

GENERAL OPERATION.

DESIGN FEATURES.

The G.P. Carburetter has been designed with a view to obtaining the maximum possible power from the engine, at the same time maintaining a progressive and consistent acceleration characteristic throughout the throttle range.

As a result, this Carburetter gives maximum power equivalent to that previously associated with the remote needle type of Carburetter, with consistency over the throttle range equivalent to that previously obtained with the T.T. type of instrument.

The main gain has been effected by embracing the metering needle (11) within the confines of the throttle valve itself (23), which, although leaving an unrestricted bore at full throttle, also leaves a very short tract for the mixture to traverse from the needle jet (1) to the choke.

Resulting from these two points of design, it will be found that in conjunction with the maximum power obtainable, a much smoother throttle control is possible at the lower r.p.m. which has the result where megaphone exhausts are used, of allowing a cleaner entry on to the megaphone than was previously possible. Also the point at which the megaphone's effect occurs is appreciably lower which, of course, is an obvious advantage on the road.

CHOKE BORE DIAMETERS.

Except in the maximum **CHOKE SIZES** of the three types of G.P. Instruments, it will be found that the effective choke diameter of the Mixing Chamber is on the engine side of the throttle slide (23), between it and the outlet of the Carburetter, and not in the centre of the choke adaptor (22) as might be expected. The reason for this is that exactly as the needle in the T.T. type of instrument caused obstruction across the choke, so, but to a much lesser degree, does the fuel emission from the G.P. spray tube (12). We, therefore, slightly swell the choke at this point which overcomes this fuel obstruction and then, by means of a taper, the choke diameter returns to its stipulated dimension before reaching the outlet of the Carburetter. Therefore, in referring to the choke size of a G.P. Carburetter, it is this smallest diameter in the Mixing Chamber which is of moment.

Naturally, when deciding on the choke size of a Racing Carburetter, the peak r.p.m. of the engine is the main controlling factor in conjunction, of course, with the inlet port diameter on the engine in question. Therefore, when ordering one of these instruments from us it is always safer, apart from mentioning the engine, to also give us the maximum r.p.m. and the inlet port diameter, when we shall then be able to assess exactly the correct choke size of the instrument.

FITTING.

Regarding fitting the Carburetter, although we are often asked what is the correct distance between the inlet valve centre line and the centre of the Carburetter Mixing Chamber, this is not a figure which can be laid down in hard and fast manner, as it varies enormously from one engine to another, although maximum efficiency is obtained in both cases. Broadly speaking, a distance of between 7" to 9" probably represents a fair mean dimension.

Flange fitting is standardised with the G.P. Carburetter to eliminate as much as possible the worrying source of air leaks which often persists with clip fitting instruments.

G.P. Carburetters are available for vertical and draught fittings, the maximum draught which we recommend being 20° as with anything in excess of this trouble is likely to be encountered because of the pilot fuel feed.

FLOAT CHAMBERS.

The Float Chamber fitted to the current model G.P. Carburetters is known as our type 302, and incorporates a top feed seating in conjunction with a large headed needle (30) ensuring a more than ample flow of fuel to the Mixing Chamber. This large top feed float chamber is capable of passing 10 gallons per hour of fuel at an 18" head. Consequently, it has done away with the necessity for double float chambers as were previously used, except in special cases such as dirt track racing and sidecar use.

Wherever possible the Float Chamber should be remotely mounted, from the point of view of flooding due to vibration but, of course, where this is not possible we do supply rigid float chambers which are attached to the mixing chamber in the orthodox manner. These are either upright or cranked at the angle of the induction port of the engine in question, so that it is, therefore, necessary when ordering a Carburetter incorporating a solidly mounted float chamber to state the angle of the induction port.

PETROL LEVEL.

The petrol level in the Type 302 Float Chamber is $1\frac{5}{8}$ " below the cover joint face (see diagram, page 2). Where the float chamber is remotely mounted, it should be so positioned that this level lines up with the lowest point of the circular scribe-mark on the Air Jet Plug (3).

LOCKING DEVICES.

A spring blade locking device (18) held in place by the air tube lock ring (19) engages with serrations on the mixing chamber cap (16), which positively prevents the unscrewing of same due to vibration.

With regard to the jet base nut (20), banjo nut (32) and jet block holding screws (13), these are fitted with drilled heads to enable same to be wired up in the orthodox manner.