

AMAL

List No. 456
Issue No. 1

CARBURETTERS

TYPE 308.

PRICE 4ls. 3d. each, including air cleaner and strangler but without controls for:—

CYCLE AUXILIARY ENGINES

up to approx. 40cc. capacity.

STANDARD SPECIFICATION:—

Weight approx. 6½ oz. 0.192 kilos.

FLOATCHAMBER on the right when looking into air intake. The float chamber is bolted to the body and on request can be made to any angle to suit inclined inlet pipes. It is not adjustable, once made.

Bottom feed is standardized and is provided with a swivel banjo connection for a rubber petrol pipe. No tickler is provided as one is unnecessary.

ENGINE CONNECTION is for inlet pipe size of ½" (12.7 m.m.) outside diameter that should be exactly to size and project into the Carburetter ½" (12.7 m.m.).

CROSS BORE OF CARBURETTER. Two sizes are provided for, viz., ⅝" (7.9 m.m.) or ¾" (10 m.m.) according to maximum engine revolutions.

DIMENSIONS:— *m/m dimensions are approximate.*

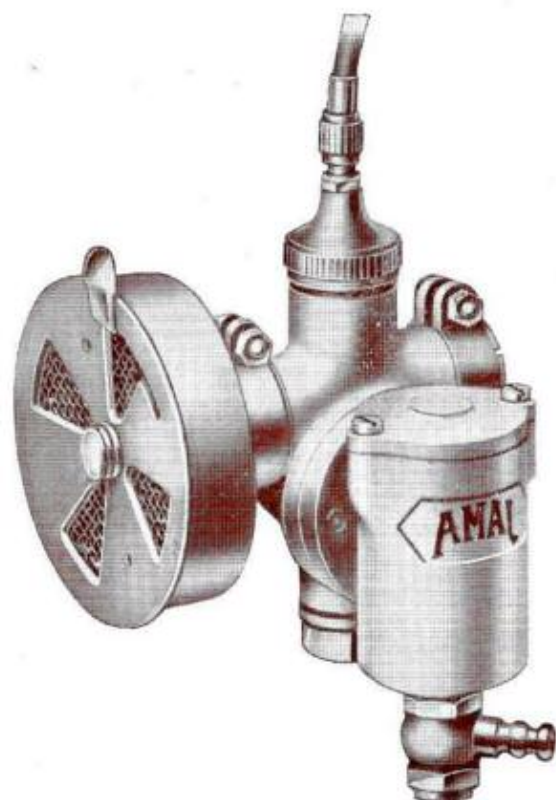
- 1.—Overall length 2¾" full (70 m.m.).
- 2.—Height above cross bore to top of cable adjusting screw 1¾" (45 m.m.).
- 3.—Depth below cross bore to base of petrol pipe connection, 2⅝" (54 m.m.).
- 4.—Width from throttle centre to outside of float chamber is 1¾" (45 m.m.).
- 5.—Diameter of air filter, 2⅝" (54 m.m.).

CONTROL is for single lever using cable '052 and wire '036. The air filter T310/1 has a hand operated strangler incorporated for starting.

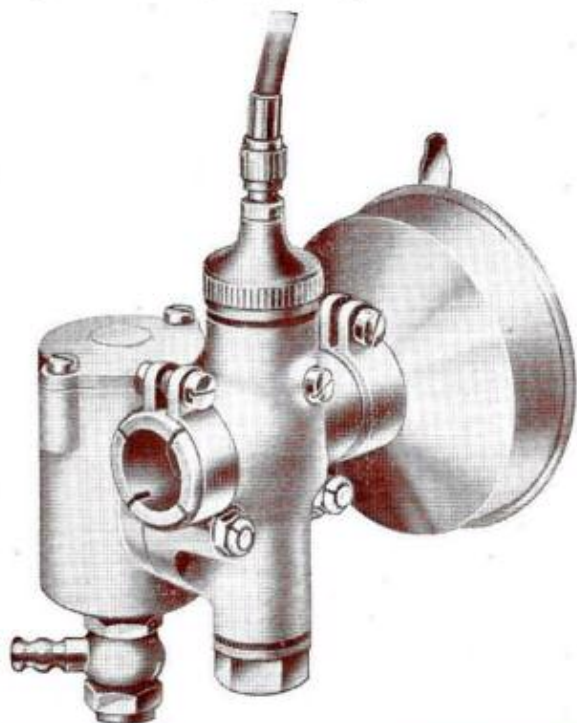
CARBURETTER CONTROL.

The carburetter controls the volume and quality of the mixture by a sliding piston throttle which is operated by a flexible wire and cable actuated by a lever on the handlebar.

To start from cold, close the air shutter strangler in the air filter, open and close the throttle a few times and then set it about ¼ open; proceed to start the engine, and when it is going, open the air shutter, and throttle down.



These illustrations are full size. Showing views of air filter inlet and (below) the engine attachment end.

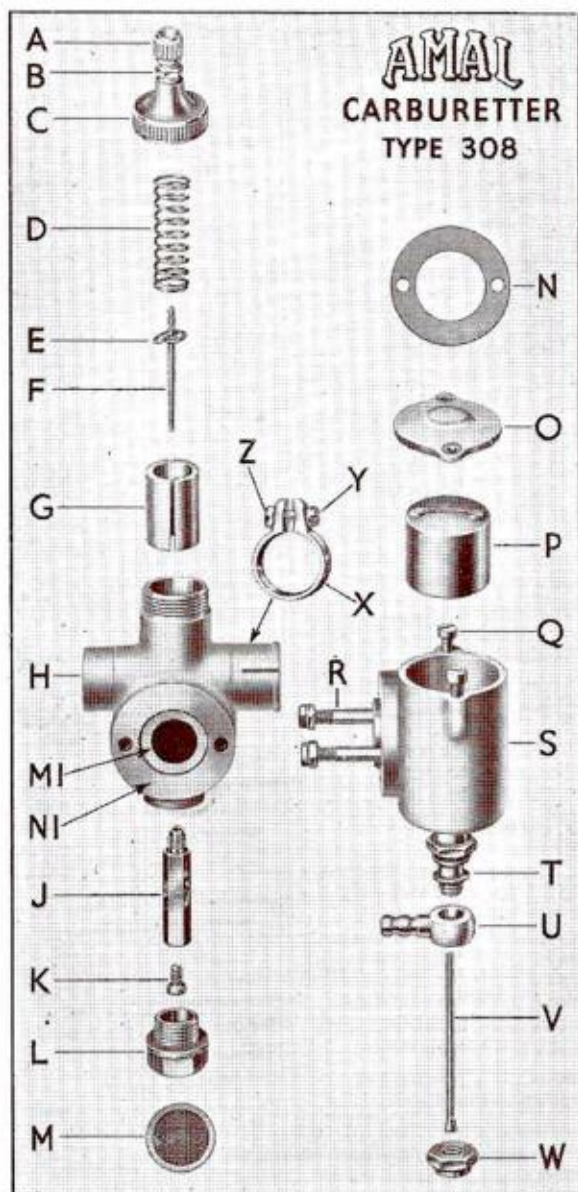


(THIS LIST IS PRINTED IN ENGLAND, AND IS ISSUED SUBJECT TO PRICES RULING AT THE DATE OF DELIVERY.)

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ENGLAND.

TELEPHONE: BIRMINGHAM, BIRCHFIELDS 4571 (P.B.X. 6 lines).
2,500/9/54. W.

TELEGRAMS: AMALCARB (PHONE), BIRMINGHAM.



INDEX TO EXPLODED VIEW OF CARB. 308.

- | | |
|------------------------------|---|
| (a) Cable adjuster. | (p) Float (bottom feed). |
| (b) Adjuster lock nut. | (q) Cover screws for fl. chr. |
| (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. |
| (j) 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 cham. | |

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

NOTE.—The jet (k) and the needle jet (j) are too small to be interchangeable with those in the larger Amal range.

Hints and 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 enriches it.

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

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

DESCRIPTION OF CARBURETTER.

FUEL FEED. The float chamber (s) 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 (n), making a petrol tight joint between them. The carburetter 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 mixing chamber. The fuel from the float chamber flows through the main jet (h) 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 (u) 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 feed 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 three 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.:—

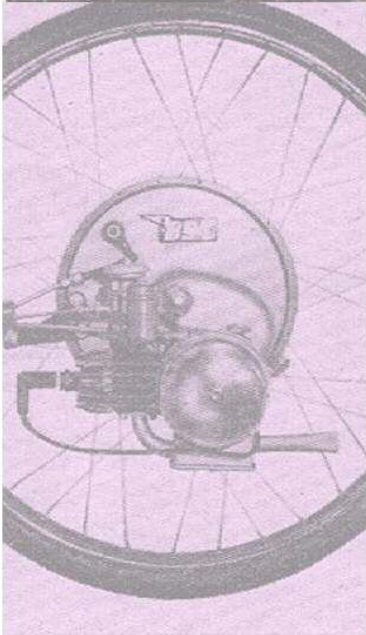
At full throttle, by the size of the main jet.

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.

GUARANTEE.—The Company take all possible reasonable care in the manufacture and the quality of their products. Purchasers are informed that, any part proved to be defective in manufacture or quality, and returned to the works within six months of its purchase new, will be replaced. The Company must respectfully point out however, that its responsibility and that of its agents, stockists and dealers, is limited to this Guarantee, and that they cannot, under any circumstances, be held responsible for any loss or for any contingent or resulting liability arising through any defect. These conditions of sale and use also apply when the Company's products form part of the original equipment of machines purchased new.

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