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## Marine Shore Power & Battery – Reverse Polarity

READING ELECTRIC, a leading supplier of electro-mechanical equipment, services, and problem solver for Industrial and Commercial customers for over 45 years provides technical information to the Region's Residential, Commercial and Industrial Community. This Bulletin provides information on Reverse Polarity Situations in the Recreational Boat.

There are two (2) types of Reverse Polarity Situations that can occur with the Recreational Boat. First, is Reverse Polarity of the DC System by incorrectly connecting the **polarity of the battery terminals**. This is most commonly done when installing new batteries with terminals that are in a reversed position from the old batteries. When reconnecting existing batteries or installing new batteries, it is critical that the battery terminals are correctly connected. Connecting the positive lead to the negative battery terminal and the negative lead to the positive terminal will immediately damage the alternator and the battery charger electronics. Remember, when removing your old batteries, installing and commissioning your new marine battery, be sure to follow safety precautions and always WEAR PROPER EYE PROTECTION.

The second situation is Reverse Polarity of the **AC System** when connecting to AC Shore Power. This situation normally exists when the shore-side receptacle neutral leg is 'hot' and the power leg is neutral, and is normally caused by incorrect electrical wiring. During a Reverse Polarity condition, the AC circuits will operate normally, **BUT the circuits will remain 'hot' even with the circuit breakers turned off. Also, the electronics or circuits in your equipment also stay 'hot' with the power switch turned off.** This creates a high potential of a fire hazard and electric shock situation. The incorrect wiring causing the Reverse Polarity situation needs to be resolved immediately.

If the Electrical Distribution Panel is not equipped with a Reverse Polarity Indicator (normally an indicator light); polarity can be tested for by utilizing a voltmeter or a test light. If Reverse Polarity is suspected, have the electrical circuit tested by a person knowledgeable and qualified in AC electric circuits.

READING ELECTRIC is a leading **Authorized Full Service Distributor** and offers a complete line of Deka Batteries. For assistance and additional information on Battery Power Systems, contact Russ Yerger at READING ELECTRIC. Phone: 610-929-5777; Fax: 610-929-1670; Visit our Website at [www.readingelectric.com](http://www.readingelectric.com) or email us for additional information at [info@readingelectric.com](mailto:info@readingelectric.com)