

NEWMAR®



OPERATION AND INSTALLATION MANUAL

A NEWMAR battery charger is the wise choice among seasoned skippers and boat builders. Designed for continuous duty in the tough marine environment, NEWMAR chargers maintain batteries in full charged condition, ready for use. Solid state circuitry and a rust proof anodized aluminum case make NEWMAR chargers virtually maintenance free and will provide years of trouble-free service.

FEATURES:

- Completely automatic operation; charger cycles on and off upon battery demand, maintaining batteries in full charge condition without overcharging.
- Individual sense and regulation of each bank eliminates over or under charge, even with highly unbalanced loads.
- Built in charge dividers provide multiple battery charging capability, giving each its required charge while maintaining battery bank isolation.
- Meter indicates total charging current.
- Input voltage 115VAC.
- Self-resetting thermal breaker.
- AC input protected by fuse.
- No dockline electrolysis.
- Lightweight, compact design.
- Rust proof anodized aluminum case.
- Maintenance free solid state circuitry.
- One year limited warranty.

NEWMAR

P.O. BOX 1306 • NEWPORT BEACH, CA 92663 • (714) 751-0488

AUTOMATIC BATTERY CHARGERS
ABC SERIES



BATTERY CARE TIPS

Regular maintenance and proper care will assure you reliable service from the most depended upon, and sometimes the most neglected items afloat, your Batteries and your Battery Charger. NEWMAR Automatic Battery Chargers are designed to keep your batteries fully charged; but, your batteries also need tender, loving care and proper maintenance to provide years of faithful service.

ALWAYS READ AND FOLLOW THE BATTERY MANUFACTURER'S INSTRUCTIONS

INSTALLATION OF BATTERIES

Batteries must be securely mounted to prevent shifting in rough seas. A 45° roll or a 90° knock-down is not unheard of and a loose battery can do serious damage. Also, the batteries should be mounted in a battery box to contain any acid spills. Batteries do give off hydrogen gas in small amounts. Be sure to install the batteries in an accessible location for ease of maintenance with adequate ventilation for any hydrogen gas discharge.

KEEP THEM CLEAN

Dirt and electrolyte salts will build up on the top of your batteries. This accumulation conducts electricity stored in the battery and can cause the battery to discharge by itself. Therefore, twice a year or so, it's a good idea to disconnect battery cables and scrub the battery with a baking soda solution. Rinse with fresh water and dry with a clean cloth.

Also, you can purchase packages of terminal post corrosive prevention rings. These are alkali saturated felt rings that slip over the battery terminal post. Do not apply grease to any part of the battery terminals, but an occasional light spray of silicone lubricant may be used.

ROUTINE CHECKS & MAINTENANCE

Batteries should be "exercised" (slowly discharged and then recharged) periodically to keep them in top condition. New batteries may need to be "exercised" before they will be capable of their full rating.

Add water to your batteries when needed. Battery electrolyte should cover the plates by about 1/2 inch, allowing a small air space at the top. Don't fill the cells up to the filler cap, this could cause the batteries to sputter electrolyte while being charged. Only distilled water should be added to your batteries, never use plain tap water. Tap water usually contains chemicals and elements that can alter the electrolyte's specific gravity and vary the electrolytic process. Some chemicals may also create an insulating coating on the plates that will retard current flow.

The state of charge can be monitored by specific gravity or by open circuit voltage. Use the following table to evaluate the condition of your batteries:

Specific Gravity Measured by Hydrometer @ 80°F	Open Circuit Voltage*			State of Discharge
	12V System	24V System	32V System	
1.265	12.6 or more	25.2 or more	33.6 or more	Fully Charged
1.225	12.4	24.8	33.1	25% Discharged
1.190	12.2	24.4	32.5	50% Discharged
1.155	12.0	24.0	32	75% Discharged
1.120	11.7 or less	23.4 or less	31.2 or less	100% Discharged

*NOTE: Wait at least 5 minutes after battery charging or discharging before checking open circuit voltage. This will allow the voltage to stabilize.

TROUBLE SHOOTING YOUR BATTERY SYSTEM

If your battery will not hold or accept a charge, one of the following conditions may exist:

- A BAD BATTERY**, an open or shorted cell, or a battery without any "life" left. Check by charging the battery until all cells have a specific gravity of 1.225 or greater @ 80°F. If unable to obtain 1.225 in each cell—replace battery.
- A BAD BATTERY CHARGER**. If the battery voltage is low and/or the hydrometer indicates your battery needs a charge, the battery charger should be charging the batteries, up to its full rating, depending on the actual state of discharge. If there is no charging, check the fuse and output voltage.
NOTE: Some chargers have a thermal cutout that cycles the charger on and off at high operating temperatures. Refer to your charger's Operation Manual for further instructions.
- A BAD CONNECTION TO YOUR BATTERY**. Check for corroded battery posts, connectors, lugs or wires. Clean and/or replace as necessary all battery connections and wires.
- ELECTRICAL LEAKAGE** or a constant drain on the batteries. Check for electrical leakage with all accessories off by disconnecting the battery ground cable and connecting an ammeter between the negative battery post and ground. A reading over 0.1 amps will drain the battery.

By following these simple tips you will obtain more dependable service from your batteries.

For more detailed information on batteries write to:

Battery Council International
111 E. Wacker Drive
Chicago, Illinois 60601

Ask for the Battery Service Manual (\$2.00).

For additional information about the Newmar line of:

- Chargers
- Inverters
- Power Supplies
- Converters
- Filters
- Antennas
- Electrical Panels
- Accessories

Contact your Marine Electronic Dealer or:
Newmar
P.O. Box 1306, Newport Beach, CA 92663
(714) 751-0488