

In the idle position of the carburetor linkage the set screw (69) must rest against the abutment screw (70) without any clearance.

When the two throttle valves of stages 1 and 2 are fully opened, the set screw also rests against the abutment screw, so that the throttle valve shaft of stage 1 makes stage 2 automatically inoperative when the accelerator pedal is released.

The automatic return mechanism of stage 2 should be adjusted after the idle adjustment has been made (see Job No. 01-3, Section K).

C. Starter Mechanism

The starter mechanism of the carburetor works on the choke valve system, a stepless and progressive system in which there is a fixed relationship between choke valve position and start mixture enrichment. The starter mechanism is actuated by a pull knob on the instrument board and a bowden cable. The starter mechanism consists of a choke valve in the suction canal of stage 1; the choke valve shaft (71) is offset from the center of the suction canal.

In the sand-cast carburetors the starter mechanism is located in a special choke valve section screwed to the carburetor housing. The die-cast carburetors have no special choke valve section and the choke valve shaft is located in the carburetor housing itself.

When the starter mechanism is not in operation under normal running conditions, the choke valve (33) is open (Fig. 07-0/35).

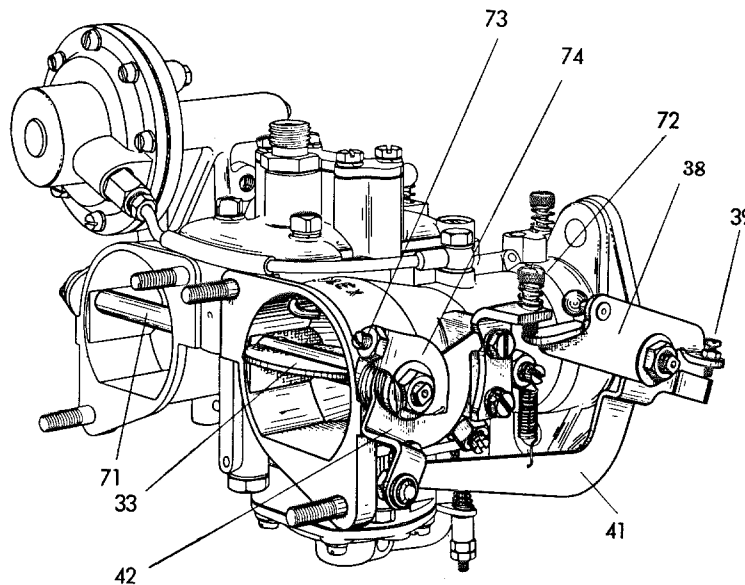


Fig. 07-0/35

Normal running position — Starter mechanism inoperative
(Choke valve open)

33 Choke valve
38 Throttle valve lever of stage 1
39 Adjusting screw

41 Relay lever
42 Choke valve lever with cam plate
71 Choke valve shaft

72 Idle adjustment screw
73 Adjusting screw
74 Abutment

When the knob is pulled out, the starter mechanism is in operation and the choke valve (33) is closed (Fig. 07-0/36).

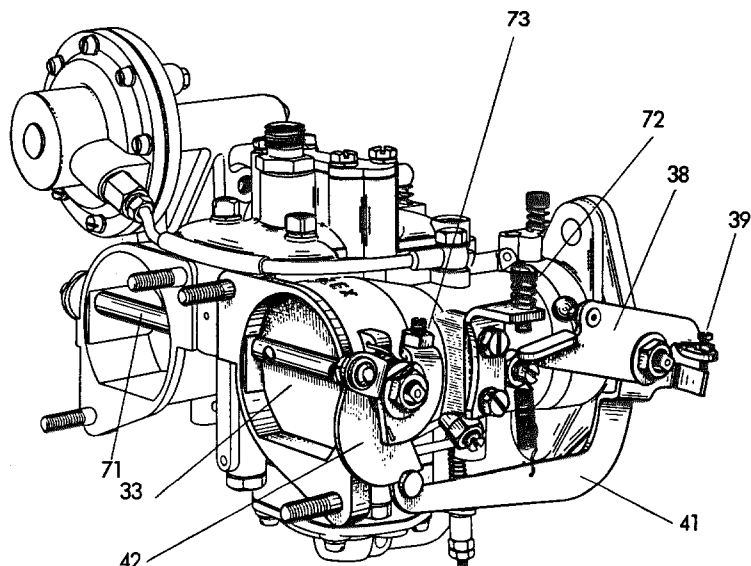


Fig. 07-0/36

Starter mechanism operative
(Choke valve closed)

- 33 Choke valve
- 38 Throttle valve lever of stage 1
- 39 Adjusting screw
- 41 Relay lever
- 42 Choke valve lever with cam plate
- 71 Choke valve shaft
- 72 Idle adjustment screw
- 73 Adjusting screw

The choke valve is closed by a coil spring; it is opened by a relay lever when the engine has started.

When the choke valve closes, the throttle valve (27) of stage 1 is automatically opened approx. 5° by the choke valve lever (42) with cam plate and the relay lever (41) (Fig. 07-0/37).

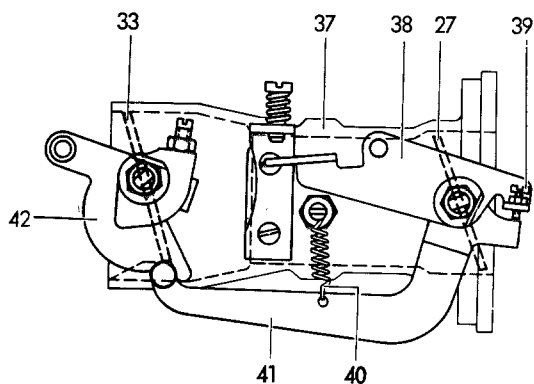


Fig. 07-0/37

Starter mechanism

- 27 Throttle valve of stage 1
- 33 Choke valve
- 37 Carburetor housing
- 38 Throttle valve lever of stage 1
- 39 Adjusting screw
- 40 Tension spring
- 41 Relay lever
- 42 Choke valve lever with cam plate

The throttle valve must open in order to ensure that the vacuum building up in the suction tube can become effective in the mixing chamber of the carburetor and in order to ensure proper starting and running of the engine.

Note: a) The cam plate on the choke valve lever (42) and the relay lever (41) are fitted to the rear carburetor only. The throttle valve on the front carburetor is automatically opened by the control shaft of the carburetor linkage (see Fig. 07-0/35).

b) When the choke valve is closed there must be a clearance of 1.0 mm between the adjusting screw (73) on the abutment (74) and the choke valve lever (42) (see Fig. 07-0/35).

c) When the starter mechanism is inoperative, the choke valve must be fully open. The stop lever on the choke valve shaft must rest against the carburetor housing. This point needs particular attention when the choke cable is being connected (see also Job No. 30-6).

d) When the starter mechanism is inoperative, there must be a clearance of approx. 0.4 mm between the adjusting screw (39) on the throttle valve lever and the relay lever (41) when the carburetor linkage is in the idle position. The tension spring must press the relay lever against the cam plate of the choke valve lever (see Fig. 07-0/35).

Cold Start

When the engine is being started, the closed choke valve (33) produces an effective vacuum in the diffuser (13) of stage 1, so that sufficient fuel is drawn from the main supply system to provide a mixture rich enough to start the engine cold. When the engine has started, the pressure flow regulates the opening of the choke valve (33) against the pressure of the coil spring, with the result that the combustion air necessary for the start mixture can enter (Fig. 07-0/38).

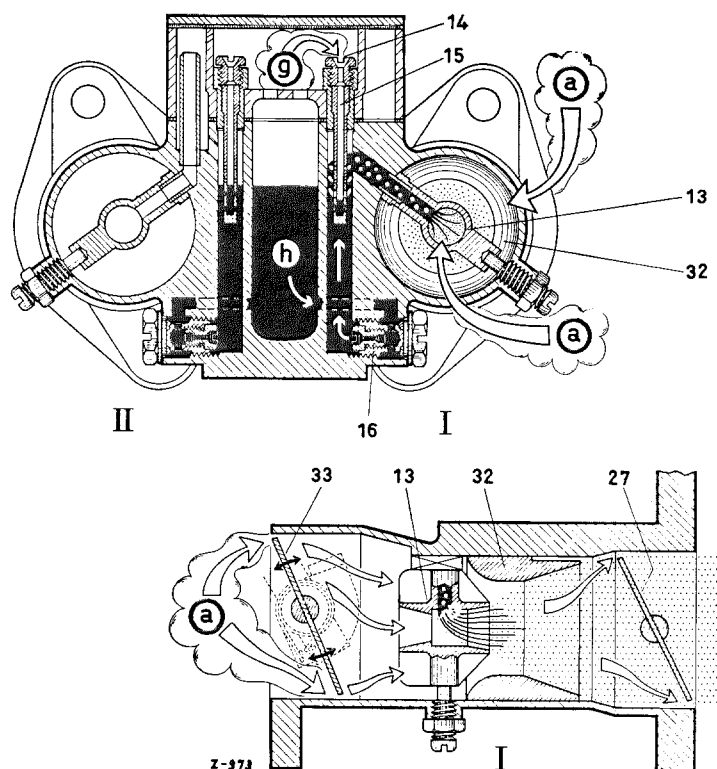


Fig. 07-0/38

Cold start
(After engine has started)

I Stage 1 II Stage 2

- a) Starter air entry
- g) Entry of compensating air for main carburetion system
- h) Fuel feed
- 13 Diffuser
- 14 Air correction jet
- 15 Mixing tube
- 16 Main jet plug with main jet
- 27 Throttle valve of stage 1
- 32 Air horn
- 33 Choke valve

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).

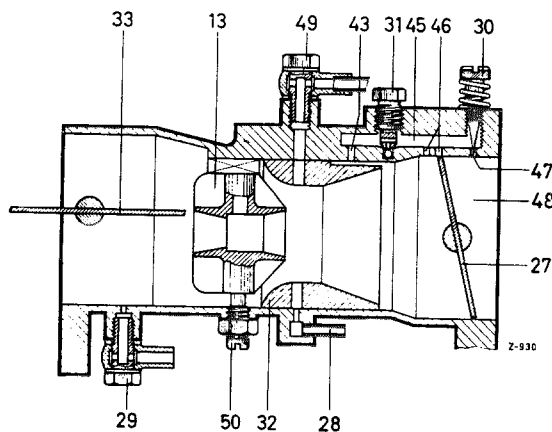


Fig. 07-0/39

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