

24th
series



Your Guide

**FOR OPERATING
AND CARING FOR**

YOUR PACKARD

A New Concept in Motor Cars

A NEW CONCEPT IN MOTOR CARS



Your Guide

FOR OPERATING
AND CARING FOR

Your Packard

24th SERIES

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About Your Packard

Every fine piece of workmanship is worth caring for and this is true of your Packard. Advanced engineering and manufacturing have built luxury, durability and safety into your car. You can easily become familiar with your new Packard by reading this book, and for future reference please keep it in the glove compartment. Packard Authorized Service can best assist you with its proper care and maintenance. At home your Packard Dealer knows your car best. When traveling, a nationwide network of authorized dealers is ready to provide any service your Packard may require.

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

You, as a Packard owner, deserve the best in service so see your nearest Packard Dealer whenever the occasion arises and your Packard will receive the attention of factory trained experts.

PACKARD MOTOR CAR COMPANY
Service Department

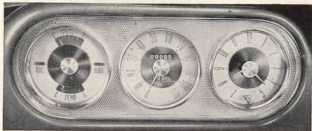
Packard Owner's Service Policy

With "Your Guide for Operating and Caring for Your Packard," you have received from your Dealer an "Owner's Service Policy" which he filled in for you when he delivered your Packard. Please read this policy carefully. The majority of owners keep the policy in the glove drawer.

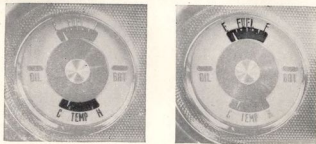
The two coupons attached to the policy entitle you to have inspections performed on your car to correct any changes in initial settings which may occur. One coupon entitles you to various inspections and adjustments, as listed on the back of the coupon, at the end of 1,000 miles and the other coupon provides for additional services at the end of 3,000 miles. These services will be performed without charge, except for oils and lubricants, by the Dealer from whom you purchased your car. If you are on a tour or have changed residence, any Authorized Packard Dealer in the United States or Canada will perform these services upon presentation of the policy and coupons.

TELE-GLANCE INSTRUMENT CLUSTER

The instruments are located in a raised cluster on the instrument panel directly in front of the driver. They are recessed in the cluster panel for the purpose of eliminating sun glare or reflections. Their location and size have been calculated to provide the maximum in convenience and readability.



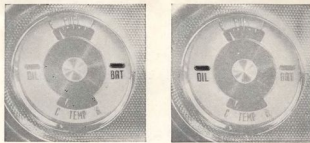
Temperature Gauge—The temperature gauge, marked "TEMP," registers the temperature of the water or anti-freeze in the engine cooling system. The gauge will register when the ignition key is turned either to the left or to the right. When the engine is running at a normal temperature the pointer should center approximately between the "C" (cold) and "H" (hot) position. If, however, under normal driving conditions the pointer remains on the "H" mark, there is reason for concern and the difficulty should be determined. When the ignition key is in its off position, the pointer will come to rest on the "C" side of the gauge.



Fuel Gauge—The fuel gauge indicates the quantity of gasoline in the tank and this gauge also operates when the ignition key is turned from its off position without the engine running.

Battery Charge Indicator—The battery charge indicator marked "BAT", is a signal light which determines for you whether electrical current is being delivered to the battery.

This indicator will light up when the ignition key is turned to the on position. When the engine is running at idle or slow speeds, the light will remain on due to more electrical energy being consumed than is being delivered to the battery. Headlights, radio and heater will affect battery output. With these in operation, driving at slow speeds reduces generator output and will cause the signal light to indicate a discharge condition. However, driving under normal conditions, the light will remain out indicating that the proper amount of electrical energy is being delivered to the battery.



Oil Pressure Indicator—The oil pressure indicator, marked "OIL," also is a signal light and it will light when the ignition key is turned from its off position and before the engine is started. When the engine is running, the indicator will light up only when the oil pressure drops so low that the moving parts in the engine aren't getting proper lubrication. If this happens, the engine should be shut off at once and the cause of the trouble determined.

NOTE

The three instruments you have just read about, the "TEMP" gauge and the "BAT" and "OIL" indicators, will tell you when something is not working right and it is advisable to visit an Authorized Packard Service Station if:

- the "TEMP" gauge pointer should go over to "H" and stay there.
- the "BAT" indicator should stay lighted all the time you're driving.
- the "OIL" indicator should stay lighted when the engine is running.
- the "BAT" and "OIL" indicators do not light at any time which may be caused by a burned-out bulb.

Speedometer—The speedometer, in addition to registering car speed, also indicates total mileage driven. If the speedometer includes a trip mileage indicator, figures may be set at zero by pushing upward on the re-set knob (located under the instrument panel and to the left of the speedometer) and then held there and turned to the right.

Clock—The clock is electrically operated and may be set by pulling out the re-set knob and turning it either to the right or to the left. Should it lose or gain time, turn the notched sleeve behind the re-set knob either to the left or to the right as required or note the amount of loss or gain per day and have it adjusted the next time you visit your Packard Dealer.



SMART—FUNCTIONAL CONTROLS

The controls of your new Packard have been designed for the utmost convenience of operation. They were handsomely styled to blend with the car's design and they create a smart ensemble that enhances its beauty.

The ignition key is your symbol of the right to safe comfortable driving. Besides operating the ignition switch, this key will lock or unlock the doors. A separate key (octagonal handle) will operate the luggage compartment and glove drawer locks. Safeguard the treasured possession that is your new Packard by always removing the keys when leaving it unattended.

Ignition Switch—The ignition switch has three positions. When the key is in the center position or, in other words, straight up and down in the lock, the switch is "off." When the key is turned to the left, the engine cannot be started but electrically operated accessories can be used and the instruments can be checked. The engine can be started when the key is turned to the right.

For convenience, the switch keyhole is lighted when the light switch knob is pulled out to the first or parking light position.



Light Switch—The light switch is a combination switch which controls the lighting of the parking lights, headlights, instrument cluster lights, and map lights.

The *Parking Lights* are turned on by pulling the switch knob out to the first notch.

The *Headlights* are lighted by pulling knob out all the way.

The *Instrument Cluster Lights* and the *Map Lights* are controlled by turning the light switch knob. When the knob is turned all the way to the left, the instrument lights and the map lights will be out.

The *Map* lights are installed for your convenience. They will light when the knob is turned to the right far enough to reach a "stop" and these can be turned on without pulling the knob out to light the parking lights or the headlights.

When the knob is turned to the "stop" with the parking lights or headlights on, the map lights will light and the instruments also will be brightly lighted. When the knob is turned further to the right and past the "stop," the map lights will go out and the instrument lights will gradually become dimmer as the knob is turned. The instruments will be very dimly lighted when the knob is turned all the way to the right.

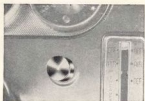


Front Seat Adjustment—A front seat adjustment makes it possible for you to set your seat in its most comfortable position—forward and up for drivers of short stature, or backward and down for taller drivers. Adjustment is made by raising the conveniently located handle and sliding the seat to the desired position. It will lock in place when the handle is released. Enjoy all the comfort that is built into your Packard seat by occasionally changing its position during long drives.

Directional Signal—The directional signal indicates the direction in which you intend to turn. It does this by causing the affected front parking light and tail light to flash on and off.

To signal a turn, move the lever in the direction in which you are going to turn the steering wheel to make the turn. In other words, move the lever upwards to signal a right turn and downwards to signal a left turn. It is not necessary to hold the lever in either position since it will remain in position until the turn is completed.

While the directional signal is in operation, an amber light between the figures "70" and "80" in the speedometer dial will flash on and off.



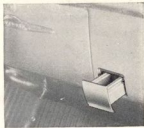
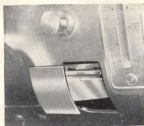
Cigar Lighter—The cigar lighter is operated by pushing inward on the lighter knob. The lighter will return to its normal position when it is hot enough to light your cigar or cigarette.

Rear compartment lighters work in the same manner.

Parking Brake—Packard's "Safti-set" parking brake, or hand brake, is applied merely by pulling straight back on the handle located to the left of the steering column. There are no intermediate positions for the parking brake handle—the brake is either all the way "on" or all the way "off." This eliminates the possibility of driving with "half-on" brakes. Release the brakes by turning the handle to the left, allowing it to return to release position.



Glove Drawer—Packard's new spill-proof glove drawer provides spacious storage for maps and other items. It is opened by means of a finger grip at the bottom of the drawer and may be locked with the octagonal handled (cornered) key which also operates the trunk lock.



Ash Receivers—The front compartment ash receivers slide outward and have recessed finger grips in the bottom near the front edge.

Windshield Wipers—The windshield wipers can be started by turning the control knob (located on the left side of the steering column) toward you or, in other words, toward the rear of the car. The speed of the wiper blades also can be regulated by turning the knob in this direction.

A windshield washer is available as accessory equipment and this washer does away with poor visibility when the windshield is smeared with mud or road spray from other cars.

To operate the washer, first turn the wiper control knob away from you and hold it there for a few seconds to start the washer and then turn the knob toward you to start the wipers.



Headlight Beam Selector—The headlight beam selector ("dimmer" switch), operated by a button with the left foot, controls the beam thrown by the headlights which have a high beam for country driving and a low beam for city or traffic driving and for meeting oncoming cars.

When the lights are on the high beam, a red light will light up between the figures "80" and "40" in the speedometer dial.

The high beam enables you to see far ahead at night but, to a driver coming in the opposite direction, its glare is dangerous. Good drivers are always courteous. If you are driving with the high beam switched on and a car approaches from the opposite direction, step on the selector button and thereby switch to the low beam until the car has passed and then again step on the button to switch back to the high beam. This will pay off in safety both for yourself and for others.

Door Handles and Locks—The outside door handles are of the newest snag-proof design. To open a door, simply grasp the handle, push inward on the button, and pull outward on the handle.

A hold-open device is incorporated in each door to prevent it from closing of its own weight after being fully opened.

All doors may be locked from the inside by pushing downward on the locking knobs or buttons located on the window reveal moulding. A front door locked from the inside can be opened just by turning the inside door handle. On rear doors, the lock button first must be raised.

Either of the front doors may be locked from the outside with the ignition key. The front doors cannot be locked accidentally. If an inside lock button is placed in the locked position while the door is open, it will snap to its unlocked position when the door is closed.

Rear doors may be locked from the outside by pushing down the lock button and then closing the door. The lock button first must be raised before the door can be opened.



Trunk Lock—The luggage compartment is opened simply by turning the octagonal handled (cornered) key to the right and the lid will raise effortlessly. Hold-open springs prevent the lid from lowering when it is fully opened. The lid will be locked automatically when it is pushed downward and closed.



Bonnet Lock—The bonnet is unlatched by moving the release lever sideways toward the center of the car. This will permit the bonnet to raise high enough so the safety catch can be released. The catch will release when the catch handle is pulled forward and up. Hold-open springs will keep the bonnet in its fully opened position and it will lock automatically when lowered.

Ultramatic Drive—The ultimate in automatic transmissions is yours exclusively in a Packard. Ultramatic Drive, which was perfected after years of research and development by Packard, is one of today's finest engineering achievements. You drive Ultramatically, without pushing clutch pedals or shifting gears by simply positioning the Control lever and "stepping on the gas."



"H" means HIGH range. This position is used for all normal forward driving. When driving below 50 miles per hour in the high range, an extra burst of speed for quick passing of another car can be had by pressing the accelerator pedal firmly down against the floor. The high range position usually is used when starting on ice or in snow when gradual rear wheel traction is desired.

"L" means LOW range. Low range is used in deep sand and on long, hard pulls. It also should be used when going up or down steep grades. Driving down a steep grade in low range lets the engine act as a brake to reduce car speed.

"R" is for REVERSE. The control lever must be raised before it can be pulled downward into the reverse position.

"N" stands for NEUTRAL. This position is used when the car is standing with the engine running. In the neutral position, the engine may be speeded up without moving the car.

"P" means PARK. The rear wheels are not free to turn when the control lever is the parking position and this position should be used when parking on a hill. The control lever NEVER should be placed in the parking position while the car is moving. The lever must be raised before it can be pushed upward into the parking position.

Starting the Engine (with Ultramatic Drive)—The engine, in cars with Ultramatic Drive, can be started only if the control lever is in the neutral position "N" or the parking position "P". The starting motor will not operate if the lever is in any other position.

The engine usually is started with the control lever in the neutral position. In extremely cold climates, especially after the car has been standing for a long time, the engine should be started with the lever in the parking position. This will overcome creeping because the rear wheels are not free to turn.

Heating and Ventilation System—Control your comfort by the simple manipulation of two levers and a switch, located on the instrument panel at the right of the steering column. They will regulate the temperature and flow of fresh air to the exact degree that you find comfortable.

Every Packard is equipped with a built-in ventilating system that is designed to provide a complete change of air every 45 seconds at 40 MPH.

Ventilation is regulated by sliding the left lever down to release a flow of air through the left dash panel grille at your feet. Manipulating the right lever in the same way will regulate the flow of air through the right side dash panel grille.

"OFF"—Fresh air supply completely closed off.

"AIR"—Wide open or, in other words, a full flow of fresh air.

Positions between "OFF" and "AIR" can be used to reduce or increase the flow of air as desired.

The remaining lever positions are not used unless the car is equipped with heater and defroster.

The fresh air heater and defroster equipment is available for all Packard cars as an accessory. This system operates along with the built-in ventilation system to provide comfortable, even temperatures inside the car as well as clear-across windshield defrosting.

Accurate temperature regulation is achieved by manipulating the left lever. The flow of warm air that passes through the windshield defroster and heat outlets is regulated by manipulating the right lever.

When moved below "AIR" position into the range marked "THERMOSTAT" the *left lever* closes off the left side air supply and becomes a temperature regulator. The temperature is made higher as the lever is lowered.

When moved below "AIR" position the *right lever* closes off the right side air supply and directs the air into a compartment where it is heated for distribution either to the inside of the windshield or toward the floor of the front compartment as desired.

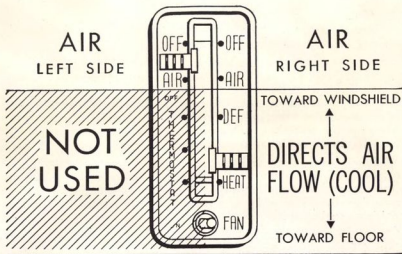
With the lever at "DEF," all of the heated air is directed against the windshield.

With the lever at "HEAT," all of the heated air is directed toward the front compartment floor.

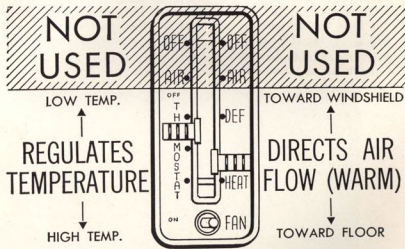
Lever positions between "DEF" and "HEAT" may be used to divide the flow of air as desired.

The "FAN" switch, when moved to "ON," starts a blower which draws in outside air for circulation through the heating and defrosting outlets. It is not necessary to use the blower fan for normal driving conditions because enough air usually is forced into the system by the forward motion of the car. The fan is generally used when driving slowly, to speed up defrosting of the windshield or to prevent windshield and window fogging.

WARM WEATHER



COLD WEATHER



Overdrive—Packard's overdrive operates along with the manual-shift transmission to provide a fourth forward speed or cruising range. This saves gasoline because the engine runs slower at a given car speed compared to the speed it would have to run in high gear without an overdrive.

The overdrive control knob is used to lock in or to lock out the overdrive as desired.

When the knob is pulled all the way out, the overdrive is locked out and the cruising speed cannot be used.

When the knob is all the way in, the overdrive is locked in and the cruising speed is ready for use after the car speed reaches approximately 22 miles per hour. Just lift your foot from the accelerator pedal for a moment and then return it. The overdrive will shift into cruising speed automatically while your foot is off the pedal. The overdrive also will shift back to high gear automatically when the car speed drops below approximately 17 miles per hour.

While cruising along in overdrive, you may want a sudden burst of speed to pass another car. If so, push the accelerator pedal firmly to the floor to shift back into high gear. After passing, lift your foot from the accelerator pedal to automatically shift into overdrive or cruising speed again.

The overdrive can be locked in at any speed just by pushing the control knob all the way in.

There are two things to remember if you want to lock out the overdrive: (1) to lock it out while in high gear below approximately 22 miles per hour, press lightly on the accelerator pedal and pull out the control knob, (2) to lock it out while in overdrive above approximately 22 miles per hour, press the accelerator pedal firmly to the floor to shift back to high gear and then pull out the knob.

It is advisable to lock out the overdrive when driving on icy or slippery roads and when driving down steep grades. This will let the engine act as a brake to reduce car speed.



LUBRICATION

Packard Service as rendered by Authorized Packard Dealers specializes in safety service and in preventive service for the protection of your Packard investment and the safe and economical operation of your car for many thousands of miles.

Periodic lubrication and inspection assure smooth operation and long car life. Ask your Dealer about the convenient low cost Packard Lubrication-Inspection Plans. Use Authorized Packard Service. It's best for your Packard. It assures the use of Packard Parts, Packard special tools and equipment by factory trained Packard Master Servicemen.

Types of Engine Oil—Different types of engine oil are made to meet the various needs of everyday driving. These are defined as follows:

The **REGULAR TYPE** designates engine oil generally suitable for use in internal combustion engines under moderate operating conditions.

The **PREMIUM TYPE** 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 available in several grades.

Selecting Engine Oil—During the first 500 miles, use the oil that was in the engine when the car was delivered. If it is necessary to add oil during this period, use nothing heavier than 10-W oil in cold weather and S.A.E. 20 or 20-W in warm weather.

After the first 500 miles, oil should be selected to meet different driving and climatic conditions.

During warm weather, use S.A.E. 20 engine oil; however, if the car is regularly driven at high speeds or if the average daylight temperature is above 90°F, use S.A.E. 30 oil.

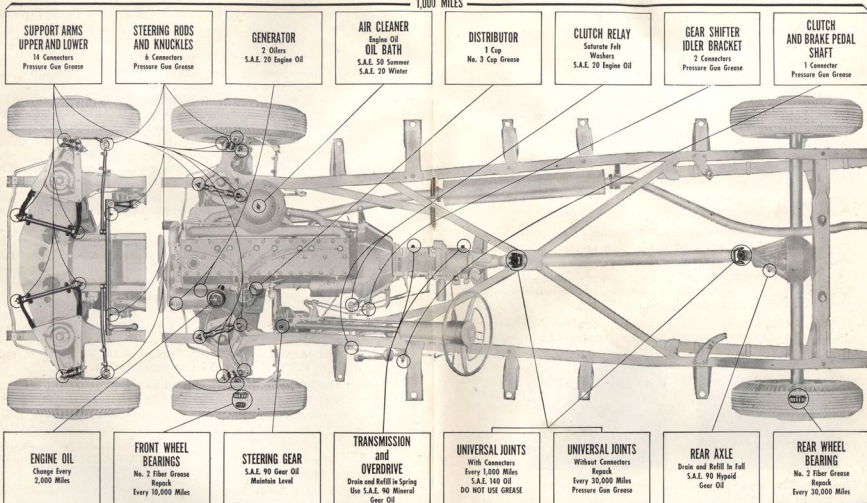
The "OIL GRADE AND TEMPERATURE CHART" lists the oil grades to use during cold weather.

If there is any doubt as to which grade of oil to use, consult your Packard Dealer; he will assist you in selecting the proper grade.

OIL GRADE AND TEMPERATURE CHART

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.....	5-W or 10-W plus 10% kerosene

1,000 MILES

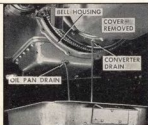


**SERVICING
THE
ULTRAMATIC
DRIVE**

CHECK THE
FLUID LEVEL
EVERY 1,000
MILES



DRAIN FLUID
EVERY
15,000 MILES



REFILL WITH
PACKARD
ULTRAMATIC
DRIVE FLUID



PERIODIC OPERATIONS

Front wheel bearings	* Repack every 10,000 miles
Rear wheel bearings	Repack at 30,000 miles
Oil filter (where used)	Renew cartridge 8,000 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

GENERAL INFORMATION

Starting the Engine—The Packard engine has been designed to give quick, easy starting even in the coldest weather.

When starting the engine, always disengage the clutch on non-Ultramatic Drive equipped cars by holding the clutch pedal down until the engine has started. The starting motor then can turn the engine over without having to turn the transmission gears along with the engine. The additional load of turning the transmission gears is especially high in cold weather when the transmission oil is cold and thick.

Turn the ignition key to the right and then slowly press down on the accelerator pedal just far enough to engage the starter. Release the accelerator pedal as soon as the engine starts. Do not race the engine during the warm-up period.

If the engine does not start within a reasonable length of time, it may be over-choked or flooded. If so, press the accelerator pedal slowly to the floor and hold it there until the engine starts.

CAUTION

Never start or run an engine in a closed garage. Exhaust gases from gasoline engines contain carbon monoxide gas—a deadly poison gas which gives no warning of its presence . . . it is colorless and odorless.

The Right Gasoline—Your 24th Series Packard, if equipped with Ultramatic Drive, has a high compression engine which should be operated only on premium fuels such as "Ethyl" gasoline.

A lower compression engine is used in 24th Series Packards which have a manual-shift transmission and these engines will operate satisfactorily and efficiently on the so-called "regular" grades of gasoline.

Gasoline Tank Signal—The gasoline tank filler pipe is fitted with a signal which whistles while the tank is being filled and stops when the tank is within one gallon of being full. To prevent splashing and overflowing, instruct the attendant to stop filling when the whistle stops.

Pushing or Towing (with Ultramatic Drive)—Occasionally Ultramatic Drive equipped vehicles are pushed to start the engine or, if disabled as the result of a collision, are towed into a Packard Dealer's service station.

If it is necessary to push the car to start the engine, which sometimes is done if the battery is weak, the selector lever should be placed in the neutral position, "N," and the ignition switch turned on. When the car reaches a speed of 25 miles per hour, the selector lever should be moved to the high range position, "H," at which time the engine will turn over.

A disabled vehicle may be towed on the rear wheels if the Ultramatic Drive unit is not damaged and no oil has been lost; however, the selector lever must be placed in the neutral, "N," position. If the selector lever is in any other position, unnecessary damage may result. Towing speed should be limited to 30 miles per hour and long distance towing (over approximately 300 miles) is not recommended.

Sometimes a collision may damage the shift linkage to the extent that the selector lever cannot be shifted to the neutral, "N," position. In this event, the driveshaft should be removed or the car should be towed in on its front wheels. This procedure also should be followed if the transmission is damaged, the transmission oil pan distorted, or when oil is lost.

Pushing or Towing (with Overdrive)—No special instructions apply to pushing or towing the car when it is equipped with an overdrive. However, if the car is being pushed to start the engine, the overdrive should be locked out.

Sometimes the overdrive can be locked out while the car is standing just by pulling out the lockout knob. If the knob cannot be pulled all the way out, move the car forward or backward a few feet and pull out on the knob.

Break-In Period—The manner in which your new car is driven for the first 250 miles has much to do with the way it will operate at a later date. This applies to the brakes, gears, rear axle, and other units, as well as to the engine.

During this period, do not open the throttle wide for acceleration or hill climbing and limit the speed to 50 miles per hour. In the long run, this will pay off in many thousands of miles of motoring pleasure.

Starting After a Stop—The driver who makes a fast getaway from traffic lights before getting into direct drive or high gear will find this form of driving expensive.

These fast starts waste gasoline and will cause undue wear even on the best of parts. The driver who shifts into direct drive or high gear at moderate speeds will save on both gasoline and service expense.

Driving on the Highway—Maintaining a steady speed on the highway will save gasoline. A steady accelerator pedal will always result in more miles per gallon than one which is continually being operated up and down for passing other cars, for curves, and for intersections.

Warm-Up in Cold Weather—When any car engine is started in cold weather, it needs more gasoline to run smoothly without stopping than it does after it is warmed up. It also is true that the engine will warm up faster while the car is standing than it will while moving. As the engine warms up, less gasoline is used.

The good driver makes it a habit to let the engine warm up for a minute or two before starting to drive in cold weather.

A Tip on Safe Driving—Safe driving is careful—not timid driving but competent driving. It requires concentration and courtesy.

The competent driver is always sure of his car. He knows what it will do when he accelerates. He knows what it will do when he decelerates. He drives so he can stop within a clear distance ahead. He has his car under control at all times.

He keeps his brakes adjusted so he knows what he can expect when he wants to stop. His tires and battery are checked at proper intervals. He always takes traffic, pavement, visibility and weather conditions into consideration.

A good driver keeps his windshield and rear view mirrors clean and his windshield wipers and lights in order and adjusted. He signals his turns and stops, slows down for schools and cross roads, watches railroad crossings, and never passes on hills, curves, or crossings.

A good driver exercises due regard for the rights of others and assumes responsibility for the safety of pedestrians and playing children.

* * * *

COOLING SYSTEM

Your Packard has a sealed, pressure type cooling system to provide the best cooling possible. This pressure is made possible by the use of a special radiator cap.

Without pressure in the system, water would boil at 212° F; however, in the Packard pressure type system, this boiling point is raised to approximately 227°F.

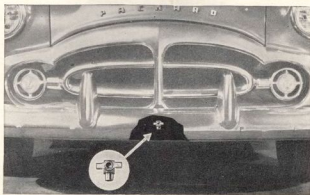
CAUTION

When removing the radiator cap while the engine is hot, first loosen the cap to the first notch and allow the pressure in the radiator to escape before completely removing the cap.

Coolant Level—The system requires regular attention. The coolant level in the radiator should be kept at about one inch below the bottom of the filler neck. If coolant is added above this level, it will flow out of the radiator vent after the engine has warmed up.

NOTE

If for some reason the water in the radiator should get very low and the engine very hot, let the engine cool off before adding cold water. After the engine has cooled off, add the water slowly with the engine running. Cold water in a very hot engine might crack the cylinder block or head.



Draining the System—The cooling system should be drained and flushed twice a year. To completely drain the system, first remove the radiator cap and then open the radiator drain cock behind the front bumper near the center of the car and remove the plug from the cylinder block near the starter.

Rust Preventive—Packard Rust Preventive, available through your Packard Dealer, is a special solution that cuts down the formation of scale and rust. Packard Rust Preventive should be added at least twice a year or whenever the cooling system is drained for any reason. This inexpensive service can save you dollars in repairs at some later date.

Anti-Freeze—Among the anti-freeze solutions that have been found satisfactory are those made from ethylene glycol (permanent type), denatured ethyl alcohol (ethanol) and methyl or wood alcohol (methanol). Your Packard Dealer can obtain for you Packard Permanent Type Anti-Freeze (ethylene glycol), a factory approved product.

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

Anti-Freeze Chart—The cooling system capacity of your Packard is 20 quarts. If the car is equipped with heater and defroster, the capacity is approximately 20½ quarts. The following table shows the amount of anti-freeze solution required to protect your car down to the temperatures indicated.

ANTI-FREEZE CHART

COOLING SYSTEM CAPACITY	FOR PROTECTION DOWN TO	QUARTS ETHYLENE GLYCOL	QUARTS ALCOHOL
20 Quarts	Zero Fahrenheit	7	7
	10° Below Zero Fahrenheit	8	9
	20° Below Zero Fahrenheit	9	10

ELECTRICAL SYSTEM

Battery Care—The life of your battery depends upon the care it receives. The water level should be checked every 1,000 miles or every two weeks in warm weather and once a month in cold weather and distilled water added when necessary.

When filling the battery, the electrolyte (the fluid in the battery) should not be allowed to overflow because it is very corrosive. Should this happen, however, the battery fluid should be washed away with a solution of bicarbonate of soda and then rinsed.

If the battery requires a considerable amount of water, the electrical system may not be operating properly and you should consult your Packard Dealer for correction.

If your car is to be stored for a period of more than a month, have the battery removed by your Packard Dealer so that it will be properly serviced and kept in a healthy state of charge.

Do not add battery dopes or any chemicals, oils, or other substances to your battery because they reduce battery life. (This also will void the battery warranty).

CAUTION

Never allow a flame or spark near the battery because gas produced within the battery may be ignited and explode.

LIGHT BULB CHART

LOCATION	CANDLE-POWER	MAZDA NO.
Courtesy and Map Lights	6	82
Glove Box Light	2	55
Headlights	35-45 Watt	—
Ignition Switch	2	55
Indicator Light Bulbs		
Headlight High Beam	1	51
Direction Signal	1	51
Oil Pressure	2	55
Battery Discharge	2	55
Selector Lever (Ultramatic)	1	51
Instrument Lights	2	55
License Light	3	63
Parking and Direction Signal Light (Front)	3-21	1154
Reading Lights (Dome)	6	82
Stop and Tail Light	21-3	1154
Models 300 and 400	21-3 and 3	1154 and 63
Trunk Light	6	81

FUSE CHART

CIRCUIT	LOCATION	CAP. AMPS	NO.
Clock	In cable at rear of clock.....	3	SFE-3
Direction Sig. Flasher	{ Circuit breaker on instrument cluster.....	10	—
Radio	In cable on left side of radio....	14	SFE-14
Overdrive	On relay on dash panel.....	30	SFE-30
Heater	In cable near ignition switch....	20	SFE-20
Head, Tail and Stop Lights	{ Circuit Breaker on headlight switch.....	30	

Headlights—Your Packard is equipped with the finest “Sealed Beam” headlights built today. The only services required are wiping off the lenses, checking aim periodically, and replacing the unit in case it burns out or becomes damaged.

It is recommended that the car be taken to an Authorized Packard Service Station every six months to have the aim of the headlights checked. Your Dealer has equipment to do this aiming job properly and quickly.

WHEELS AND TIRES

Tire Pressure—Having the proper amount of air in the tires at all times is most important if high tire mileage and a satisfactory ride are to be obtained. Too much air will adversely affect the ride, while not enough air will cause tire wear.

Tires should be checked every week or ten days and inflated to the proper pressure. When touring or driving several hundred miles a day, check the tire pressure every day or two. Always reinstall the tire valve caps because they keep out dirt and seal the valve opening.

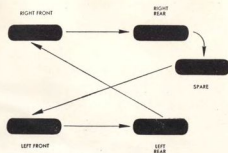
The recommended cold or starting tire pressure is 24 pounds for both the front and the rear tires.

After the car has been driven at normal speeds in the city, the pressure should be 27 pounds—3 pounds over the starting pressure of 24 pounds.

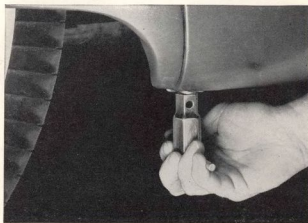
After driving on the highway at moderately high or high speeds, the pressure should be 29 pounds—5 pounds over the starting pressure.

Never bleed the tires to reduce the pressure built up by heat. The tires are designed to build up a safe pressure of a few pounds after they are run.

Cross Switching Tires—Cross switching the wheels and tires every 3,000 to 4,000 miles greatly increases tire life. By doing this, all five tires will get the same amount of wear over a given period of time.



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, the wheel shield is removed by removing the screw at the rear of the shield using the 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.

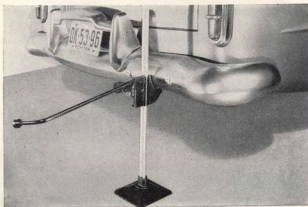
Loosen the wheel mounting bolts not more than a turn or two.

Assemble the jack to its base and place the jack under the bumper bar directly between the two bolt heads in the bumper behind the wheel to be changed. Be sure the jack bar is in a vertical position before attempting to lift the car.

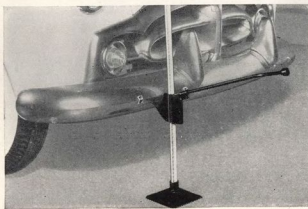
Raise the car to a height just sufficient to remove the wheel.

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 wrench.



If a front wheel is to be changed, locate the jack under the front bumper at the bolt heads.

CLEANING THE CAR

Painted Surfaces—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 it.

Clean the car by washing with plenty of cold or luke-warm 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 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.

A high luster can be restored with a Packard Blue Coral Treatment (available at your Packard Dealer) 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. Wet 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 will destroy upholstery if allowed to remain. Neutralize the acid as soon as possible by pouring 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 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 Lacquer, 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.

White Side Wall Tires—Should your car be equipped with white side wall tires, to effectively remove dirt and scuff marks use Packard White Side Wall Tire Cleaner.

Simply wet tires with water and apply cleaner with damp cloth or stiff brush. Then rinse clean with clear water. Cleaner should not remain over a long period on lacquer surfaces.

ACCESSORIES

In order to add to your driving safety, comfort and convenience, Packard has especially developed a complete line of new accessories. They are styled for your new Packard and will complement its new beauty while providing for your complete satisfaction. Packard high standards of quality are retained in all Packard Approved Accessories.

The New Signal Seeking Radio—Packard makes available for your listening pleasure the latest developments in radio reception with this powerful seven tube radio with rectifier and new trigger tube. By depressing the selector bar, the electronically controlled tuning automatically selects the station with the strongest broadcast signal regardless of where the car may be. Each time the bar is pressed, the next acceptable station across the broadcast band is accurately tuned in. Variable tone control and automatic volume control are other features of Packard's finest auto radio.

Push Button Radio—This seven tube radio plus rectifier offers the identical long range reception with clear, life-like tones, as featured in Packard's new signal seeking radio. In place of the selector bar for automatic tuning, it features light touch automatic push buttons.

Rear Compartment Radio Speaker—A rear compartment, permanent magnet, high fidelity speaker makes radio reception equally audible to all passengers. Separate volume control permits operation independently of the instrument panel speaker. It is mounted flush in the package shelf and the grille cloth of the speaker harmonizes with car interior trim.

Electric Antenna—Complete range of the antenna, from the top of the fender to a height of approximately six feet from the fender can be selected by depressing or opening the control button for this electric antenna. It affords a new convenience for the driver and assures the best for radio reception.

Manual Antenna—This telescoping stainless steel fender antenna will assure the finest possible radio reception. From 2 $\frac{3}{4}$ " above the fender, it can be extended to a height of approximately 5 feet.

Seat Covers—ALL NYLON seat covers in three pleasing colors of maroon, green, or blue are available from your Packard Dealer at a new low price. You will enjoy the comfort, neat appearance, and extra long life that these "best of all" seat covers provide.

PLASTIC Seat Covers: The combination of new seat cover styling plus new Saran Plastic provide a durable and very attractive seat cover for your motoring comfort. Easy to keep clean, they are available in special color combinations of maroon, green, or blue.

RAYON Seat Covers: Solid colors of maroon, green, or blue make these inexpensive seat covers a necessity for the comfort and protection they provide.

SAN TEX Seat Covers: For those who prefer the woven fiber type of seat cover, Packard has made available a new design in color combinations of maroon, green, or blue. Trimmed with rayon material in a solid matching color, these seat covers are especially attractive and are very inexpensive.

Outside Rear View Mirrors—Mounted on the chrome belt moulding, these new mirrors styled by Packard appear to be a "built in" part of the car and provide for maximum vision of traffic off the rear corners of your car.

Packard Oil Filter—This oil filter will protect and lengthen the life of your new Packard Engine by keeping it free from all engine damaging abrasives.

Gasoline Filter—Removes particles of foreign matter and separates water from the fuel. A gasoline filter will prolong the efficiency of the carburetor.

Backing Lights—A pair of these attractive Packard backing lights mounted on the lower trunk deck panel will assist you in all backing operations at night. In addition, they forewarn others of the direction your car is moving.

Spotlight—Mounted through the door, Packard spotlights are available in both right and left hand models. Capable of casting a long powerful beam of light, they are controlled by a pistol grip handle inside the car. A rear view mirror attached to the spotlight can always be conveniently adjusted by the spotlight control handle.

Coat Hooks—A pair of Packard coat hooks are indispensable for any owner. They provide a real convenience and help to retain the well pressed appearance of clothes.

Exhaust Extension Trim protects the bumper from discoloration by exhaust carbons. It is heavily chrome plated and is an attractive shield over the exhaust pipe.

Vanity Mirror—Attached to the inside sun visor, this appealing accessory provides a real convenience for lady passengers. Spaces are provided to conveniently record mileage and service information.

Ask your Packard Dealer for an illustrated catalog of all Packard Approved Accessories. It displays and describes many other items such as outside custom sun visors, windshield light filters, wheel trim rings, license plate frames, gasoline door lock, auxiliary floor pads, accelerator pedal pad, tissue dispenser, trunk compartment light, engine compartment light, etc.

Your Packard Dealer carries a complete line of Packard Protective materials that will help you keep your car looking new for years to come.

You can best keep your car in excellent operating condition by having it serviced by your Authorized Packard Dealer.

SPECIFICATIONS

model . . . 200 300 400

over-all length	209 $\frac{3}{8}$ "	217 $\frac{3}{4}$ "	217 $\frac{3}{4}$ "
max. width	77 $\frac{1}{8}$ "	77 $\frac{1}{8}$ "	78 $\frac{1}{8}$ "
wheelbase	122"	127"	127"

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

ENGINE

Type	8 Cyl. "L" Head	8 Cyl. "L" Head	8 Cyl. "L" Head
Bore	3 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "
Stroke	3 $\frac{3}{4}$ "	4 $\frac{1}{4}$ "	4 $\frac{1}{4}$ "
A.M.A. Horsepower	39.2	39.2	39.2
Oil Capacity	7 qt	7 qt	7 qt
Water Capacity	20 qt	20 qt	20 qt
Heater Capacity	$\frac{1}{2}$ qt	$\frac{1}{2}$ qt	$\frac{1}{2}$ qt
Thermostat Rating			
Standard	152°	152°	152°
High Reading	160° & 180°	160° & 180°	160° & 180°
Fuel Tank	20 gal	20 gal	20 gal
Valve Clearance			
Intake	0.007"	Hydraulic	Hydraulic
Exhaust	0.010"	Hydraulic	Hydraulic

COMPRESSION RATIO

Std. Compression	7.00 to 1	7.00 to 1	7.80 to 1
High Compression	7.50 to 1	7.80 to 1	

BRAKE HORSEPOWER

Std. Compression	135 @ 3600 rpm	150 @ 3600 rpm	155 @ 3600 rpm
High Compression	138 @ 3600 rpm	155 @ 3600 rpm	

ELECTRICAL

Battery	17 Plate—100 hr.	17 Plate—100 hr.	17 Plate—120 hr.
Generator	40 Amp. Shunt	40 Amp. Shunt	40 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	14 mm	14 mm	14 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 . . . 200 300 400

CLUTCH

Type	Dry Disc 10"	Dry Disc 10½"	
Clutch Pedal Free Play	1¼"-1½"	1¼"-1½"	

TRANSMISSION

Type	Selective Silent Synchronized	Selective Silent Synchronized	Ultramatic Drive
Oil Capacity	2 pt	2 pt	12 qt
Overdrive Capacity	1¼ pt	1¼ pt	
Total Capacity	3¼ pt	3¼ pt	

REAR AXLE

Type	Hypoid	Hypoid	Hypoid
Oil Capacity	4 pt	4 pt	4 pt
Ratio			
Standard	3.9 to 1	3.9 to 1	3.54 to 1
Overdrive	4.1 to 1	4.1 to 1	
Ultramatic Drive	3.9 to 1	3.54 to 1	

SUSPENSION

Type	Independent Parallelogram	Independent Parallelogram	Independent Parallelogram
Springs			
Front	Coil	Coil	Coil
Rear	Leaf	Leaf	Leaf
Shock Absorbers			
Front & Rear	Direct Acting	Direct Acting	Direct Acting

STEERING

Gear Make	Gemmer	Gemmer	Gemmer
Gear Oil	S.A.E. 90	S.A.E. 90	S.A.E. 90
King Pin Angle	5° 50'	5° 50'	5° 50'
Caster Angle	-1°±½°	-1°±½°	-1°±½°
Camber Angle	0°±½°	0°±½°	0°±½°
Toe-In	0+1-16"-0	0+1-16"-0	0+1-16"-0
Tire Pressure			
Front & Rear	24 lb	24 lb	24 lb

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, or 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."



use **PACKARD** service
for your **PACKARD** car

