



INSTRUCTIONS FOR SALTY DOGGS™ CORROSION TEST KIT

Congratulations! You have bought a powerful and easy to use tool to combat corrosion on your boat. In 1-2 hours you will be fully familiar with the corrosion testing of your boat which will help you avoid expensive corrosion repairs on your submerged fittings, outdrives, prop and/or shaft. Proper use of this test kit will allow you to maintain your marine recreational investment in “corrosion free” condition, whether you are in a “hot”: marina or otherwise. It will let you know when your boat is not adequately protected and in need of new zinc anodes or supplemental cathodic protection measures.

The **SALTY DOGGS™** test kit is designed to allow you, the boat owner, to determine the corrosion status of the submerged metallic parts of your boat such as the thru-hull fittings, aluminum outdrives, keel, shaft and propeller. In majority of the boats manufactured in the U.S. with **fiberglass hull**, all submerged metallic parts are bonded together with a bonding wire. **These instructions pertain to these types of boats.**

CHECK FOR CORROSION PROTECTION STATUS OF YOUR BOAT

This procedure assumes that you have a **fiberglass or steel hull** and electrically continuous (bonded) system containing a combination of stainless and or carbon steel as well as brass submerged fittings.

1. Connect the reference electrode lead (black banana plug) to the black (reference) terminal of the [Corrosion Tester](#) . Connect the red banana plug of the long red test lead to the red (boat) terminal of the [Corrosion Tester](#).
2. Deploy the reference electrode in the water. The electrode should be at least 12 inches below the water level. Wait for 5 minutes for the electrode to stabilize. *Make sure that after you are done with the measurements you rinse the electrode with fresh water. After several months of service you may see a deposit build-up on the electrode element. You may use a non-metallic sand paper to make the element clean and shiny.*

3. Connect the black connector clamp of the red test lead to the negative terminal of the battery and record the reading. Repeat the same by connecting to the engine block, the prop shaft and the thru-hull fittings bonding circuit.
4. Press the “TEST” button of your [Corrosion Tester](#) and follow the table below:

Tester Reading	Indication	Recommended Action
Warning “Reversed”	The “reference” and “boat” leads are reversed	Check and correct lead polarity
Warning “Open Ckt”	Leads are defective or connection to boat or water (ref. cell) is not good	Check leads using a multimeter. Make sure ref. cell in water and good solid contact to an uncorroded part of the boat
Warning “low batt.”	The battery of your Corrosion Tester is low.	Change the 9 volt battery.
“Over”	The protection level is very high	Very high level of protection may be injurious to aluminum boat hulls and aluminum out drives. The protection level should be lowered if you have an aluminum fitting immersed in water. If you have an impressed current system, the system should be checked immediately
“high”	The protection level is high	Same as above, except if you don’t have any submerged aluminum you don’t have to worry about it.
“protected”	Under water steel, stainless steel, bronze, etc are well protected	Happy Sailings
“under”	Under water steel and stainless steel are receiving cathodic protection however the level is lower than desired. Bronze fittings are protected	Change or add a “Salty Doggs’ anode (or other protection device). If your boat is connected to the shore power and is fitted with an isolation transformer or a galvanic isolator, they should be checked
“none”	Under water steel and stainless steel are not receiving cathodic protection. Bronze fittings may or may not be protected	You need to add “Salty Doggs” anode to protect your investment. Visit us at www.saltydoggs.com

Be sure to keep you boat in the [Green Range!](#)

The **SALTY DOGGS™** line of marine corrosion products are manufactured by California Corrosion Concepts, Inc. located at 1100 Willow Pas Court, Concord, CA 94520, Tel # 800 644 6555.

APPENDIX:

A- CHECKING THE ELECTRICAL CONTINUITY OF THE BONDING SYSTEM USING A STANDARD MULTIMETER

1. Deploy the reference electrode in the water. Do not move the reference electrode during the duration of this test.
2. Turn the selector switch of the multimeter to 2 Volt DC (2 V -) Connect the reference electrode lead (black banana plug) to the common (COM) or black terminal of the multimeter. Connect the red banana plug of the long red test lead to the red (V OHM) terminal of the multimeter.
3. Connect the black connector clamp of the red test lead to the negative terminal of the battery and record the reading, note both the magnitude and polarity (+/-).
4. Repeat step 3 and alternately make connection to the engine block, prop shaft and all thru-hull fittings. Make sure that you are making connection to a clean (uncorroded) metallic surface. Use a file to clean a spot if necessary. Record all readings. All readings should be the same as in step 3 This will indicate that all your thru-hull fittings, battery negative and prop shaft are electrically continuous. This is the desirable situation.
5. If you find that one of the fittings is significantly different than the others, this indicates that either the bond wire is broken or the bolted wire connection has gone high in resistance. You need to correct the situation.

B- CHECK FOR GALVANIC ISOLATOR/ISOLATION TRANSFORMER

This test is for boats equipped with a galvanic isolator or isolation transformer. The purpose of these devices is to electrically isolate the DC wiring of your boat from the ground wire of the shore power. This ensures that the “galvanic corrosion” cell between your boat and other adjacent boats as well as the electrical grounding system is broken. This also ensures that if your boat is equipped with zinc anodes or our special aluminum alloy **SALTY DOGGS™** anodes, the current from these anodes will not be wasted on other boats.

1. Repeat Step A-1 with shore power connected.
2. Repeat Step A-1 with shore power disconnected.
3. If the two readings are significantly different, it indicates that your galvanic isolation system is not working. Either the device is shorted or it is bypassed with some other electrical device on your boat such as your cable TV, telephone, etc. You need to correct the situation and repeat steps B-1 and B-2.