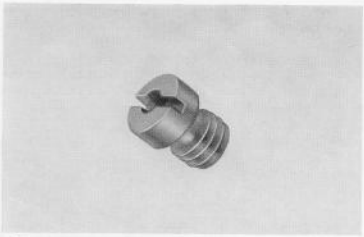

Fig. 3. 118 Main jet

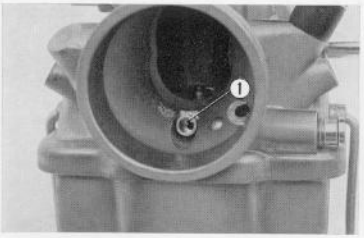


Fig. 3. 119 ① Air jet

Fig. 3. 120 Needle jet

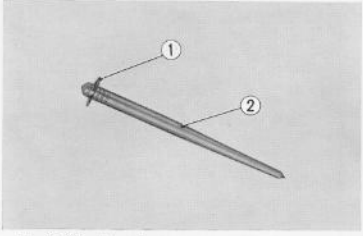


Fig. 3. 121 Jet needle
① Needle clip
② Jet needle

is fully opened (operating at the maximum speed). However, the fuel ratio is influenced down to around one half throttle opening. **(Fig. 3. 118)**

(2) Air Jet

To prevent the mixed gas from becoming rich at high speed, and lean at low speed, air is feed to the needle jet holder. The function of the air jet is to controls the amount of air. At a constant throttle opening, the larger the air jet, the smaller will be the difference in fuel flow between high and low speeds, and a consequent reduction in fuel flow. **(Fig. 3. 119)**

(3) Needle Jet

The needle jet controls the fuel which had been metered by the main jet, between the intermediate and full throttle. The control is performed by varying the clearance between the needle jet and jet needle described in the following section. Hole in the needle jet is made with high degree of precision to assure accurate fuel control. **(Fig. 3. 120)**

(4) Jet needle

The jet needle, in conjunction with the above mentioned needle jet, controls the fuel mixture ratio at intermediate throttle opening (mainly between 1/4 to 1/2). The long tapered jet needle is fitted in the center hole of the throttle valve with the tapered end inserted into the needle jet. The vertical movement of the throttle valve correspondingly moves the tapered jet needle within the needle jet, varying the clearance between the needle and the jet, and in this way, the proper fuel mixture is obtained in reference to the position of the throttle valve. There are five clip groove positions on the head of the jet needle. The fuel mixture becomes richer as the clip is moved from the first groove (top) toward the fifth groove. **(Fig. 3. 121)**

(5) Throttle valve

The throttle valve regulates the amount of air taken into the engine, this essentially controls the engine speed as well as the power output, in addition, the throttle valve performs other important control functions.

The skirt of the throttle valve is cut at an angle on the inlet side ; the size of this cutaway is designated by the cutaway number which is described in succeeding section F. 2. By changing the valve with a different size cutaway, the negative pressure in the vicintity of the needle jet is changed, affecting the fuel flow and consequently changing the fuel