PACKARD SERVICE LETTER

VOL. 6 No. 11 JUNE 1, 1932

Twin Six Carburetor and Automatic Choke

DESCRIPTION

The "EE-3" Stromberg is a dual barrel down draft carburetor. It is of the plain tube type employing a primary and secondary venturi. It has incorporated several outstanding features, such as:

A positive accelerating device, consisting of a pump which delivers an accelerating charge immediately the throttle is opened, meters and delivers this charge over a definite period of time.

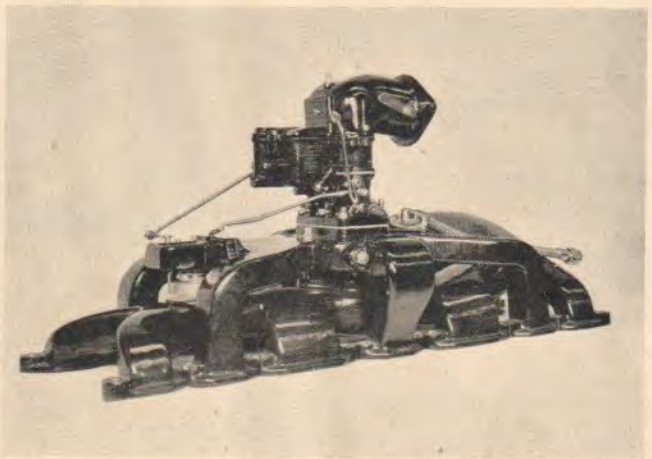
An economizer, which insures a lean and economical mixture at normal driving speeds, and automatically supplies the richer mixture necessary for maximum power and high speed.

Idle or low speed jets are below the throttle.

A relief poppet valve in the choke valve to prevent over-choking.

METERING SYSTEM

The main metering jets "12" are of the fixed type. They control the flow of gas during the intermediate speeds of part throttle position up to approximately 70 miles an hour. At this throttle opening, economizer valve "27" is forced down by piston "29," allowing gas to flow through by-pass valve "26," discharging through restriction "25." *ALL gas from the economizer is controlled by these restrictions.* All jets of the fixed type are calibrated at the factory to supply the correct mixture for normal operating conditions and should not be changed without special instructions.

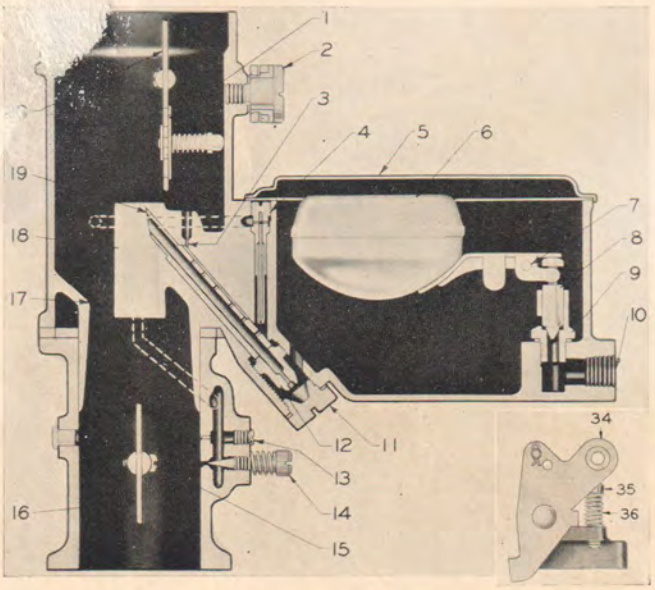


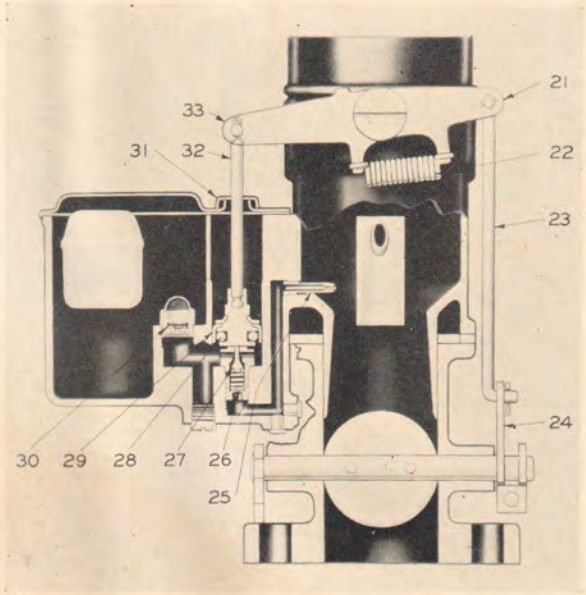
ADJUSTMENTS

Low Speed or Idling Adjustment: Have the engine well warmed up. With the hand throttle in the closed position, adjust the throttle stop screw "35" for the desired engine speed. Idle needle valves "14" control the gas for low speed adjustment. Turning *out* the needles gives a *richer* mixture and *in* a *leaner* mixture. Turn one idling adjustment in until the engine begins to "lag" or run irregular, then slowly turn out until engine begins to 'roll." Finally, very slowly, turn in the adjustment again, just enough so that the engine runs smoothly for this throttle opening. This adjusts the mixture to one bank of cylinders which are fed by its respective carburetor barrel. Adjust the other idle adjustment so that this bank also fires smoothly. It may be necessary, after making this adjustment, to cut down the engine speed slightly. If a satisfactory adjustment cannot be obtained, remove idle needle valves "14" and plugs "13" and see that discharge holes "15" are open and free from lint or dirt.

Accelerating Pump: For smooth, snappy acceleration, an extra discharge of gas is necessary. On the up stroke of piston "29," gas is drawn through check valve "30" into pump cylinder. On the down stroke, the compression closes check valve "30" and opens valve "27", discharging through restrictions "25." When throttle is opened only part way, a small amount of gas is discharged. However, when throttle is continuously held fully open, gas flows steadily through discharge "25." This gives the richer mixture that is required for high speed running. There are two adjustments for the pump; namely, summer and winter. During the summer months, less pump discharge is required and pump rod "23" should be placed in "S"; and during winter in "W." This gives more discharge.

Float Level: The fuel level in the float chamber is maintained by float "6."





Parts indicated in illustrations above are as follows:

1. Poppet Valve
2. Fulcrum Screw
3. High Speed Bleed
4. Idle Tube
5. Float Chamber Cover
6. Float
7. Float Fulcrum Pin
8. Float Needle Valve
9. Float Needle Valve Seat
10. Gasoline Inlet
11. Main Discharge Jet Nut
12. Main Metering Jet
13. Idle Discharge Plug
14. Idle Needle Valve
15. Idle Discharge Holes
16. Throttle Valve
17. Primary Venturi
18. Auxiliary Venturi
19. Main Discharge Jet
20. Choke Valve
21. Pump Lever Arm
22. Pump Arm Connecting Spring
23. Pump Rod
24. Pump Lever
25. Pump Discharge Nozzle
26. Economizer By-Pass Jet
27. Economizer Valve
28. Pump Piston Spring
29. Pump Piston
30. Check Valve
31. Dust Cap
32. Pump Piston Link
33. Pump Piston Arm
34. Throttle Lever
35. Throttle Stop Screw
36. Throttle Stop Screw Spring

The level is set at the factory at $\frac{9}{16}$" below the surface of the float chamber. It is not necessary to change this, unless extremely high test gas is used or the carburetor is handled roughly. When necessary, it can be corrected by bending the float arm, where it meets the float, up or down to give the desired position.

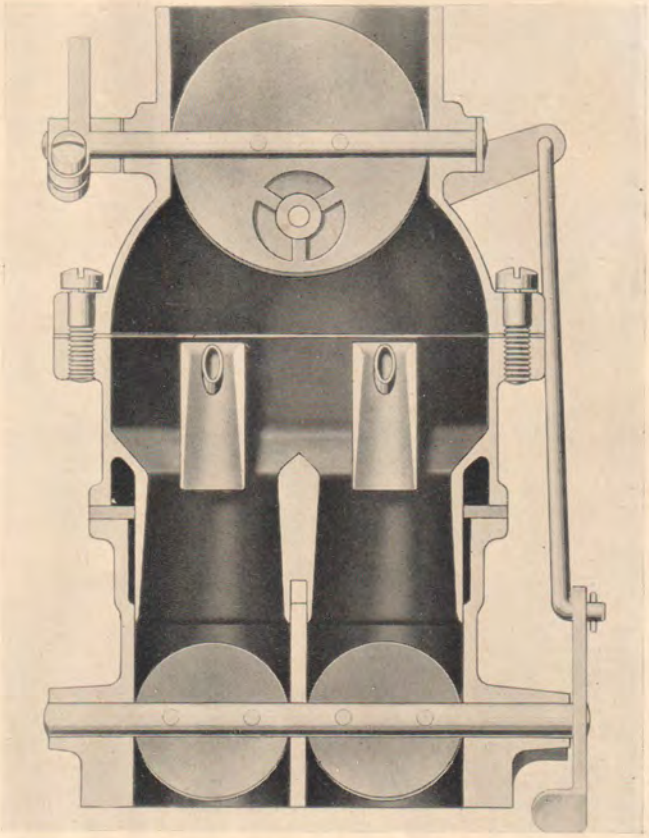
AUTOMATIC CHOKE

The Automatic Choke Control eliminates all methods of hand operated chokes. It is positive acting, which means instantaneous starting; no over-choking and more economical. It is an added comfort to winter driving.

A thermostatic spring, a unique mechanical linkage, and a vacuum piston are the operating factors. The thermostatic spring closes the choke valve when the motor is cold, and has tension against the choke during the warming up period. After the thermostat closes the choke, the mechanical linkage holds it in closed position while cranking. At the first fire of the engine, the manifold vacuum draws down the vacuum piston and unlocks the linkage which opens the choke enough to keep the engine running. From then on, the opening is controlled by the thermostatic spring.

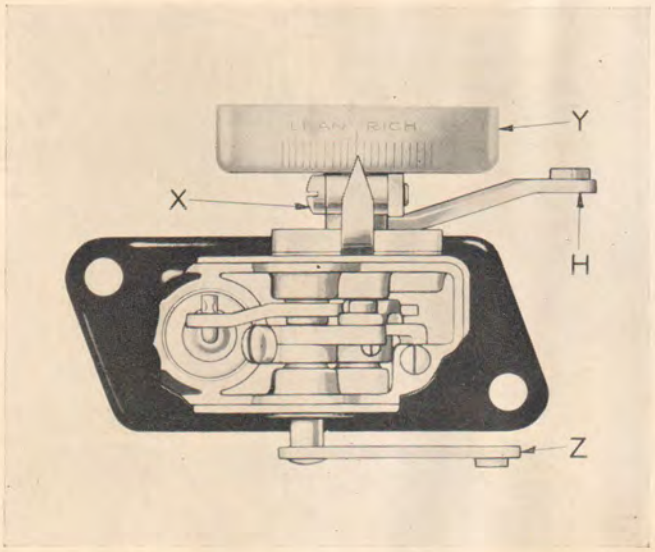
ADJUSTMENTS

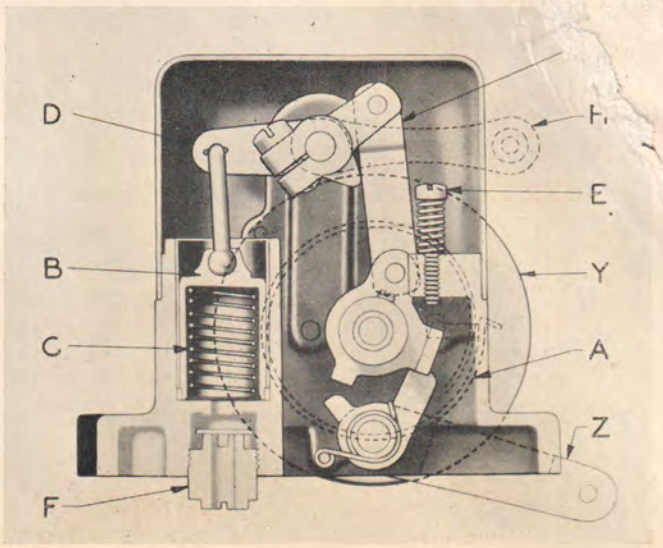
The thermostat "A" returns the choke valve in the carburetor to closed position when the motor is cold enough to require choking. The choke is held closed during the cranking of the engine until the motor fires and a manifold vacuum is created. The vacuum pulls down piston "B" and through lever "D" unlocks linkage "K," allowing the choke valve to open against the tension of thermostat "A." The adjustment is correctly set at the factory and it should *not* be necessary to change the adjustment more than two or three graduations to either side under any conditions. The thermostat controls the opening and closing of the choke and its tension is adjusted by loosening screw "X" and turning case "Y." Turning the case so that the "*rich*" graduations are



under the pointer increases the tension of the thermostat. Turning the case to the "*lean*" graduations decreases the tension.

The locking action of linkage "K" is set at the factory and is adjusted by turning screw "E." This adjustment has no effect on warm weather starting but is of importance for cold weather starting. If necessary to readjust,





Parts indicated above are as follows:

A. Thermostat
B. Vacuum Piston
C. Vacuum Piston Spring
D. Kick Lever
E. Adjustment Screw
F. Check Valve
H. Choke Lever
K. Connecting Link
X. Case Clamp Screw
Y. Thermostat Case
Z. Release Lever

proceed as follows: Remove air cleaner and disconnect the choke rod. Rotate the case "Y" exactly one-fourth turn to the "*rich*" side. With this tension, lever "H" should catch in the choke closed position and should resist being pushed down by a light pressure, but should yield to a tap of the hand. Turning screw "E" *in*, or clockwise, will cause lever "H" to offer less resistance; turning screw "E" *out* will increase the catch of the lever "H" in choke closed position. After making this adjustment, it is necessary to readjust the position of the choke lever on the carburetor by loosening the lever clamp screw. Assemble the choke rod. Set the choke valve in the closed position. Adjust the choke lever so that there is only .006″ backlash. Fasten the clamp screw securely. Return the "Y" to its original position. Replace the air cleaner.

The entire adjustment of the Automatic Choke should be made only on a cold motor or on one that has not been run for several hours.

The safety release lever "Z" is connected to the throttle control and cracks open the choke valve when the accelerator pedal is depressed to full travel.

IMPORTANT: Make certain that parts do not stick, but move freely at all times.

Wind Noise

The wind noises noticeable on the 900 cars may be greatly reduced by the installation of weatherstrips installed as illustrated. Two parts are required:

No. 205092 Front Pillar Face Weatherstrip, Right, Body Type 553-563.

No. 205093 Front Pillar Face Weatherstrip, Left, Body type 553-563.

In making this installation use a good linoleum cement such as Goodyear No. 7. Close door tightly and allow at least one-half hour for the cement to set.

Cars now coming through production are equipped with these weatherstrips.

Watching the Pennies

We have a suggestion from Mr. J. W. Wilson, manager of the Parts Department in Portland, Oregon, on a little stunt that he has for guarding what is usually considered a very small item of expense. It is just such items, however, when not carefully watched, that often upset the net profit in the Repair Shop. He explains it as follows:

"We have cut our shop rag expense in half by putting our rags on a budget system. Our boys now have more rags and are better satisfied than they were under the old system of giving out rags at all times of the day. A man is dispatched with a supply of rags each morning, each mechanic receiving a certain number of ounces. The result is that the boys conserve their rags more than they formerly did.

"A good way to start is to find an average for each man and then start in by deducting 25% from the amount formerly used. It will be found that this can be further cut to about 50% after a short time. Work of a certain kind, of course, will be found to require more rags than others, but this can be easily controlled by increasing one and decreasing the other."

Do you know that a reduction of only 30c a day in each Service Direct Expense Account amounts to $1475.00 in one year? It pays to check every item.

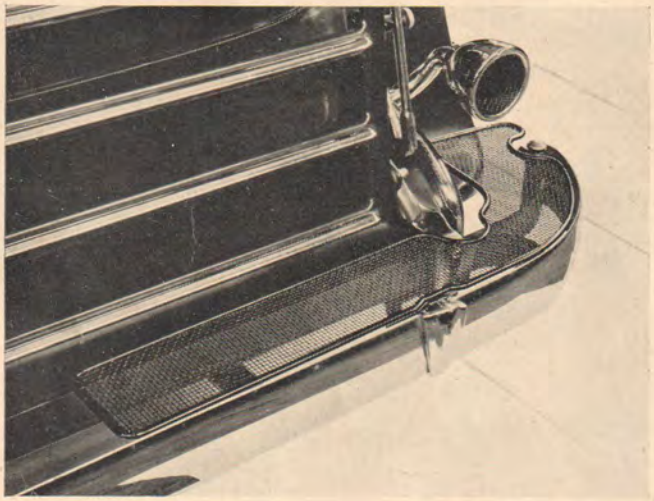
Pebble Deflectors for Ninth Series Cars

The majority of cars nowadays are driven on paved roads practically all of the time. For this reason it is not felt advisable to supply, as standard equipment, pebble deflectors which are of advantage only when cars are driven on gravel roads. Such equipment is available through service and is not included as standard equipment on all cars.

Pebble deflectors for the Ninth Series cars have been designed, which fill this requirement very satisfactorily. They are available in two styles, one for cars equipped with the full length bumpers and the other for cars equipped with bumperettes. The equipments are carried under four different part numbers and the Zone prices are listed.

The deflectors are made of heavy material with three attaching points giving a rigid mounting. They are black enameled and do not detract from the appearance of the car.

These deflector equipments should represent a good seasonable article. You obtain the full parts profit on each sale and for real protection for the rear panel of the car, where drivers are using gravel roads, they represent an attractive item



195996 Bumper Pebble Deflector Equipment used with rear wheel carrier on models 901-902—1 required:

Zone 1 list	$13.20
Zone 2 list	13.80
Zone 3 list	15.00

195997 Bumper Pebble Deflector Equipment used with side wheel carrier on models 901-902—1 required:

Zone 1 list	$15.40
Zone 2 list	16.10
Zone 3 list	17.50

195998 Bumper Pebble Deflector Equipment used with rear wheel carrier on models 903-904—1 required:

Zone 1 list	$13.20
Zone 2 list	13.80
Zone 3 list	15.00

195999 Bumper Pebble Deflector Equipment used with side wheel carrier on models 903-904—1 required:

Zone 1 list	$15.40
Zone 2 list	16.10
Zone 3 list	17.50

Service Signs for Dealers

We have on hand a number of porcelain enamel service signs, which are particularly appropriate for dealer use. These are of heavy steel construction and have a flanged edge for attaching. They are finished in Packard blue and white and are very durable. They are approximately 18″ x 26″. The same reading appears on both sides. Being standard Packard Service signs, we offer them on

a permanent rental charge basis whereby the distributor agrees to return the sign upon cancellation of the dealer's account, thus protecting the authorized Packard dealer and the owner against the use of the authorized Service sign by other than an authorized Service Station.

The signs are offered at a special rental price of $2.00 each. Orders are to be placed through the distributer. The $2.00 represents the total charge for the sign as long as a contract is held to merchandise Packard cars and Packard authorized service.

Correction

Please correct the article in Volume 6, No. 10 on page two in the article under "Twin Six ignition." You will find in the paragraph, directly under the illustration of the line drawing of the distributor head, that the thirteenth line reads "until 70° ahead of top dead center." This should be corrected to read "until 7° ahead of top dead center." Please correct this now.

Window Wings

NINTH SERIES CONVERTIBLE BODIES

Our Accessory Department has recently developed a window wing for use on ninth series Convertible Bodies. This is a very practical accessory giving protection from dust, draft, wind and rain, yet allowing proper ventilation. The glass is non-shatterable and the installation is simple. One size wing fits all Convertible Bodies on the 900-1-2-3-4-5.

The piece number is PA-1758. Please see Trade Letter T-2571 for prices.

We Welcome Suggestions and Inquiries from Packard Service Men. Address All Communications Care Editor, Packard Service Letter.

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