

Carburetor Leak Down and the Evaporation of Gasoline

One of the very common problems or concerns that our clients have is leak down inside the carburetor when a vehicle has been sitting for as few as a couple of days or as long as three to four weeks. In fact, the carburetor isn't "leaking down" at all. What is occurring is that the gasoline is simply evaporating into the atmosphere. The size or capacity of the float bowl controls how quickly this evaporation takes place. Carburetors that have extremely small capacities are the Holley 4000 (Teapot) and the Rochester Quadrajet. The largest capacity of anything that we work on is the Autolite/Motorcraft 4300. Holley 4150 and Autolite 4100 four barrels are of medium capacity.

In a warm climate, the lower capacity carburetors can have the fuel evaporate in three to four days. The larger capacity carburetors can take as much as two weeks to empty in the same warm climate. Obviously, the colder that it is, the slower the evaporation. This is simply a law of physics and every carbureted vehicle is susceptible to this issue. The question becomes:

How do I start my car when it has been sitting for a period of time?

When anyone gets into a car that hasn't been started in a while, the first thing that they typically do is pump the gas pedal. This is not going to make your car start! The reason is because there is nothing inside the carburetor to pump. Pressing the gas pedal activates the accelerator pump in the carburetor. The accelerator pump pumps gas from the float bowl into the venturi where it is sucked into the engine. If the gas has all evaporated from the float bowl, then the accelerator pump is doing NOTHING. You need to get fuel into the float bowl first.

In order to get fuel into the carburetor you will need to follow the starting procedure below:

1. Without touching the gas pedal at all, crank the engine over for approximately 10 seconds. This does two things. It gets some oil where there hasn't been any for awhile (oil pump) and it refills the float bowls in the carburetor (fuel pump).

2. Now, push the gas pedal all the way to the floor. This closes the choke plate on the carburetor (on automatic choke carbs).

3. Next, pump the gas pedal five or six times.

4. Remove your foot from the pedal. Do not touch the gas pedal!

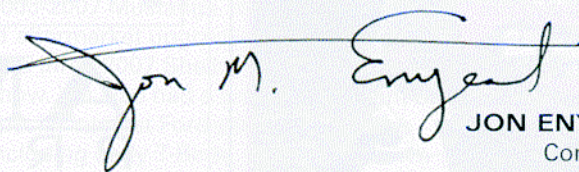
5. Turn the key! It should turn over on the first shot. If it doesn't after two or three seconds of cranking, stop cranking and go back to step 3. (If it still doesn't start, you have other issues besides leak down.)

This procedure only works if the carburetor is functioning properly. I can't tell you how many times I have explained this procedure to people over the years. This time of year it is especially useful so please feel free to share this information with anyone you know who has a classic vehicle. As always, I invite your continued carburetor questions and comments.

Happy Driving,
Jon

As a follow up note:

A reader from Santa Barbara, California, pointed out that in my December issue discussion on multiple carburetion, I inadvertently left out the usage of Dual Quads on late 1963-64 Galaxie R-code 427 Lightweights.



JON ENYEART
Contributor

Email: sales@ponycarburetors.com
Phone: 866.662.3003 (Toll Free)



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