

A small cutaway creates a greater vacuum and consequently causes a larger amount of fuel to be drawn up through the atomiser ; on the other hand, a larger cutaway would lower the vacuum and therefore reduce the fuel delivered. Because of this, fitting a lower slide cutaway results in enrichment and vice versa.

3.6.4 - Selection of the tapered needle

The determining features of the tapered needles are:

- the diameter A of the cylindrical part
- the length C of the tapered part
- the diameter B of the tip (figure 26)

You should select the tapered needle considering the elements above in the complete operating range.

The cylindrical part of the needle affects the mixture strength in the first throttle valve movement, up to about a quarter throttle; therefore, in this operating phase, a reduction in the diameter of this cylindrical part produces a mixture enrichment and vice versa.

The tapered part of the needle affects the operating period between a quarter and three-quarter throttle; therefore, for any given tapered part length and cylindrical part diameter, increasing the tip diameter results in the mixture weakening and vice versa.

With the diameter of the tips and the cylindrical parts the same, an increase in the tapered part's length results in an advance of the enrichment of the mixture. By changing the notch positions, therefore, it is possible to raise or to lower the needle in order to obtain mixture enrichment or mixture weakening over the range regulated by the needle taper.

When major changes in the mixture strength are necessary, change the needle according to the elements and features mentioned above.

In most cases the tapered needle is always held pressed against the atomiser-needlejet's upper edge by a spring located in the throttle slide.

In this way, the position of the needle and the atomiser, and consequently also the fuel delivery, are maintained constant, and thus avoiding excessive wear both of the needle and the needlejet due to vibration.

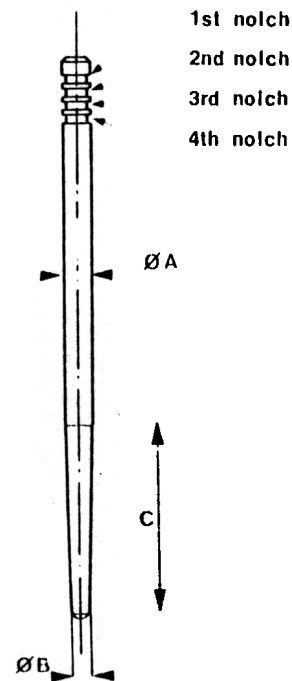


fig. 26

3.6.5 — Selection of the correct size of main jet

The correct main jet size should be selected by running on the road, preferably by first starting with an over-large size jet and gradually reducing it.

At full throttle, turn the starting device (choke) on, thus further enriching the mixture and, if this produces a worsening in engine running ie. it reduces engine rpm, it is advisable to reduce the main jet size until you finally get satisfactory operation.

Other signs revealing the main jet is too big are a very dark exhaust pipe, dark exhaust gases and damp spark plugs and an improvement in engine running when the fuel supply is temporarily shut off.