



VOL. 11 No. 8

APRIL 15, 1937

## OWNER IMPRESSION REPLIES AND NEW-CAR PREPARATION

Analysis of impression reply letters received at the factory from owners of new Packard Six and 120 cars indicates a large majority are well pleased with their purchase. This definitely reflects the excellence of the product and the standards maintained for new-car preparation by a large number of the distributors and dealers.

There are instances, however, which clearly indicate insufficient attention to preparation; this becoming definitely the cause of unfavorable impression upon such owners.

The object of inspecting the new car before turning it over to a retail customer is to insure its delivery in such condition that the new owner derives the maximum satisfaction and pride of ownership.

As each car is assembled, it is subjected to thorough inspection, but in quantity production this does not permit much flexibility. The amount of time which can be expended on such operations either in assembling or inspection is limited by the number of cars produced in a given length of time.

Extraordinary care is exercised to insure that all instruments are operating and each bolt, nut and coupling properly fastened, but new parts do not always operate freely or retain their original set. These, together with shipping, or the operation of the car during driveaway, make it advisable to re-inspect the car before delivery.

In Service, we are certainly looking for ways and means of attracting car owners to our service stations. There is no more opportune time to clinch a customer for good than when he takes delivery. At such time we can impress him with the thoroughness with which we do our work and the satisfaction possible with his car.

In the March 1 issue of the *Service Letter*, we covered New Car Fitting and Delivery and showed a cut of the form then available from the source of supply. Improvements have now been incorporated in the form making it even more satisfactory for use on the Six and 120 cars. In addition, it has been arranged for use in connection with the three inspections provided for in the owner policy as outlined in the Owner's Information Book now called the "Operation and Maintenance Data." There are

three headings at the top of the form and to the left of the operations. These headings are:

New Cars      500 Miles      2,000 Miles

When the form is being used for "Fitting and Delivery" of a new car, it is suggested that those operations be performed which are indicated by the ☐ under the heading, "New Cars." Similarly, when used for either the 500-Mile or 2,000-Mile inspections, only the operations indicated by the ☐ in the respective columns should be used. At the last inspection previous to the expiration of the warranty period, it is suggested the same operations be performed as were used at the 500-Mile inspection. New cards should be used for the New Car Preparation, 500-Mile inspection, 2,000-Mile inspection, and the last inspection, respectively.

Following the heading on the "Packard Fitting and Delivery Operations" form is a quotation taken from the "Operation and Maintenance Data" book which reads:

"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, the owner is entitled during this period to receive three inspections and three 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."

This is followed by the statement:

"Chassis lubrication, engine oil and other lubricants are maintenance items to be paid for by the owner."

Such clear statements of policy will be found to assist in creating owner confidence as well as preventing unnecessary misunderstandings with the new owner. This is especially true if at delivery the paper copy showing the operations performed is placed in the glove compartment with the "Operation and Maintenance Data" book. Pencil checkmarks will show the operations which have been performed. It has been found that when the forms are checked in writing the owner's interest is aroused, causing him to review the information.

The new car delivery can be made an excellent opportunity to go over various matters with the

## Packard New Car Fitting and Delivery Operation

also 500 and 7500 Mils Inspection and Adjustment

Make	Model No.	Paint Scheme
Options	Vehicle No.	Ign. Key No.
Address	Body Type	Compartment Key No.
Model	Trim No.	Wheels
		B. G. No.

For a month after the original delivery, provided the car has not been driven to exceed 1000 miles, the owner is entitled to a new drive shaft and drive assembly adjustment of the rear axle to the service station of the dealer selling the car provided such adjustments are not made necessary to properly adjust, or correct. The cost of such work is the responsibility of the dealer. (These adjustments, engine oil and other lubricants are excluded from the 1000 mile limit.)

### GENERAL

1. Check Fuel Tank
2. Fill Radiator - Check Water Level - Fresh Water
3. Check Oil Level - Check Oil Pressure - Check Oil Temperature
4. Check Operation of Ignition - Check Spark - Check Ignition Timing
5. Check Operation of Brake and Wheelbrake System

### LUBRICATION

6. Check Level and Change Engine Oil if Needed
7. Lubricate Chassis as Specified on Chart (to be done at 100 and 500 miles according to engine type)
8. Check Steering Gear Lubrication Level
9. Check Transmission Lubrication Level
10. Check Differential Lubrication Level
11. Lubricate Body Hardware According to Engine Type
12. Check Oil Pressure for 100

### WHEELS AND TIRES

13. Check Tires for Inflation - Check Air Pressure
14. Check Wheel Hubs
15. Check Wheel Bearings - Check Oil Pressure on Road
16. Check Wheel Hubs - Check Oil Pressure on Road
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### ELECTRICAL

1. Check Battery Capacity - Add Distilled Water to Proper Level
2. Check Battery to Light to Suggest
3. Check Operation of all Lights

### CLUTCH AND BRAKES

4. Check Brake Action During Road Test
5. Check Clutch Pedal Clearance

### STEERING

6. Check Steering Gear Connections - Check Pin and Clamps

### BODY

7. Check Operation of Window Regulators and Door Locks
8. Check Car Locks and Master Keys
9. Check and Tighten Fasteners in Rear Compartment
10. Check Floor Mats
11. Check and Polish Car and Components - Check Interior

### DEALER - IMPORTANT

12. Check Battery Capacity
13. Check Battery to Light to Suggest
14. Check Operation of all Lights
15. Check Battery to Light to Suggest
16. Check Operation of all Lights
17. Check Battery to Light to Suggest
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99. Check Battery to Light to Suggest
100. Check Operation of all Lights

### ACCESSORIES INSTALLED

## WARM WEATHER PRECAUTIONS

With the coming of warm weather your owners will be calling upon you to drain the anti-freeze from their cars and prepare them for the summer season. To do this correctly and so guard your owner against future troubles there are a number of things to do.

### Drain Anti-freeze Solution

Because of the apparently rust free condition of certain types of solutions some owners may plan to continue their use during the summer. However the solution should be drained after a winter's use. Lime and scale collect from the water used, grease gets in from the water pump and even a very little exhaust gas leakage at the cylinder head introduces corrosive acids into the system that may have a very harmful effect on the aluminum cylinder heads and other metal parts. Do not save anti-freeze solutions for use the following year. There is no practical way of determining its condition and in order to be sure of non-corrosive anti-freeze protection throughout the season, a new solution should be put in each fall.

### Reverse Flush Cooling System

Remove the thermostat and reverse flush the radiator and engine block.

### Install Low Temperature Thermostat

If the car has been equipped with a high temperature thermostat for winter use with the car heater you may install the standard low temperature thermostat for summer driving. All cars in which the heaters were installed at the factory were fitted with the high temperature thermostat. The temperature at which the thermostat opens is stamped on the side. Check it before reinstalling after the flushing. The standard thermostat is marked 147° F.

### Renew Worn Radiator Hose

The life of rubber hose is comparatively short. Water and heat swell and rot the inside lining.

Old hose often cause serious overheating by collapsing and shedding rotted rubber which clogs the radiator. Even though the hose may look good on the outside the inside may be in very bad shape.

Old hose hardens and is difficult to keep tight once the connection is tight. It is good economy for the owner to renew hose every 10,000 miles.

When installing new hose, clean the pipe connections and apply a thin layer of Perfect Seal or other non-hardening cement. Never take a chance on worn out hose clamps.

### Inspect Water Pump

A leak at the water pump will not only allow loss of water when the car is standing, but what is more serious, it will allow air to be sucked into the cooling system when the pump is running. Air mixed with water in the cooling system greatly increases the rusting of iron, and this combination of air and water is corrosive to radiator and aluminum heads.

owner. A review of the fitting and delivery operations will indicate your interest and thoroughness. In addition, this provides an excellent time to personally present the "Packard Owner's Service Card" and impress him with your own and his responsibility in connection with the service of his new purchase.

The instructions contained in the March 1 Service Letter pertaining to the Fitting and Delivery Form PD-28A also apply to the revision which has been developed as a further guide to remind the Service Department of such points as experience indicates important to check. Most of the items listed require only rapid visual inspection without the necessity for disassembling or testing with master gauges.

If every operation is performed in minute detail, or there is unnecessary replacement of parts or units, excessive time will result. The average time of 5.2 hours for complete operation is sufficient and provides the necessary safeguards to insure the car being delivered to the owner in good condition.

The delivered price of the car provides for ample allowance for the fitting and delivery expense. The amount allowed for that purpose is included to further promote owner satisfaction and avoid guaranty and policy expense to the dealer. Undue economy in new car preparation may result in lost service customers and dissatisfaction on their part.

The revised two-copy Form PD-28A is available from Reynolds & Reynolds, Dayton, Ohio, at a nominal cost of \$.75 per hundred, the price being such that this available guide should become a part of your regular routine.

## Tighten Cylinder Heads

It is most important that cylinder head units be kept uniformly tight. Special attention should be given to the joint between the cylinder head and block and this is particularly true of aluminum heads as they expand and contract more than iron and have a tendency to crawl with temperature changes. When replacing a cylinder head always use a new gasket and coat both surfaces with Perfect Seal to insure a perfect seat.

Cylinder head studs should also be coated with Perfect Seal to insure against sticking and facilitate future removal.

Use the Tension Indicating Wrench ST-999 to draw the cylinder head nuts down to the correct uniform tension 670-760 inch pounds indicated by 150-170 on the wrench.

Leakage of exhaust gas into the cooling system will form corrosive acids which have a very harmful effect on the aluminum cylinder head and other metal parts. There is always enough exhaust gas leakage past the cylinder head to make it advisable to drain and flush the cooling system occasionally during the summer season when water only is used.

The effect of exhaust gas and air leakage on anti-freeze solutions may be more pronounced and injurious than water. The effect of excessive leakage may be to turn them into extremely corrosive acids. Checking for the acid content of a solution is a long and expensive laboratory process and it is cheaper to buy new anti-freeze than to check a solution that has been used the previous season. Do not recommend saving anti-freeze solutions for use next winter.

## Install Rust Preventive

Water not only causes rust clogging of the cooling system, but also does corrosion damage to metal parts, such as radiator cores, aluminum cylinder heads and steel side plates.

Corrosion damage to the cooling system can be prevented by the use of Packard Rust Preventive in the cooling water. One pint added to the radiator of the Six, 120, and Super Eight, and two pints to the Twelve radiator will give adequate protection.

Packard Rust Preventive is supplied in pint, quart and gallon cans, as well as in large quantity bulk containers. See Trade Letter T2846.

## HEAT CONTROL VALVES—120—Six

Poor low-speed performance, slow warm-up, lack of power—conditions which are generally attributed to ignition or carburetion defects are often caused by an inoperative heat control valve. Before making corrections to the ignition or carburetion systems always check the heat control valve to see that it operates freely and that the spring is attached.

Carbon accumulated on the valve and shaft cause it to stick in the open position and it has been found that in many cases the uneven rate of expansion of the manifold causes the wide heat control valve bearings to bind on the shaft and stick the valve.

A change has recently been made in production to decrease the length of these bearings, and so eliminate the binding. The same change may also be made in the field by removing the heat control valve and counterboring each bearing. (Fig. 1.)

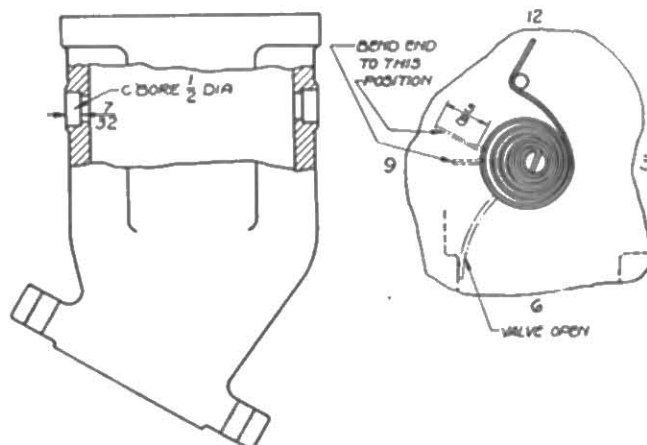


Fig. 1

Fig. 2

A 1/2" drill or a pipe reamer may be used as a counterbore to reduce the length of bearing from 1/4" to 5/32".

When reassembling be sure to clean off all accumulated carbon that might interfere with the free action and center the valve on the shaft. Do not use oil, kerosene, or penetrating oil in an attempt to free up a valve that is stuck due to an accumulation of carbon. Nothing can take the place of removing the valve and cleaning out the carbon. Oil and kerosene, while apparently correcting the condition, only gum up, form additional carbon, and make the condition worse than before.

With the engine cold the valve is held in the closed or "heat" position by the thermostatic spring, the free end of which engages a pin protruding from the manifold. If the spring becomes disengaged the valve will be held in the open "no heat" position by the action of the counterweight with all the resultant ill effects described.

On the early Six and 120-C production the free end of the spring had only a 1/2" hook and when the spring became heated and contracted it sometimes became disengaged from the pin.

To correct this condition the hook should be increased 1/8" in length by straightening the spring and bending over a longer portion. (Fig. 2.)

In attaching the spring a considerable windup is required to keep the valve closed during the warming period. If the valve is held in the open position and the inner end of the spring slipped in to the notch in the shaft it will be found that the free end is at approximately 9 o'clock. It should be tightened by turning anti-clockwise 3/4 of a turn to the 12 o'clock position to engage the stationary pin. It is necessary that this be checked with the spring at the room temperature of about 60 degrees to 70 degrees because the higher or lower temperatures will expand or contract the spring correspondingly.





## AUTOMATIC WATER SAVER



Tool No. ST-979. Price \$2.50

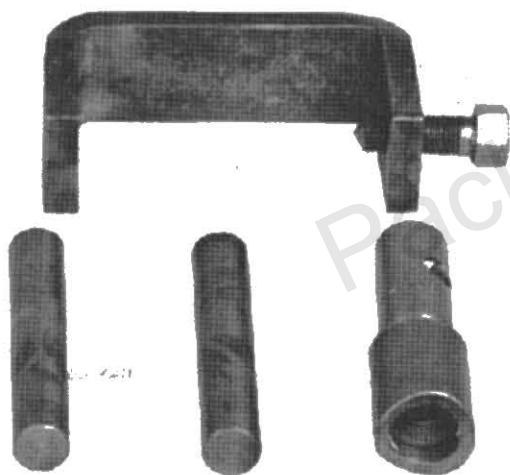
Saves 40 to 60% on water bills, as it is always off unless in actual use.

Saves heated water—by saving water save fuel.

Saves time in going to shut off and turn on water.

Saves repacking valve leaks caused by frequent turning on and off. Saves hose.

## REAR SPRING SHACKLE TOOL



Tool No. ST-5096. Price \$2.65. 120-B, 120-C, Six

The rear spring shackle installing tool consists of clamp, jack, and two aligning pins.

Before removing the spring shackles, place the little jack between the spring and the upper bracket rivet. Then remove the spring shackles.

Place shackles and cork gasket in position with the aligning pins through the shackle holes, then compress shackles with above clamp. This will line up these parts so that the spring bolts can be installed.

The tool will pay for itself in hours saved.

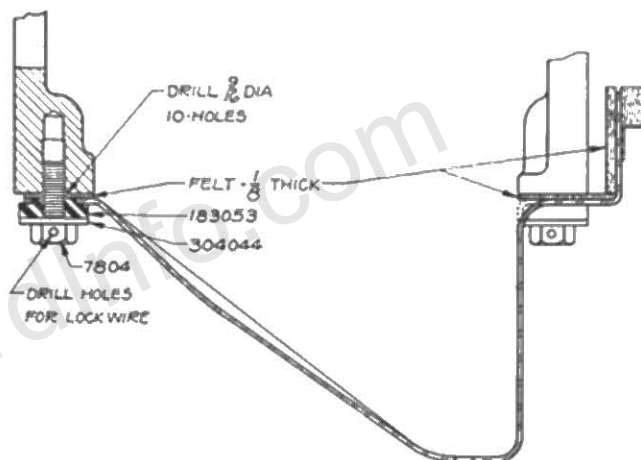
## MOTOR DISTURBANCE—Six and 120-C

We have had reports of a slight motor disturbance in some 120-C and Six motors occurring between 40 to 50 miles per hour which has been described as sounding somewhat like loose connecting rods.

The disturbance may be nothing more than the normal motor noise amplified by the resonant, bell like effect of the crankcase and flywheel pan. It is noticeable in some engines and not in others due to slight differences in the resonant characteristics of the motor assemblies.

If, however, the main or connecting rod bearings have more than normal clearance, any slight rattle in these bearings will be amplified in the same way.

In cases where the sound is objectionable, it may be greatly reduced (provided the bearings do not have abnormal clearance) by insulating the flywheel pan from the crankcase with  $\frac{1}{8}$ " felt and 900 series muffler tailpipe rubber grommets as shown in the illustration.



The sequence of operations is as follows:

1. Remove motor flywheel pan.
2. Enlarge ten attaching holes to  $\frac{3}{8}$ " diameter to fit rubber grommets.
3. Shellac or prematex  $\frac{1}{8}$ " felt strips to contacting surface of pan as shown.
4. Drill cap screw heads for lock wire or use No. 7804 cap screws.
5. Reinstall pan using 900 series muffler tailpipe rubber grommets and flat washer as illustrated.
6. Tighten screws up just snug and wire to prevent unwinding.
7. Make sure that there is no metal to metal contact at any point.

You can buy the felt locally; the other parts may be ordered from Service Stores.

183053—Rubber Grommet (10 required)

304044—Washer (10 required)

7804—Cap Screw (10 required)

SUGGESTIONS OR QUESTIONS ARE ALWAYS WELCOME. ADDRESS—N. A. LULL—EDITOR PACKARD SERVICE LETTER