



Relation of idle, progression and main circuit operation showing their influence as engine rpm increases. Goal is to make mixture strength a straight (stoichiometric) line. Actual practice is less than ideal.

One problem with this straightforward choke is that the cable operating the choke lever may keep the choke on even when you think it's closed. These types of chokes make a definite hissing noise when they're operating. Disconnect the actuating lever from the operating cable and move the lever by hand. Note where the lever is as you hear hissing from the choke. Reconnect and adjust the wire to the lever so the choke operates correctly.

Accelerator Pump—The accelerator pump is another fuel-richening device. Fortunately, it's easy to check. With the engine off, peer down the primary venturi—primary venturi on a progressive carburetor—and operate the throttle linkage. You should see a solid squirt of fuel coming from the pump jet nozzle. If you don't, the pump isn't working. On DCOE carburetors, the outlet is very close to the throttle plate. On most other Webers, it's near the top of the carburetor throat.

Power Valve—Modern engines are designed to run lean in order to pass exhaust emission standards. To maintain mixture strength, a *power valve* is used. It dumps a little extra fuel into the fuel system when manifold pressure falls below a certain value. The power valve is usually contained inside the carburetor and cannot be checked without disassembling the entire unit. If the engine has become sluggish while accelerating at higher speeds, or runs very rich all the time, suspect the power valve.

Fuel Level—A carburetor works because of the difference between atmospheric pressure on the fuel in the float bowl and the reduced pressure created by a restriction in airflow. The weight of the fuel in the well between the float bowl and venturi must be subtracted from atmospheric pressure in calculating the actual pressure developed. It's not a big value, admittedly, but it is significant. The weight of the fuel in the well is

actually controlled by the float level of the carburetor. The higher the level, the more fuel in the passage.

As a result, float level changes mixture richness. Moral: Check the float level. Float level can be set so high that fuel actually overflows into the throttle bore, even at idle.

REPAIR METHODS

You should now be able to identify most problems afflicting a Weber, either by deduction, or by a direct hint from the practical diagnostics section. So after identifying a carburetor problem, proceed to correct it. The decision process can be broken into these courses:

- Non-catastrophic problem—correct by adjustment.
- Catastrophic problem—correct by replacement.

This boils down to, "Can I fix it, or should I replace it?"

If the problem is just a torn or worn-out