

Solex Carburetors

SOLEX PDSI & PDSIT TYPE 1-BARREL

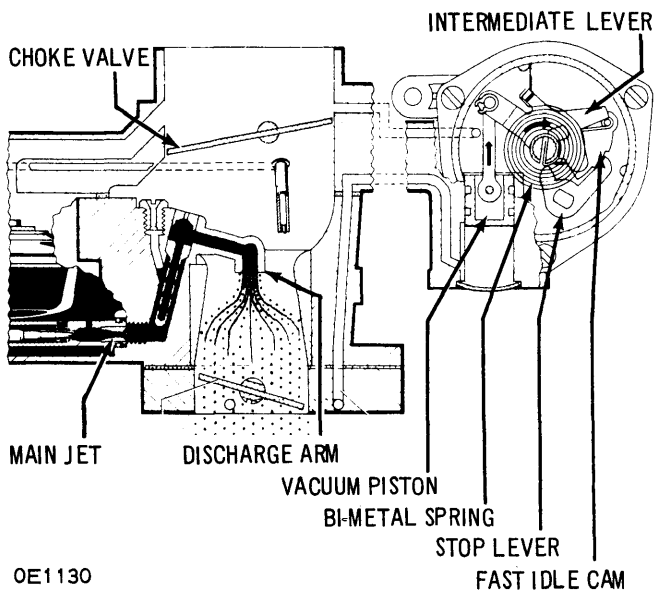
BMW 4-Cyl. (1967-72)
Mercedes-Benz (1963-68)
Opel (1971)
Renault R-8 & R-1130 (1963-67)
Renault Caravelle R-1131 (1963-65)
Saab V4 (1967-68)
Volkswagen 1500 (1965-70)
Volkswagen Type 2 (1971-73)

DESCRIPTION

Single barrel downdraft type equipped with an automatic butterfly type choke. Lower part of carburetor houses the mixing and float chambers, the float and all jets. The accelerator pump is of the diaphragm type and is located in a housing cast into the float chamber.

OPERATION

Automatic Choke – When ambient temperatures are cold, accelerator pedal should be briefly depressed to floor so the tensioned bi-metal spring can close the choke valve by means of an intermediate lever. The stop lever rests on the highest step of the fast idle cam and opens the throttle valve by means of an operating rod. When starter is actuated, a vacuum is created which draws fuel from the float chamber through the main jet, the inclined emulsion tube and the discharge arm into the venturi. Choke valve is opened slightly against the tension of the bi-metal spring by the vacuum piston and piston rod. Vacuum cylinder is connected by a drilling with vacuum present below the throttle valve so that the piston moves and can open the choke valve by means of the piston rod. As the bi-metal spring heats up, the choke valve opens. At the same time the stop lever moves down to the lowest step on fast idle cam and throttle valve returns to idling position.

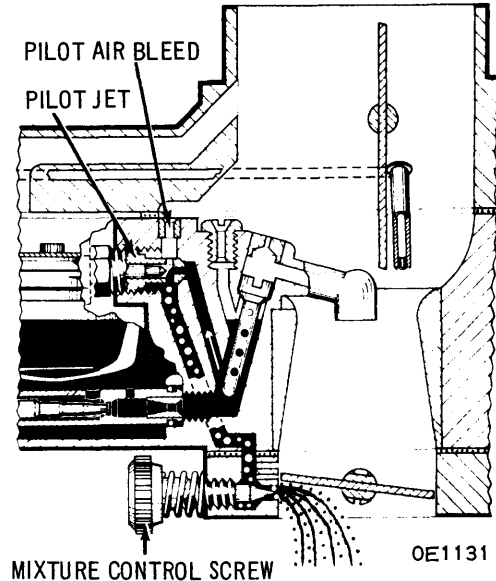


OE1130

AUTOMATIC CHOKE SYSTEM

Idling Operation – Fuel flows from float chamber through the main jet and a drilling to a pilot jet. Air enters through the pilot air bleed drilling (mixes with fuel) and forms a air/fuel mixture which passes to the idle mixture port by means of a drilling. The amount of mixture flowing through

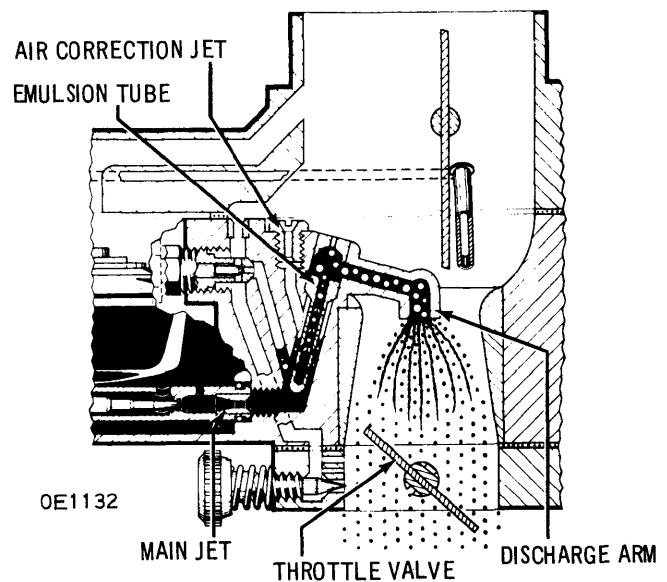
this port is regulated by a mixture control screw. By-pass ports, located near the throttle valve gap, help keep the engine running smoothly during transfer from idling to main jet operation.



OE1131

IDLE SYSTEM

Normal Running – When throttle valve is open, the vacuum available at the narrowest point of the venturi extends through the discharge arm, emulsion tube, air correction jet and main jet to the float chamber. Fuel in the emulsion tube is converted to an emulsion by the air coming through the air correction jet and a lateral drilling and this mixture is drawn off through the discharge arm. Degree of vacuum governs amount of air/fuel mixture drawn from discharge tube. As engine speed increases, amount of air in mixture also increases due to the higher flow of air through the air correction jet.



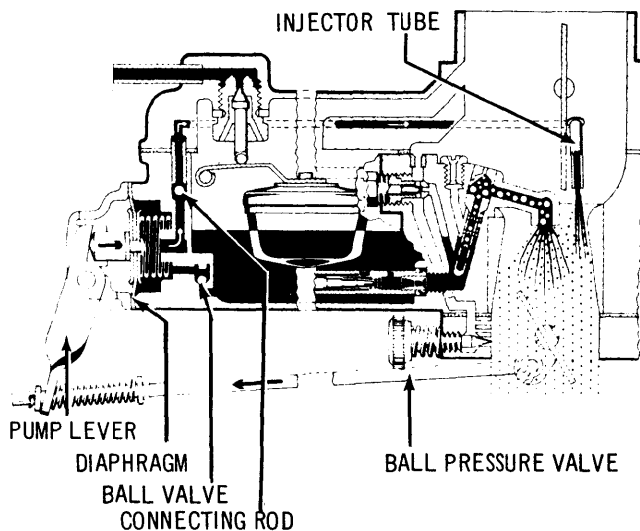
OE1132

NORMAL OPERATION SYSTEM

Accelerator Pump Operation – Pump diaphragm is operated from the throttle valve shaft by means of a connecting rod, a pump lever and a spring. Diaphragm draws fuel in through the ball valve from the float chamber and pumps it by means of a ball pressure valve and an injector tube into the carburetor venturi. When the throttle valve closes,

SOLEX PDSI & PDSIT TYPE 1-BARREL (Cont.)

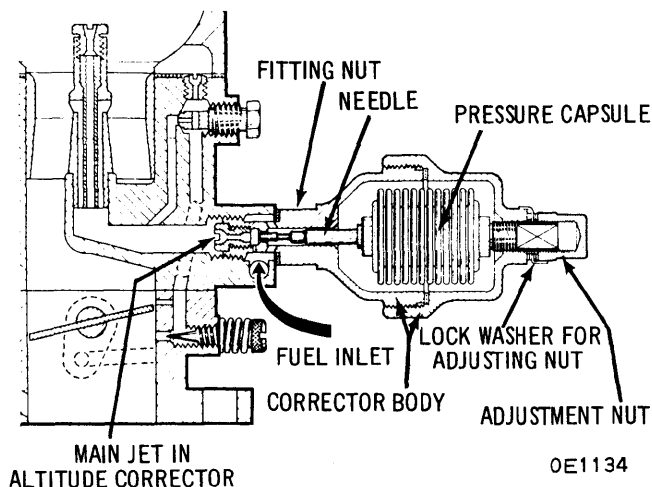
accelerator pump chamber fills with fuel. At higher engine speeds, vacuum at mouth of injector tube is so great that additional fuel is drawn from float chamber through the accelerator pump and the mixture is further enriched by means of the acceleration system.



ACCELERATOR PUMP SYSTEM

OE1133

Altitude Corrector (When Equipped) – The altitude corrector is fitted in place of the main jet carrier. The normal main jet is screwed into the altitude corrector in the same way as into the main jet carrier. Fuel flows to main jet through four large oblique drillings and one small one. Fuel flow through the larger drillings is controlled by the needle connected to the pressure capsule. When pressure capsule expands, due to decreasing atmospheric pressure, the needle progressively reduces fuel flow to main jet.



MAIN JET IN
ALTITUDE CORRECTOR

OE1134

ALTITUDE CORRECTOR

OVERHAUL

Disassembly – Disconnect control rod between automatic choke and throttle valve. **NOTE** – On some models it may be necessary to remove a retaining ring. Unscrew and lift off float chamber cover, remove gasket. Unscrew needle valve. Remove float from float chamber. Remove plug from float chamber and remove main jet. Pull off acceleration pump jet (over acceleration pump). Unscrew idling jet and remove emulsion tube jet. Unscrew acceleration pump cover and inspect diaphragm. Unscrew idle mixture air regulating screw. If equipped, remove intermediate flange valve.

Reassembly – **NOTE** – Clean all passages and jets with compressed air. Install spring, diaphragm and cover for the accelerator pump. Insert accelerator pump jet. Screw in idling jet and emulsion tube jet. Screw in idle mixture air regulating screw carefully until it bottoms out, then back it out one complete turn. Insert float. Screw in needle valve (with gasket) into float chamber cover. Using a new gasket, put on float chamber cover and replace retaining screws. Connect rod between automatic choke and throttle valve. If necessary, secure with retaining ring. If equipped, install intermediate flange valve.

CARBURETOR SPECIFICATIONS

Carburetor No.	Venturi (mm)	Main Jet No.	Air Correction Jet	Pilot Jet ②	Pump Injection Quantity	Needle Valve Gasket (in.)	Throttle Valve Gap (in.)
32 PDSIT	25	120	150	42030
38 PDSI	26	130	110	47.5	1.5±.15	.04
40 PDSIT	30	155	130	45	1.9±.15	.04	.060
34 PDSIT-3	26	137.5	155	55	.45±.1	.04	.032
34 PDSIT-2	26	130	050	55	.45±.1	.04	.032
34 PDSIT-3 (1973)	26	X130	140	140Ⓞ	.6-.8	.04	.024
34 PDSIT-2 (1973)	26	X130	140	140Ⓞ	.6-.8	.04	.024

① – Idle Air Jet.

② – cc/stroke.