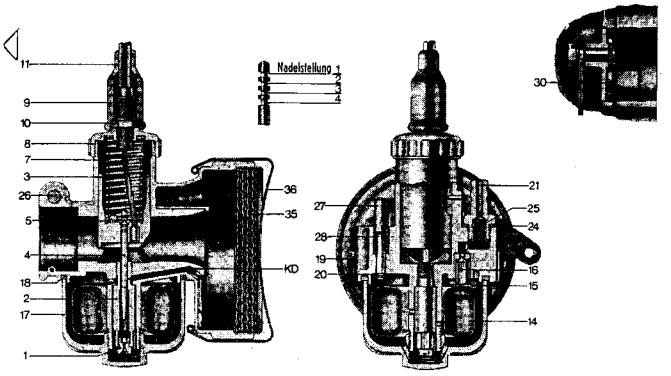
BING Slide Carburettor Type SRG

The BING carburettor type SRG is a cross-draught slide carburettor with part-load needle jet and idling control. It is produced with a choke tube size of 14, 15 and 17 mm. To reduce weight, the housing is made of aluminium.



MOUNTING

The carburettor is mounted on the engine by a clamped connection having a diameter of 23 mm. The socket on the engine side should be matched to this diameter as closely as possible to ensure that the carburettor housing is not distorted when clamping screw (26) is tightened. On the filter side the housing is shaped to take a filter element (35) which is attached either with the intake silencer which is pushed over subsequently or by the spring clip (36).

Fuel Intake Control

The carburettor float consisting of a plastic body with metal hinge is located centrally below the carburettor choke tube in the form of a ring around the nozzle system so that the carburettor can be tilted very far in all directions without impairing operation. The object of the float is to maintain a constant fuel level in the carburettor. When the fuel supplied has reached a specified level in the float chamber, then the float (14) is lifted until the float needle (16) is pressed against the seat in the inlet valve thus preventing any further supply of fuel. When the engine draws fuel from the carburettor, the level in the float chamber drops and so does the float. The float needle clears the inlet valve and allows fuel to flow in from the tank again.

The float chamber is item (17) which is attached to the carburettor housing by a central thread, the sealing effect being provided by seal (18).

The fuel supply to the carburettor housing is either via hose nozzle (21) — with seal (24) — or via a swivel connector (22) which is attached to the carburettor housing by screw (23) and two seals (24). The space above the fuel level is connected to atmosphere through a hole (not shown). When this vent hole is blocked, an air cushion forms above the fuel level, the float is not lifted and the carburettor will overflow.

In conjunction with the float the float needle valve only regulates the fuel supply, it does not function as a stop valve when the engine is at standstill. Minute foreign bodies may be deposited between needle seat and needle tip, thus preventing complete closure of the valve. When stopping the engine, therefore, the fuel cock on the tank should always be closed. In addition the fuel should be filtered before it reaches the carburettor. The filter should be selected so that foreign bodies greater than 0.1 mm are filtered out and the fuel supply is not impeded to too great an extent. As an additional safeguard the screen (25) may be inserted into the hose nozzle (21) or screw (23). However, this screen does not obviate the need for a fine, large-area filter upstream of the carburettor.

Regulating System

The amount of mixture drawn in by the engine and thus its performance is determined by the cross-sectional area in the choke tube which is opened up by the throttle valve (3). The valve is lifted by a cable against the action of the return spring (7). The air flow produces a vacuum in the carburettor choke tube which draws fuel from the float chamber through the jet system.

The amount of fuel drawn in at maximum throttle valve position, i.e. at full throttle, is determined by the size of the main jet (1) which is screwed into the needle jet (2). Air is supplied from the filter side through the correction air nozzle (KD) and a duct; this air enters the needle jet (2) through transverse holes and is mixed with the fuel.

In the part-load range, i.e. when the throttle valve is between one and three quarters of its full stroke, less fuel is required than at full throttle. The fuel supplied to the carburettor choke tube is therefore throttled by a jet needle (4) which is connected to the throttle valve (3) and engages the needle jet (2). Depending on the dimension of the flat cone at the lower end of the jet needle, the annular gap between jet needle and needle jet is enlarged or decreased. For fine adjustment the jet needle may be located in the throttle valve in four different height positions (needle positions) which, similarly to the jet needle cone, affect the amount of fuel drawn in. For example a higher needle position results in a larger annular cross-section in the needle jet which allows more fuel to pass through and vice versa. "Needle position 2" means that the jet needle has been suspended from the sprung retainer (5) from the second notch from the top.

Above the retainer (5) is the washer (6) which is supported in the throttle valve and via the spring (7) acts on the throttle valve. The retainer (5) is freely movable between throttle valve and washer (6) so that the jet needle can swing freely during operation.

With a small throttle valve opening and in particular during idling, the amount of fuel supplied is affected also by the underside of the throttle valve. It can have the shape of a cylindrical recess ("air cushion"), a cut-out on the filter side or a slot leading towards the engine side. A number of differently shaped throttle valves is available for adjusting the carburettor.

To select the idling speed, the throttle valve is lifted using the throttle valve adjusting screw (19) which is prevented from working loose by spring (20). If it is turned in clockwise direction, the idling speed is increased and vice versa.

The throttle valve movement in the housing is limited at the top by a screwed cover (8). Cable play is adjusted by means of an adjusting screw (9) and locknut (10). During idling the cable play should be approximately 2—3 mm. The rubber bush (11) provides a seal between adjusting screw and cable bush. In special cases the cable may be diverted by means of a pipe bend (12) which is secured with locknut (13).

Starting Aids

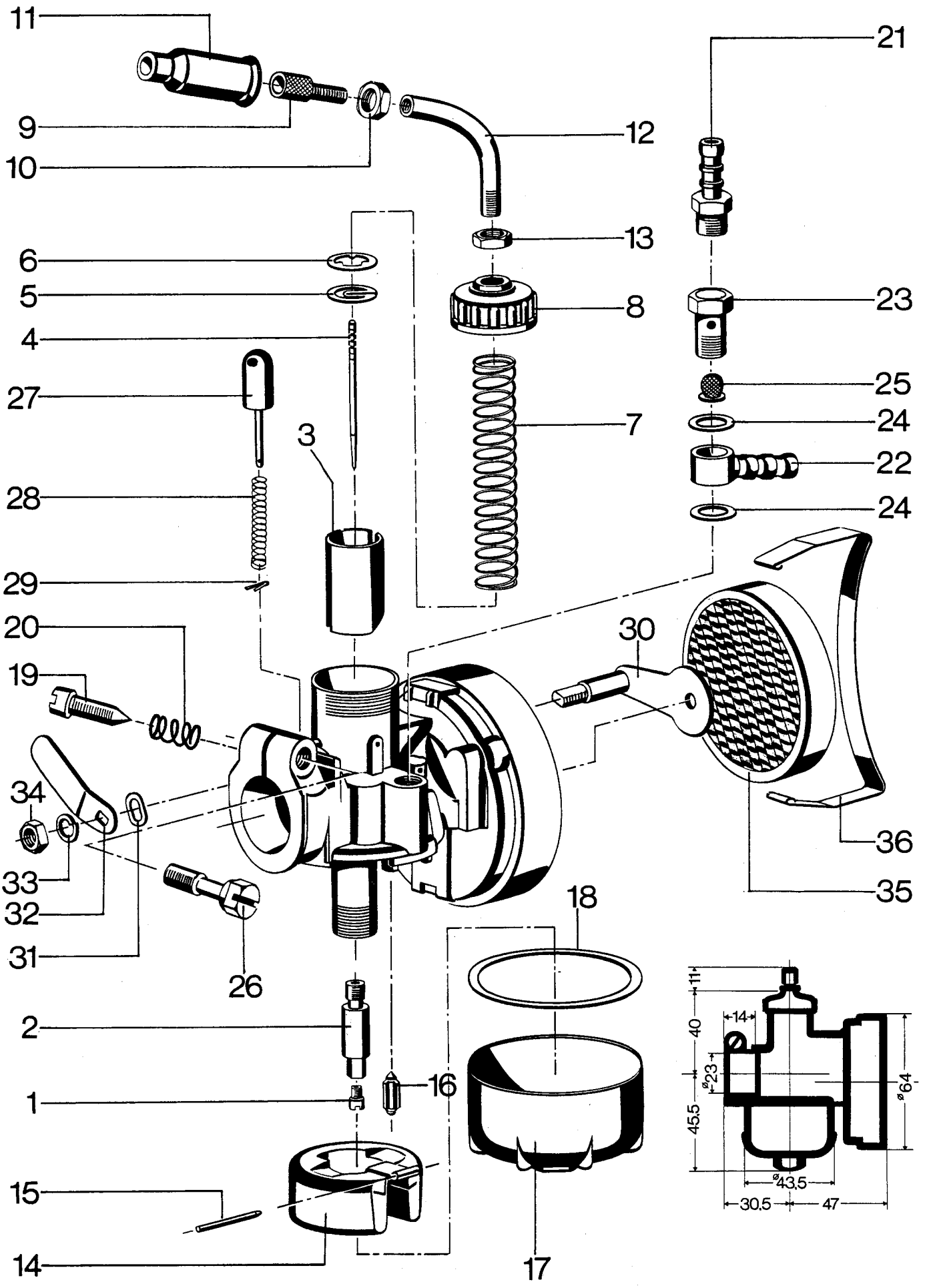
The BING carburettor type SRG is available with two different starting aids:

1. Tickler

   When starting at low temperatures, the float may be pushed below the fuel level in the float chamber by depressing the tickler (27) against the spring (28) so that more fuel is supplied than is required for normal operation. The tickler may be operated only until fuel is seen to emerge from the float chamber vent or from the tickler guide at the housing.

2. Starting Flap

   The starting flap (30) with rivetted-on shaft is located in the carburettor housing and is fitted with the starting lever (32) on the outside which is secured by nut (34) and lockwasher (33). The spring washer (31) located between the lever and the carburettor housing exerts a braking action on the starting lever. Prior to starting the starting flap is closed so that a particularly high vacuum builds up upstream of the fuel system when starting up; this contributes towards a rich mixture as needed particularly when starting a cold engine. As soon as the engine has started, the starting flap is opened again.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