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https://sucarb.co.uk/technical-hs-type-carburettor-description-adjustments

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HS Carburettor Description and Adjustments

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DESCRIPTION

The HS carburettor is of the automatically expanding choke type in which the size of the main air passage (or choke) over the jet, and the effective area of the jet, are variable, according to the degree of throttle opening used on the engine against the prevailing road load (which may differ widely from light cruising to heavy pulling).

This automatic regulation of the size of the choke over the complete throttle range gives an approximately constant air velocity over the jet (sometimes called a constant vacuum carburettor) which is sufficient to ensure good atomisation at all speeds, making multiple jets unnecessary.

Therefore to serve the complete throttle range a single jet only is used, being a simple metal tube sliding in a single bearing bush, fed by fuel along a small-diameter nylon tube leading direct from the base of the float-chamber, which is varied in effective area by a tapered fuel metering needle sliding into it, the exact profile of the 'taper' being altered to suit differing engines, running conditions, or climates. As the exact profile of this needle (identified by a type marking on the shank end) is only settled after long and expert tuning, it is generally inadvisable to change to an alternative type from the 'standard' tuning.

ADJUSTMENTS

(1) **Needle changing - for mixture ratio alteration**

If the general mixture strength is suspect, or simply being checked over, first remove the float-chamber and piston unit, and after slackening off the needle clamping screw extract the needle and check its identifying marking against the manufacturer's recommendations. When this has been satisfactorily settled replace the needle (or its correct substitute)

position of screw (5, Fig. 4) the fastest idling speed is obtained consistent with even firing.

If the firing is uneven, with a 'splatty', irregular type of misfire and a colourless exhaust, then the mixture is too weak and the jet nut should be suitably lowered; while if the firing is uneven, with a 'rhythmic' or regular misfire and a blackish exhaust, then the mixture is too rich and the jet nut should be raised.

If the return spring on the jet lever is temporarily removed in order to give easier access to jet nut (2, Fig. 1) make sure that the jet head is shutting hard up against the under side of this nut after every adjustment; really good slow running is critical to a sixth of a turn of this nut, or one 'flat' of the hexagon, on some engines.

When the slow-run mixture is correct lifting the piston by means of the small spring-loaded pin on the side of the body casting will slightly increase the speed of idle to start with, but when the full travel of the pin is reached, giving about 1/16" of stroke, the resulting weakening effect should stall the engine.

When the slow-run mixture is correct lifting the piston by means of the small spring-loaded pin on the side of the body casting will slightly increase the speed of idle to start with, but when the full travel of the pin is reached, giving about 1/16" of stroke, the resulting weakening effect should stall the engine.

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For all three carbs?
Only the center one
will stall the engine
on my '62 BT.