

fig. 5

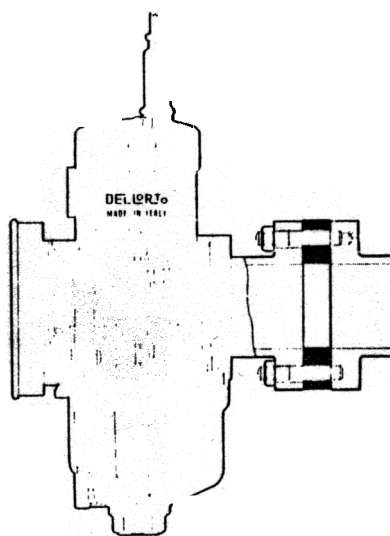


fig. 6

2.5 Air intakes

Different air intakes arrangements are possible for each type of carburettor:

Open air intakes; Trumpets of various shapes and lengths; Aircleaners and filter-silencers

As far as the lengths of the trumpets is concerned, remember that short trumpets are usually used on carburettors for two-stroke engines and longer ones on carburettors for four-stroke engines.

For particular requirements, such as on some racing engines, carburettors with air intakes having a special shape are available eg PHBE H and PHM H models.

On motorcycles with simple aircleaners or air filter-silencers, it is extremely important to check on the efficiency of the filter and for perfect sealing of the filter box to prevent damage to the engine and to the carburettor.

Any change in the filter-silencer may produce a change in the carburation and consequently fresh adjustment and tuning of the carburettor may then become necessary.

Remember also that replacing the filter or silencer with a trumpet usually results in an increase in the amount of air drawn into the engine and consequently there should also be a suitable increase in the size of the main jet fitted.

2.6 Construction materials

The carburettor bodies are diecast in **aluminium** or **zamak alloys**.

For special weight-conscious requirements, there are some small-volume carburettors in **elektron magnesium alloy**.

All the setting parts such as the jets, atomisers, needle-valve seats, etc are made of **brass**.

3 OPERATION, SELECTION OF CORRECT PARTS, TUNING AND USE

3.1 The venturi effect

In the carburettor, the venturi is the part which allows the conversion of some of the kinetic energy of the air passing through into pressure energy.

Usually the choke is shaped like a tube with a converging-diverging «venturi» section; in the restricted section or throat, the air pressure becomes lower, causing an influx of fuel upwards through the jets and orifices.

In tapered-needle type carburettors, there is no real choke and it has become customary to call the main intake barrel the choke.