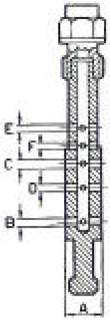
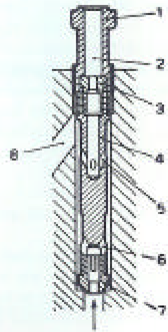


Tube type	A	B	C	D	E	F
F 4	5^{75}	125	100	—	100	—
F 5	6^{25}	125	100	125	100	—
F 6	5^{75}	125	100	—	100	125
F 8	5^{75}	125	100	125	100	125
F 9	6^{25}	125	100	125	100	125
F 10	4	125	95	125	95	—
F 11	4	—	—	125	95	—
F 15	6	200	—	—	—	—

Note that distance between layers of holes decreases from bottom to top. Spacing helps adjust fuel flow depending on level of fuel in well. At high speeds, when fuel level in well is lowest, there is greatest braking action. The diameter and position of top row of holes are most critical, for they determine, along with diameter of air-correction jet, point at which braking action begins. Drawing courtesy Weber.



F16 emulsion tube has upward facing air-correction holes (5) and fuel holes (6). Another "family" of Weber emulsion tubes is represented by F16 tube. Its holes angle up, helping, rather than retarding, fuel flow. As a result, F16 emulsion tube causes main circuit to start earlier than F4—F15 "family." Drawing courtesy Weber.

float-bowl level. And that's one reason why setting the float level correctly is important. A higher float-bowl level has the same effect as lowering the step, and a lower float-bowl level has the same effect as raising the step. The step ensures that, even at the lowest speeds, there will be a bubbling effect on fuel drawn past the emulsion tube.

Just as in the case of the constant-diameter emulsion tube, as the major diameter of the tube decreases, less signal from the venturi is needed to pull fuel past the tube. *Signal* means the amount of pressure drop at the venturi, which "signals" the fuel-supply circuits. Thus, the smaller the outer diameter of the emulsion tube, the earlier the main circuit starts and the less the braking action of the emulsion tube.

Number of Holes—Air is forced through the holes in the emulsion tube as it tries to reach the low-pressure area of the venturi. The air must bubble through the fuel in the well to reach the venturi. If there were only one or two small holes in the emulsion tube, very little air would be able to pass from the well to the venturi. Consequently, the more holes and the larger they are, the greater the braking action on the fuel, and the leaner the mixture.

The holes at the top of the emulsion tube bubble fuel at low speeds. As the velocity of the flow increases, fuel is forced farther down in the well by the increasing flow of air through the emulsion tube. Thus, the spacing of the holes down the tube, as well as the number and size of the holes, controls the overall air correction of the fuel flow.

Typically, the holes in the emulsion tube are more closely spaced at the top, where working pressures are lower and precise control more critical. Holes at the bottom of the emulsion tube operate at very high pressures and have the most profound effect on the system.

Hole Orientation—The typical emulsion tube has holes drilled at right angles to its axis. This "family" of tubes is specified in the accompanying chart.

Note that the distance between the layers of holes decreases from bottom to top. Hole spacing helps adjust fuel flow depending on the level of the fuel in the well. At high speeds, when the fuel level in the well is lowest, there is greatest braking action. The diameter and position of the top row of holes are most critical, for they determine, along with the air-correction jet diameter, the point at which braking action begins.

Another "family" of Weber emulsion tubes is represented by the F16 tube, illustrated here. Its holes are angled upward, helping, rather than retarding, the flow of fuel. As a result, the F16 emulsion tube causes the main circuit to start earlier than the F4–F15 "family."

Air Volume—The amount of air available to the emulsion tube is controlled by the air-correction jet. In some Weber applications, the air-correction jet is a separate part from the emulsion tube. In those applications, the emulsion tube is held in the well by the air-correction jet. In other applications, including the idle-jet