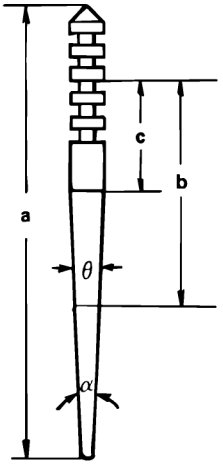
(1) The first number indicates the length of dimension "a". The 5 in the example stands for 50 mm and over, but under 60 mm. A four would mean from 40 up to 50 mm and so on.

(2) Each needle is tapered in two steps. The first letter indicates the angle of the upper taper θ; the next letter shows the angle of taper α, the lower taper. The letter A = 0°15′, and each successive letter is for an angle 15 minutes greater. By calculating for the example, then, G= 1°45′, and L = 3°00′.

(3) This is the manufacturer lot number (Lot No. 3, in this case), and will vary with the individual needle.

(4) The last number (the second 3 in this example) is not stamped on the needle. This is the number of the standard groove in which the needle clip is fixed for that particular model. A 3 shows that the standard setting is in the third, or middle, groove.

Jet Needle (196)



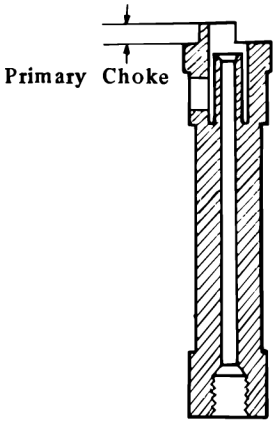
e. Needle Jet

As explained earlier, the needle jet works in conjunction with the jet needle to regulate fuel flow rate.

In the side of the needle jet, there is an air bleed opening which brings in air measured by the air jet. This air initiates the mixing and atomizing process inside the needle jet, and mixing is augmented by a projection at the needle jet outlet, called the primary choke.

The letter number code stamped on the jet indicates jet inside diameter. A "0-2" code, for example, means the inside diameter of the needle jet is 2.61 mm.

Needle Jet (197)



Needle Jet Inside Diameter

	0	1	2	3		9
N	2.550	2.555	2.560	2.565	–	2.595
O	2.600	2.605	2.610	2.615	–	2.645
P	2.650	2.655	2.660	2.665	–	2.695
Q	2.700	2.705	2.710	2.715	–	2.745

f. Pilot Jet

From idling to low speeds, the fuel supply is measured out chiefly by the pilot jet. In the sides of the pilot jet, there are several air bleed openings which serve the same purpose as the air bleed in the needle jet, that is, to reduce the fuel to mist.

The number stamped on the jet is an indication of the amount of fuel in cc's which passes through the jet during a one minute interval under a given set of conditions.

g. Pilot Air Screw

This air screw controls the mixture from idling to low speeds. The tapered tip of the air screw projects into the air passage leading to the pilot jet air bleeds, and by turning the screw in or out, the cross-sectional area of the air passage is varied, in turn varying the pilot jet air supply and changing the mixture ratio.

3) Troubles · Adjustment

When the gasoline/air mixture from the carburetor is incorrect, a rough estimate of possible carburetor failure can be limited to the clogging of some air or fuel passage, wear of parts, or the wrong float level.

First ascertain whether the mixture is too rich or lean, then use the throttle grip and determine at what degree of throttle valve opening the malfunction is apparent.

Mixture too rich
Runs rough. Misses. Heavy exhaust. Engine runs worse after warming up. Spark plugs fouled with carbon. Runs better without air cleaner.

Mixture too lean
Engine overheats. Runs better with the starter pushed. Spark plug electrodes burn away. Fluctuations in engine speed. No power.