3.7.3 — Piston-type accelerator pump

Figure 30 shows a simpler pump system than the one previously described, used on some other carburettor models.

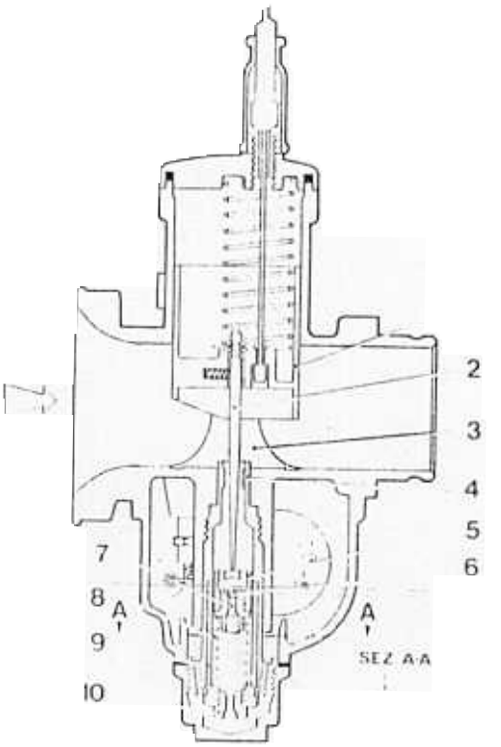
As shown in the figure, on opening the throttle (1), the tapered-needle (2) integral with it, releases the piston (5) with its perforated top, which rises, pushed by the spring (8), squirting fuel through the atomiser (4) directly into the main barrel (3). In the upstroke, the ball-bearing valve (6) closes and seals the hole (7).

On the downstroke, the needle pushes the piston (5) down, compressing the spring (8), while the ball valve (6) rises, unblocking hole (7) so that more fuel can again fill the chamber which has been formed above the piston.

The length of the chamber where the piston (5) moves, determines the amount of fuel which is pumped up into the main barrel (3).

The pump action is also affected by the length of the grooves (9) machined in the internal walls of the cylindrical chamber, where the pump piston moves (see figure 30).

When the throttle slide stops moving in any open position, the piston (5) also stops, stopping the pump action; the carburettor therefore then works in the usual way. Fuel, which rises continuously from the float chamber by the normal partial-vacuum action and flows first through the main jet (10) and then up into the atomiser-needlejet (4) to the main barrel (3), keeps the ball valve (6) open.



4. — MULTY-CYLINDER ENGINES

Supplying fuel mixture to multi-cylinder engines usually involves fitting one carburettor to each cylinder. This is because high-performance motorcycle engines have camshaft timing which would upset the carburation provided by just a single carburettor.

This does not happen with less sophisticated engines and, in these cases, it is possible to provide an efficient fuel supply to one or more cylinders with only a single carburettor.

Depending on the particular engine layout, installation of carburettors on multi-cylinder engines is generally accomplished in two ways:

- with carburettors **separated** (figure 31) and therefore with a throttle cable each.
- with carburettors **mounted together** in a rigid group by means of a suitable flange (figure 32) and with a single control cable.

All the adjustment procedures for multiple carburettors are the same as those described for single carburettors.