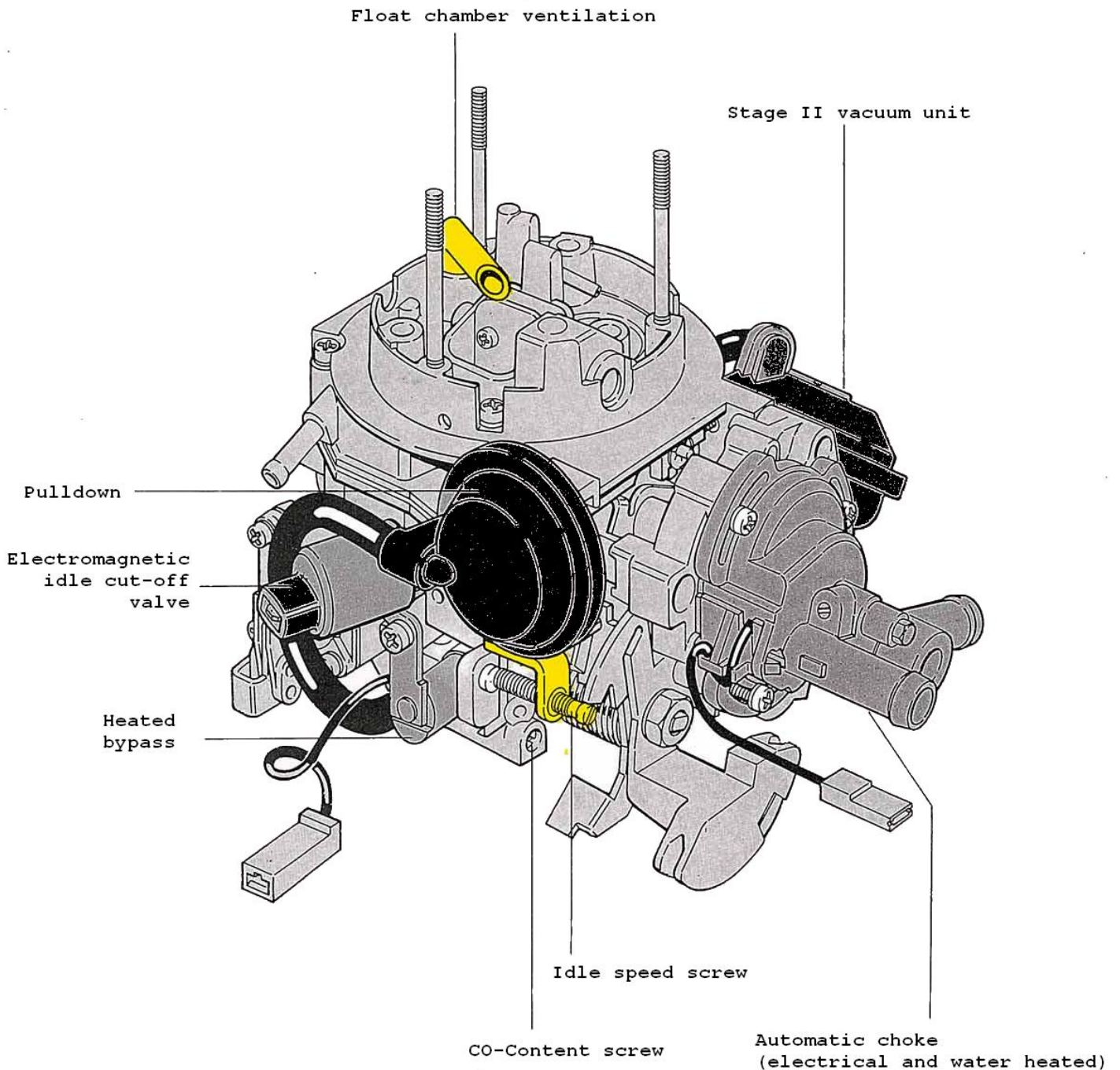
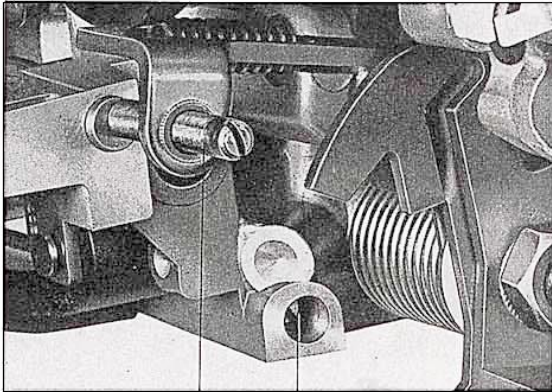


2E3 Carburetor

- The 2E3 is a downdraft carburetor without any mixing air recirculation.
- Its automatic choke is heated electrically and by coolant.
 - For a better mixture preparation, the bypass for idle CO mixture is heated.
 - The pull-down device regulates the choke flap position after a cold start.
 - The electromagnetic cut-off valve prevents the engine from running after it is switched off.

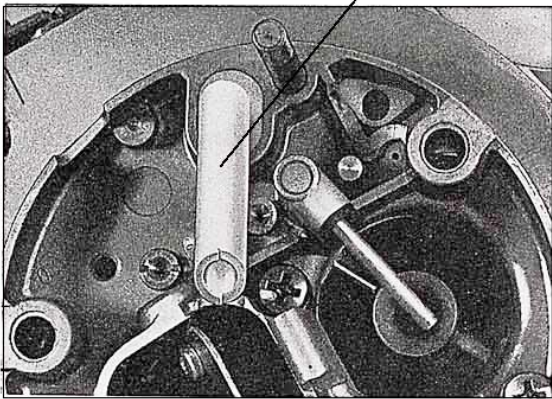




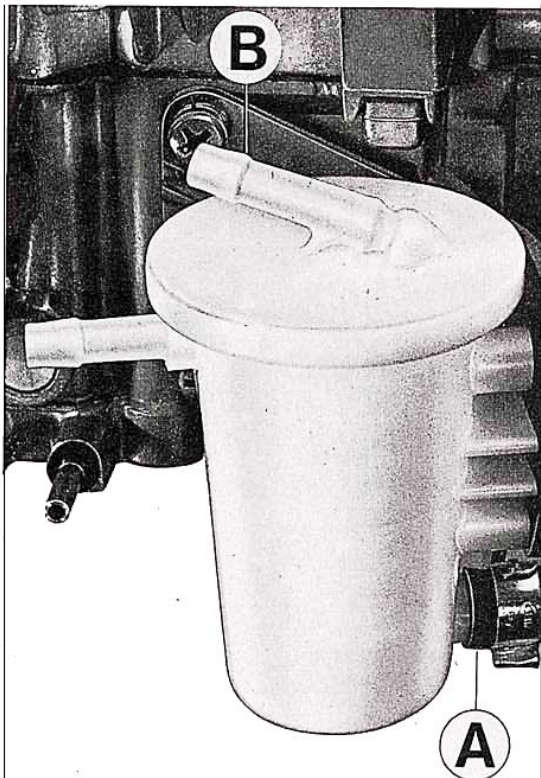
Idle speed CO content

The idle speed and CO content can be adjusted by turning in and out the two adjustment screws.

Float chamber vent

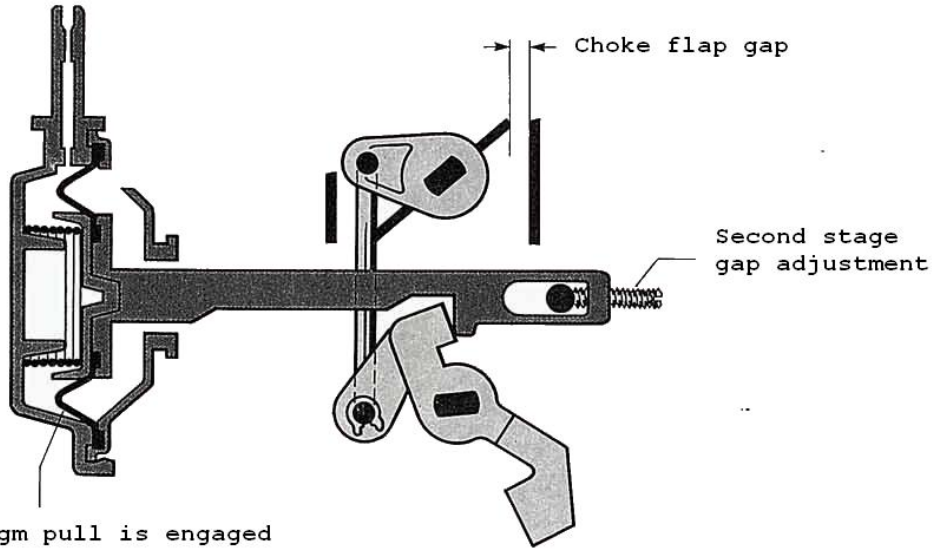


The float chamber vent is calibrated by a plastic insert. Because the vent pipe is tapered, the pressure in down pipe and inside float chamber is lowered. The vent calibration allows a limited airflow. This will prevent fuel spilling from the float chamber.



The vapor bubble trap prevents hot start difficulties.

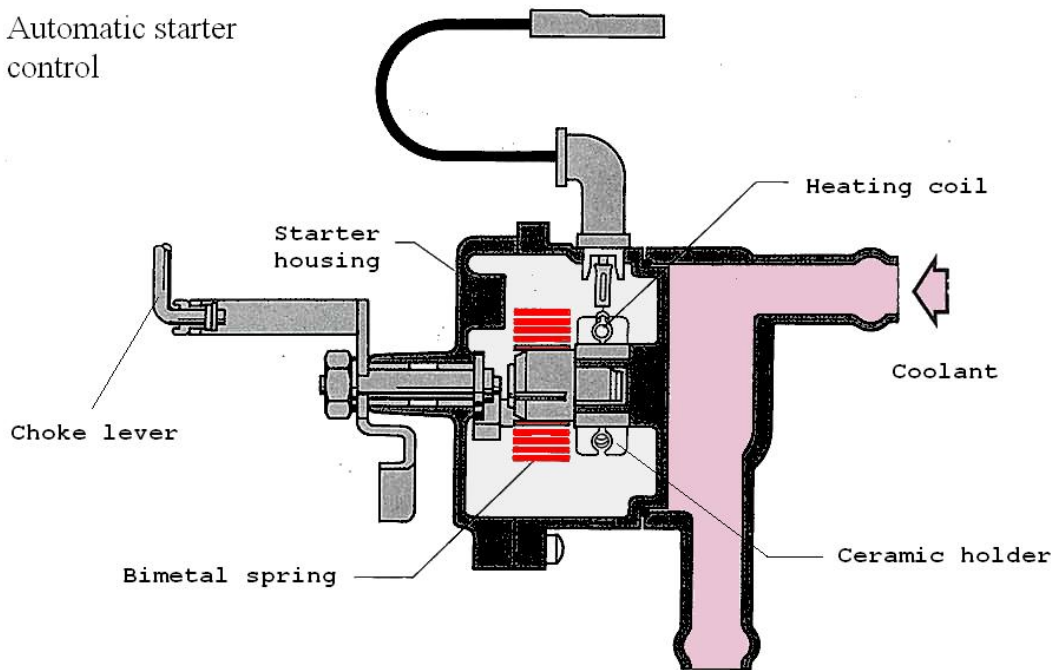
Bubble-free fuel flows through outlet A to the carburetor. Vapor bubbles and excess fuel go through outlet B back to fuel tank.



Diaphragm pull is engaged

In order to avoid an over-rich mixture, the choke flap can be opened by a specific amount. This is done through the pulldown device. Due to low pressure in the suction pipe, the choke flap is opened using the pull-diaphragm to an adjustable value to prevent over-enrichment.

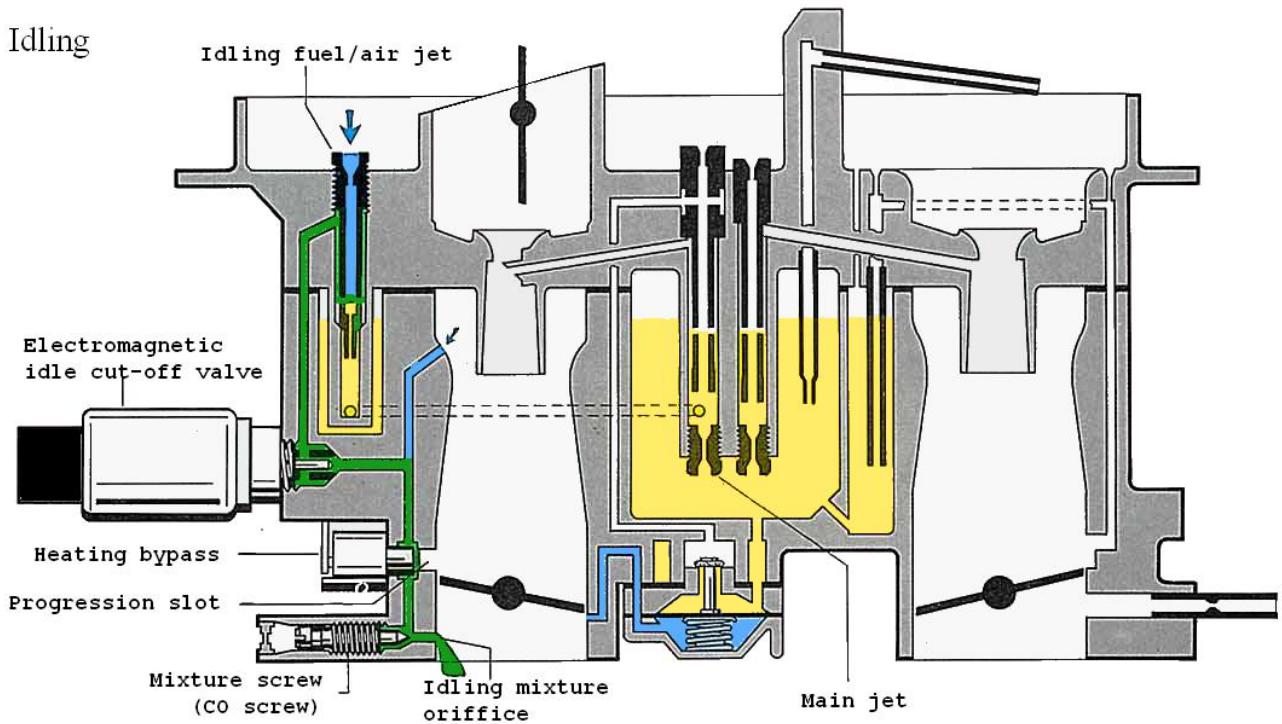
Automatic starter control



Due to electrical heating and by the increasing temperature of the coolant, the bimetal spring is beginning to unwind. The choke flap is gradually opened. The step cam rotates into its normal position and the throttle plate is gradually closed by the rapid idle stop screw. At a coolant temperature of 65° C, a temperature switch cuts the electrical heating of the mixture in the intake manifold.

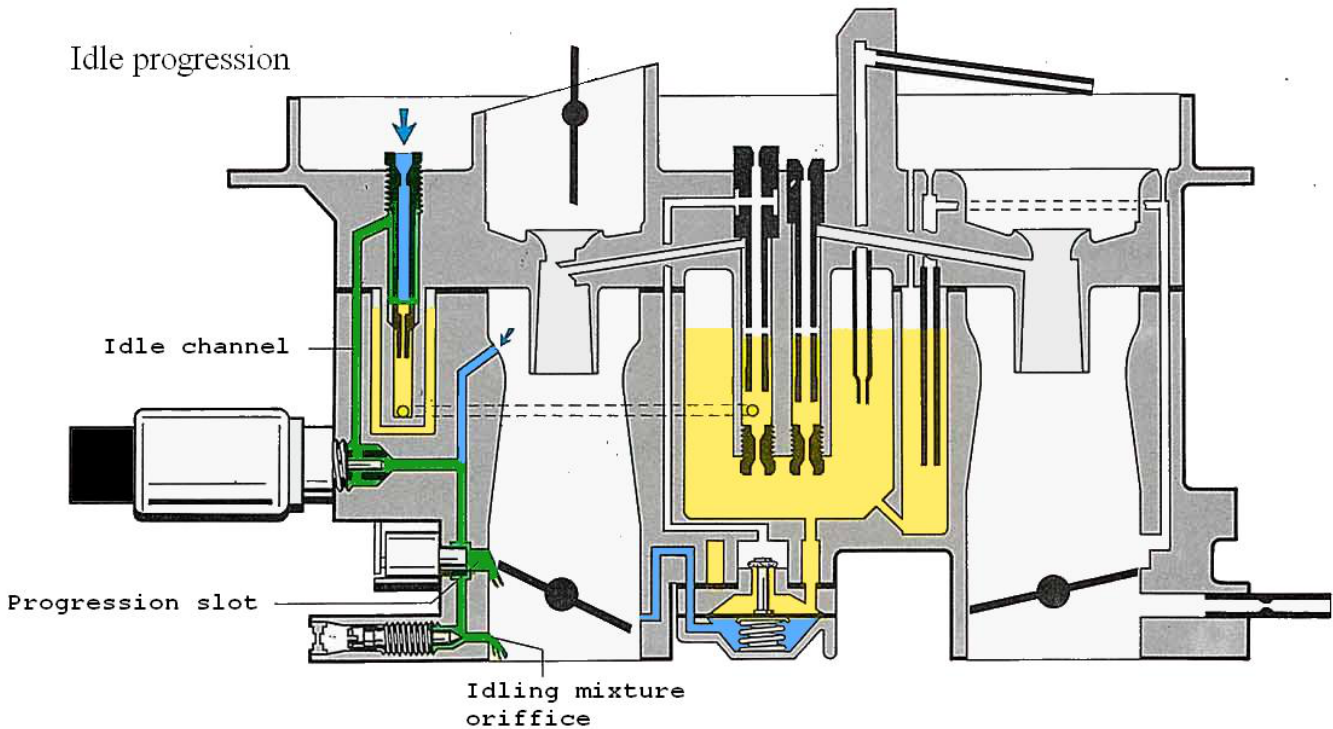
2E3 Carburetor Functions

Idling



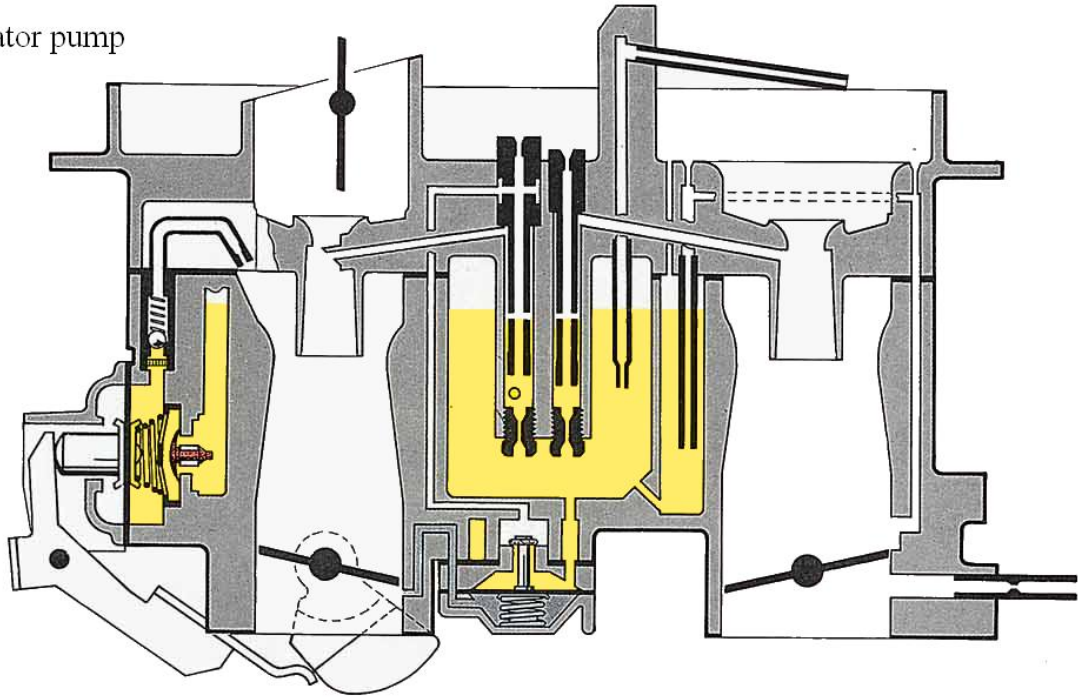
Throttle valve is almost closed at idle. The fuel is pre-calibrated by the main jet for stage I. The idling fuel/air jet reaches to the idling orifice through idle cut-off valve. At this time more air is added through a slot to form the idle mixture. The mixture ratio can be adjusted with the CO-adjusting screw. The electrical heated bypass prevents carburetor from icing in bad weather.

Idle progression

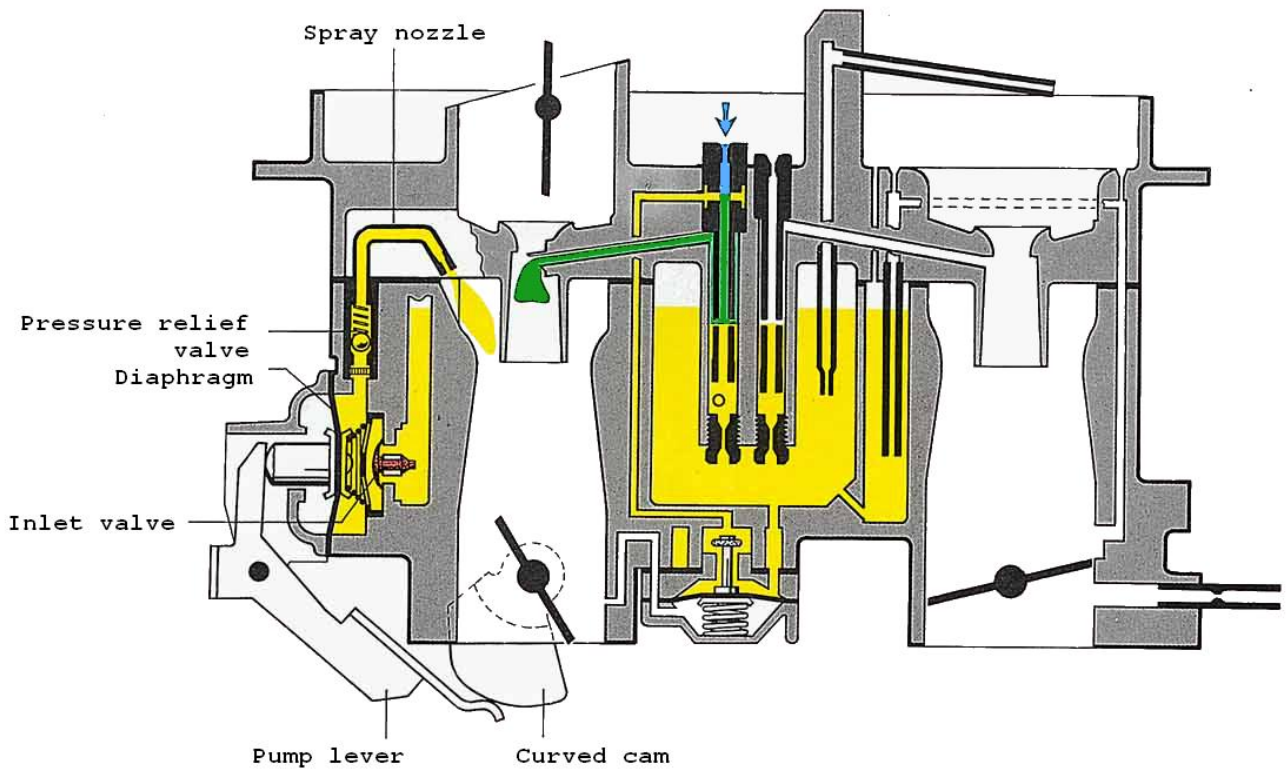


To achieve a perfect transition from idle to part throttle stage, more holes are drilled above the idling orifice in the progression slot area. If more gas is given, those orifices are exposed to the vacuum under the throttle valve, and additional mixture flows from the progression slot into the idle mixing chamber.

Accelerator pump

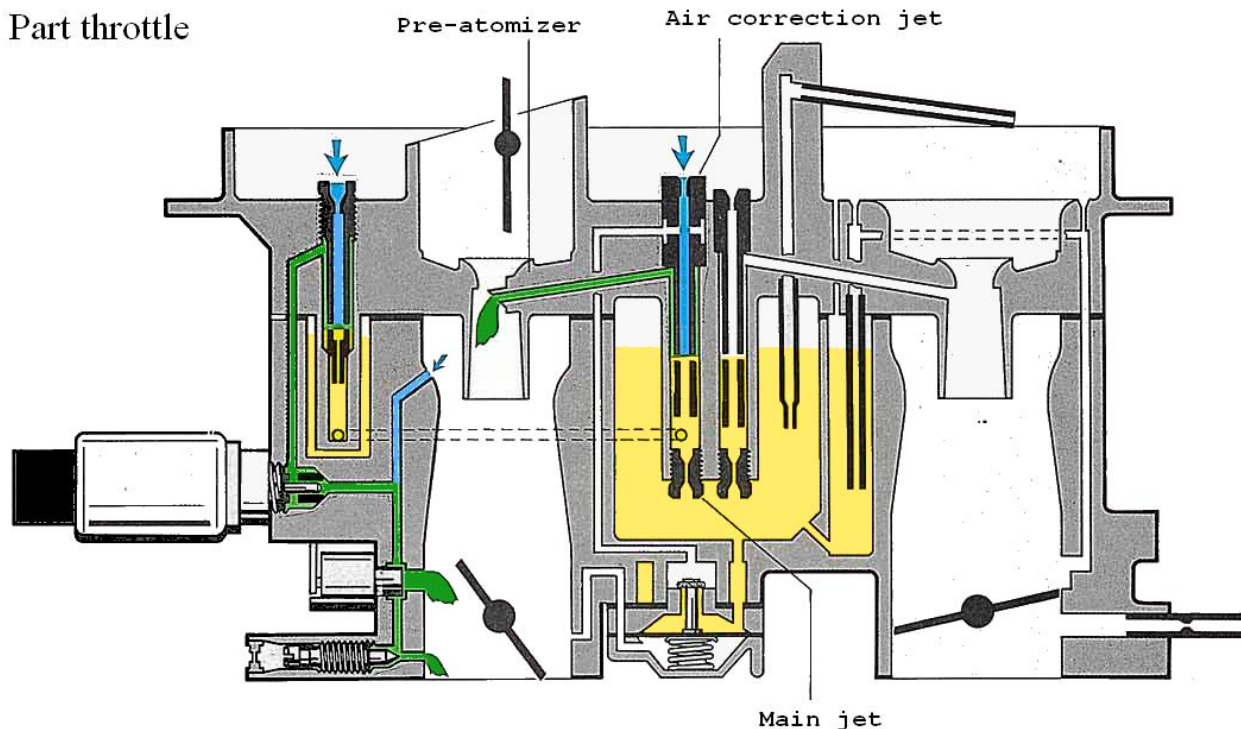


When throttle valve pivots in the idle position, the diaphragm is pushed outwards by the spring. The fuel flows into the pump chamber.



During acceleration, the pump lever is actuated by the cam on the throttle valve shaft and a pressure is exerted on the diaphragm. The inlet valve closes, the pressure valve opens the way to the injection tube. The quantity of fuel injected can be adjusted by rotating the cam.

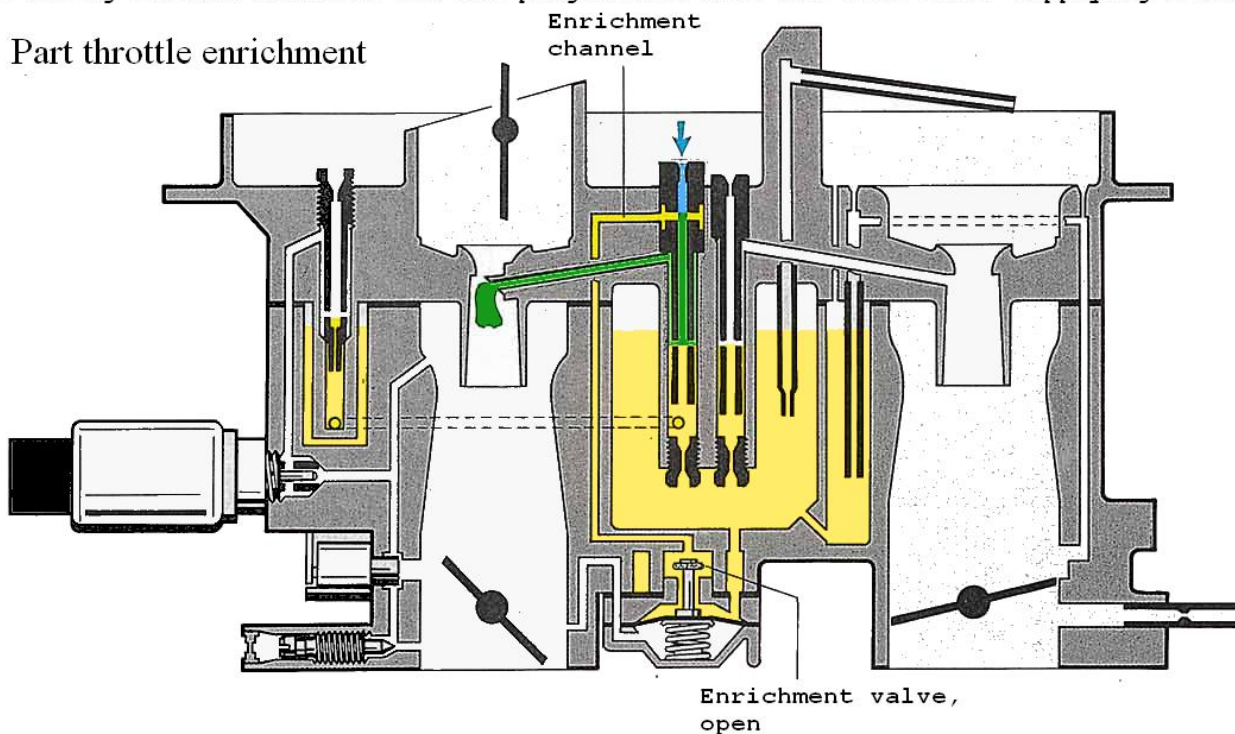
2E3 Carburetor Functions



If the throttle valve is opened still further, the drop in pressure is also effective on the primary system. The fuel metered out by the main jet forms, with the air from the air correction jet, a pre-mixture, which passes into the mixing chamber via the pre-atomizer.

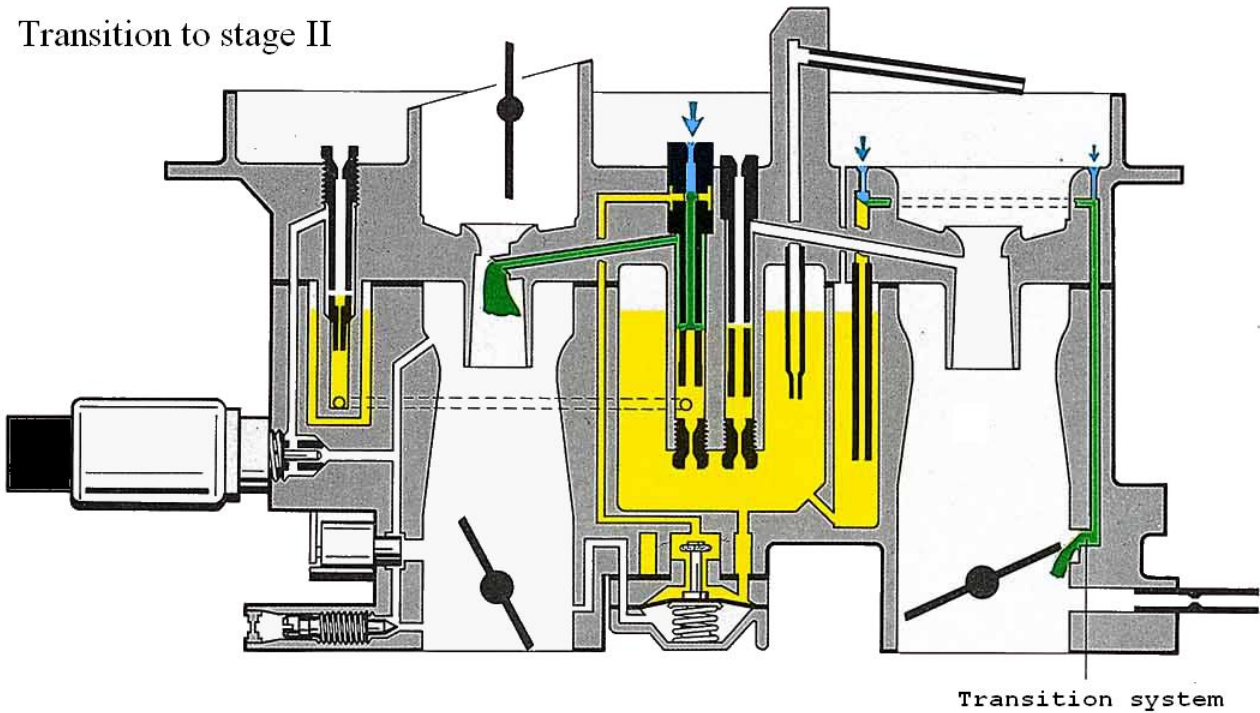
The idling mixture orifice and the progression slot are also still supplying mixture.

Part throttle enrichment

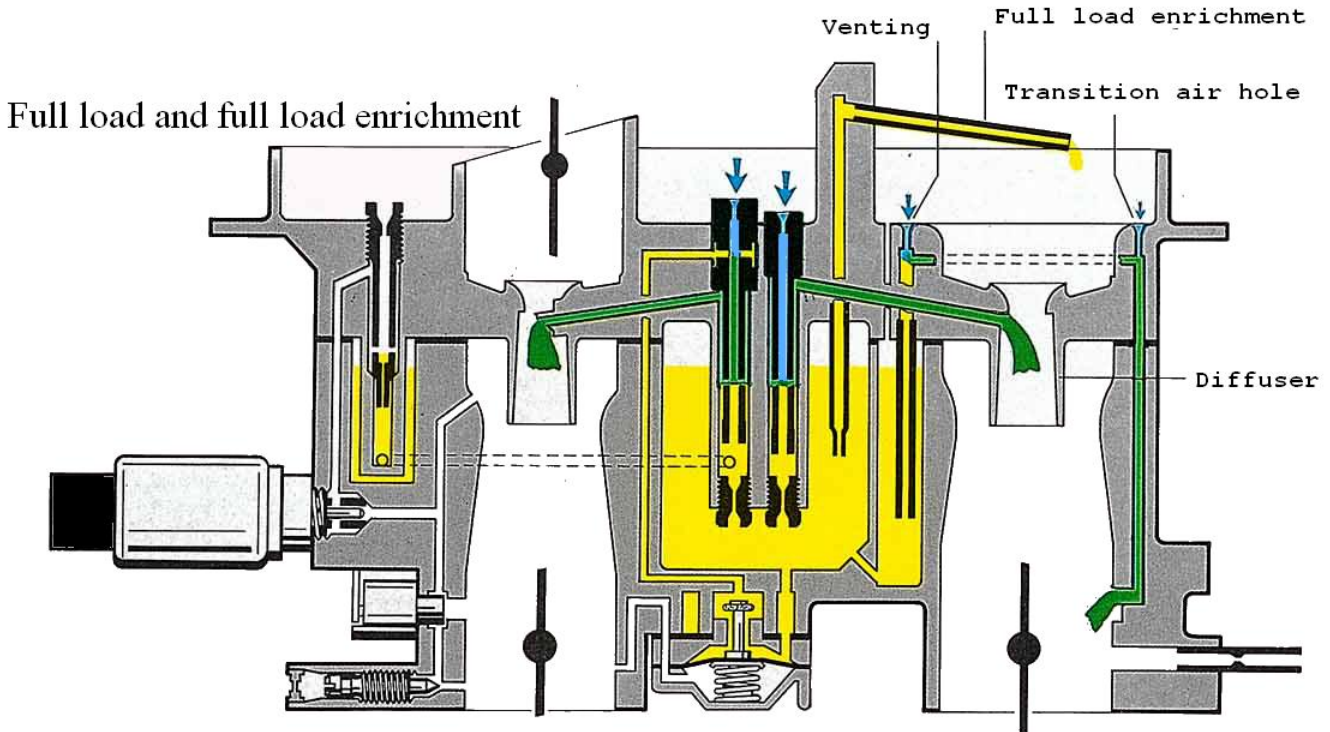


At a predetermined opening of the throttle valve angle, the vacuum in the intake manifold decreases to such an extent that spring opens the enrichment valve. Because of this, additional fuel from the float chamber can be fed directly into the primary system via channels. The supply of pre-mixture from the idling mixture orifice and the progression slot becomes less and less until it stops altogether.

Transition to stage II



Up to a certain position of stage I throttle plate, stage II throttle plate is locked. If a certain pressure on stage II diaphragm unit is reached, stage II throttle plate can begin to move. Thereby the transition system of stage II gets mixture from the main jet of stage II.



The stage II main system goes to progressive mode, if the lock is removed. If the pressure drop increases in diffuser area, more and more mixture is supplied from the main system. At full load, the full load enrichment nozzle adds even more mixture to cope with demand.