# Amal Concentric Carburettor

## 750 Series I & II

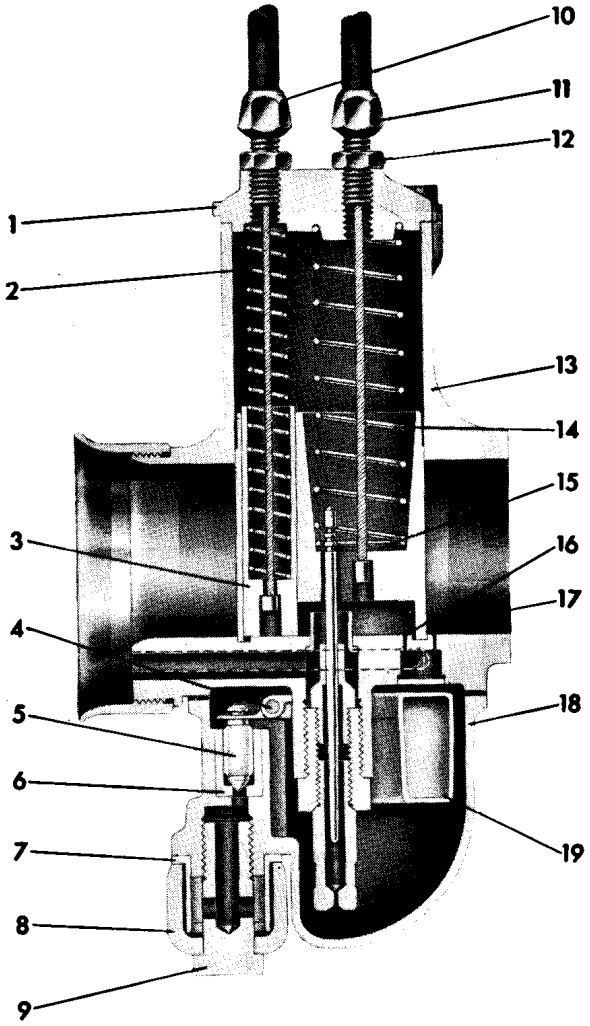
### 69. General Description

Two of the well-known AMAL Concentric carburettors are fitted direct on to the inlet ports. A sectioned view of the carburettor is shown in Figs. 18 & 19 and an "exploded" view in Fig. 22. Each carburettor is self contained with its own float chamber fed from a tap in the fuel tank. The float chambers are connected together by a short flexible tube joining the two banjos and both fuel taps must always be turned on to ensure an ample supply of fuel at high revs. Each float chamber contains a plastic float operating on a kemetal fuel needle with a powerful lever action which ensures a positive cut-off unless there is dirt on the seating.

The supply of air to the engine is controlled by a throttle slide which carries a taper needle operating in the needle jet. The needle is secured to the throttle slide by a spring clip fitting in one of three grooves and the mixture strength throughout a large proportion of the throttle range is controlled by the position of this needle in the slide and by the size of the jet in which it works. There is, however, a restricting or main jet at the bottom of the needle jet and the size of this controls the mixture strength at the largest throttle openings. At very small throttle openings petrol and air are fed to the engine through a separate pilot system, which has an outlet at the engine side of the throttle. The air supply to this pilot system is controlled by the pilot air screw and the slow running of the engine can be adjusted by means of this screw and a stop which holds the throttle open a very small amount. The throttle slide is cut away at the back and the shape of this cut-away controls the mixture at throttle openings slightly wider than that required for slow running. There is a compensating system to prevent undue enriching of the mixture with increasing engine speed, this system consisting of a primary choke surrounding the upper end of the needle jet through which air is drawn in increasing quantities as the depression in the main choke increases. This air supply and the supply to the pilot system are taken from two separate ducts in the main air intake to the carburettor so that all the air passing to the engine can be filtered by fitting an air cleaner to the main carburettor air intake.

Two small cross holes in the needle jet, at a level just below the static level in the float chamber, permit petrol to flow into the primary choke when the engine is not running or when it is running at very low speeds, thus forming a well of petrol which will be drawn into the engine on starting or accelerating from low speeds. At moderately high engine speeds the level of petrol in the float chamber falls slightly and in consequence no more fuel flows through the cross holes in the needle jet so that the petrol well remains empty until the engine slows down or stops.

A handlebar controlled air slide is provided to enrich the mixture temporarily when required.




**SECTION THROUGH MIXING CHAMBER, SHOWING AIR VALVE AND THROTTLE CLOSED**
**Fig. 18**