means of regular publications and special bulletins supplied exclusively to them by the Packard factory.

Furthermore, it is well known that keeping owners well satisfied with their cars will mean future car sales to Authorized Packard Dealers. For this reason alone, no one else will have as great an interest in keeping your car performing at its best at the lowest maintenance cost possible.

Owner Service Policy—When you took delivery of your car you received a "Service Certificate," which we ask you to read carefully at this time, if you have not already done so.

You will note on your Service Certificate that you are entitled to a number of privileges, including: Two free inspections, and adjustments as indicated on the coupons at-

tached to the certificate; replacement without charge of any parts adjudged by this company to be defective under its Warranty; and free inspections at any time, provided no disassembly of parts is required.

You are also entitled, when touring, to the same Warranty Service from any Authorized Packard Service Station as you would receive from the service station of the dealer who sold the car, by merely presenting your Packard Owner's Service Certificate, which should have been properly filled out by your dealer and delivered with your new car. This card should be signed as soon as it is received and carried in the car.

Manufacturer's Warranty—All Packard cars are sold subject to the following 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 and reliability, nor which has been subject to misuse, neglect or accident.

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

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

License Data

Engine Number—The engine number is stamped on the upper left side of the cylinder block between cylinders 3 and 4. It can be read from the left side upon lifting the bonnet.

The serial or vehicle number which is to be used in license and insurance applications and in general reference to the car is stamped on a plate on the left side of the cowl, under the bonnet.

	<i>Clipper "6"</i>	<i>Clipper "8"</i>	<i>Super Clipper</i>	
Number of Cylinders....	6	8	8	
Bore and stroke.....	3½" x 4¼"	3¼" x 4¼"	3½" x 4⅝"	
Piston displacement....	245 cu. in.	282 cu. in.	356 cu. in.	
AMA Horsepower.....	29.4	33.8	39.2	
Wheelbase.....	120"	120"	127"	
7 Pass. & Limo.....			148"	
Shipping weight—				
Sedan.....	3520	3695	4025	4090
Club Sedan.....	3475	3650	3980	4030
7 Pass. Sedan & Limo.			4890	4920
Road Weight—add.....	135	140	165	165

The above weights include the spare tire. If car is shipped less spare tire, deduct 28 lb from Clipper "6" and Clipper "8", and 31 lb from Super Clipper weights.

Capacities and Miscellaneous

	<i>Clipper "6"</i>	<i>Clipper "8"</i>	<i>Super Clipper</i>
Engine crankcase.....	5 qt	5½ qt	7 qt
Transmission.....	2 pt	2 pt	2 pt
Econo-Drive.....	1¼ pt	1¼ pt	1¼ pt
Rear axle.....	4 pt	4 pt	6 pt
Cooling system.....	14 qt	17 qt	20 qt
Gasoline tank.....	17 gal	17 gal	20 gal
Over-all length.....	208½	208¼	215½
Tire size.....	15 x 6.50	15 x 6.50	15 x 7.00
Tire pressure—front...	26	28	28
Tire pressure—rear....	28	28	28
Spark plugs (10 mm).....	AC-104 or Champion Y4-A		
Spark plug gap.....	.025" to .030"		

