

Approximate Sizes as a guide for 80 Octane Fuel.

Single cyl. engine at average peak revs.	Carb type	Effective bore of Carb. at back of throttle	Throttle Valve No.	Needle Jet	Needle position	Main jet in c.c. flow
175 c.c.	15T.T.	$\frac{7}{8}$ "	5	·107	4	220
250 c.c.	15T.T.	$\frac{11}{16}$ "	5	·107	4	270
350 c.c.	10T.T.	$1\frac{1}{16}$ "	5	·109	4	350
500 c.c.	10T.T.	$1\frac{1}{8}$ "	5	·109	4	420

TUNING INSTRUCTIONS.

NOTE—These general instructions may also be used for older models prior to 1949, but note however that throttles and springs are not interchangeable between the old and new models. (Spares for older models, see list 441 series).

To get carburation for any stated fuel when the choke bore is correct for the peak revs. of the engine and the correct needle jet for the fuel to be used, the procedure is simple. Start off with an assumed setting, and then tune as follows. There are four phases :

- (1) Main jet for power at full throttle ;
- (2) Pilot jet for idling ;
- (3) Throttle cut-away for " take off " from the pilot jet ;
- (4) Needle position for snappy mixture at quarter to three-quarter throttle ; then final idling adjustment of the pilot jet.

Always tune in this order, then any alteration will not upset a correct phase.

SEQUENCE OF TUNING. (1) Main jet size. (2) Pilot jet adjustment. (3) Throttle valve cut-away. (4) Needle attachment.

1. MAIN JET SIZE. This should be determined first : the smallest jet which gives the greatest maximum speed should be selected, keeping in mind the safety factor for cooling. (*The air lever should be fully open during these tests*).

2. PILOT JET ADJUSTMENT. Before attempting to set the pilot adjuster the engine should be at its normal running temperature, otherwise a faulty adjustment is possible, which will upset the correct selection of the throttle valve. The pilot adjuster, which controls the amount of fuel passed, is rotated clockwise to weaken the mixture, and anti-clockwise to richen it. Adjust this very gradually until a satisfactory tick-over is obtained, but take care that the achievement of too slow a tick-over—that is, slower than is actually necessary—does not lead to a " spot " which may cause stalling when the throttle is very slightly open.

3. THROTTLE CUT-AWAY. Having set the pilot adjuster, open up the throttle progressively and note positions where, if at all, the exhaust note becomes irregular. If this is noticed, leave the throttle open at this position and close the air lever slightly ; this will indicate whether the spot is rich or weak. If it is a rich spot, fit a throttle valve with more cut-away on the air intake side (or *vice versa* if weak).

4. JET NEEDLE POSITION. Tuning sequence 2 & 3 will affect carburation up to somewhere over one-quarter throttle, after which the jet needle, which is suspended from the throttle valve, comes into action and when the throttle is opened further and tests are again made for rich or weak spots, as previously outlined, the needle can be raised to richen or lowered to weaken the mixture, whichever may be found necessary. With these adjustments correctly made, and the main jet size settled, a perfectly progressive mixture will be obtainable from tick-over to full throttle. The jet needles are interchangeable in both carburetters T15 & 10.

HOW TO ORDER.

See specification and extras on page 1.

State size and make of engine and fuel to be used.

If possible, state the peak revs. of the engine and the compression ratio.

State the method of attachment to the engine and the size of the clip fitting or flange dimensions and the inlet bore in the cylinder, also the length of the carburetter attachment (see price list specification).

State whether the mixing chamber is to be vertical or inclined up to a maximum of 15° out of the vertical.

Top feed float chambers with horizontal banjo petrol pipe connections are only supplied ; specify if a 180° double banjo is wanted or if only a single one is required.

State if controls to be supplied, viz., lever for mixture control and twist grip for throttle, double levers, or two single levers, also state lengths of cables and if mid-way cable adjusters are wanted. Do not control the air by twist grip.

State diameter of handlebar and length of straight on it if twist grip is wanted also—touring or racing grip. Do you want a dummy grip to match on left-hand bar ?

USEFUL SPARES TO HAVE WHEN TUNING UP A CARBURETTER:—(Also see Spares List 449).

Needle-jets for use with alcohol fuels (the same needle jet is interchangeable in both carburetters but specify size required).

Main jet, any size calibration according to requirements. (The jets are interchangeable in both carburetters).

Throttles with different cut-aways. State if for type 10 or 15. When a new throttle is fitted see that it closes properly.

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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