

Photo Essay Grounding Electronic Equipment – October 2015

The Importance of Grounding Electronic Equipment

Photos and text by Steve D'Antonio

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“Yeah, you don't need that unless it's a metal boat”. Those words, spoken by an experienced marine electronics installer, took me by surprise. I'd asked him why none of the suite of \$200,000 worth of electronic gear he'd just installed aboard a client's boat included chassis ground wires, in spite of the fact that nearly all of the equipment was equipped with ground studs. The fact is, no such guideline or exemption regarding metal hull vessels exists; if a piece of equipment is equipped with a grounding stud, then you can be certain the manufacturer placed it there for a reason, and if the installation instructions are consulted they will almost certainly call for the equipment's chassis to be connected to the vessel's ground system.

Every piece of gear equipped with a ground stud, regardless of hull material, should be connected to the vessel's ground bus, in order to comply with the equipment manufacturer's instructions, as well as standards established by, and codified in the National Marine Electronics Association's (NMMA) installation guidelines.

What happens if this gear isn't grounded? It's difficult to predict for certain, grounds have been likened to seat belts;

you don't need them until something goes wrong. While it's anecdotal, in my former position as the manager of a boat yard located on the Chesapeake Bay, where lightning repair projects were a regular occurrence, vessels that were equipped with ABYC-compliant bonding, and NMEA-compliant chassis grounds, seemed to suffer less damage than those that lacked proper ground systems. In one case, a properly grounded vessel's masthead VHF antenna was struck by lightning, it melted and fell into the cockpit, damaging the gelcoat and the dodger canvas; the VHF radio, however, was undamaged. I believe that when vessels suffers a near or direct lightning strike, wholesale destruction of equipment is simply expected, and the issue of chassis grounds, or the lack thereof, and the role this plays in the level of damage that is incurred, is neither considered nor discussed, it's simply chalked up to bad luck.

Check your electronic gear, if it's equipped with a ground stud make sure it's utilized, and don't let anyone, professional or otherwise, tell you it's unnecessary.

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