



Chesapeake Tartan 30 Association

FUN WITH ATOMIC 4 SPARK PLUGS

(Or, Where Quality *Wasn't* Job #1)

Steve Latsios, T-30 #443, *Hejira*, August 1995*

Sometime at the beginning of each sailing season, I decide to treat my boat to a new set of sparkplugs. In the past, I have used the Champion J8C's (which have always performed flawlessly) despite the difficulty of locating some place that carries them and has them in stock. There is also the nuisance of having to gap them before installation.

I had more than the usual difficulty locating Champion plugs last year and I finally settled for some Autolite plugs (I forget the part number, possibly 295?). I was assured they were identical to the Champions. Plus they were only 69¢ each. What a deal!

I gapped them, installed them, started up the boat. And it ran great. For a while...

The problem started off with the engine running rough. I had suspected my coil was about to die anyway so I decided to replace it. Since I also had a new set of points and condenser on hand, I replaced them too. The wires were only a couple of seasons old so I wasn't worried about them.

The motor still ran rough. Time to troubleshoot. I re-gapped the points, and checked all the connections. Still, a sick motor. In addition to intermittently running rough, it consistently faltered when substantial throttle was suddenly applied while the engine was idling. Definitely a problem somewhere. Those of you familiar with my previous articles about the Atomic 4 will not be surprised to know I was *NOT* going to mess with the fuel mixture.

I decided for the tenth time to isolate the cylinder that was running rough. I easily determined it was the aft-most cylinder that was intermittently firing. This time, however, I noticed that as I moved the sparkplug wire close to the top of the plug, the motor started to speed up (all cylinders were firing.) Once the wire was firmly placed on top of the sparkplug, the cylinder misfired. In other words, if I allowed an arcing from the sparkplug wire to the top of the plug, the cylinder fired and the motor ran great. No hesitation at all. On the other hand, once I firmly placed the wire on top of the plug, the problem returned! Huh?

For obvious reasons, I decided it probably wouldn't be a good idea to run the motor with the sparkplug wire(s) dangling in the vicinity of their respective sparkplug. Call me old-fashioned. This left me no choice but to continue troubleshooting. An obvious (to me) possibility was a bad sparkplug wire. I knew it wasn't the sparkplug, who has ever heard of a new sparkplug failing? I swapped some sparkplugs around and the problem did not remain at the same cylinder, it followed the sparkplug! The sparkplug was faulty.

Someone pointed out to me that the reason the plug fired when there was an arcing between the plug wire and the plug is because the potential difference (jolt) delivered to the plug is greater than when there is a direct connection. When I replaced the defective Autolite plug with a new Champion plug, the motor ran great!

One month later, the motor started running rough. Those who are guessing one of the other Autolite plugs went bad get to step to the front of the class. I have never heard of a bad sparkplug, let alone what turned out to be several bad Autolite plugs.

Question of the Month: What brand sparkplugs do you think I will be using from now on?

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