

By slowly pushing in the pull knob the engine speed can be adapted to the driving situation.

There is no objection to warming up the engine with the starter mechanism in operation. However, the starter mechanism should be switched off by pushing the knob right in as soon as the engine has reached normal working temperature. When the engine is warm, the knob must not be pulled to start the engine.

D. Idle System

The carburetor has two idle systems, one for stage 1 and one for stage 2. The idle system of stage 1 serves the normal purpose of supplying the engine with the idle mixture required and of ensuring a satisfactory change-over to the main carburetion system.

The idle system of stage 2 only serves to improve speed build-up when stage 2 is brought into operation.

Idle System of Stage 1

The difference between the idle systems in die-cast and sand-cast carburetors is that in the die-cast carburetor the idle air supply is drawn from the mixing chamber in the suction of the carburetor and passes via the recess in the air horn (32) through the idle air bore (43) (replacing the idle air jet) into the idle canal (45), whereas in the sand-cast carburetor the idle air passes into the idle canal through the idle air jet (44) from outside (Figs. 07-0/39 and 07-0/40).

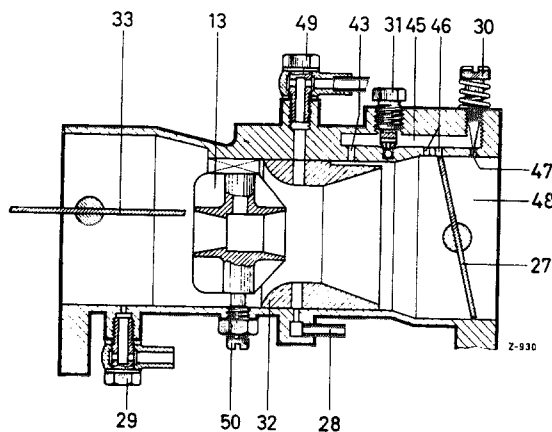


Fig. 07-0/39

Idle system of stage 1 (Die-cast carburetor)

- 13 Diffuser
- 27 Throttle valve of stage 1
- 28 Fuel suction line
- 29 Union for fuel outlet line
- 30 Idle mixture adjustment screw of stage 1
- 31 Idle fuel jet of stage 1
- 32 Air horn
- 33 Choke valve
- 43 Idle air bore of stage 1
- 45 Idle canal of stage 1
- 46 By-pass bores of stage 1
- 47 Idle mixture bore of stage 1
- 48 Suction canal of stage 1
- 50 Retaining screw for diffuser

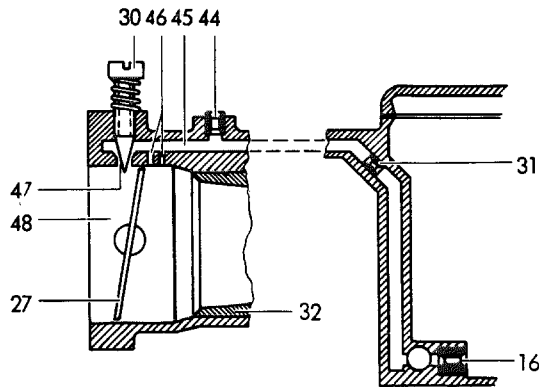


Fig. 07-0/40

Idle system of stage 1
(Sand-cast carburetor)

- 16 Main jet
- 27 Throttle valve of stage 1
- 30 Idle mixture adjustment screw of stage 1
- 31 Idle fuel jet of stage 1
- 32 Air horn
- 44 Idle air jet
- 45 Idle canal of stage 1
- 46 By-pass bores of stage 1
- 47 Idle mixture bore of stage 1
- 48 Suction canal of stage 1

a) Idle Phase 1

The fuel which is drawn in via the idle fuel jet (31) mixes with the air entering through the idle air bore (43) forming a mixture which then passes into the idle canal (45). When the throttle valve (27) is in the idle position, a further supply of air enters through the rear by-pass bore (46); the idle mixture enters the suction canal through the idle mixture bore (47) and through the front by-pass bore (46) and combines with the air flowing past the throttle valve to form the final idle mixture (Figs. 07-0/39 and 07-0/41).

The section of the idle mixture bore can be varied by the idle mixture adjustment screw (30) (Fig. 07-0/41). The final idle mixture can be leaned out by tightening the idle mixture adjustment screw and enriched by slackening it. The idle speed is adjusted with the idle adjustment screw (72) on the throttle valve lever (38) (see Job No. 01-3, Section K, and Fig. 07-0/36).

b) Idle Phase 2

When the throttle valve is opened slightly, idle mixture emerges both through the idle mixture bore (47) and the rear by-pass bore (46). The two by-pass bores now ensure a smooth change-over from the idle to the main carburetion system (see Figs. 07-0/39 and 07-0/41).

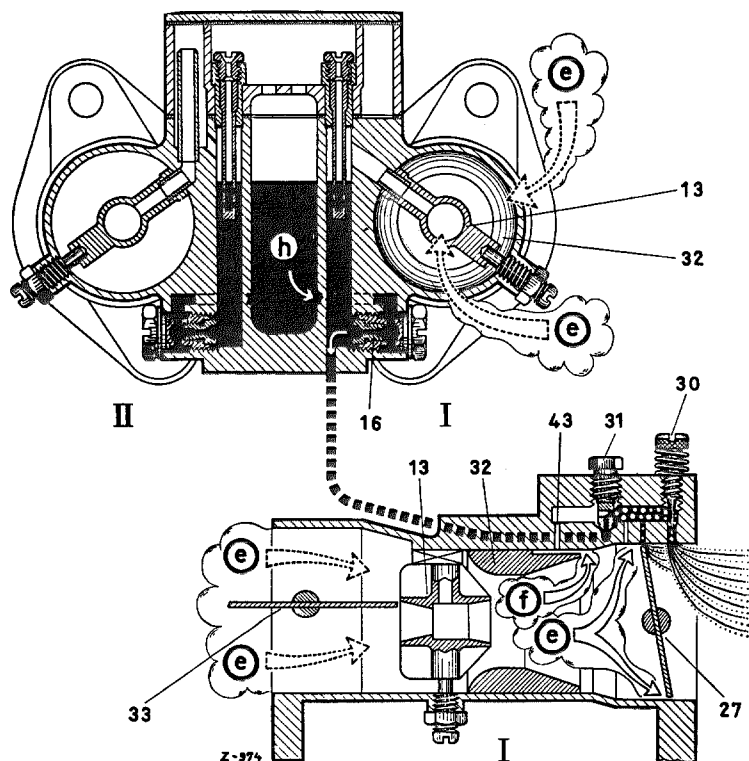


Fig. 07-0/41

Idle — Phase 1

I Stage 1

II Stage 2

e) Entry of main air
f) Entry of idle air
h) Fuel feed

13 Diffuser
16 Main jet plug with main jet
27 Throttle valve of stage 1
30 Idle mixture adjustment screw of stage 1

31 Idle fuel jet of stage 1
32 Air horn
33 Choke valve
43 Idle air bore of stage 1

Idle System of Stage 2

The 2nd stage of the carburetor also has an idle system which is used only to improve the speed build-up when the 2nd stage is brought into operation. When the engine is idling, is in the partial-load range and in the full-load range up to approx. 3500 rpm, the idle system of stage 2 is not in operation, since both the mixture adjustment screw (24) and the throttle valve (26) of stage 2 are closed.

The idle air supply for the idle system of stage 2 of both die-cast and sand-cast carburetors is drawn in from the mixing chamber in the suction canal through the idle air bore (63) (Figs. 07-0/42 and 07-0/43).

Note: As from Engine End No. 65 01133 the die-cast carburetors have only one by-pass bore in stage 2.

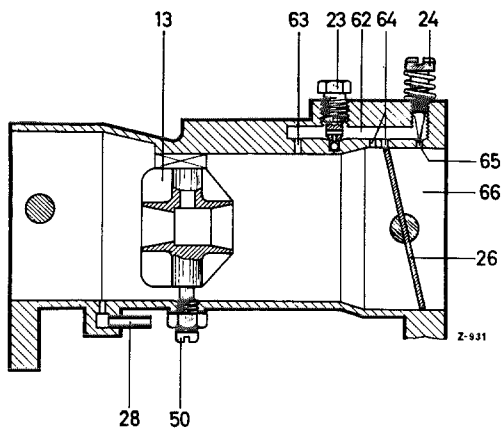


Fig. 07-0/42

Idle system of stage 2
(Die-cast carburetor)

- 13 Diffuser
- 23 Idle fuel jet of stage 2
- 24 Idle mixture adjustment screw of stage 2
- 26 Throttle valve of stage 2
- 28 Fuel suction line
- 50 Retaining screw for diffuser
- 62 Idle canal of stage 2
- 63 Idle air bore of stage 2
- 64 By-pass bores of stage 2
- 65 Idle mixture bore of stage 2
- 66 Suction canal of stage 2

When the engine reaches a speed of approx. 3500 rpm under full load, the throttle valve (26) of stage 2 begins to open. The fuel drawn in through the idle fuel jet (23) combines with the air entering through the idle air bore (63) to form a mixture in the idle canal (62). This mixture emerges at the by-pass bores (64) as soon as the throttle valve (26) of stage 2 opens. This additional enrichment of the fuel-air mixture prevents a change-over shock when stage 2 is brought into operation (see Figs. 07-0/42 and 07-0/43).

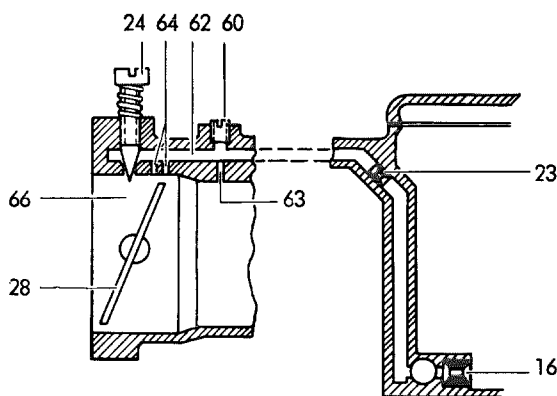


Fig. 07-0/43

Idle system of stage 2
(Sand-cast carburetor)

- 16 Main jet
- 23 Idle fuel jet of stage 2
- 24 Idle mixture adjustment screw of stage 2
- 26 Throttle valve of stage 2
- 60 Grub screw
- 62 Idle canal of stage 2
- 63 Idle air bore of stage 2
- 64 By-pass bores of stage 2
- 66 Suction canal of stage 2

Note: The idle mixture adjustment screw of stage 2 remains closed.

E. Main Carburetion System

The float chamber (9) of the carburetor is located in the center between the two suction canals. The connection (7) connects the float chamber with the outside air via the fuel overflow line. The float chamber is closed at the top by the carburetor cover (11). The cover carries the float valve (1) and the threaded union for the fuel line.

The suction canal of stage 1 has an air horn (32) with a diffuser (13) installed in front of it. The outlet tube for the fuel and the fuel mixture opens into the diffuser. By a canal the outlet tube is connected with a cylindrical cavity which is supplied with fuel from the float chamber via the main jet (16) screwed into the main jet plug. The mixing tube (15), which is held in the carburetor by the air correction jet (14), projects from above into the cylindrical cavity.