The cross-section of the idle mixture bore (41) can be varied by moving the idle mixture adjustment screw (29). When the idle mixture adjustment screw is slackened, the mixture is enriched.

The idle speed is adjusted by means of the idle adjustment screw on the throttle valve lever (see Job No. 01-3, Section K).

b) Idle – Phase 2

When the throttle valve is being slightly opened, idle mixture flows through both the idle mixture bore (41) and the by-pass bores (42). The by-pass bores now serve to ensure a proper changeover to the main carburetion system (Figs. 07-0/7 and 07-0/8).

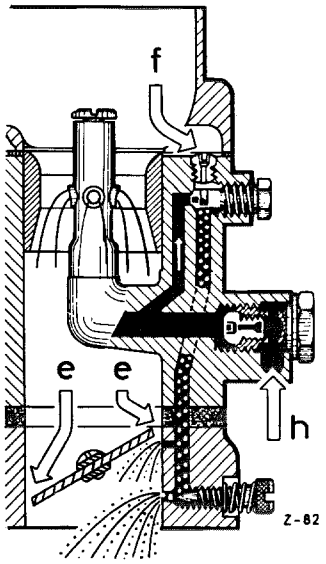

Fig. 07-0/8

Idle — Phase 2
(Throttle valve slightly open)

e) Main air supply
f) Entry of idle air
h) Fuel feed

Note: a) In the suction canal of the carburetor at the same height as the by-pass bores, but offset to one side there is a further bore which leads to a threaded union in the carburetor housing and takes the distributor vacuum line.

b) The carburetor for Model 180 a as from Engine End No. 8506159 has a bore on the carburetor flange which serves as a connection for a vacuum test gage and which is closed with a grub screw.

D. Main Carburetion System

In its standard form the downdraft carburetor Type 32 PJCB has a float chamber with float and float needle valve in the carburetor cover. The float chamber is ventilated by the tube (9) in the carburetor cover. The carburetor parts for the main carburetion system are the air horn, the main jet and the air correction jet with mixing tube (see Fig. 07-0/1).

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).

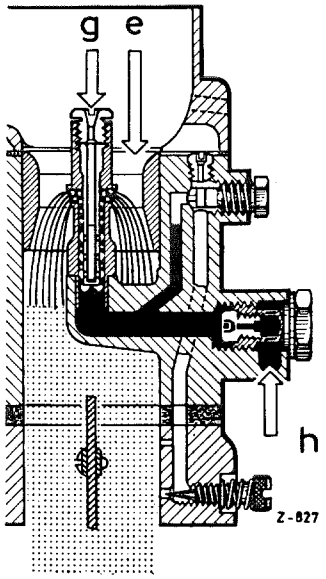

Fig. 07-0/9

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.