

MK 2 Amal concentric carburetters

Fitting and tuning instructions

When fitting the Mk 2 Amal Concentric Carburetter to your engine, check the following points:

- 1 The rubber flange adaptor fits correctly with no air leaks. Do not overtighten the clips, which could split the rubber.
- 2 The throttle cable is of adequate length and there is adequate movement of the inner wire for the throttle valve to close completely.
- 3 Petrol pipes must be connected tightly to the banjo to prevent leaks and in such a way that the carburetter is not prevented from moving on its rubber mounting adaptor.
- 4 There must be a good connection to the air cleaner if one is used.

Starting from cold

Depress lever, or if cable operated, open the handlebar lever. This will introduce the cold start jet system which is completely separate from the main jet system. It will introduce over-rich mixture on the engine side of the throttle valve. Do not open the throttle valve more than one quarter or the cold starting system will not work so well. The jet normally fitted is number 50. This can be changed for alternative sizes if extreme conditions are experienced.

Tuning sequence

To obtain correct carburation for any stated fuel, assuming that the correct size carburetter is fitted, the sequence is as follows:

- 1 main jet for power at full throttle
- 2 pilot air adjuster for idling speed
- 3 cutaway for take-off from the pilot jet
- 4 needle jet and needle position for clean carburation between one quarter and three quarters

1st: Main jet

If at full throttle the engine runs 'heavily' and does not pull at full power, the main jet is generally too large. If the engine fades and perhaps deteriorates with possible detonation, then the jet is too small. With the correct size the engine should run freely at maximum rpm giving good power. When testing for the correct main jet, give careful attention to sparking plug readings; the correct colour will be light brown or chocolate colour surrounding the central electrode.

2nd: Pilot jet

The pilot system governs engine tickover and can affect pickup and transmission to the main system. Choose a jet that when the engine is set for steady idling, the pilot screw is one to one-and-a half turns from its seat. If the adjuster is further on its seat, a larger jet is needed, conversely if the adjuster is screwed out a long way a smaller jet is needed. There are two alternative pilot jet locations; the one in the float bowl is generally considered best for four stroke engines, that located in the body beneath the air tube usually best for two stroke engines. This is not a hard and fast rule and the reverse may sometimes be the case. Irrespective of engine type, when the carburetter is mounted in a down draught attitude, the pilot jet should be placed in the mixing chamber body.

Throttle valve cutaway

The throttle valve governs transition from idling to the main system and also influences response at small throttle openings. When opening the throttle, if the engine fades or spits back through weakness, a smaller cutaway is needed. If the engine runs unevenly and heavily, a larger cutaway is needed. The main influence of the throttle valve takes effect up to one third throttle opening.

Needle jet and needle position

These influence the range from one quarter to three quarters throttle: the needle jet, mainly the lower half of the range and the needle the upper part of this range. It is important to get the right combination. Usually the needle jet supplied with the carburetter is the correct one for that instrument. Raising the needle produces a richer mixture and lowering, conversely, a weaker mixture. If it is necessary to go to the extreme of the adjustment in either direction, then probably the next sized needle jet, up or down, could be utilised usefully with some further re-adjustment of the needle position. There are two different systems for four stroke and two stroke engines; refer to the parts list to ensure that the correct type is used. Always use the correct combination of needle and needle jet as a set.