

Cautionary Note to Those Using the Millar Electronic Ignition System

ON THEIR ST. LAWRENCE OR COPPER JACKET DISPRO ENGINES

A couple of cases have cropped up recently regarding potentially severe engine damage resulting from “maverick sparks” which can cause violent kickbacks and sudden engine reversal. This can occur even with systems which have been carefully installed and properly adjusted.

I have finally traced these events to a useful feature built into the system that alerts the operator that the system is “alive” and ready for action. This occurs every time the ignition switch is turned on, regardless of the relative positions of the pick-up sensor on the timer and the flywheel contact.

When the ignition switch is turned on, you hear a very brief, momentary buzz from the vibrator coil as an audible signal that the system is functional and ready for action. This is a good and useful feature.

Now for the bad part! I have found that some ignition switches, after being on the boat for several years, get tired due to internal tarnished or corroded contacts, which can cause the switch to operate intermittently. This can happen especially on boats which are tarped and have a “jungle atmosphere” in the engine compartment, or when switches are exposed occasionally to the effects of dippy bilge water.

Here’s a typical scenario: You’re out enjoying a cruise, when suddenly, all hell breaks loose in the engine compartment. It sounds as though some demon has just hit your lovely engine with a sledgehammer. Or, sometime when you’re starting up your electric start St. Lawrence, you suddenly find your starter bendix support bracket smashed to pieces, teeth knocked off the flywheel ring gear, the bendix destroyed and the starter armature shaft twisted up like a pretzel. This can be very costly to repair, and can put your Dippy out of commission for the rest of the season.

Copper jacket engines may end up with cracked flywheel hubs, and twisted or broken crankshafts. As Ron Hill says, “Not Guid!”

What happens is this: When the electronic system is momentarily deprived of a constant source of power by an intermittent switch, (or by any other fault in the wiring going to the control box, or faulty battery connections), the system thinks that you have turned off the ignition. Therefore, the next time it is energised, the vibrator coil will be sent the readiness signal, regardless of the position of the timer. If the engine is still rotating at, say, 600 rpm, this maverick spark could occur at any random point in the 2-stroke cycle, and because these engines can run happily either clockwise or counterclockwise, an explosion triggered in the cylinder at an inappropriate time can result in sudden engine reversal, and a lot of collateral damage.

So, what is the solution? It’s very simple. Early ignition switches can often be disassembled and the electrical contacts cleaned. More modern switches can often be replaced with a brand new marine grade one. Be very suspicious of any switch that you have to “diddle” to get it to function.

Bottom line? No intermittent connections anywhere in the system, ever!

The Millar Electronic Ignition System is a well-engineered, excellent unit that has proven its worth over a decade now, especially on St. Lawrence engines with chronic timer troubles due to many years of wear. But as the Dowager Countess of Grantham once quipped on Downton Abbey, “There’s always something!”

Paul Dodington