PACKARD
SERVICE LETTER

VOL. 11 No. 3 FEBRUARY 1, 1937

GASOLINE MILEAGE TESTING

Some automobile manufacturers, by inviting the public to their showrooms for a free demonstration of the gasoline mileage received from their product, are putting unusual stress on gasoline economy. This publicity has served to make the public more than usually conscious of gasoline economy in their present cars as well as in the new cars they are about to purchase.

While we have not advertised public demonstrations of gasoline economy, competitive conditions may make it desirable, in certain instances, for the Sales Department to make demonstrations of gasoline economy to prospects. The Service Department can cooperate with the Sales Department in such case by making their Gasoline Mileage Tester S.T. 828 shown on page 52 of the Tool Catalog available and instructing salesmen in the proper use of this equipment.

The gasoline mileage tester, whether it be used for making actual performance tests for new car prospects, or to demonstrate to owners the influence of driving conditions on gasoline mileage, is an almost indispensable tool. Prospects discount unsupported statements of gasoline economy, and your owner is not satisfied with your guess that there is nothing wrong with his car.

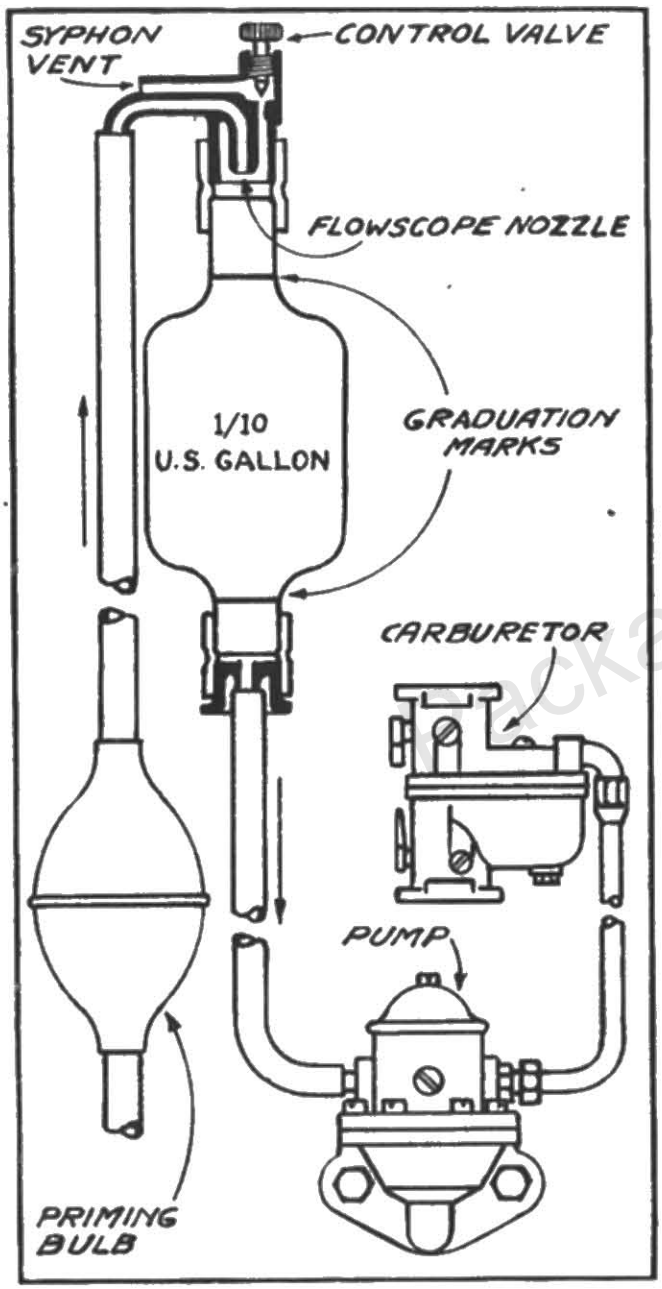
Unsupported claims and vague explanations have little weight with him. An actual test of gasoline consumption made with accurate test equipment in the presence of the owner will convincingly show him the true performance of his car, and through substantiating your claims, ease your selling job.

To be effective, the Gasoline Mileage Tester must be installed correctly and the tests made in such a manner that they will accurately and unquestionably demonstrate the performance under the conditions of the test. To get accurate results, continuous tests should be made under favorable conditions where traffic conditions will permit a constant speed without stopping or slowing up during the test.

Tests should be made on level roads at a constant speed of 20—30 and 40 miles per hour. This will demonstrate the true economy. It may be desirable to make the tests in both directions, averaging the results, to neutralize the effect of wind or a slight grade; and in the case of the high speed driver it may be desirable to make tests at higher speeds to show the effect on mileage. In some cases it may be found desirable, in order to show the effect of driving conditions on gasoline economy, to make an actual test in city traffic. In this case it will be found effective to make the test over a route with which the owner is familiar and drives often, such as between his home and office. This test of course, should be made during the hours which he is accustomed to driving this route so as to duplicate his average traffic condition.

An actual test under traffic conditions may not be necessary. With the tester properly installed, all gasoline going to the engine must pass through the tester and can be seen flowing through the upper neck. Operate the car at high speed, under rapid acceleration, and on a heavy pull, and point out how these conditions increase the flow of fuel. Point out to the

owner the gasoline used while standing, waiting for traffic lights or parked at the curb, and show him how gunning the engine uses excess fuel. A demonstration will show the owner why he does not get the high monthly average gasoline mileage he may expect, and an explanation of the working of the carburetor and demands of the engine combined with the demonstration will enable him to materially improve his average by careful driving.



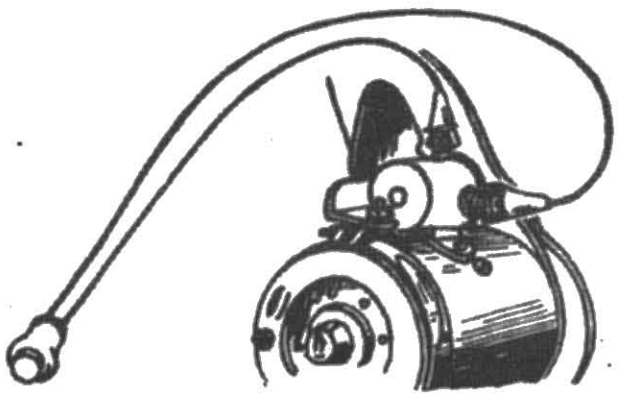
The illustration, shows schematically the construction, operation and proper installation of the tester. You will note that the priming bulb or pump is attached to the pipe to the tank and the other side to the fuel pump inlet.

If accurate results are to be obtained the installation must be as shown so as not to affect the influence of the fuel pump on the carburetor. The carburetor float is set so as to give the correct fuel level under a pressure of 2½ to 3 pounds supplied by the fuel pump. Connecting the priming bulb or pump to the tank line and the other side to the carburetor takes the fuel pump out of the line and the carburetor is supplied only by the gravity due to the elevation of the tester above the carburetor. This decrease in float chamber pressure reduces the float level, resulting in a much leaner than normal mixture. At high speeds gravity flow will not supply sufficient fuel and the engine will cut out through being starved for fuel.

When the installation is made correctly the operation of the tester does not interfere with the air fuel ratio and operation will be normal at all speeds. A series of tests can be run without stopping the car at any time. The graduated glass bowl is filled by means of the priming bulb or pump with the syphon vent open. With the bowl filled the vent is closed and syphon action supplies the fuel for normal operation until ready to make the test. To test, read the speedometer mileage as the fuel level passes the upper and lower graduation marks. The distance covered between these readings multiplied by 10 gives the miles per gallon. With the vent closed syphon action again automatically feeds fuel until the next test without priming pump action.

HANDY WAY TO START THE MOTOR WITHOUT GETTING INTO THE CAR

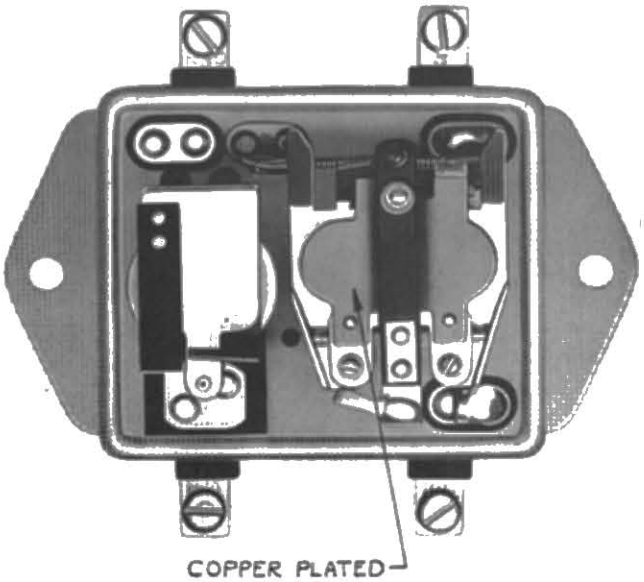
Attach two wires to an ordinary starter switch and to the other end of the wires connect two Bull Dog clips. To operate connect the clips to the magnetic



switch terminals as shown in the illustration. Press the button, and this will operate the starter motor without using the instrument board switch. Every mechanic needs one when working on carbon and valve, taking compression, and any number of jobs.

GENERATOR OUTPUT, LOW — SIX

Low generator output on the Packard Six may be due to the wrong voltage regulator having been installed. In cases of low generator output always remove the cover and inspect the regulator before making other adjustments. On the correct regulator the magnetic plate over the voltage regulator coils is copper plated.



Should a regulator with a cadmium plated magnetic plate be found, it indicates that it is the wrong unit and that the breaker points are reversed. On the correct unit the point on the spring arm is tungsten, and on the plate the point is silver. Reversing the points will cause point failure. In cases where the cadmium plated magnetic plate is found the entire unit should be replaced. Be sure to follow the procedure given in the article "Voltage Regulators."

VOLTAGE REGULATOR — SIX — 120C

When working on or installing a new voltage regulator, the leads must be disconnected and reconnected in the proper sequence, or the polarity may be reversed causing the reverse current relay points to burn.

The field lead, marked F, must be disconnected before removing other leads. When removing the entire unit, remove the ground lead last.

When installing a new unit, it should be attached to the cowl before any leads are attached. The leads should be connected in the reverse order, the ground lead first, the field lead last.

In order to fix the polarity before starting the engine make a momentary contact, such as shorting with a pair of pliers, between armature and battery leads. This contact will correctly polarize the generator.

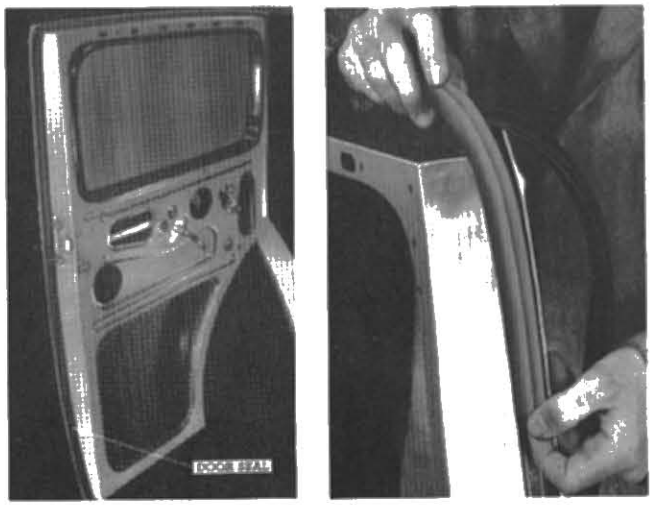
ITEMS ON PARTS ORDERS

Through an error on the part of the printer a notation appears on VTA-19, Dist. Sundry and Parts Orders, "Do not put more than twelve items on an order." This is not correct since spaces are provided for only six items and not more than six should be placed on one order. The item should be centered in the space provided.

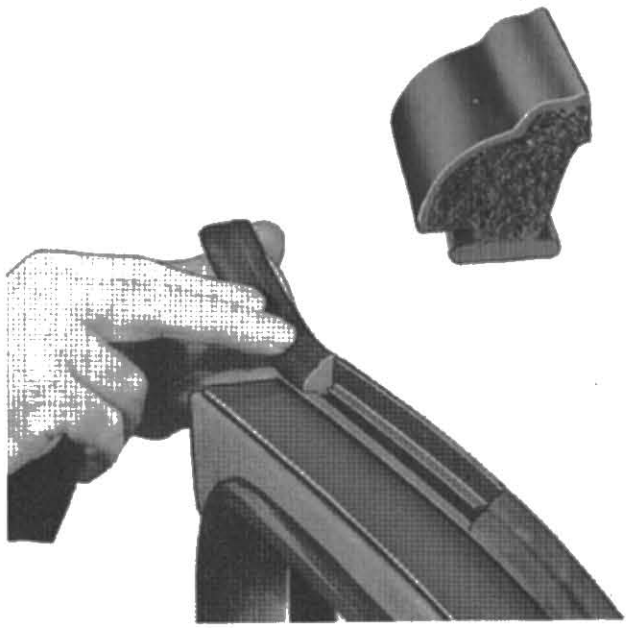
DOOR SEALS — SIX — 120C

Door seals are attached to the doors with metal retainers which are spot welded to the door facings. They may be replaced in service when necessary.

There are two strips required for each door which completely seals the joint between the body and doors. The rubbers are joined at the top and bottom.



When replacing the rubber, clean out the containers, using fine emery cloth and coat retainers with body primer. When sufficiently dry, insert the base of the rubber into the retainer and pull it through. To avoid stretching and facilitate assembling, use a 5 to 1 soap solution as a lubricant which should be applied to the retainer and rubber with a sponge.



Use no cement except at the butt joints of the rubber.

Should you find a seal which has separated at the butt ends, glue the two ends together and while held in this position have the retainer lip crimped over to hold the ends in place.

If the rubber should be loose it may be tightened by bending the lip of the retainer in a few places with a punch so as to grip the hard rubber base.

WHAT THE MODERN SERVICE STATION IS DOING—

Your customers judge the quality of your work by the appearance of your service establishment. Clean, attractive places are essential. Owner confidence is created by places like this. How does yours compare with this layout of the Wilshire, Los Angeles dealer?

HAVE YOU SEEN THE LAST FILM?

Service Meetings are becoming a national winter pastime with Packard service men. A group discussion of any problem always makes the problem small, and certainly getting better acquainted and knowing the other fellow's difficulties makes everything run smoother. The new films are designed for everybody. You can not only hear about the most efficient way of doing a certain job, but can actually see in pictures how it is done; you are afforded the opportunity of learning short cuts which help expedite the work.

How much are you getting out of them?

Columbia

. Milwaukee

Peoria, Ill.

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

PRINTED IN U. S. A