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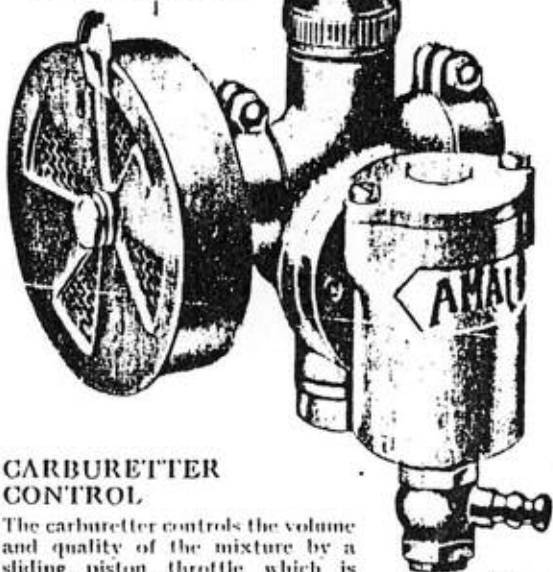
**WITH AIR FILTER
AND STRANGLER**

LIST No. A462

**" HINTS
AND
TIPS "**

for

**TYPE 308
CARBURETTER**



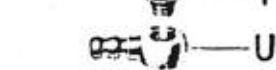
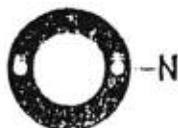
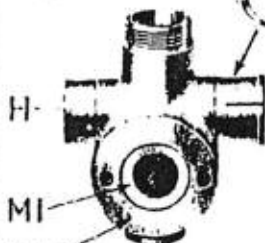
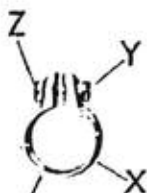
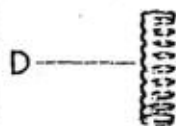
CARBURETTER CONTROL

The carburettor controls the volume and quality of the mixture by a sliding piston throttle which is operated by a flexible wire and cable and actuated by a lever on the handlebar. On the carburettor itself there is an air filter which contains a strangler shutter to be closed only when starting from cold—otherwise, when running, it must be wide open as shown in the illustration above.

STARTING. Follow the engine makers' instructions in detail. Our general instructions are that when cold :- Close the strangler shutter. Open and close the throttle a few times and then set it about $\frac{1}{4}$ open. Proceed to start the motor, and when it has been running for a few seconds under its own power, open the shutter. If the engine begins to falter, open the throttle more and close the shutter again for a few seconds longer. When warm, the motor will start with the strangler open.

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CARBURETTER
TYPE 308



FUEL FEED. The float chamber (*c*) and the mixing chamber (*h*) are in two separate pieces, and bolted together by flange (*n1*) and studs (*r*): between the flanges are a petrol filter gauze (*m*) fitting into recess (*m1*) and a paper washer (*u*), making a petrol tight joint between them. The carburettor contains only one jet (*k*) which is well submerged in the fuel; it is screwed into the end of the needle jet (*j*), and is easily accessible by undoing the cap (*l*), under the mixture chamber. The fuel from the float chamber flows through the main jet (*k*) and finds its level in the needle jet (*j*), which just protrudes into the mixing chamber under the throttle. The petrol pipe connection under the float chamber is horizontal banjo (*v*) to take a rubber pipe; it can be swivelled round in any direction and locked by nut (*w*).

The petrol level is maintained by a float (*p*) and needle valve (*v*), the needle is not adjustable. The needle is attached to the float by a wire bow on the top of the float which engages in a groove in the needle.

The fuel passage from the float chamber to the jet chamber is very large and protected by the gauze ring (*m*) fitting into the recess (*m1*).

MIXTURE CONTROL. The throttle (*g*) is of the piston type sliding up and down; it has two slots down its length, the deeper one for engaging the control cable and the shallower one to slide over a screw to locate its position. The throttle has a cutaway on the air intake side at its end nearer the jet—which cutaway can have different angles to operate for the purposes of mixture control at lower speeds.

The throttle carries a taper needle (*f*) which protrudes into the needle jet (*j*): there are several positions for this needle in the throttle so that the mixture may be adjusted correctly by its relation to the throttle opening. The needle travels up and down as the throttle is moved because the needle clip (*e*) rests on the throttle and is held there by the throttle spring (*d*). The throttle needle is accurately ground to a suitable taper and slides in the needle jet which has an accurate bore, the differences in diameters providing a means of controlling the flow from the main jet to correct the mixture at mid-throttle openings.

In conclusion: a correct mixture is maintained at all throttle openings, viz.:—

At full throttle, by the size of the main jet.

At small openings, by the throttle cutaway and, in intermediate positions, by the position of the needle.

For starting from cold the air filter is provided with strangler shutter.

INDEX TO EXPLODED VIEW OF CARBURETTER 308.

(a) Cable adjuster.	(p) Float (bottom feed).
(b) Adjuster lock nut.	(q) Cover screws for fl. cham.
(c) Mixing chamber cover.	(r) Holding studs and nuts for float chamber.
(d) Throttle spring.	(s) Float chamber, bottom feed.
(e) Throttle needle clip.	(t) Needle valve seat and petrol connection.
(f) Throttle needle.	(u) Petrol pipe banjo.
(g) Throttle valve.	(v) Float needle.
(h) Mixing chamber body.	(w) Petrol pipe banjo nut.
(i) Needle jet.	(x) Outlet clip.
(k) Main jet.	(y) Outlet clip screw.
(l) Jet cover.	(z) Outlet clip nut.
(m) Filter.	
(n) Fl. cham. flange washer.	
(o) Cover for float chamber.	

The small screw in the side of the throttle chamber is not seen: this screw acts as a guide for the throttle.

HINTS & TIPS ON CARBURETTER TUNING.

Provided the petrol-oil mixture is to the engine-makers' specification and is well mixed and that there is an ample flow to the carburetter, any incorrect carburation must be due either to too weak or too rich a mixture. If the mixture is suspected to be rich make sure that the float chamber is not flooding: if flooding, clean out all impurities in the petrol pipe and float chamber. Before "tuning" the carburetter, decide at what throttle opening any fault appears. A weak mixture is evident by spitting in the carburetter or by inability to open throttle. A rich mixture is evident by lumpy running, smoky exhaust, and oily sparking plugs.

If the error appears at:—

Full throttle, alter the main jet (k).

At small throttle openings, select a throttle (g) with different cutaway. A larger cutaway weakens the mixture and the smaller one richens it.

At half throttle, adjust the needle position. Lowering the needle (f) weakens the mixture; raising it richens the mixture.

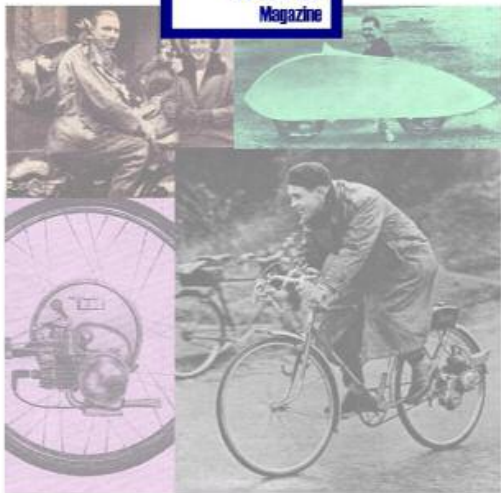
When the above has been attended to, any correction to the slow running must be done by the cutaway of the throttle.

FUEL DRIPPING FROM PETROL PIPE CONNECTION UNDER FLOAT CHAMBER.

The hexagon nut (w) under the float chamber should be tightened gently and firmly only to secure, in a petrol tight manner, the banjo petrol pipe connection (u) between its washers: it must never be overtightened with a large spanner, otherwise this will result in breakage. If petrol appears to drip from here it may be seeping from the end of the rubber pipe which is pushed over the serrated end of the banjo connection (u). Alternatively, the drip may be due to flooding over the float chamber cover (o) due either to excessive vibration or to impurities (grit, fluff, etc.) lodging on the needle valve seating and so preventing the needle valve (t) from closing tight. There is an air vent hole in the rim of the cover (o) which must be clear.

Genuine flooding can only be due to a bent float needle, an excessively worn groove in its conical head, float-bow jumped out of needle groove—or a punctured float.

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