

R.P. Corvairs Tech Tips



Fuel, What We Know & What We Don't

Hi Gang, ready for the monthly missle? Here goes. Ah, gasoline, so near and dear to our hearts these days, but don't fret, your Vair has the potential for better mileage than many vehicles built in the last 10 - 15 years, maybe better than your daily driver, unless, of course, yours is a Vair. Any well tuned Vair should be capable of 27 (+ or -) mpg on a road trip and 22 + or - around town if driven far enough to be thoroughly warmed up, depending, of course, on good driving habits. PG's will be a little less. If yours is seriously less than this, you've got a problem needing attention before you can have a bigger headache - remember the recent quiz?

Some of us remember the 60's, when ETHEL (yes, that's what we called Hi Test) had an octane of 100 + or -, as it was calculated then. And it didn't have an unknown level of ethanol as is the case now for grades other than "85".

What about this ethanol stuff? More we don't know than do, some of us anyway. Some reports have surfaced of chemical reactions supposedly linked to ethanol - like soldered joints being attacked (brass floats in both the tank and carbs) and although maybe not chemical, penetration through fuel pump diaphragms, but so what, cars have not been supplied with mechanical pumps or carburetors for years and replacement tank sending units now have plastic floats. Anyone seen any plastic carb floats offered yet?

And then the writings on vaporization rates, could be, how long does it take for your carbs to go dry - 2 days, or 3, or a week? And what's left behind - does 100 percent vaporize or is a little bit left behind as a solid deposit on the carb parts? If so, and you drive infrequently, fill and empty over and over, will eventually affect carb performance. See the photo of the inverted cluster (two and 4 carb engines), the small thingy with the teeny-weeny hole is what feeds the idle circuit, the larger one for power and cruising. So if the idle starts to get a bit rough, you know where to start the investigation.



And then the one about expansion as gasoline warms, yes it does as do most things, but there's no free lunch, the energy contained is a function of mass, not volume. Say, for instance, you buy cold gasoline and get 25 mph, but it's summer and the next day your gas is warm and as an example, has expanded 10 percent, so now you'll only get 22.5 mph, all else being equal, which certainly is NOT the case. What happens as the gasoline leaves the tank? It either warms or cools on its way to the engine and then, once through the pump and lines and into the carb, cools significantly as it passes through the venture (remember carburetor icing? - not the same as on a cake) and begins to vaporize, then warms as it approaches the combustion

chamber. Go figure the net to all that. But one thing certain, don't fill your tank and park in a place warmer than the fuel, it'll expand and maybe make a smelly and volatile mess in your garage or on the pavement under your car.

And our constant companion, RUST, can and does occur inside the tank with no noticeable indication on the outside – until there's a hole. For those of you attending the open house at The Ranch in May, have a look and ask Jeff or Levi how used tanks are salvaged. Another photo of a badly contaminated sending unit tells it all - what shape is your tank in and how long, if ever, since it's been checked? A heads up.



We've already scribed about fire safety and pointed out how many fuel connections your Vair has, including the rubber ones - did you have a look - or put it on your list of things to do de-hy-ernating? Don't forget the steel line running through the tunnel - RUST.

As to the pumps, maybe yes about the effect of ethanol, although we'll be the first to admit that the "quality" of the replacement pumps being offered today is highly suspect, RP had a wakeup awhile back when he received a shipment of 5 from a well known vendor, and 3 of them leaked out of the boxes, wonderful. A lesson for all, be certain that any new pump is installed and run even before delegating it as your spare. You do carry a spare (with the fittings installed) and the tools to change, don't you? Another heads up.

And there's another route to follow, go with the flow gals & guys (pun intended), and install an electric. Several types and many brands are available, photos show two kinds, both solenoid jobs, as opposed to vane types.



The formers are flow thru pumps, meaning that when not running, fuel pressure from the carbs back (front) to the tank is immediately relieved, a nice bonus for those of yooz with hot start problems (issues), at least no more gasoline will be forced past the needles and seats, what's already in the carbs could still be a problem.



If interested, check with Jeff and/or Dick for their recommendations and suggestions if you'd like to make the conversion yourself, otherwise, your local CORSA Listed Shop will be happy to accommodate your needs. Whew, that's enough for this month. Next is April gang, the beginning of prime Vairing time for most. How about a dissertation on getting yours ready for driving this year, especially the outings already in the CPCC schedule? Until next month, we wish you all (yall) "Happy Vairing".