EMULSION TUBE ACTION

The controlling factors of the emulsion tube are its diameter and the number, size and location of the holes.

Air is admitted through the air correction jet which screws in on top of the tube or may be pushed into the tube. Air coming through the correction jet flows out through the holes drilled in the tube and mixes with the fuel in the emulsion tube well.

The fuel in the emulsion tube will come through the main jet which may be screwed into the carburetor body or pushed into the bottom of the tube and seats against the bottom of the well. From inside the tube, fuel passes into the well through holes drilled in the tube and mixes with air towards the top of the tube before travelling to the outlet from the auxiliary venturi.

At idle or low speed, low load engine conditions, the level of fuel in the well would equal that in the float chamber. This reserve of fuel helps to enrichen the mixture as engine speed or load increases. Two factors, therefore, become evident:

Firstly, a thin emulsion tube will leave room in the well for a larger reserve of fuel and conversely, a thick tube will lessen the reserve.

Secondly, the initial draw of mixture from the well as the throttle is opened will be richer if there are no holes in the upper part of the tube, holes in the upper section of the tube will admit air and weaken the mixture.

To cite the two extremes — a thin tube without upper holes — rich. A thick tube with large upper holes — weak.

The foregoing action will only occur during initial acceleration, as once the reserve in the well has been used, the main jet is the only supply in this particular circuit.

Changing the emulsion tube is preferable to richening the pump jet to overcome an initial hesitation. The effect of an over-rich pump jet is disguised at higher engine speeds but it has a large bearing on economy.

This is particularly evident in the DCOE series where the pump circuit becomes a power circuit under full load conditions.

Indicative table for emulsion tube selection

Usual application	Weber Part Numbers		
	61440.....  for: 40-46 IDA (3V) 40 IF (3V) and a lot of the remaining carb. types	61450.....  only for: DCOE-DCNF IDF-IDA (2V) DATRA-DFTA DMTR-DMTRA carb. types	61455.....  only for: DCD-DCZ carb. types
Current usage	F2-F3-F6-F7 F8-F9-F15 F16-F20-F21 F24-F26-F33 F34-F35	F2-F3-F4-F7 F9-F11-F14 F15-F16	F8-F13-F23 F26-F30-F33
For mixture enrichment at low rpm or during slight accelerations (tubes without orifices at top)	F3-F5-F7-F21	F7	F23-F30
For mixture weakening at low rpm or during slight accelerations (tubes with orifices at top)	F20-F33-F34	F2-F3-F11 F14-F15-F16	F8-F26-F33
Tubes with many orifices for high rpm mixture richness reductions when air bleed jet is larger than 2.00 mm	F8-F16-F20	F11-F19	F8-F9-F31
When mixture enrichment for slight accelerations is needed, the fuel reserve in emulsion well must be increased: this is obtained by fitting a tube having small outside diameter, orifices located prevailingly in the lower portion and a larger size air bleed jet to prevent excessive mixture richness at high rpm.	F3-F5-F25	F7-F8	F13
Tubes for very large main fuel jets or for alcohol-based fuels.	F2-F20 F24-F25 F26	F2-F3-F4-F7 F17	F8-F10 F29