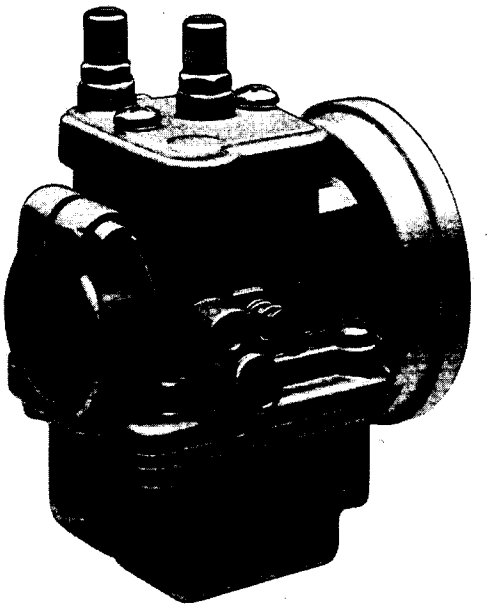
BING Slide Carburettors
Types 15-16-17-18

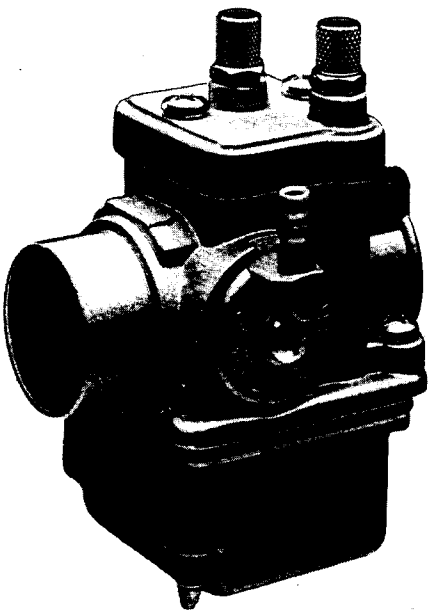
- Cross-stroke diagonal-draught slide carburettor with **10, 12, 13, 14** and **15** mm choke tube for

  optimum engine operation
  minimum fuel consumption
  reliable cold and hot starting
  robust all-weather operation
  low-pollutant engine exhausts
  very simple operation and maintenance

- Needle jet main fuel system
- Adjustable idling system with air supplied from steadying chamber
- Double float for extreme tilt in operation
- Wear-resistant, reliable inlet valve with "Viton" needle
- Safety overflow in the float chamber
- Float chamber vent protected against ingress of water and dirt
- Fine fuel filter in the fuel supply, easily accessible, no cleaning problems
- Starting carburettor with cable operation and antechamber cold start enrichment
- Two different filter connections available
- Strong die-cast zinc housing
- Plastic insulating bush on engine connection (accessory)



Type 15
(Type 16 is a mirror image)



Type 17
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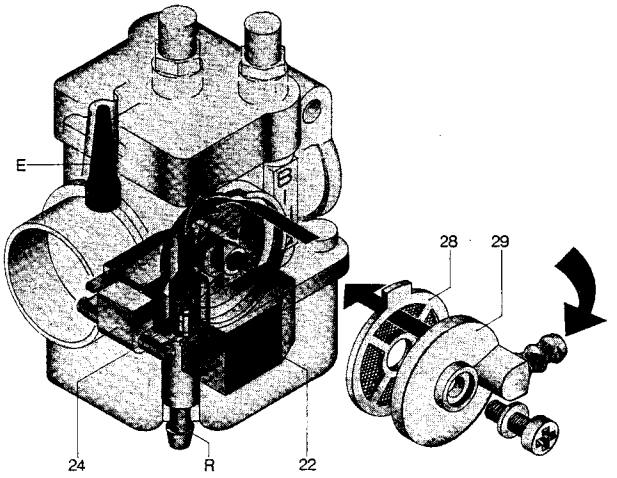
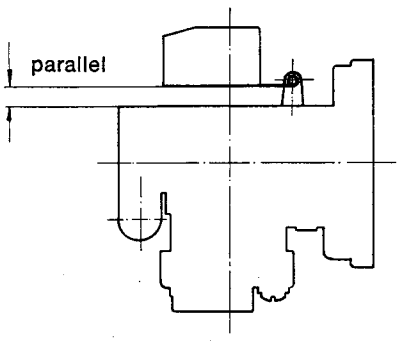




Mounting

The carburettor is fitted to the engine with a clamp connection having a diameter of 23 mm which can be reduced to 20 mm by using a plastic insulating bush (38). The clamping length is 15 and 14 mm respectively. The engine intake socket should be matched to this diameter as closely as possible so that the carburettor housing is not distorted when tightening screw (37). On the filter side the carburettors 15 and 16 are designed to take a filter element which is attached by pushing the intake silencer over it. On types 17 and 18 the filter connection is a smooth pipe having a diameter of 28 mm and 13 mm length.

Fuel Intake Control

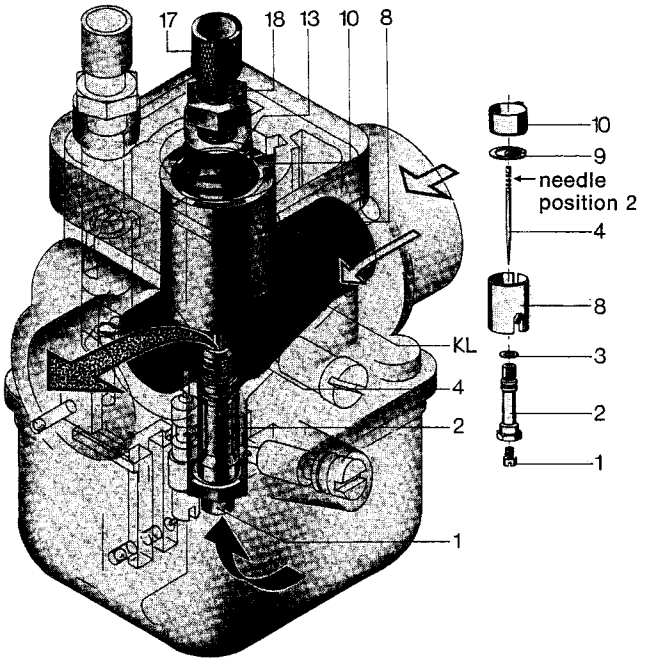
The connection from tank to carburettor should be made by fuel-resistant hose, transparent if possible, and having an internal diameter of approx. 5.5 mm.

The fuel enters the carburettor through the filter cover (29), flows through the fuel filter (28) and via the inlet valve (which is pressed into the carburettor housing) into the float chamber. When the specified fuel level has been reached, the float (22) is lifted until the tip of the float needle (24) is pressed against the valve 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 correct fuel level will be obtained when the float is aligned in accordance with the drawing on the left. 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.

The fuel filter (28) in the carburettor is a fine filter. A coarse filter provided upstream — possibly at the fuel cock — will prevent the fine filter from being clogged too quickly, thus extending the cleaning intervals.

In the event of the inlet valve failing, excess fuel drains through the small pipe (R) in the float chamber.

The space above the fuel level in the float chamber is connected to atmosphere through a hole (E). The vent opening is protected against ingress of water and dirt by the carburettor cover plate.



Main 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 (8). This valve is lifted by a cable against the action of a return spring (13). The air flow produces a vacuum in the carburettor choke tube which draws fuel from the float chamber through the jet system. It flows through the main jet (1) and the needle jet (2) where it is premixed with air which enters through the correction air duct (KL) and cross-ducts in the needle jet (2).

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 (8) 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 the jet needle and needle jet is enlarged or decreased. For fine adjustment the jet needle may be located in the throttle valve (8) in 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 (9) from the second notch from the top.

With a small throttle valve opening the amount of fuel supplied is affected also by the shape of the lower end of the throttle valve. With increasing height the cylindrical recess called air cushion results in the mixture becoming leaner. The recess on the filter side called cut-out has a similar effect, but this extends up to a greater throttle valve stroke.

The carburettor is adjusted using main jets and needle jets of various sizes and also throttle valves and jet needles of different designs.

The guide piece (10) with cast-on lug guides the throttle valve in the housing and, with the throttle valve, forms a free space at the lower end which enables the retainer (9) and thus the jet needle to swing freely.

Cable play is adjusted by adjusting screw (17) and a locknut (18). During idling the play should amount to approx. 3 mm.

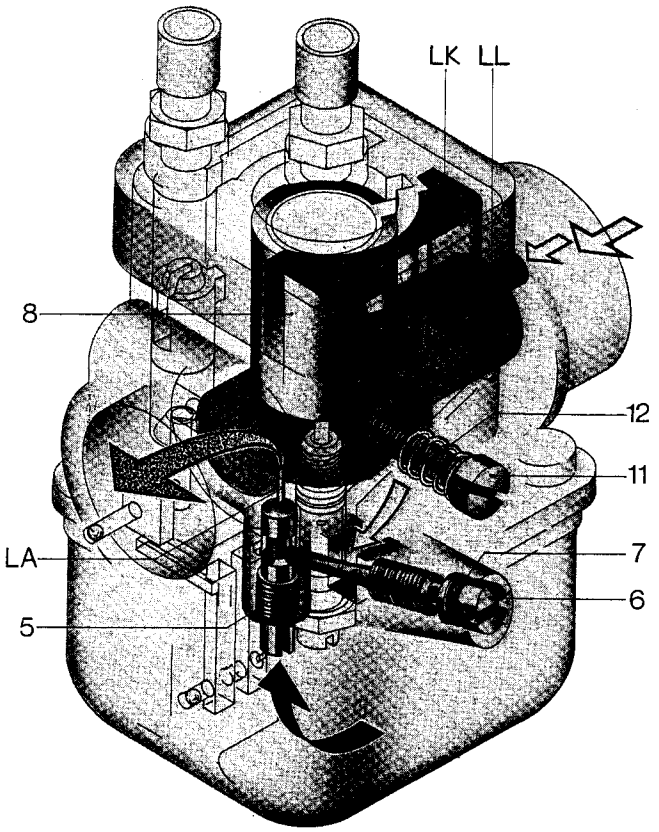
Idling System

During idling the throttle valve (8) is closed to such an extent that it touches the valve adjusting screw (11). This screw allows the idling speed to be changed. If it is turned in clockwise direction, the idling speed is increased and vice versa. The spring (12) ensures that the screw cannot work loose.

In the idling position the vacuum at the needle jet outlet is so low that the main regulating system will no longer supply any fuel. This is then supplied via an auxiliary system, the idling system, which consists of the idling jet (5), the mixture control screw (6) and the idling outlet bore (LA).

The fuel flows through the idling jet (5) whose bore will determine the amount of fuel allowed through. Behind the jet bore air is mixed in through crossducts which is supplied from the air filter via bore (LL) and the steadying chamber (LK). The air quantity supplied is determined by the position of the mixture control screw (6) and by an air duct in the screw which will ensure that a small amount of air is supplied even when the screw is completely closed. The initial mixture produced in the idling jet passes through the idling outlet bore (LA) into the carburettor choke tube where it is mixed further with pure air.

The idling setting is adjusted with the engine at operating temperature. First the mixture control screw is turned in fully clockwise and then backed off by the number of turns specified for the particular engine. Turning in clockwise direction results in a richer mixture and turning in anti-clockwise direction in a leaner mixture. Then select the desired idling speed by using the throttle valve adjusting screw (11) and continue opening the mixture control screw (6) until the speed rises. Then turn the screw back by a quarter of a turn.

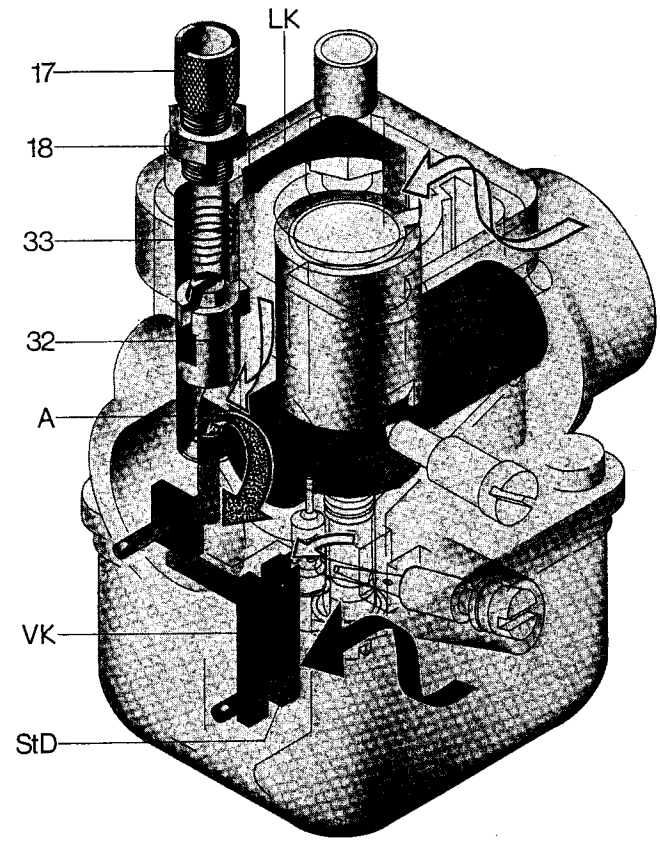


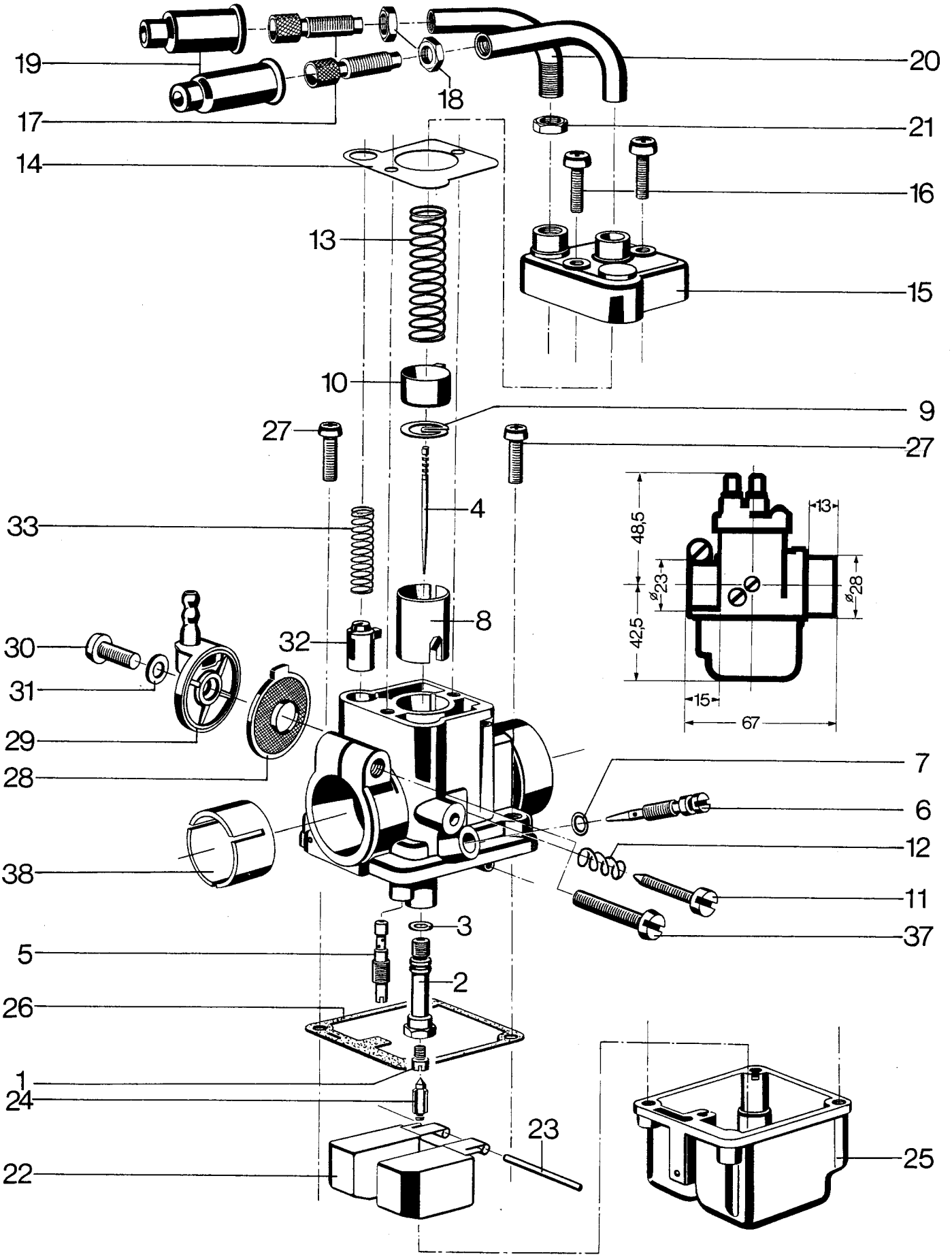
Starting Carburettor

The starting carburettor is a simple slide carburettor operating in parallel to the main carburettor. On the underside of the slide there is a soft seal which stops fuel from entering. When the slide (32) is lifted by operating a cable against the force of spring (33), the fuel outlet is opened. Air from the steadying chamber (LK), which is supplied through a bore leading to the filter side, enters into the slide guide through a vertical slot. The pre-mixture formed in the starting carburettor flows through bore (A) into the carburettor choke tube. When starting using the starting carburettor it is important to remember to close the throttle valve (8).

The fuel quantity for the starting carburettor is metered by the starting jet (StD). When the starting carburettor is closed, the fuel level in the vented antechamber (VK) is the same as in the float chamber. When starting with the starting carburettor open, the fuel from the antechamber is drawn in first to provide a richer mixture for cold starting. After this the amount of fuel supplied is determined by the starting jet.

The starting carburettor cable should be adjusted using screw (17) and locknut (18) to obtain a play of 2—3 mm.

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