

VP-7 CATALINA 300 FLUSH TIMER INSTRUCTIONS

The **Catalina 300 Deluxe** (non MPC) watermaker is equipped with a timing circuit which controls the length of the fresh water flush cycle and the pump on and off timing. Because the feed pump has only a single speed, and the flow rate at this speed exceeds the flow capacity of the charcoal flush water filter, the pump is pulsed on and off during the flush to limit the flush water flow to the approximately 1.5 gpm filter capacity. The flush timer activates the flush solenoid valve continuously during the length of the flush cycle. The flush module accumulator is used to even out the flow through the filter. When the pump is running it draws water from both the accumulator and the charcoal filter. When the pump is off water continues to flow from the boat's pressure water system through the charcoal filter and refills the accumulator. The accumulator should be pre-charged to about 5psi (1/2bar). The Flush timer pcb also serves as a safety shutdown circuit in case restrictions in the suction lines cause the vacuum switch to open.

WIRING: On the outside of the flush timer box is a Run Local / Run Remote switch. Inside the box are the Motor Relay, the Flush Timer Circuit Board (pcb), and a terminal strip. Power Input, Control Panel, and Flush Valve Solenoid cables are pre-wired at the factory and need only be connected to the appropriate component. The solenoid valve wires have no polarity. The vacuum switch cable must be wired to the Normally Closed (NC) and Common (C) terminals of the Vacuum switch and to terminals 7 & 10 on the circuit board. The Feed Pump Negative (yellow), and Earth ground (green) – if equipped, leads should be connected directly to the Negative (Yellow) terminal on the terminal strip. The Motor Positive (red) lead goes to the multi stack push-on terminal on the Bosch relay (Terminal 87).

ADJUSTMENT: Flush timing is adjusted using the three potentiometers on the pcb. VR1 (TIME) controls the total fresh water flush duration. Factory default: 5 minutes
VR3 (ON) controls the length of time the pump runs during each pulse. Default: 3 sec.
VR2 (OFF) controls the amount of time between pulses. Factory default: 6 seconds.
Turning the pots clockwise increases the time.

Optimum flush timing is adjusted so that no sea water is drawn in during the flush and the flush ends just as the water going overboard drops to 1000ppm or quits tasting salty. Close the sea cock. Push the flush button. Shorten the pump on time and / or lengthen the pump off time so that the vacuum switch does not interrupt the flush. If the vacuum switch opens this indicates that sea water would be drawn in if the sea cock were open.

When the ON /OFF timing is optimized so that only fresh water is being drawn into the system, shorten the flush duration as much as possible while insuring that all sea water has been flushed out and only fresh water remains in the system.

During a routine flush the seacock and pressure relief valves can remain in the operating position.

05/15/06