

QUALITY MARINE - TECHNICAL BULLETIN 01-1

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RE: 1999 (some 2000) and earlier Sea Rays Pertains to VMI chargers using Version 2 control PCBs only

AUTO EQUALIZE AND TIMER FEATURES:

McCarron VMIs shipped to Sea Ray during this time period were shipped from the factory with the **auto-equalize feature turned off** with the timer set to 3.5 hours. The assumption was that the optional auto-equalize feature should be selected by the installer. In doing so, understanding of the feature would result along with a considered timer selection based on the size of the charger, duty, and, amp hour capacity of the connected battery bank. **Note:** Since early 2000, McCarron has been shipping Version 4 control PCBs in the VMI with the auto-equalize feature **turned on** and 4.5 hours of time selected.

PROBLEM:

With auto-equalize turned off, the VMI powers up at float voltage (2.2vpc) whenever the gen set is turned on or when the vessel is connected to shore power. At float, a low voltage, the batteries do not charge to full charge state. With the auto equalize feature off, the batteries will not charge unless the manual float/equalize toggle button on the front of the charger is pressed. Even then, the charger will only stay in the recharging mode for 3.5 hours. It has become apparent that even manual activation of recharge on the boats in question never happened. This causes the batteries supporting house loads, not frequently being charged by the alternators, to exist in a chronic low charge state. Chronically low batteries do not offer capacitive filtering which allows the AC ripple associated with AC to DC rectification to elevate substantially. This not only results in more noise in connected equipment, the AC ripple feeds back to the control circuitry of the charger where it can warm up and pop the DC breaker or, given enough time, can damage the control circuitry thus shutting the charger down.

SOLUTION:

Identify Version 2 control PCBs by opening the door of the VMI and tilting it back so that the top edge of the control PCB mounted on the inside of the door can be viewed. From the right, 4 small adjustment potentiometers will be seen mounted on the door side of the board. Left of the potentiometers will be a small red dip switch bank with 4 white switches. To turn on auto-equalize, slide the left most switch toward the board, away from the door. This is identified as switch D in the manual, switch 4 on the little red casing (hard to see). Position the remaining switches toward the door unless more than 3.5 hours of charge time is desired (see manual).

RESULT:

Batteries will stay charged, AC ripple will go away, breakers won't trip, chargers won't fail. Questions: Call Quality Marine at 1-800-463-5314 or, Ron Smith at 206-283-9868.