



Carburettor.

The effect of one of the jets—called the needle jet—is controlled by a tapered needle passing through its centre. As the throttle is opened or closed this needle moves relative to its surrounding jet and allows more or less gas to flow through the spray tube to the choke. Since the tapered needle is located on the side of the throttle slide which controls the amount of air fed to the engine you will see that it is a relatively simple matter to ensure that the relationship between these two important controls is just right for the job they have to do. The way in which this is done is described in the tuning sequences which follow. Fitting the metering needle on the side of the throttle valve and leaving an unrestricted bore at full throttle is one of the ways in which maximum performance is obtained from the GP.2 carburettor.

The purpose of the air bleed jet, not found on standard Amal carburettors, is to primarily atomise the fuel leaving the needle jet before it reaches the spray tube and the heart of the choke. In addition to the throttle twist grip which raises and lowers the throttle slide the GP.2 is also provided with a handlebar lever control for the slide which governs the primary air supply. This slide should be open at all times except for cold starting or when being used for the tuning experiments described on later pages.

Tuning—General

The tuning sequence of the GP.2 carburettor follows the well established Amal principles in that the throttle range from tick-over to full bore is broken down into four sections each with its independently variable controlling element. The easiest way to understand this arrangement is to study the following diagrams which clearly show the controlling element for each part of the throttle range. To tune the carburettors you will, however, require to understand precisely how these controls are adjusted.

The Pilot System

This is adjusted by means of a pilot air screw controlling the amount of air fed to the pilot system and by a detachable pilot jet. Your Spitfire carburettor has been calibrated at the Factory and you will not under any circumstances require to change the pilot jet. You may, however, require to adjust the air supply to the primary system and how to do this is described more fully later on.