

SECTIONED ILLUSTRATION of NEEDLE JET CARBURETTER WITH PILOT JET SYSTEM

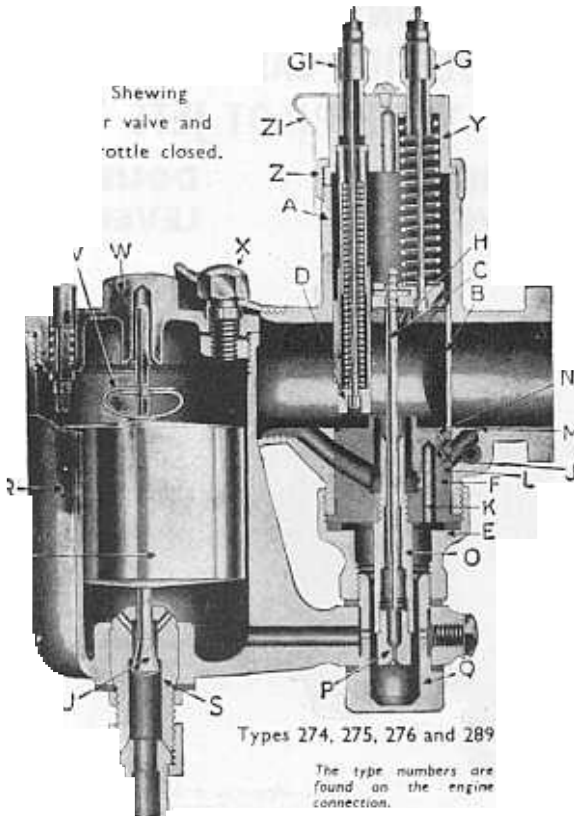


Fig. 2.

Your carburetter may be vertical, inclined or horizontal, but diagrammatically this view applies to all models, the variation being in the attachment to the engine and of the float chamber.

TWO DESIGNS

FIG. 2 above is the sectioned view of the Standard Amal Carburetter as shown on page 1, Fig. 1.

This is the standard design where the primary air to the main jet and the pilot jet system comes in jointly through the main air intake, see Fig. 3, page 3. The type numbers are 274, 275, 276, 289.

An alternative design is made where the primary air to the main jet comes in through four visible ports around the base of the mixing chamber, and where also the air supply to the pilot jet system is separate. The type numbers of these carburetters are 74, 75, 76 and 89.

These tuning instructions apply to both the above designs.

HINTS AND TIPS

STARTING from cold. Flood the carburetter by depressing the tickler sharply three or four times, and close the air valve; set the ignition, say half retarded. Then shut the throttle and open it a little, viz., about one-eighth open, see diagram on page 7 position 2, then kick-start: If it is too much open starting will be difficult.

STARTING, engine hot. Do not flood the carburetter but close the air lever. Set the ignition and close the throttle, then open the throttle about one-eighth of its travel and kick-start. If the carburetter has been flooded and won't start because the mixture is too rich—open the throttle wide and give the engine several turns to clear the richness, then start again with the throttle one-eighth open, and air lever wide open. Generally speaking it is not advisable to flood at all when an engine is hot.

STARTING, general. By experiment, find out if and when it is necessary to flood, also note the best position for the air lever and the throttle for the easiest starting (some carburetters have the throttle stop fitted with a starting position on to which the throttle must be shut down).

STARTING, SINGLE LEVER CARBURETTERS. OPEN THE THROTTLE VERY SLIGHTLY FROM THE IDLING POSITION AND FLOOD THE CARBURETTER MORE OR LESS ACCORDING TO THE ENGINE BEING COLD OR HOT RESPECTIVELY.

CABLE CONTROLS. See that there is a minimum of backlash when the controls are set back and that any movement of the handlebar does not cause the throttle to open; this is done by the adjusters on the top of the carburetter. See that the throttle shuts down freely.

PETROL FEED, verification. Detach petrol pipe union at the float chamber end; turn on petrol tap momentarily and see that fuel gushes out. Avoid petrol pipes with vertical loops as they cause air locks. Flooding may be due to a worn or bent needle or a leaky float, but nearly all flooding with new machines is due to impurities (grit, fluff, etc.) in the tank—so clean out the float chamber periodically till the trouble ceases. If the trouble persists, the tank might be drained, swilled out, etc.

Note that if a carburetter, either vertical or horizontal, is flooding with the engine stopped, the overflow from the main jet will not run into the engine but out of the carburetter through a hole at the base of the mixing chamber.

FIXING CARBURETTER AND AIR LEAKS. Erratic slow running is often caused by air leaks, so verify there are none at the point of attachment to the cylinder or inlet pipe—check by means of an oil can and eliminate by new washers and the equal tightening up of the flange nuts. Also in old machines look out for air leaks caused by a worn throttle or worn inlet valve guides.

BANGING IN EXHAUST may be caused by too weak a pilot mixture when the throttle is closed or nearly closed—also it may be caused by too rich a pilot mixture and an air leak in the exhaust system; the reason in either case is that the mixture has not fired in the cylinder and has fired in the hot silencer. If the banging happens when the throttle is fairly wide open the trouble will be ignition—not carburation.

BAD PETROL CONSUMPTION of a new machine may be due to flooding, caused by impurities from the petrol tank lodging on the float needle seat and so prevent its valve from closing. If the machine has had several years use, flooding may be caused by a worn float needle valve. Also bad petrol consumption will be apparent if the throttle needle jet "O" (see fig. 2) has worn; it may be remedied or improved by lowering the needle in the throttle, but if it cannot be—then the only remedy is to get a new needle jet.

AIR FILTERS. These may affect the jet setting, so if one is fitted afterwards to the carburetter the main jet may have to be smaller. If a carburetter is set with an air filter and the engine is run without it, take care not to overheat the engine due to too weak a mixture; testing with the air valve (page 5, §4) will indicate if a larger main jet and higher needle position are required.

FAULTS, read page 5. The trouble may not be carburation; if the trouble cannot be remedied by making mixture richer or weaker with the air valve, and you know the petrol feed is good and the carburetter is not flooding, the trouble is elsewhere.

RE-ASSEMBLING after dismantling. Note particularly that the mixing chamber nut E (fig. 2, page 2) is tightened up tight on to the washer that holds the jet block F (fig. 2, page 2), otherwise petrol will leak up. When replacing the throttle see that the throttle needle goes into the centre hole in the choke block and once in, note the throttle works freely when the mixing chamber top ring Z is screwed down firmly and held by spring ZI.

Float chamber lid. To remove, first loosen screw X (fig. 2). To remove float, pinch the bow V (fig. 2), and pull; when replacing, slip over needle and slide down till bow jumps into the needle groove. Care required to avoid bending needle.