How To Prevent Carb Varnish

Report & Photos: Ron Stevenson

As all of us know, the fuel refineries are adding ethanol to most of todays " regular" gasoline. You may see E-10, E-15, E-20 or even E-85 on some gas pumps. During extended periods of storage time, your outboard will draw in moisture due to the presence of ethanol. All carbs are vented to the atmosphere and water vapour is present in all air to some degree. Inside the carb bowl, the density of water-ethanol is greater than gasoline, and the water settles to the bottom of the bowl. This is called " Phase Separation". An outboard sitting for long periods will usually have a carb bowl full of sticky black deposits, normally called varnish or gum. These deposits are the leftovers of old stale gasoline and oil mixture.

When servicing all my customers outboards, I always remove the carb, disassemble it and totally clean every jet and orifice to ensure the customers outboard has no issues in the spring.

I've had customers outboards here that some marinas have not bothered to remove, clean and inspect the carb. This results in angry customers and a poor reputation for the marina. It is impossible to completely empty all the fuel from an outboard carburetor. There will be some pockets of fuel left over. Adding the best type of stabilizer, like STAR-TRON keeps these pockets of fuel fresh over the winter and during the summer, it stops Phase Separation. I tell all my customers to use only Star-Tron. It dramatically reduces the gasoline's rate of volatility evaporation. It keeps the fuel Fresh!

SO... try to use gasoline with no ethanol. Most Premium grades of gasoline have little or no ethanol and always use a fuel stabilizer EVERY time you fill your outboards tank.

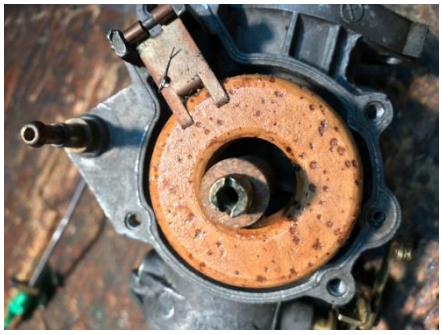
Carb bowl with black tar/varnish

Upper bowl cavity covered with tar

Destroyed float and main metering nozzle covered in tar deposits

Carb bowl cleaned

Upper bowl cavity cleaned.



New float, new needle & seat, new main metering nozzle gasket installed.