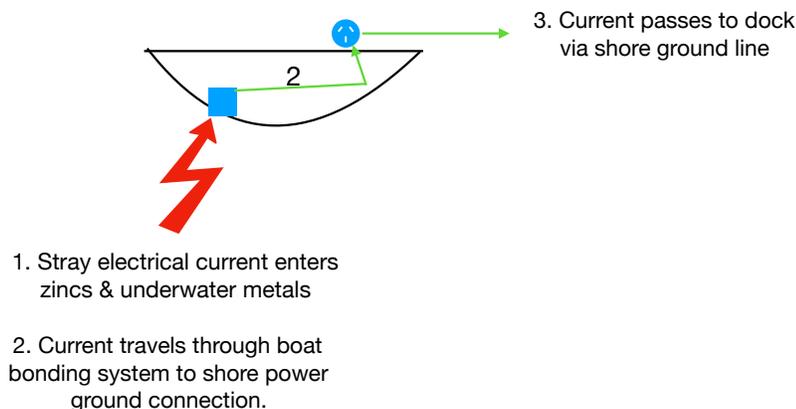


Why you should have a galvanic isolator installed on your boat if you are connected to shore power.

by Al Rose

In the simplistic diagram below, is a depiction of stray current path from waters around your boat while dockside. The current will eat away your boat zincs then start to degrade boat metals. To stop this requires a failsafe style galvanic isolator.



I first noted something wrong when one of my trim vanes became inoperative. Since it was nearing time to pull my boat out for routine maintenance, I waited until my pullout in February to diagnose the cause. In the following pictures, note the closeup of my trim vane. A Bennet trim vane typically has zincs attached using the same bolts that connect the trim vane panel to the hydraulic actuator. When the zincs completely deteriorated, the retainer bolts fell out and the actuator could no longer control the trim vane panel. Stray current at my dock in Newport, RI was the cause.

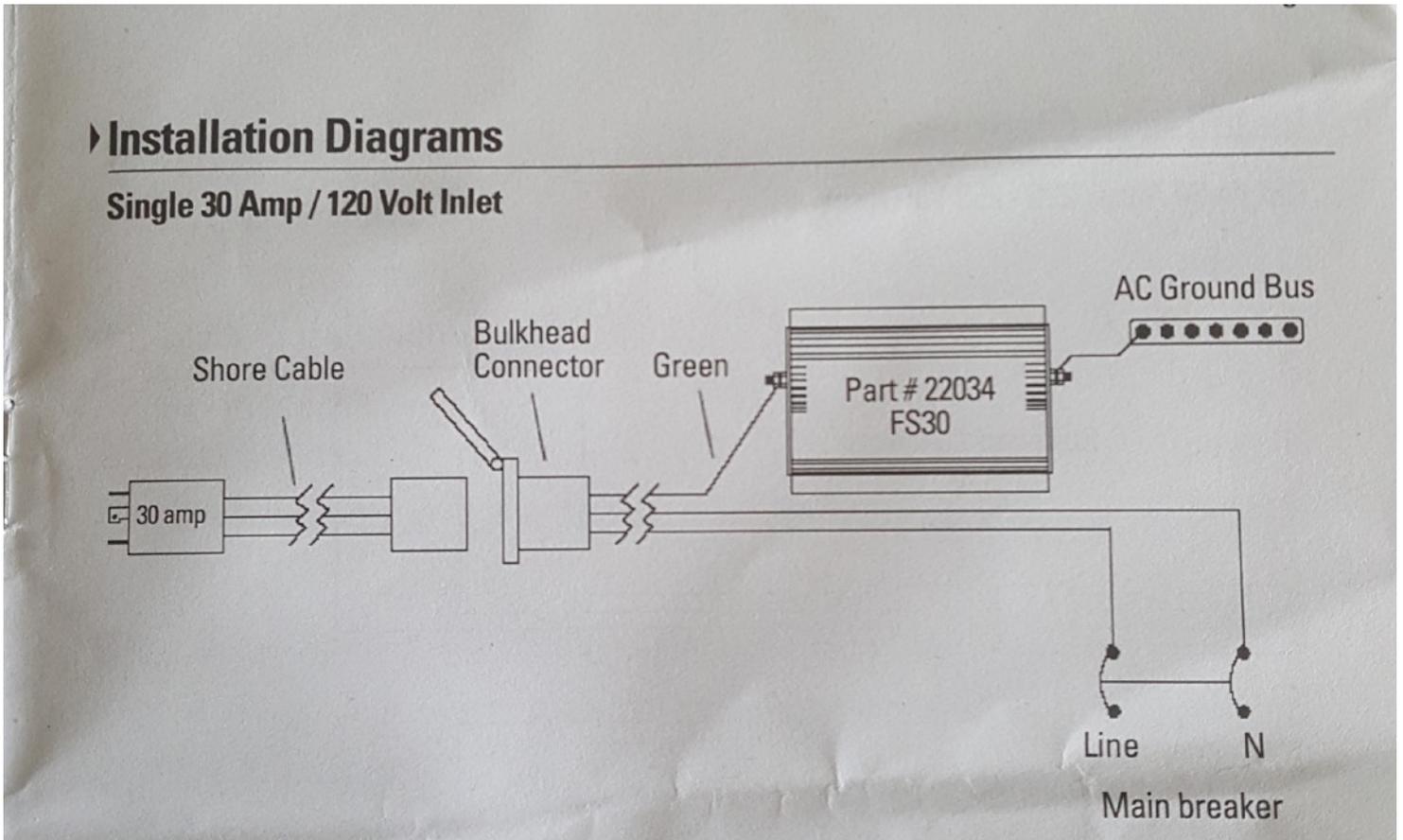
Old style isolators were dangerous in that when they failed, they failed “open” which meant that the safety ground circuit from your boat to the dock was cut. New “failsafe” style isolators fail in “Closed” circuit position. Thus the required ground circuit is maintained even though the isolator is no longer capable of preventing stray current damage. A simple test with a multimeter verifies that the isolator is still good. Check annually.



Left: Bennet trim tab zincs completely eaten away.

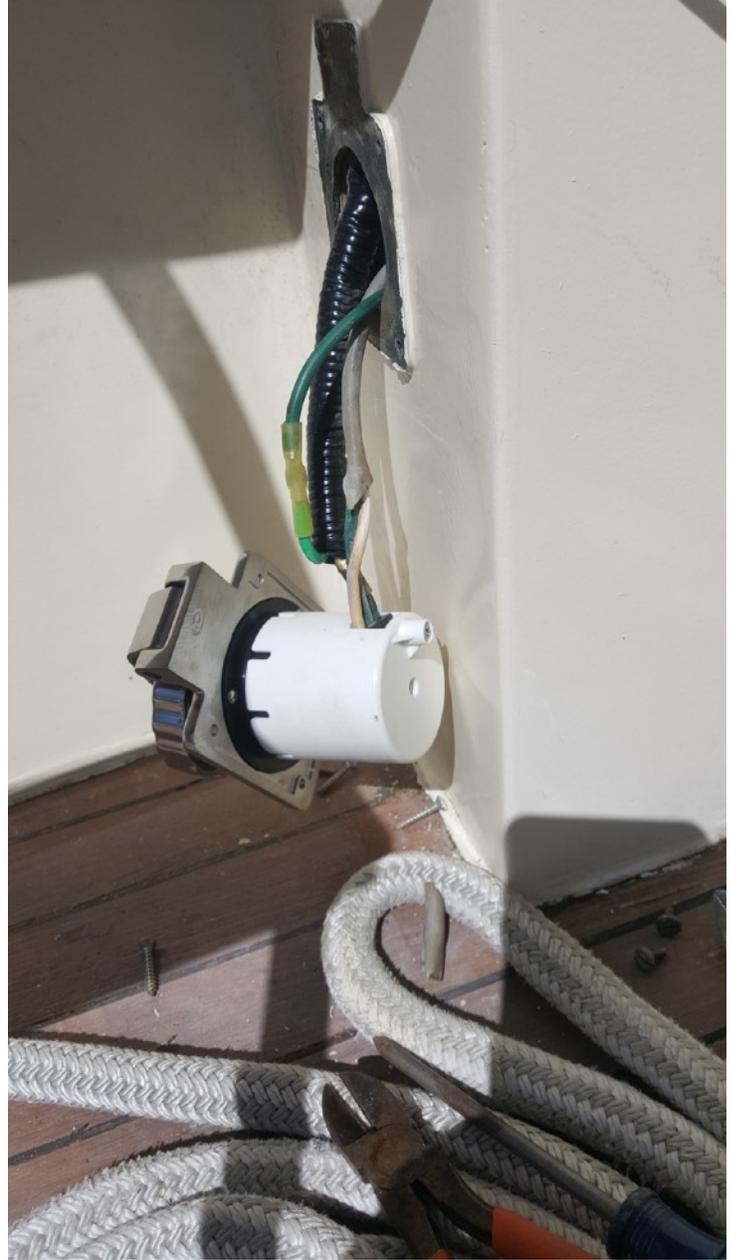
Right: New zincs installed and actuator reconnected

Below: wiring diagram for installation of galvanic isolator in single 30 Amp application.





Upper left: old shore power removed; ground cut.



Upper right: new power inlet wired.



Lower left: galvanic isolator with 2 ground wires.



Lower right: galvanic isolator mounted & wired.