

From the float chamber the fuel flows via the main jet screwed into the main jet plug (20) into the mixing tube holder (10). If the throttle valve is opened still further, that is beyond the idle position phase 2, the partial vacuum which has moved further upward causes fuel to be drawn through the outlet bores of the mixing tube holder and this fuel is mixed with the air entering through the air intake branch in the carburetor cover.

When the fuel level in the mixing tube holder decreases as a result of the increasing partial vacuum, i. e. at higher engine speed, compensating air enters through the air correction jet (11) which, through the small bores in the mixing tube mixes with the fuel flowing through the main jet. With increasing engine speed the proportion of air in the mixture increases so that overenrichment of the fuel-air mixture is prevented and an almost uniform proportion of fuel to air is ensured over the whole speed range (Figs. 07-0/7 and 07-0/9).

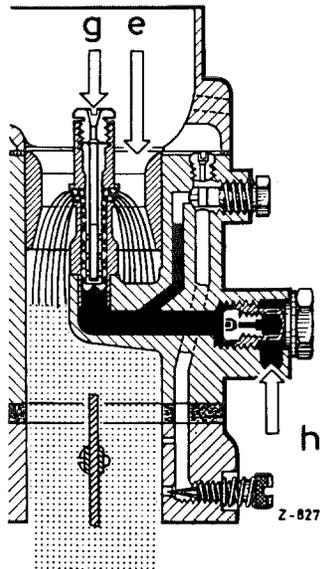


Fig. 07-0/9
Main carburetion system
(Throttle valve in full-load position)

- e) Main air supply
- g) Entry of compensating air
- h) Fuel feed

E. Accelerating Pump

The accelerating pump No. 73 is a so-called "mixture enriching" pump which means that in the upper load range the fuel-air mixture is enriched via the pump system. In contrast to the "neutral" pumps this "mixture enriching" pump has a ball valve (17) which permits an enrichment of the fuel-air mixture only in the upper load range of the engine. The ball valve is actuated by the pump diaphragm via the throttle valve shaft, the connecting rod and the pump arm. In the upper load range the tip of the diaphragm pin (19) keeps the ball valve (17) open. In relation to the degree of vacuum obtaining in the air horn, additional fuel is drawn in from the pump system via injection tube (15) when the ball valve is open, and the fuel-air mixture is thus enriched.

The enrichment delivery point varies with the individual carburetor types (see Section F).

The main purpose of the accelerating pump, however, is to spray extra fuel into the mixing chamber of the suction canal when the accelerator pedal is depressed, in order to achieve a smooth speed build-up and good acceleration.

Pump arm (31) of the accelerating pump is connected with the throttle valve shaft by means of connecting rod (30). With the throttle valve closed, diaphragm (19) is pushed outward by the diaphragm spring (18). Since the pump chamber is connected with the float chamber by way of ball valve (21), it is filled with fuel.

When operating the accelerator pedal connecting rod (30) will move pump arm (31). The pump arm will then push the diaphragm inwards so that the fuel in front of the diaphragm is injected by way of ball valve (17), pump jet (16), the ball valve in the injection tube holder (15) and finally the injection tube itself.

During the injection, ball valve (21), which operates as a check valve is closed. When the accelerator pedal moves back, diaphragm spring (18) will push diaphragm (19) back. Now, ball valve (21) operates as a through-way valve while the ball valve in the injection tube holder (15) operates as a check valve and prevents the penetration of air from the carburetor suction canal into the pump system (Fig. 07-0/10).

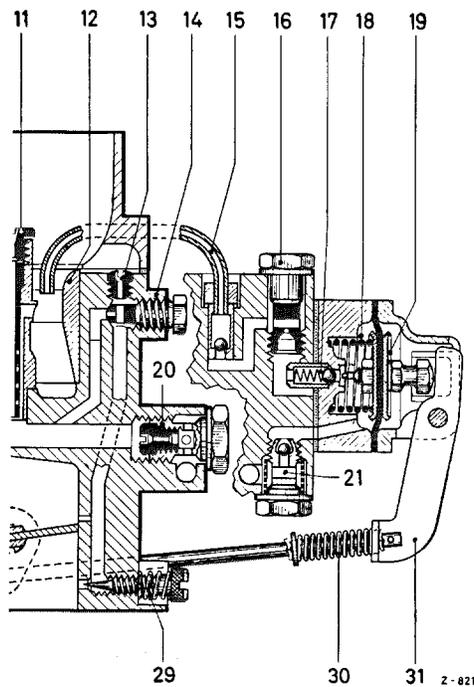


Fig. 07-0/10

- 11 Air correction jet
- 12 Air horn
- 13 Idle air jet
- 14 Idle fuel jet
- 15 Injection tube
- 16 Pump jet
- 17 Ball valve
- 18 Diaphragm spring
- 19 Pump diaphragm
- 20 Main jet plug with main jet
- 21 Ball valve
- 29 Idle mixture adjustment screw
- 30 Connecting rod
- 31 Pump arm

The injection amount for the carburetor of Model 180 should be 0.7-1.0 cc/stroke, and for the carburetor of Model 180 a 0.9-1.2 cc/stroke. The addition of shims between the pump arm and the cotter pin in the connecting rod will change the injection amount within narrow limits only, because this will simultaneously change the enrichment delivery point of the fuel/air mixture via the pump system. Replace pump diaphragm, if required. However, a test should be made previously as to whether the connecting rod and the pump arm moves without obstructions. In addition, the position of the cotter pins in the connecting rod should be checked. (Refer to Note of Section F). Following the installation of a new diaphragm or the adjustment of the injection amount the enrichment delivery point should be checked (refer to Job No. 01-3, Section H).