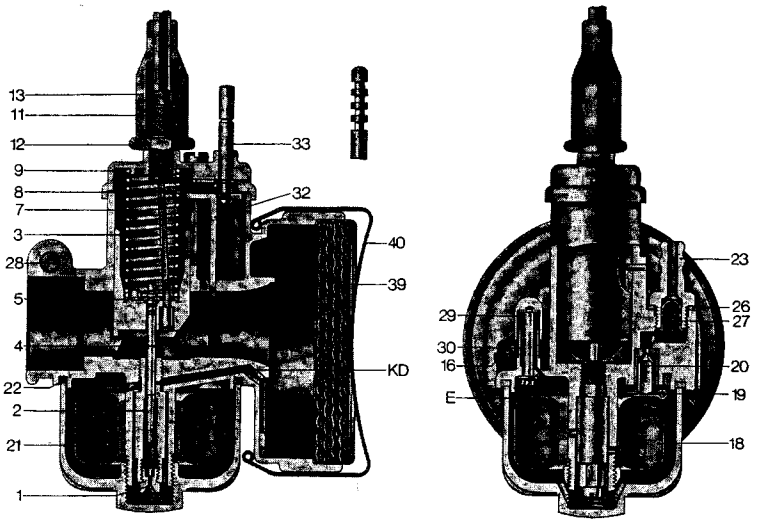
BING Slide Carburettor Type SRF

The BING carburettor type SRF is a cross-draught slide carburettor with part-load needle jet and idling control. It is produced with a bore size of 14, 15, 16 and 17 mm.



Mounting

The carburettor is fitted to the engine with a clip fitting having a diameter of 23 mm. The induction stub should match this diameter as closely as possible so that the carburettor body is not distorted when tightening screw (28). On the filter side the carburettor body is designed in such a way that it will take a filter element (39) which is secured either with the intake silencer which is pushed over it or by the spring clip (40).

Fuel Supply Control

The carburettor float is plastic with a metal hinge. It is located below the main bore and concentric with the jet system so that the carburettor can be tilted in all directions without impairing operation. The object of the float is to maintain a constant fuel level in the carburettor. When the fuel has reached a specified level in the float chamber, then the float (18) is lifted until the float needle (20) is pressed against the fuel seat, 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 opens the fuel seat and allows fuel to flow in from the tank.

The float chamber is formed by the float bowl (21) which is attached to the carburettor body by a central thread and sealed with washer (22).

The fuel supply to the carburettor body is either via the pipe nozzle (23) – with washer (26) – or via a banjo fitting (24) which is connected to the carburettor body by screw (25) and two washers (26). The space above the fuel level is vented to atmosphere through a hole (not shown). When this vent hole is blocked, an air lock forms above the fuel level, the float is not lifted and the carburettor will flood.

In conjunction with the float the float needle valve only regulates the fuel supply, it does not function as a tap when the engine is not running. 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 tap 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 thimble gauze (27) may be inserted into the hose nozzle (23) or the screw (25). However, this gauze 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 bore which is opened up by the throttle valve (3). This valve is lifted by a cable against the action of a return spring (7). The air flow produces a vacuum in the carburettor bore which draws fuel from the float chamber through the jet system.

The amount of fuel drawn in 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 compensation jet (CJ) and a duct connected to it; it enters the needle jet through crossducts and mixes with the fuel at this point.

In the part-load range, i. e. when the throttle valve is between one and three quarters of its full movement, less fuel is required than at full throttle. The fuel supplied to the carburettor bore is therefore controlled by a jet needle (4) which is connected to the throttle valve (3) and enters the needle jet (2).

Depending on the dimension of the taper at the end of the jet needle, the annular gap between jet needle and needle jet is enlarged or decreased. For fine adjustment the jet needle is located in the throttle valve in four different positions (needle positions) which, similarly to the jet needle taper, affect the amount of fuel drawn in. For example a higher needle position results in a larger annular gap 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 by the spring clip (5) from the second notch from the top.

Above the spring clip (5) is the washer (6) which is located in the throttle valve and via which the spring (7) acts on the throttle valve. The spring clip (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 mixture supplied is affected also by the underside of the throttle valve. It can have the shape of a cylindrical recess, a chamfer 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. These are termed "cutaways".

To select the idling speed, the throttle valve is lifted by means of the throttle valve adjusting screw (16) which is prevented from working loose by spring (17). If it is turned in clock-wise direction, the idling speed is increased and vice versa.

The throttle valve movement in the body is limited at the top by a washer (8) and a cover plate (9) secured by two screws (10). Cable play is adjusted by means of an adjuster (11) and locknut (12). During idling the cable play should be approx. 2 to 3 mm. The rubber cover (13) provides a seal over the adjuster and cable ferrule. In special cases the cable run can be altered by using the adaptor (14) which is secured with locknut (15).

Starting Aids

The BING carburettor type SRF is available with three 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 (29) against the spring (30) so that more fuel is supplied than is required for normal operation. The tickler should only be depressed until fuel is seen to emerge from the float chamber vent (E) or from the tickler guide on the body.

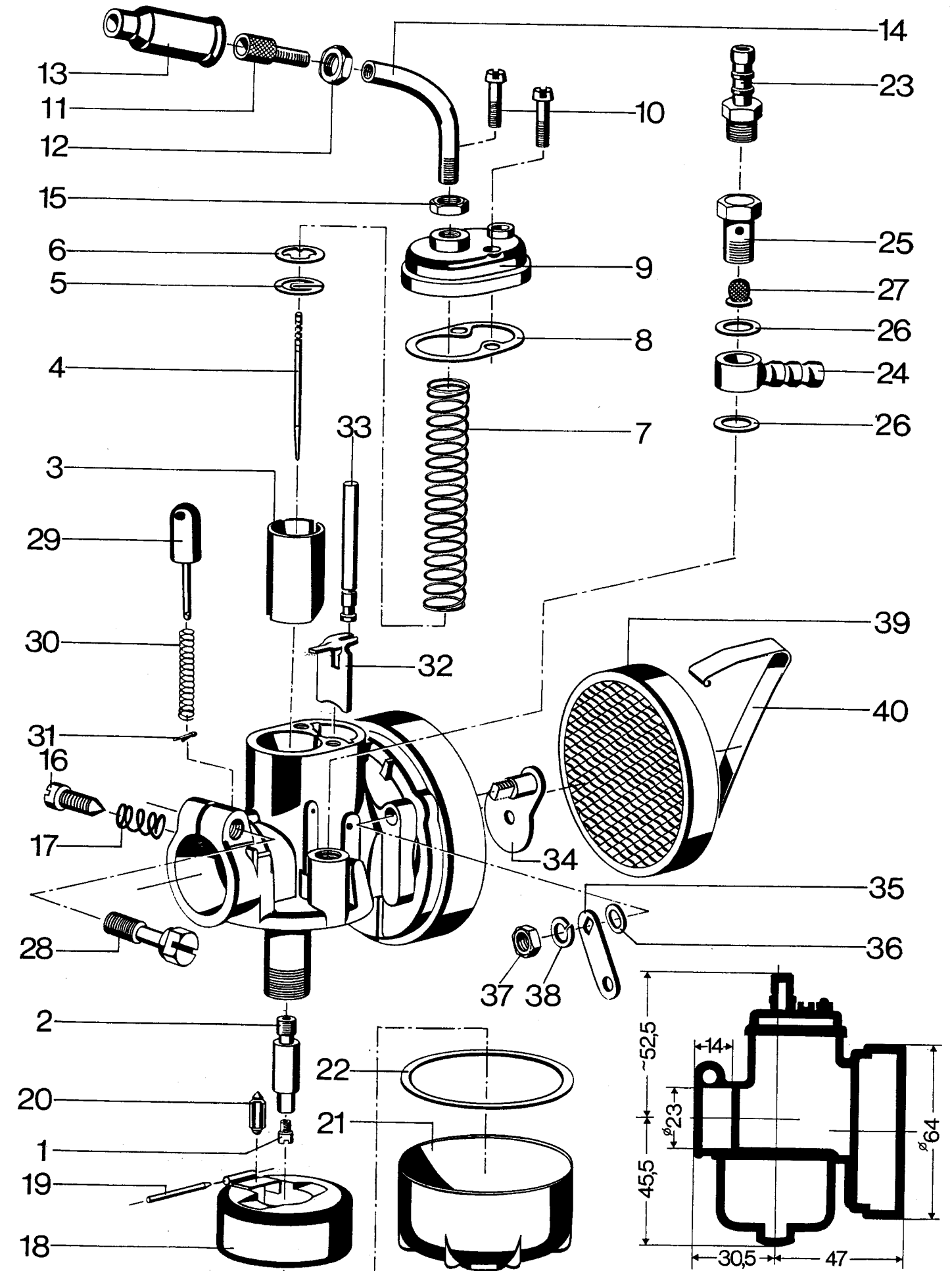
2. Starting slide

   The starting slide (32) is guided in the carburettor body. At its upper end there is the starting rod (33) which protrudes from the carburettor through a hole in the cover plate (9). Prior to starting the starting slide is pressed downwards via the starting rod and thus closes the bore on the air intake side of the throttle valve. During the start the throttle valve remains in idling position.

   When the throttle valve (3) is lifted after the engine has started, it will take the starting slide (32) with it after it has moved a few millimeters until, at full throttle, the retaining spring in the cover plate (9) latches onto the notch on the starting rod.

3. **Strangler Valve**

   The strangler valve (34) with riveted-on shaft is located in the carburettor body and is fitted with the starting lever (35), which is secured by nut (37) and lockwasher (38), outside the body. The spring washer (36) located between the lever and the carburettor body exerts a frictional action on the starting lever. Prior to starting the strangler valve is closed so that a particular high vacuum builds up on the air entry side of the fuel system when starting up; this contributes towards producing a rich mixture as needed particularly when starting a cold engine. As soon as the engine has started, the strangler valve must be opened again.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