

NUMBER: 85-3

CIRCULATE TO:  
SERVICE MANAGER   
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## QUICKSILVER GALVANIC ISOLATOR

**IMPORTANT: Any damage to stern drive due to corrosion is not covered under the terms of the MerCruiser limited warranty.**

Boats which are connected to A.C. shore power, require additional protection to prevent destructive, low voltage galvanic currents from passing thru the shore power ground wire.

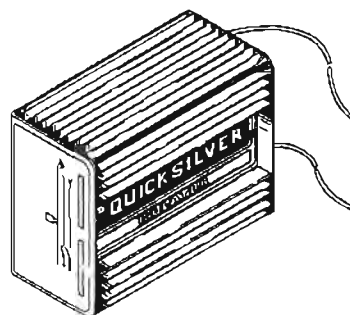
### ⚠ WARNING

**Never disconnect or place a switch in the shore power green safety grounding lead, as this could create an electrical shock hazard.**

Safety regulations require that a 3 wire power cable be used to carry shore power aboard, and that one of these leads (the green lead) be reserved to ground all electrical and propulsion equipment to shore. This safety procedure reduces the danger of a shock, but also interconnects the underwater metal components on the boat with metal parts on neighboring boats (using shore power), steel piers and metal objects on shore. The interconnection of dissimilar metals allows destructive galvanic currents to flow between them. If these currents are allowed to continue, severe corrosion damage to the drive unit will result (in as little as 5 days).

In most cases, the sacrificial zinc anodes and Quicksilver MerCathode System (if so equipped) will be unable to handle the increased galvanic corrosion potential.

A Quicksilver Galvanic Isolator, 76664A1 (Figure 1) or an isolation transformer can be used to galvanically isolate the A.C. shore power ground from the boat.



**Figure 1. Quicksilver Galvanic  
Isolator 76664A1**

The Isolator is a solid state device that is series connected into the boat's green safety grounding lead ahead of all grounding connections to the boat. (Figure 2) This device functions as a filter, blocking the flow of destructive low voltage galvanic currents, but still maintaining the

integrity of the neutral safety grounding circuit. (Figure 3) In the event that a wiring fault causes alternating current to flow in the grounding lead of the dockside shore power cable, a warning buzzer is activated within the Isolator, as it safely allows the dangerous voltage to pass thru it to ground.

**IMPORTANT: The Quicksilver Galvanic Isolator does not provide for blocking A.C. shore power fault currents that sometimes exist on the green safety grounding lead. These currents can cause the Isolator warning buzzer to sound, in addition to causing accelerated corrosion of underwater metal parts on the boat. If these currents exist, an isolation transformer must be used.**

The Isolator provides a fairly inexpensive means of affording protection when compared to a comparably rated 120 volt A.C., 50 amp isolation transformer. Measuring just "9" x "8" x "5" and weighing less than 10 lbs., the Isolator is also considerably smaller and lighter than the transformer, which is about 4 times the size and weighs 60 to 80 lbs. (A 220 volt A.C., 50 amp transformer triples in size, weight and cost.)

Isolator installation is easy, requiring only 4 mounting screws to secure it. The isolator is designed for use in 120 and 240 volt A.C., 60 Hertz circuits with up to a 50 amp rating and is ABYC certified and UL approved.

A 13 page pamphlet describing the operation of the Quicksilver Galvanic Isolator can be obtained by contacting the following department:

Mercury Marine  
Attn: Quicksilver Marketing  
1939 Pioneer Road  
Fond du Lac, WI 54935  
Telephone No.: 414-929-5230

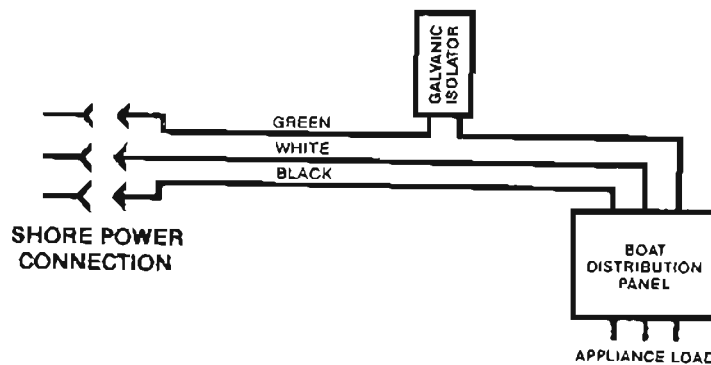
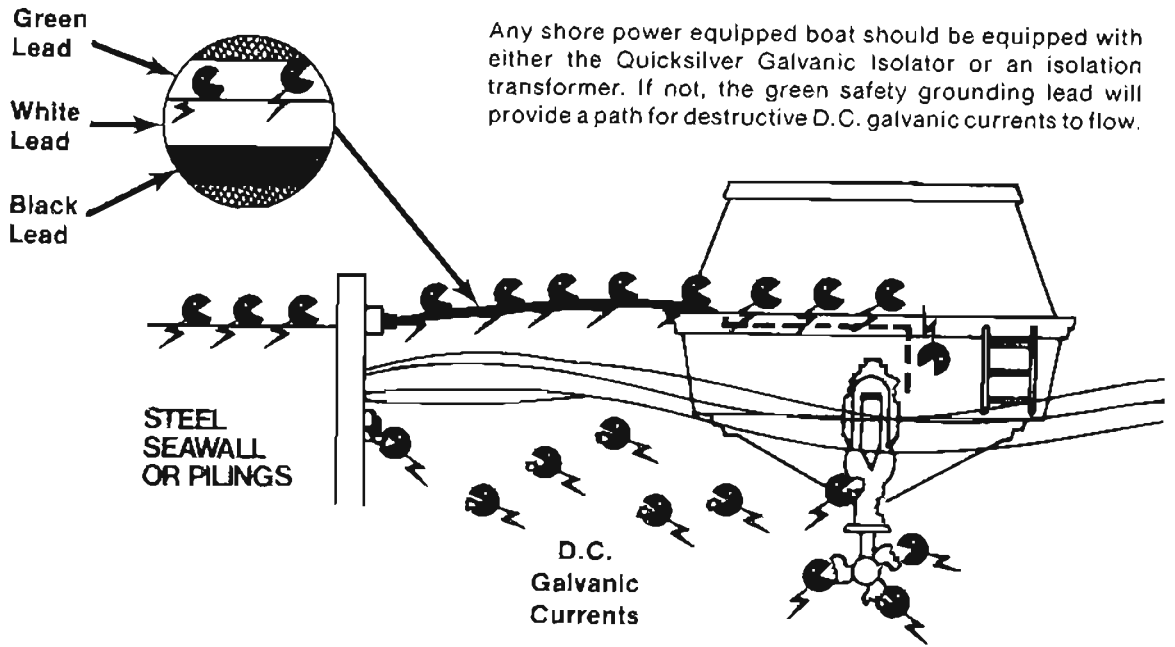


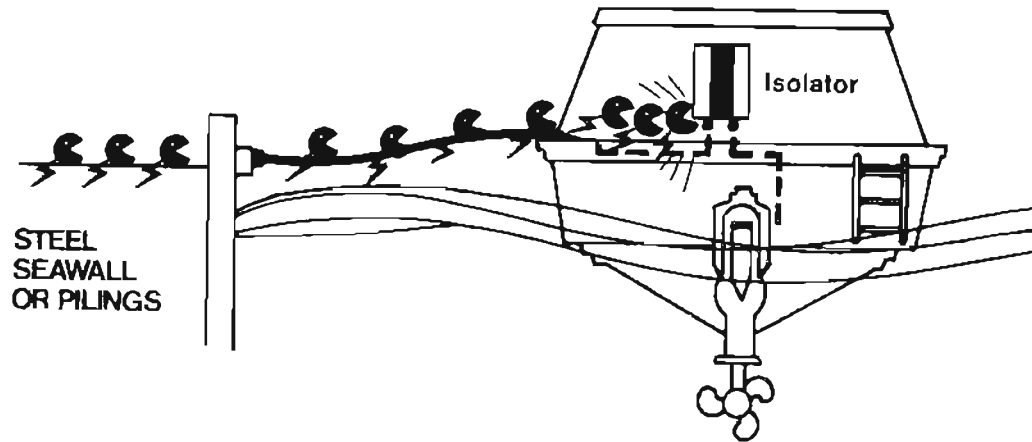
Figure 2. Isolator Installation



Any shore power equipped boat should be equipped with either the Quicksilver Galvanic Isolator or an isolation transformer. If not, the green safety grounding lead will provide a path for destructive D.C. galvanic currents to flow.

WITHOUT ISOLATOR

Effectively isolates aluminum drive units, metal hulls and underwater metal fittings by blocking destructive corrosion currents. And, at the same time maintains the integrity of the neutral safety ground.



WITH ISOLATOR

Figure 3. Galvanic Current Flow