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**INDEPENDENT**

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### **The Prevent Defense – Before The Engine Breaks Down!**

We've written about what to do when the engine stops or how to get rescued when things go really wrong. We've also written about how to commission the boat for a new season. But a lot goes on between Memorial Day and Labor Day and there are some simple preventative, proactive things that you can do to stay at the razor's edge of engine functionality. This column is about some of those ideas.

#### **Hot, Hotter and Hottest!**

Perhaps non-intuitively, most engine manufacturers will tell you that over-heating is the number one cause of engine problems. Maybe that is a function of coastal mariners having a tendency to find themselves hard aground on sand more often than rocks (see *The Independent* [www.indyeastend.com](#), "Hard Aground", 7/9/08) and that means sand gets up into the raw water intakes.

Maybe it is a function of mariners simply not paying attention to how salt and small marine creatures can get up into the fine plumbing of raw water intakes and the connective plumbing. Just like our hearts, a little blockage can do a world of hurt. What to do?

Well, how about checking the raw water intakes on your lower unit? When you trim up the engine to keep the barnacles from growing on your prop, take a look at the intakes. If they aren't shiny clean, clean them and see what might be in there. If you think that something got pushed in while you were cleaning the intake, every engine has a spigot.

It is usually integrated with the warm-water tell-tale (where the hot water is released from its engine cooling efforts and returned to sea), which you can remove usually with your fingers and screw a garden hose into its place. Let cold water run through the engine for 10-15 minutes (with the engine off – if there is sand in there, you want to wash it out, not grind it out!).

If you wait until your electronic sensor shuts down the engine due to overheating (see *The Independent*, "Before You Throw in the Towel, Give It a Go!", 2/18/09), it is too late.

#### **Sacrificial Zincs**

Most mariners are aware that there are stray currents "naturally" in our waters due to natural electrolysis and due to unnatural stray currents caused by poor electronics at the mariner, either

due to faulty wiring at the dock or poor grounding in the boats that you are sharing the marina with (see The Independent, "Galvanic Corrosion – More Shocking!", 1/17/07.) In either case, the least "noble" metal, zinc, will be there to be eaten away so your brass propeller isn't! So check these zincs regularly. And don't forget about the pencil zincs.

What pencil zincs, Bunky? Well, remember that raw (sea) water is running through your engine to cool it. It is carrying those same stray electrical charges into the innards of your engine. So, manufacturers insert "pencil" zincs into the engine where water runs through it to sacrifice themselves for the greater good – except you can't see them like those zincs on your transom or prop shaft. So, look for them – and they are easy to find.

They usually have a red or green colored hex-head bolt that screw into the engine. All you need to do is unscrew it and, if half or more of its pencil thickness is gone, get a new one in there. They are very inexpensive so you can warehouse some aboard.

### **Black Gold, Texas Tea - Oil**

If your engine doesn't overheat due to blocked raw water intakes, low or degraded oil will be the next culprit. Change it, and the filters, regularly.

You should speak to your dock master or local surveyor about sending the old oil out for testing at least every 24-36 months. If the testers find metal shavings in the oil, the engine is wearing itself away and you need to address that.

If you have more than one engine, change all the oil and all the filters at the same time. And be sure that you run the engine(s) for a goodly period of time prior to changing the oil so you get it all. It will flow like water if you heat it up. It will flow like molasses if you don't. And write the date of the oil change with a "Sharpie" right on the filter.

### **Seacocks**

A prudent skipper will open and close all seacocks twice a season. If they won't move, they need to be replaced. They tend to be found in out of the way places, so splash them with some household ammonia. Keeps the mold away.

BTW, if you are interested in being part of USCG Forces, email me at [JoinUSCGAux@aol.com](mailto:JoinUSCGAux@aol.com) or go direct to the DISR Human Resources department, who are in charge of new members matters, at [DSO-HR](#) and we will help you “get in this thing...”