

Another Season, Another Reason for Vapor-locking

by John Imlay

I don't know about you, but I always seem to have worse vapor-locking problems in the winter. Last year, I went all summer without a single vapor-lock issue with my 1937 Club Sedan...that is until mid-September when I did a last minute fill up at a Chevron station on I-84 just before leaving on the fall "Howie" tour. After that, I had moderate vapor-lock issues until the following May! It's counter intuitive right? You'd think the cooler weather would lead to less vapor-lock! I happened to mention my problem to Brad Ipsen while on the tour and he told me it was most likely due to the switch over to "winter-blend" gasoline in September. What?! Yep, that's right. There's a difference between the gas you get in the summer versus the winter. Here's what AAA has to say:

Every spring gas prices seem to skyrocket to the highest prices of the year. Why does this happen? In explanation, we hear the experts say that many of the refineries are "down for maintenance while transitioning from winter-blend to summer-blend gasoline," but what does this mean?

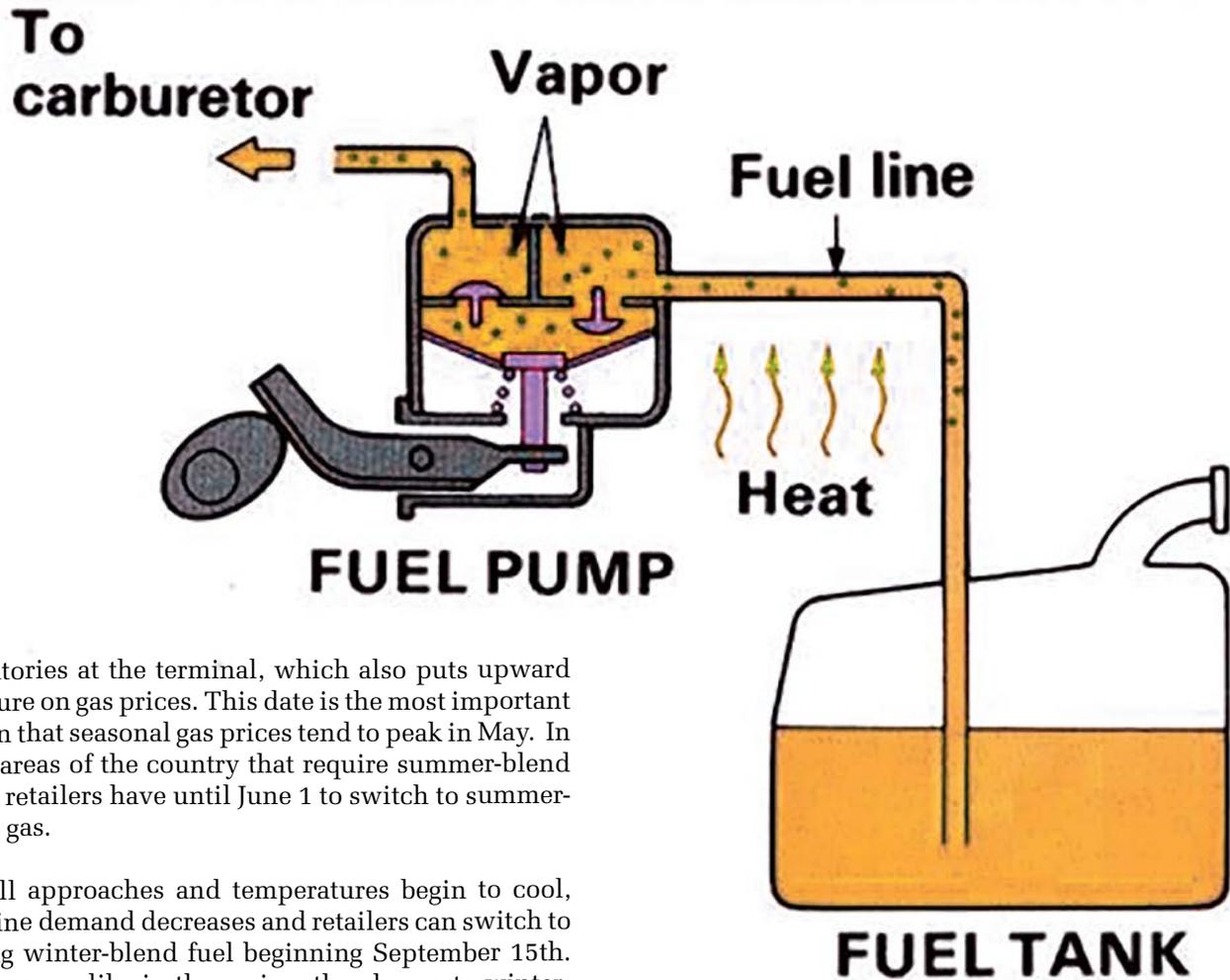
The difference between summer and winter-blend gasoline involves the Reid Vapor Pressure (RVP) of the fuel. RVP is a measure of how easily the fuel evaporates at a given temperature. The more volatile a gasoline (higher RVP), the easier it evaporates.

Winter-blend fuel has a higher RVP because the fuel must be able to evaporate at low temperatures for the engine to operate properly, especially when the engine is cold. If the RVP is too low on a frigid day, the vehicle will be hard to start and once started, will run rough. Summer-blend gasoline has a lower RVP to prevent excessive evaporation when outside temperatures rise. Reducing the volatility of summer gas decreases emissions that can contribute to unhealthy ozone and smog levels. A lower RVP also helps prevent drivability problems such as vapor lock on hot days, especially in older vehicles.

The US Environmental Protection Agency (EPA) says conventional summer-blend gasoline contains 1.7 percent more energy than winter-blend gas, which is one reason why gas mileage is slightly better in the summer. However, the summer-blend is also more expensive to produce, and that cost is passed on to the motorist.

The switch between the two fuels happens twice a year, once in the fall (to winter-blend) and again in the spring (to summer-blend). The changeover requires significant work at refineries, so oil companies schedule their maintenance for those times when they will already be "down" for the blend switches.

Refinery terminals are required by law to fully purge their systems of winter-blend gasoline by May 1st each year. This regulatory requirement can lead to lower



inventories at the terminal, which also puts upward pressure on gas prices. This date is the most important reason that seasonal gas prices tend to peak in May. In most areas of the country that require summer-blend fuels, retailers have until June 1 to switch to summer-grade gas.

As fall approaches and temperatures begin to cool, gasoline demand decreases and retailers can switch to selling winter-blend fuel beginning September 15th. However, unlike in the spring, the change to winter-blend fuel is not required. However, because winter-blend fuel costs less, retailers often switch to the fuel blend to remain price competitive. Not all retailers begin selling this fuel on September 15; many make the switch when their inventories run low. There is also some state by state variation. In California for example, the season for summer-blend fuels is longer than the rest of the country. Both Northern and Southern California's summer-blend requirements run through the end of October.

So, there you have it. In short, winter-blend gasoline evaporates more easily and leads to more vapor-lock for us old car guys. I think I'm going to get a 55-gallon drum and hoard some summer gasoline to get me through the winter! Happy motoring!!